

NO. 43 OF 2016

THE WATER ACT

SUBSIDIARY LEGISLATION

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THE ESTABLISHMENT OF WATER WORKS DEVELOPMENT AGENCIES

[Legal Notice 28 of 2019]

IN EXERCISE of the powers conferred by section 65(1) of the Water Act (Cap. 372), the Cabinet Secretary for Water and Sanitation establishes the following Water Works Development Agencies—

<i>Water Works Development Agency (WWDA)</i>	<i>Geographical Area of Jurisdiction</i>
Coast Water Works Development Agency	Mombasa, Kwale, Taita Taveta, Kilifi, Lamu and Tana River Counties
Athi Water Works Development Agency	Nairobi, Kiambu and Murang'a Counties
Northern Water Works Development Agency	Garissa, Wajir, Isiolo, Mandera, Marsabit, Samburu and Laikipia Counties
Lake Victoria South Water Works Development Agency	Kisii, Nyamira, Kericho, Bomet, Migori, Homa Bay, Kisumu and Siaya Counties
Lake Victoria North Water Works Development Agency	Kakamega, Vihiga, Busia, Bungoma, Trans-Nzoia, Uasin Gishu and Nandi Counties
Rift Water Works Development Agency	Turkana, West Pokot, Baringo, Nakuru, Nyandarua, Elgeyo Marakwet and Narok Counties
Tana Water Works Development Agency	Kirinyaga, Nyeri, Meru, Embu and Tharaka Nithi Counties
Tanathi Water Works Development Agency	Kitui, Makueni, Machakos and Kajiado Counties

THE WATER SERVICES REGULATIONS

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THE WATER SERVICES REGULATIONS

[Legal Notice 45 of 2021]

PART I – PRELIMINARY**1. Citation**

These Regulations may be cited as the Water Services Regulations.

2. Interpretation

In these Regulations, unless the context otherwise requires—

“Act” means the Water Act;

“Authority” means the Water Resources Authority established under section 11 of the Act;

“basic water services” refers to water services from an improved source that is within thirty minutes round trip collection time;

“bulk water” means supply of water in bulk by a licensee or a private entity to an agent or other licensees for purposes of resale or distribution to customers;

“Cabinet Secretary” means the Cabinet Secretary responsible for matters relating to water;

“contractor” means any person holding a water service installation licence issued under these Regulations to carry out any water service installation work either individually or as a body corporate or incorporate for voluntary, business, training or teaching purposes in the field either for gain or reward, or at no charge at all;

“county directorate” means the county directorate of water and sewerage services at the respective county government department;

“county government” means a county government established under the Constitution;

“county executive committee member” means the county executive committee member responsible for matters relating to water;

“cure notice” means a notice issued by the Regulatory Board, to a licensee or agent to correct or repair a breach, irregularity or illegality;

“customer” means a person who is the buyer or recipient and end user of water services;

“Director” means the Director of Water Services in the Ministry responsible for matters relating to water services;

“easement” has the meaning assigned to it under the Act;

“Fund” means the Water Sector Trust Fund established under section 113 of the Act;

“inspector” means any water service inspector appointed in accordance with regulation 99;

“licence” means a licence issued under the Act;

“licensee” means a water service provider licensed by the Regulatory Board under the Act;

“price indexation” means a methodology where the price charged for a service is allowed to change by the rate of inflation over the initial price with an adjustment factor (X) based on factors such as technological changes, need to finance development of infrastructure and need to adopt efficient working systems;

“Regulatory Board” means the Water Services Regulatory Board established under section 70 of the Act;

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“sewerage services” means the development and management of infrastructure for transport, storage, treatment of waste water originating from centralized and decentralized systems but shall not include on-site sanitation facilities;

“tariff” means the fee that a water services provider may charge for its services;

“trade effluent” means any liquid, whether with or without suspended particles produced as a by-product in the course of any trade or industrial activity undertaken in premises other than domestic premises;

“variation” means any authorized amendment made to a valid licence issued under these Regulations;

“water action group” means a local community-based organization made up of citizens who have volunteered to address issues which affect consumers of water services;

“water services” means any services of or incidental to the supply or storage of water and disposal of waste water including by way of sewerage systems and systems and facilities for the treatment and or disposal of faecal sludge but does not include the provision of on-site sanitation;

“water services infrastructure” means networks, facilities, equipment, applications and assets for water production, transmission, distribution and waste water and faecal sludge disposal facilities, and in these Regulations the terms are used inter changeably;

“water service installation” means the pipes, machinery, apparatus, appliances, devices, material and equipment used or intended for use by a customer for receipt, distribution or use of water supply, consumption or sewerage and fecal sludge disposal systems;

“water service installation licence” means any document or instrument in writing granted under these Regulations to any person authorizing the carrying out of water service installation work;

“water service installation work” means the installation, alteration, or repair, wholly or partially, of a water service installation, but excludes work upon the system of a public water service supplier or other licensee carried out by such public water service supplier or servant of such public water service supplier acting on his behalf;

“water services provider” means an entity established in accordance with section 77 of the Act;

“Water Strategy” means the Integrated National Water Services Strategy formulated by the Cabinet Secretary in section 64 of the Act;

“Water Tribunal” means the Water Tribunal established under section 119 of the Act; and

“waterworks development agencies’ means agencies established under section 65 of the Act.

3. Application of the Regulations

These Regulations shall apply to the National Government, national government entities, county governments, county government entities and any other person providing water services in Kenya.

PART II – COUNTY GOVERNMENT FRAMEWORK FOR WATER SERVICES PROVISION

4. Powers and duties of county executive committee member

(1) Subject to the provisions of the Constitution and the Act, the county executive committee member shall be responsible for the development and provision of water and sewerage services within the county.

(2) Without prejudice to the generality of the foregoing, the county executive committee member shall—

- (a) formulate and periodically review county policies, strategies and plans for the development and provision of water services;
- (b) on behalf of the county government put in place and maintain measures and arrangements to implement and give effect to the Constitution, national law and national standards on the provision of water and sewerage services;
- (c) co-ordinate and oversee the development and provision within the county of water and sewerage services;
- (d) mobilize financial and other resources for the development of county public waterworks for provision of water and sewerage services;
- (e) put in place measures to secure the achievement of universal access to basic water and sanitation services within the county within a defined timeframe; and
- (f) on a quarterly basis and from time to time as may be necessary, prepare and submit to the county assembly, a report on the state of water and sewerage services in the county.

(3) In the performance of his functions and duties under the Act, the county executive committee member shall—

- (a) consult and coordinate with departments, agencies and entities of the National Government and county government whose functions affect the development and provision of water and sewerage services of the county;
- (b) consult with relevant stakeholders including nongovernmental organisations, the private sector and consumer groups; and
- (c) be assisted by a director of water and sanitation services who shall be a technical officer in the county public service.

5. County water and sewerage services strategy

(1) In every five year period, and following public consultation the county executive committee member shall formulate a county water and sewerage services strategy.

(2) The county water and sewerage services strategy shall be formulated in compliance with Article 10 of the Constitution and its objective shall be to fulfill the fundamental human right to clean and safe water in adequate quantities and the right to reasonable standards of sanitation.

(3) The county water and sewerage services strategy shall provide—

- (a) information on areas within the county where access to basic water and sewerage services is inadequate;
- (b) plans and measures for the development and continuous improvement of water and sewerage services within the county;
- (c) an investment programme and a timeframe for the development, expansion and improvement of water and sewerage services in the county;
- (d) pursuant to paragraph (c), the water and sewerage services penetration targets for the county, including the sub-counties, and propose specific measures through which to enhance realization of the targets;
- (e) institutional and financial arrangements and measures for the improvement of access to basic water services within the rural areas and underserved urban areas;
- (f) measures to facilitate the provision of water services in the entire county on a commercially viable and sustainable basis;
- (g) criteria and procedures for the provision by the county government of financial, technical and other assistance to county owned water service providers and community water service providers;
- (h) a plan and targets to reduce and manage levels of nonrevenue water by county water service providers;

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- (i) an investment programme and a timeframe to increase and sustain availability, supply and storage of bulk water; and
- (j) the community water service providers within the county, and a strategy for monitoring the quality of water services provision.

(4) In addition to the requirements set out in sub regulation (3), each county water and sewerage services strategy shall—

- (a) provide details of the number and location of persons not having access to a basic water supply and sewerage or sanitation, including details of the plan for intervention to rectify this; and
- (b) identify a programme for development of water sources, including cross-county bulk water sources to secure availability for adequate water service provision, including an investment programme; and
- (c) identify needs and set out an investment programme for the development and expansion of sewerage infrastructure.

(5) The strategy shall be published in the *Gazette* after approval by the county executive committee.

(6) The county water services strategy shall be reviewed periodically and in any case not later than every five years.

(7) Every county public officer and every county organ shall give effect to the gazetted county water and sewerage services strategy in the discharge of duties under this Regulation.

(8) Every water services provider, including private water services providers and community water services providers operating in the county shall take account of the county water services strategy when executing plans and programmes.

6. County director of water and sanitation.

The county director of water and sanitation shall—

- (a) provide technical support and advice to the county executive committee member in the discharge of his or her functions;
- (b) implement and give effect to the county water and sewerage services strategy;
- (c) register water services providers operating within the county;
- (d) subject to national legislation, formulate rules, standards and guidelines for the provision of water services within the county which are compliant with standards provided by the Regulatory Board;
- (e) on the basis of a collaborative framework established between the county government and the Regulatory Board, enforce rules, guidelines and standards for the provision of water services within the county;
- (f) gather and analyse information and disseminate data on water and sewerage services in the county;
- (g) maintain an inventory of the county public waterworks comprising assets, facilities and other infrastructure for the provision of water and sewerage services;
- (h) provide operational, technical, financial and other support to community water service providers operating within the county; and
- (i) on the basis of a collaborative framework established between the county government and the Regulatory Board, receive and address complaints regarding the provision of water services within the county.

7. Annual Monitoring and Evaluation by County Executive.

(1) The county executive committee member shall, on an annual basis, with the technical assistance of the county director and in consultation with the Regulatory Board, undertake

monitoring and evaluation of the performance of each water services provider to ascertain the extent of compliance with the county water services strategy and performance targets.

(2) The county executive committee member shall, on the basis of recommendations of the monitoring and evaluation report, take appropriate remedial measures to ensure the continuous improvement of the standard and quality of water and sewerage services provided by water services providers operating in the county.

PART III – ESTABLISHMENT, OPERATION AND
FINANCING OF WATER SERVICES PROVIDERS

8. Establishment of County Water and Sewerage Service Providers.

(1) The county government may, pursuant to section 77 of the Act and by notice in the *Gazette*, or through incorporation of a limited liability company, establish one or more county entities as a water and sanitation services provider or providers as the case may be.

(2) A county water services provider established under this regulation shall be a body corporate with perpetual succession and a common seal and shall, in its corporate name, be capable of—

- (a) suing and being sued;
- (b) taking, purchasing or otherwise acquiring, holding, charging or disposing of moveable and immovable property;
- (c) borrowing money;
- (d) entering into contracts; and
- (e) doing or performing all other things or acts necessary for the proper discharge of its functions under this Act which may lawfully be done or performed by a body corporate.

(3) The county executive committee member shall, in consultation with the Regulatory Board, assign to each county water services provider established under this regulation a water supply area which covers the whole or a portion of the area of geographical jurisdiction of the county government.

(4) In determining the area of supply of a county water services provider, the county executive committee member shall take account of and give effect to the operation within the whole or part of the proposed supply area of community or private water services providers.

(5) In accordance with the transfer plan published by the Cabinet Secretary pursuant to section 152(4) of the Act, the county water services provider shall succeed to and assume the functions, assets, contracts, liabilities and staff of the water services board used for the provision of water services within the area of supply of the county water services provider and such transfer shall be completed not later than twelve months following the establishment of the county water services provider or such longer period as the Cabinet Secretary, in consultation with the county government, may approve.

(6) Where the assets for the provision of water services in part of the supply area of the county water services provider belong to a community water services provider, the county water services provider shall, in accordance with the guidelines issued by the Regulatory Board on provision of water services in rural and underserved areas, enter into an agreement with the community water services provider, the terms of which may provide—

- (a) for the county water services provider to take over responsibility for the provision of water services in the area of supply of the community water services provider and use or acquire the assets and facilities of the community water services provider on terms which may include the payment of lease fees or compensation for the assets;
- (b) that the community water services provider continues to provide water services as an agent or a sub-contractor of the county water services provider;
- (c) that the community water services provider may purchase water in bulk from the county water services provider;

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- (d) for the provision of technical and capacity building support to the community water services provider by the county water services provider; and
- (e) other terms necessary to secure the efficient and cost effective provision of water services, consumer protection and accountability within the area supplied by the community water services provider.

9. Functions of the County Water Services Provider.

(1) A county water and sewerage services provider established pursuant to section 77 of the Act shall be responsible for the provision of water and sewerage services, and for development and management of the related infrastructure and facilities, within its area of supply and for this purpose shall hold on behalf of the county government, county public waterworks.

(2) A county water and sewerage services provider established under section 77 of the Act shall—

- (a) be a legal person and a corporate entity managed and accounted for as an independent or separate business enterprise;
- (b) have the exclusive right to provide water services within its area of supply;
- (c) provide or put in place arrangements to provide water services to all consumers in its area of supply who desire a water service and are willing to comply with conditions for the supply of water;
- (d) apply for, secure and maintain a licence issued by the Regulatory Board in order to undertake the provision of water services within its area of supply;
- (e) with the approval of the county executive committee member and the Regulatory Board, put in place measures, where necessary for purposes of the better performance of its functions, to contract out aspects of its functions to a private water or sanitation services provider, a community water services provider or another county entity which has the requisite capacity to provide water services.

10. Governance of Water Service Providers.

(1) Each county water services provider shall have a board of directors comprising between seven and nine members which shall guide and direct the performance of its functions.

(2) The rules and procedures governing the appointment, composition and qualifications of members of the board of directors of a county water services provider shall give effect to standards and guidelines set by the Regulatory Board but shall in any case not derogate from the following minimum standards—

- (a) the members of the board of directors shall have the minimum educational qualifications, professional experience and skills mix compliant with guidelines set by the Regulatory Board from time to time;
- (b) the board of directors shall have among its members, persons who represent different categories of consumer groups and other stakeholders in the area of supply of the water services provider;
- (c) the board of directors shall not have among its members a person who, at the time of nomination for appointment, is serving as an elected member of a county government, holds office in a political party or is a serving member of Parliament or of the county assembly;
- (d) the county government shall be represented on the board of directors by not more than two officials of the county government; and
- (e) the members of the board of directors other than public officers representing the county government on the board, shall be appointed following a process of open competition but the appointing authority shall ensure that not more than two thirds of the members are of the same gender.

(3) The term of the members of the board of the county water and sewerage services provider shall be three years renewable once which term shall not be affected by the expiry of the term of office of the county government.

(4) The business and affairs of the boards shall be conducted in accordance with the First Schedule.

11. Staff of county water service providers

(1) A county water services provider shall employ a chief executive officer and other staff necessary for performing its functions as a licenced water services provider on terms and conditions of employment approved by its board of directors which terms and conditions shall comply with the water sector benchmark on personnel remuneration as set by the Regulatory Board in line with the guidelines issued by the Salaries and Remuneration Commission.

(2) A person employed by a county water services provider shall be a public officer and subject to the laws governing the conduct of public officers.

(3) Without prejudice to sub regulation (1), a chief executive officer of a water services provider shall serve for a term of three years which may be renewed twice subject to satisfactory performance.

12. Finances of county water service providers.

The funds and assets of a county water services provider shall consist of—

- (a) such monies as may be appropriated by the county assembly for the purposes of the county water services provider;
- (b) any monies or property which may in any manner accrue or vest in the county water services provider in the course of the exercise of its functions;
- (c) such monies as may become payable to the county water services provider by way of tariffs, fees and other charges in respect of services rendered by or through it; and
- (d) all monies from any other sources whatsoever donated, lent or granted to the county water services provider.

13. County government financial support to the water services provider.

(1) Pursuant to regulation 12(1)(a), the county government may in appropriate cases provide financial assistance to enable a water services provider which satisfies the criteria stipulated in the county water services strategy meet a portion of its operation and maintenance costs.

(2) The county government may additionally set up a Dedicated Fund into which the county government and others may place funds for supporting the provision of water services to underserved areas.

(3) The Dedicated Fund may be available to a community water service provider that meets the criteria in rule 18.

(4) The rules governing the operation of the Dedicated Fund shall be prescribed by the County Executive Committee in consultation with the Regulatory Board.

14. Ring fencing of water revenues.

(1) All funds of a county water services provider and all revenues arising from provision of water services by a county water services provider shall not form part of the general revenues of the county government but shall be retained by the water services provider for its purposes.

(2) Any excess of revenue over expenditure at the end of the financial year shall not be paid over to the county government but shall be retained by the county water services provider to be used for the improvement of water services within the area of supply of the county water services provider.

(3) Every water services provider shall establish and maintain a contingency fund into which it shall pay a portion of its revenues to be used to pay for emergency repairs and

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meet the costs arising from unforeseen occurrences which can disrupt the provision of water services.

(4) A water service provider shall not make payments out of its revenues to the county government or otherwise provide other financial support that is inconsistent with its core mandate of water services provision unless as provided in these Regulations.

15. Annual estimates of revenues and expenditures.

(1) Not less than six months before commencement of each financial year, the board of a county water services provider shall cause to be prepared estimates of the revenue and expenditure for that year in line with the approved tariff.

(2) The annual estimates shall make provision for all the estimated capital and recurrent expenditure of a county water services provider for the financial year concerned.

(3) The annual estimates shall also make provision for such amounts as are required to pay any portion of the principal or interest of loans or advances if any secured by or on behalf of the water services provider to finance the capital costs of developing and or rehabilitating infrastructure or facilities and or acquiring equipment and other assets for the provision of water services.

(4) The board shall submit the estimates to the county executive committee member for approval and inclusion in the annual budget of the county government.

(5) No expenditure shall be incurred for the purposes of a county water services provider except in accordance with the annual estimates approved as provided under these Regulations.

16. Accounts and audits.

(1) The board of a county water services provider shall keep proper books of account of its income, expenditure, assets and liabilities.

(2) Within three months after the end of each financial year the board of each county water services provider shall submit to the Auditor-General the accounts in respect of that year, together with—

- (a) a statement of the income and expenditure during that year; and
- (b) a statement of the assets and liabilities as at the last day of that financial year.

(3) The annual accounts of a county water services provider shall be prepared, audited and reported upon in accordance with Article 226 and 229 of the Constitution and applicable national and county government legislation.

17. Private sector participation.

(1) Subject to compliance with the requirements of applicable national law a county water services provider may, in an appropriate case, engage in a public private partnership or other appropriate contractual arrangement for the development and operation of water services infrastructure or the provision of water, wastewater and fecal sludge disposal services.

(2) Any assets, facilities and infrastructure developed under a public private partnership to be used for the provision of water or sewerage services shall be deemed to be public property and upon the expiry or other termination of the public private partnership agreement, shall be vested in and be owned by the county government or county water services provider.

18. Information on water service providers.

(1) For purposes of the register of water service providers maintained by the county directorate, each water services provider shall within twelve months of the coming into effect of these Regulations or in respect to water service providers established after the coming into effect of the Regulations, within twelve months of its establishment or such longer period as the executive committee member may allow, submit to the county directorate and to the Regulatory Board information on—

- (a) the area it supplies water services;

- (b) the number and location of customers served;
- (c) an inventory of the facilities and infrastructure available for the provision of water services;
- (d) the particulars of its board of directors or management committee and staff including the technical qualifications of its staff;
- (e) the tariff and other fees it charges;
- (f) particulars of its liabilities;
- (g) the status of its application for a licence and, if licenced, a copy of the licence;
- (h) plans and programmes for the improvement of water services it provides; and
- (i) such other information as the Executive Committee member or the Regulatory Board may reasonably require.

(2) The water services provider shall by the end of June of each calendar year, notify the county director of water and sanitation services and the Regulatory Board of material changes to the information provided in the previous year and the county director and the Regulatory Board shall as soon as practicable thereafter, update the register.

(3) The register shall be posted on the website of the county and the Regulatory Board, and, additionally be open to inspection by members of the public at the offices of the county government and the Regulatory Board during normal working hours.

19. Operation of community water projects.

(1) The county executive committee member shall facilitate the development and operation of community or private water service providers in rural areas within which the county water service providers do not provide adequate water services.

(2) Where following viability studies, it is recommended that community water service providers should form associations in order to achieve their objectives, the county executive committee member shall put in place the appropriate measures to facilitate such associations.

(3) For purposes of enhancing the efficiency and cost effectiveness of the water services provided by community water services, the county executive committee member may put in place measures to encourage community water service providers to consolidate and outsource to a common services provider, services including billing services, pump maintenance services and other similar services or engage the services of a contractor to provide professional management services.

(4) A community water services provider which takes steps to enhance efficiency and cost effectiveness through clustering, outsourcing of services or engagement of professional management services among other measures shall be eligible to financial, technical and other support from the county government prior to achieving financial viability.

PART IV – APPLICATION FOR LICENCE

20. Application for a licence.

(1) Within twelve months of the coming into force of these Regulations or such extended period as the Regulatory Board may allow, a person providing or intending to provide water services shall apply to the Regulatory Board for the issuance of a licence in accordance with section 74 of the Act.

(2) A complete water services provision licence application shall comprise of—

- (a) a duly completed application form in the format developed by the Regulatory Board ;
- (b) a map of the proposed service area;
- (c) documents of incorporation of the water services provider including evidence that the board complies with sections 79 and 80 of the Act and these Regulations ;

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- (d) a statement evidencing the applicant's administrative, technical and financial capacity to provide the services and perform the functions authorized by the licence;
- (e) a plan for the provision of efficient, affordable and sustainable water services including as appropriate details of planned infrastructure improvements;
- (f) the proposed tariff structure which may differentiate between different classes of consumers and different categories of water use, whether domestic, industrial, commercial, institutional, agricultural and others including a proposed tariff for the disposal of domestic wastewater and trade effluent;
- (g) a letter of support from the county government within whose area of jurisdiction the water services are to be provided;
- (h) required permits and authorisations including a business licence, water use permits, an environmental impact assessment licence where required, and county government planning permission for planned infrastructure projects where practicable;
- (i) evidence of stakeholder consultation; and
- (j) any other information as may be required by the Regulatory Board.

21. Public consultation.

(1) The Regulatory Board in accordance with section 74 of the Act, shall invite the applicable county government to provide written submissions prior to making a determination on an application.

(2) The Regulatory Board or the county government may convene a meeting to discuss the views of the county government before or after the written submissions in sub regulation (1) are made.

(3) Where the Regulatory Board does not receive a written response from a county government, the Regulatory Board shall consequently request the county government to submit its views, make two reminders within three months and thereafter the Regulatory Board shall proceed to make a determination on the application.

(4) For purposes of sub regulation (3), any written communication to a county government shall be addressed to the county executive member with a copy to the county secretary and shall be delivered physically and a return on delivery received by the person making the delivery

22. Application fee.

The Regulatory Board shall charge an application fee for the issuance of a licence in accordance with section 89 of the Act.

23. Determination of an application.

(1) The Regulatory Board shall make a determination on an application for a licence within six months after the water service provider lodges a complete application.

(2) The Regulatory Board shall prior to making a determination undertake public consultations with residents and stakeholders of the geographical area to be served by the applicant including at least one public meeting for oral submissions of views and invitation of written submissions.

(3) The Regulatory Board shall issue public notices for the public consultation and ensure that the notices are widely disseminated to

residents and stakeholders through newspapers, radio, websites and other means of public dissemination.

(4) The Regulatory Board shall take into consideration any written submissions by any person objecting to the application.

(5) Upon conclusion of a public consultation exercise, and before making a determination on the application, the Regulatory Board shall provide feedback on how the

submissions by the public, residents, stakeholders, county government, objectors and any other persons were taken into account in determining the application.

(6) Where the Regulatory Board does not determine the application within six months of receipt of the application, any fee charged by the Regulatory Board under section 86(3) of the Act shall be refunded to the applicant.

(7) Any applicant or person who objected to the application may, if aggrieved by the decision of the Regulatory Board, appeal to the Tribunal within thirty days of formal notification of the decision by the Regulatory Board.

24. Objections to grant of a licence.

(1) Any person opposed to the grant of a licence may object in writing to the Regulatory Board.

(2) The Regulatory Board shall notify the water service provider and the objector of its decision, and in the event of rejection of an application or objection, of the reasons for the decision.

25. Appeals to the Water Tribunal.

A water service provider or objector may, if aggrieved by the decision of the Regulatory Board under regulation 24, appeal to the Water Tribunal within thirty days of the date of notification of the decision.

26. Issuance of a licence.

The Regulatory Board may, upon consideration of an application for a licence, issue to the water service provider a licence in accordance with the Act.

27. Licence.

(1) A licence issued by the Regulatory Board shall be valid for such period as set by the Regulatory Board not exceeding ten years.

(2) The Regulatory Board may issue a licence to an applicant if it is satisfied that the applicant has—

- (a) a demarcated service area;
- (b) appropriate skills and capacities to provide the licenced services;
- (c) commitment from the county government and other financiers to support the costs of infrastructure development and network expansion as outlined in the licensee's business plan and, to the extent necessary, recurrent expenditure to attain sustainability;
- (d) possession of water permits from identified sources from the Authority and sewage discharge permits from the Authority and, as applicable, the National Environment Management Authority;
- (e) possession of infrastructure, networks and facilities for water production, treatment, transmission, storage and distribution and infrastructure for waste water and fecal sludge collection, storage, treatment and disposal or reuse;
- (f) an initial draft three year business plan showing resources of water, capital outlays, estimates of water to be sold and revenue projections to attain sustainability;
- (g) a tariff structure including a structure for the receipt into its system and disposal of waste water and domestic effluent which is compliant with standards set by the Regulatory Board;
- (h) a framework for engagement with community and other water service providers providing water services in the licensee's service area; and
- (i) the population to be served and growth projections as well as a strategy and a timeframe for achieving universal access to a sustainable water supply and sanitation service; and

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- (j) met the commercial viability criteria set out by the Regulatory Board.

28. Mid-term review of a licence

The Regulatory Board shall undertake a mid-term review of the licence and evaluate performance on all the conditions of the licence and the targets set and shall issue any orders and impose any conditions and targets to ensure efficient and economical supply of water in the licensee's area of supply.

29. Renewal of licence.

A licence may be renewed upon expiry provided that the licensee shall have made a complete application for renewal of the licence at least six months before its expiry.

30. Consequences of default for application for renewal.

Where a water service provider, without due cause, fails to submit a complete application for renewal of a licence on time, the Regulatory Board may place the licenced water services provider under a special regulatory regime.

31. Scope of a licence.

(1) A licence issued by the Regulatory Board to a water service provider shall empower the licensee to—

- (a) develop and maintain infrastructure and networks for the provision of water within its area;
- (b) develop and maintain infrastructure and networks for the safe reuse, recycling or disposal of waste water or fecal sludge within its area;
- (c) promote the use of recycled or treated wastewater for landscaping, construction and industrial use;
- (d) purchase, lease or acquire, premises, plant, equipment and facilities for provision of water services within its area of water service provision in the county;
- (e) purchase, lease or otherwise acquire land or request for its compulsory acquisition in accordance with section 110 of the Act and the Land Act;
- (f) collect from consumers the tariff approved by the Regulatory Board;
- (g) impose a charge for accepting into its sewerage system and treating wastewater from industrial and other trade premises within its supply area and where it provides desludging and or exhauster services, impose a charge for treating the fecal sludge and or wastewater.
- (h) enter into agreements with any person, whether in the form of a public private partnership, sub-contract, agency or otherwise for the provision of the licenced services or a part of the services;
- (i) undertake works which are necessary or required for the protection of or collection, conveyance or treatment of the water resources which the water service provider is authorised to abstract, impound or divert for the purposes of providing the licenced services;
- (j) with the approval of the Regulatory Board, prohibit or restrict with respect to the whole or any part of the licensee's area of supply, the use of potable water for such purposes as the licensee may specify where, and during periods which, in the licensee's opinion there is a serious deficiency or threat of deficiency of water available for distribution and supply;
- (k) approve, authorise, restrict or prohibit acts or omissions which pose a risk of damaging, destroying or compromising the integrity of the infrastructure, works or facilities used by the licensee for the provision of the licenced water or sewerage services;

- (l) take appropriate enforcement action against persons who damage, destroy or compromise the integrity of infrastructure, works or facilities used by the licensee for the provision of the licenced water or sewerage services; and
- (m) provide services which are necessary and incidental to the provision of the licenced water services.

(2) The restrictions in paragraph (j) may include such uses of potable water as the Regulatory Board may approve including construction of buildings, road construction, commercial and industrial activities, landscaping or similar non-domestic uses.

(3) A licence issued by the Regulatory Board to a water service provider shall not—

- (a) confer any rights of proprietorship over water services infrastructure; or
- (b) be capable of being sold, leased, mortgaged, transferred, attached, assigned, demised or encumbered without the approval in writing of the Regulatory Board and the county government.

32. Deposit of guarantee or security

The Regulatory Board may require a water service provider to deposit a guarantee or other acceptable security for the purpose of securing payment of any expenses recoverable from the licensee, for or towards the costs incurred in discharging the functions of the licensee in case of default.

33. Register of all water service providers.

(1) The Regulatory Board shall establish a comprehensive register of all the water service providers indicating—

- (a) the location and address of each water service provider;
- (b) in the case of a registered association, or public benefit organization, the nature of the association or organization and the particulars of its registration;
- (c) the conditions if any attached to the licence;
- (d) the daily yield of the source used by each water service provider;
- (e) the volume of water sold by each water service provider;
- (f) the quality of water sold by each water service provider;
- (g) the quality and quantity of effluent and or fecal sludge treated and or disposed of; and
- (h) the tariff charged by the water service provider.

(2) The register shall be a public document accessible for inspection at no charge and shall be publicized or posted on the website of the Regulatory Board and placed at such places as the Regulatory Board shall determine.

34. Maps.

(1) On the basis of information provided by the water services provider, the Regulatory Board shall maintain and update on a biannual basis the following maps of each licensee's licence area—

- (a) the service area map showing the licensee's network of the water and sewerage facilities;
- (b) a map showing the areas in which the licensee provides services through an agreement or other arrangement with a community or other water services provider; and
- (c) an un-serviced area map showing unserved areas.

(2) The maps shall be stored in digital and hard copy format and shall be available on the website of the Regulatory Board.

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PART V – SYSTEMS AND STANDARDS FOR OPERATION OF WATER SERVICES

35. Operation of water services.

A water services provider shall be managed on a commercial basis and in accordance with sound business principles.

36. Implementation of standards and systems.

(1) A licenced water services provider shall implement—

- (a) a tariff which—
 - (i) in an urban area enables the water services provider to meet the capital and operation and maintenance costs of providing the licenced water services without recourse to public funds; and
 - (ii) in a rural, low income urban or peri-urban area enables the water services provider to meet the operation and maintenance costs of providing the licenced water services without recourse to public funds.
- (b) a non-revenue water management system which is compliant with standards established by the Regulatory Board;
- (c) financial, commercial, management and administrative systems to enable it operate an efficient and cost effective water service;
- (d) a workplace occupational health and safety systems compliant with legal standards;
- (e) consumer satisfaction monitoring and customer complaints handling procedures and systems; and
- (f) legal compliance and compliance monitoring systems.

(2) Without prejudice to sub paragraphs (i) and (ii), a county government and the national government may provide financial support to ensure continuity of service provision in urban, peri-urban and rural areas.

37. Schedule of water supply.

(1) A water services provider shall establish, publicise and implement a schedule of water supply according to which it supplies water services.

(2) Where there is a planned interruption to the schedule, a water services provider shall notify customers who are likely to be affected by the interruption not less than twenty hours prior to the planned interruption and shall indicate the expected duration of the interruption.

(3) Where an unplanned interruption to water services occurs, the water services provider shall notify customers as soon as is reasonably practicable and not less than twelve hours after the discovery of the interruption and appraise customers on the progress made to address the cause of the interruption and the expected time or day of resumption of normal service.

(4) Where an interruption in services extends for a period longer than seven days, the water services provider shall take remedial measures to the extent practicable to provide consumers with a basic supply of water through bowsers and other mobile means.

(5) Where such interruptions arise from damage to pipes or other infrastructure by a contractor carrying out works, the contractor shall repair the damaged pipes or infrastructure within such time as the water service provider stipulates and pending the restoration of the water supply, the contractor shall meet the costs of providing an alternative water supply to the affected consumers.

38. Execution of works.

A water service provider may, on any land belonging to it or on land over which it has acquired any easement or right, construct and maintain drains, sewers and other works for intercepting, treating or disposing of any foul water arising or flowing upon such land or

otherwise preventing water belonging to the water service provider or which it is for the time being authorised to abstract, from being polluted.

39. Consent for execution of works.

Prior to construction of any such works, the water services provider shall obtain consent of the Authority if the proposed work will affect or is likely to affect any water resource.

40. Approvals from state authorities.

A water services provider, may, with the consent of the road authority or other state organ concerned and subject to such conditions as may be imposed by such authority or state organ, carry the drain, sewer or other work under, across or along any road or road reserve or public place, whether within or outside the area of water service of the licensee.

41. Sampling programme.

(1) A licensee shall include a suitable programme as prescribed by the Regulatory Board for sampling the quality of potable water provided by it to its customers in its business plan.

(2) The water quality sampling programme shall specify the points at which potable water provided to customers will be sampled, the frequency of sampling and for which substances and determinants the water will be tested.

(3) A licensee shall compare the results obtained from the testing of the samples with standards as established or approved from time to time by the Kenya Bureau of Standards.

(4) Should the comparison of the results indicate that the water supplied poses a health risk the licensee shall inform the Regulatory Board and the local officer in charge of public health and it shall also take steps to inform customers—

- (a) that the quality of water it supplies poses a health risk;
- (b) of the reasons of the health risk;
- (c) of any precautions to be taken by customers; and
- (d) of the time frame, if any, within which it may be expected that water of a safe quality will be provided; and
- (e) that sampling records shall be kept for a period of not less than three years and the same shall be available on request by any customer.

(5) A licensee who does not comply with this rule commits an offence and is liable on conviction to such penalties as are prescribed in these Regulations.

PART VI – EFFLUENT AND WASTEWATER DISPOSAL

42. Effluent and wastewater disposal systems.

A licenced water services provider shall provide, operate and maintain in each urban area, township, market or trading centre or other locality with a concentration of population exceeding such numbers as the Regulatory Board may from time to time determine, following consultation with the county government, determine systems of effluent, wastewater and faecal sludge management, treatment and disposal which are compliant with standards set by the Regulatory Board.

43. Effluent and wastewater disposal plan.

(1) A licenced water service provider shall, within two years of the issue of its licence, or such extended period as the Regulatory Board may approve, formulate and submit to the Regulatory Board and the county government a plan for the progressive improvement of infrastructure and systems for effluent, faecal sludge and wastewater treatment and disposal in its area of service.

(2) The plan shall propose a time frame for the development of the infrastructure, a budget and a resource mobilisation plan.

(3) The plan shall also provide measures and procedures for private persons or community groups to establish, operate and charge a fee for the use of effluent or faecal

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sludge treatment plants established as a private or community enterprise under a contract with the licensee.

44. Control of trade effluent.

(1) A person, other than a person discharging wastewater from premises used solely for residential purposes, who intends to discharge effluent or other wastewater from commercial, industrial, institutional or other premises shall obtain consent from the licenced water services provider to discharge any trade effluent into the sewers of the licensee.

(2) An application for consent under sub-rule (1) shall state—

- (a) the nature and composition of the trade effluent;
- (b) the maximum quantity of the effluent which it proposes to discharge on any one day;
- (c) the highest rate at which it is proposed to discharge the effluent; and
- (d) any other information required by the licensee.

(3) The consent of the licenced water services provider to discharge trade effluent into its wastewater management system shall be subject to conditions including—

- (a) a condition requiring the applicant to subject the effluent to pre-treatment in accordance with standards imposed by the Regulatory Board before discharge;
- (b) the payment to the water services provider of an effluent discharge fee based on the tariff structure approved by the Regulatory Board;
- (c) a requirement that any tap or point of access through which effluent or non-potable water can be accessed shall be clearly marked with a durable notice and signs indicating that effluent or the non-potable water is a public health risk; and
- (d) any other requirements to be met to protect the integrity and sound operation of the wastewater management system.

(4) A licensee shall only be obliged to accept the quality and quantity of trade effluent of any other substance into a sewerage system that the sewerage treatment plant of that system is capable of purifying or treating to ensure that any discharge to the ambient environment complies with any standards prescribed by the Authority and or the National Environmental Management Authority as the case may be.

(5) For purposes of exercising its mandate to receive effluent into its sewerage system, a licensee may inspect pre-treatment facilities handling trade effluents.

(6) Any person who contravenes the provisions of this regulation commits an offence and shall be subject to penalties under the Act.

(7) A person aggrieved by the decision of the licensee on an application under this regulation, may within thirty days of the decision appeal to the Water Tribunal.

PART VII – TARIFFS

45. Implementation of tariffs by water service provider.

(1) A licenced water service provider shall implement the tariff approved and gazetted by the Regulatory Board for the prescribed period.

(2) A licenced water service provider shall be required to lodge a tariff review application not less than six months prior to expiry of the current tariff.

(3) The Regulatory Board shall send written notification to each licenced water service provider, not less than nine months prior to expiry of the current tariff including a copy to the respective County Executive Committee member.

46. Application for regular tariff review.

(1) Not less than six months before the expiry of the regular tariff, the water services provider shall make an application to the Regulatory Board for a regular tariff review.

(2) The application shall follow the format stipulated by the Regulatory Board and shall attach the water services provider's—

- (a) status report of the water services using the reporting format provided by the Regulatory Board;
- (b) three year business plan detailing the applicant's customer base, growth projections and infrastructure development programme;
- (c) proposed tariff supported by the findings of a tariff study whose report shall also be attached;
- (d) report of stakeholder consultations undertaken on the proposed tariff; and any other information it considers relevant to the application.

(3) The Regulatory Board shall consider the application and take into account—

- (a) the cost effectiveness of the water service;
- (b) the optimality of the water service by reference to relevant national and international benchmarks;
- (c) affordability of the proposed tariff, including proposals on cushioning consumers who, on account of poverty, cannot afford the proposed tariff;
- (d) willingness to pay by consumers;
- (e) the views of the county government;
- (f) the feedback from stakeholder consultations; and
- (g) any other relevant considerations.

(4) Before determining the application, the Regulatory Board shall, undertake consultations with the respective county government, the public and the residents and stakeholders within the area within which the licensee operates.

(5) The Regulatory Board may approve the proposed tariff either as proposed or with amendments or conditions and upon approval, shall issue a notice in the Gazette setting a date from which the new tariff will apply.

(6) The Regulatory Board shall undertake tariff implementation reviews during the life of a tariff.

47. Extraordinary tariff review.

(1) At any time before the regular tariff review, a water services provider may, for good cause shown to the Regulatory Board, apply for an extraordinary tariff review.

(2) An application for an extraordinary tariff review shall, in addition to meeting the requirements for a regular tariff review, satisfy the Regulatory Board that, due to a change in circumstances which could not have been foreseen during the last regular tariff review or for some other justifiable reason, a tariff review is necessary to ensure a sustainable water service.

(3) An extraordinary tariff review, shall if approved by the Regulatory Board, be gazetted and apply only until the end of the regular tariff period.

48. Tariff adjustment.

(1) The Regulatory Board may, at the request of the water services provider as part of the regular tariff review, and for good cause shown, permit the water services provider to implement price indexation by reference to the officially published annual inflation index.

(2) Permission to implement price indexation may only be granted if has been subjected to stakeholder consultation and, if granted, shall be gazetted and apply only until the end of the tariff period.

(3) The Regulatory Board's decision on a tariff application may be appealed to the Water Tribunal by the water services provider, a consumer within the area of the water services provider or any other person likely to be affected by the decision.

PART VIII – CLUSTERING

49. Clustering of water service providers.

(1) The Regulatory Board may, for purposes of securing a commercially viable water service, require two or more water service providers to cluster for purposes of provision of the licenced water services.

(2) Clustering shall be undertaken in accordance with the requirements of these Regulations and shall additionally comply with clustering guidelines issued from time to time by the Regulatory Board.

50. Proposal for clustering water services providers.

A proposal for clustering may be initiated by a water service provider or two or more water service providers acting jointly, the county government, the Regulatory Board, a consumer group or consumer groups acting jointly, or a stakeholder group within the area of supply of the water services to be clustered through a letter to the County Government within whose area of jurisdiction at least one of the water services providers to be clustered operates.

51. Feasibility study and report.

As soon as practicable following receipt of the proposal to undertake clustering the county executive committee member shall, following public consultation, prepare a feasibility study on the proposal which shall address—

- (a) the financial, technical, operational, socio-economic environmental, legal and other relevant implications of the proposed clustering;
- (b) the type of clustering that is appropriate in the circumstances;
- (c) the financial support if any required of the county government to bridge funding gaps if any of the clustering;
- (d) the clustering process including milestones and benchmarks;
- (e) an awareness programme;
- (f) the governance arrangements under the new clustered service provider;
- (g) transitional arrangements; and
- (h) other relevant considerations.

52. Operationalization of clustering.

(1) If, on the basis of the recommendations of the report of the feasibility study, the proposal to undertake clustering is approved by the county executive committee and the Regulatory Board, the clustering process shall be overseen by a joint committee comprising members of the board of directors of the water service providers participating in the clustering and three other persons appointed by the county executive committee member on the basis of their knowledge and experience of the water sector.

(2) The joint committee shall continue as a transitional mechanism and upon conclusion of the clustering process and appointment of the new Board of Directors, shall stand dissolved.

(3) Where the clustering involves a merger or a takeover of a licenced water services provider which is a corporate entity, upon conclusion of the clustering exercise, the water services provider ceasing to exist shall be dissolved by a resolution of an annual general meeting or extraordinary general meeting and compliance with the requirements under the Companies Act and other applicable laws.

53. Application for a new service provision area licence and new tariff.

(1) A water services provider providing water services as a clustered service shall, within one year of the conclusion of the clustering exercise, apply for a new service provision area licence and a new tariff in accordance with the procedure for applying for a licence and tariff review under regulation 20 and 45.

(2) If satisfied that the applicant meets the licensing requirements under section 86 of the Act and regulation 20 the Regulatory Board may issue the licence:

Provided that where the applicant has not met the licensing requirements under section 86 of the Act and regulation 20, the Regulatory Board may issue the applicant with a provisional licence conditional on the applicant satisfying any outstanding requirements within a defined timeframe not exceeding two years.

54. Clustering and commercial viability.

(1) In this Part “clustering” means a formal arrangement between two or more licenced water service providers involving the—

- (a) merger of two or more water service providers;
- (b) a takeover of one water service provider of another water service provider;
- (c) the joint provision of water services;
- (d) the transfer of the whole or part a water service from one licensee to another;
- (e) a variation in the area of supply of two or more licensees;
- (f) provision by a water services provider of water services in the whole or part of the area of supply of another;
- (g) an extension by a county water services provider of its services to rural or underserved areas of the county; or
- (h) other similar arrangement.

(2) Where clustering involves the provision of water services in more than one county by a water services provider, the proposal to undertake clustering shall require the approval of the county executive committees of both or all counties within whose area of jurisdiction the water services are to be provided.

(3) “Commercial viability” means, in respect to an urban water service, the ability to meet capital and operation and maintenance costs out of the water revenue and, in respect to a rural water service or a water service serving a low income urban area, the ability to meet operation and maintenance costs out of the water revenue year on year taking account of the input costs of providing the licenced service, the extent of non-revenue water, the consumer base, the efficiency of the service, applicable national and international benchmarks for sustainable water service and other relevant considerations.

PART IX – BULK WATER SUPPLY

55. Bulk water supply services by waterworks development agencies.

(1) Bulk water supply services which are primarily intended to supply water in bulk to a water services provider in a county or counties other than the county in which the bulk water abstraction works are located shall be undertaken by waterworks development agencies established under section 65 of the Act.

(2) In accordance with the transfer plan published by the Cabinet Secretary pursuant to section 152(4) of the Act, waterworks development agencies shall succeed to and assume the functions, assets, contracts, liabilities and staff of the water services board used for the provision of cross-county bulk water supply within the area of jurisdiction of the waterworks development agency and such transfer shall be completed not later than twelve months following the establishment of the waterworks development agency or such longer period as the Cabinet Secretary, in consultation with the county governments within whose area of jurisdiction the cross- county bulk water services are to be provided, may approve.

56. Establishment of works for bulk water supply.

A licenced water services provider may establish works for bulk water supply where the works originate and terminate in the county in which the bulk water is to be supplied or the capital costs of developing a cross-county bulk water supply infrastructure and facilities are provided entirely out of the budget of the county government or of the water services provider developing the bulk water supply infrastructure.

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57. Application for bulk water supply licence.

(1) A person desiring to supply water in bulk or operating an existing bulk water supply system shall make an application to the Regulatory Board for a bulk water supply licence.

(2) A separate application shall be made for each bulk water supply system.

(3) A complete bulk water supply application shall be accompanied by, in respect to the proposed bulk water supply—

- (a) a feasibility study;
- (b) a business plan;
- (c) a proposed framework for the collaborative management of the bulk water works comprising a committee of representatives of the county governments within whose area of jurisdiction the bulk water works are to be located and, where appropriate, the national government;
- (d) where the county governments concerned have by a resolution of the county assemblies, agreed to assume responsibility for the payment of the liabilities associated with the bulk waterworks, an extract of the resolution duly certified by the clerk to the county assembly and a draft agreement for the handover of the ownership of the bulk water works to a joint authority established or to be established by the county governments within whose area of jurisdiction the bulk water works are to be located;
- (e) required permits and authorisations including a water use abstraction permit, an environmental impact assessment licence, physical planning permission and other applicable authorisations;
- (f) a proposed bulk water supply tariff;
- (g) a draft bulk water supply agreement with the water services providers to be supplied in bulk drawn on the basis that the capital and operational costs of the bulk water supply shall be met out of the revenues of the bulk water service without resort to public funds;
- (h) where resort to public funds is necessary in order to provide the bulk water service, evidence of the commitment of the county or national government as appropriate to offset part or the whole of the capital and or operational costs out of public funds;
- (i) evidence of stakeholder consultations including the feedback of the county governments within whose area of jurisdiction the bulk water works are to be developed; and
- (j) any other information relevant to the application.

58. Public consultation on application for bulk water supply licence.

(1) Following the receipt of the application under regulation 57, the Regulatory Board shall undertake public consultation in respect to the application.

(2) In determining the application, the Regulatory Board shall provide feedback indicating how it has taken account of and addressed the representations made by stakeholders during the public consultations.

59. Determination of application for bulk water supply licence.

(1) Within six months of receiving a complete application for a bulk water supply licence, the Regulatory Board shall determine the application and may approve, approve with conditions or reject the application.

(2) The licence shall specify the bulk tariff which shall be subject to indexation, regular review and extraordinary review according to a schedule and on terms and conditions stipulated by the Regulatory Board.

60. Application by Joint Authority or Joint Committee.

The application for a licence under this Part may also be made by a Joint Authority or Joint Committee established within the scope and meaning of Article 189 of the Constitution.

61. Appeal to the Water Tribunal.

The decision of the Regulatory Board on a bulk water supply application shall be subject to appeal to the Water Tribunal.

PART X – FEES AND LEVIES

62. Annual regulatory fee.

(1) A licensee shall pay to the Regulatory Board, as the case may be, on issue of the licence and at prescribed intervals thereafter, such licence fees as the Regulatory Board may following consultation with the Cabinet Secretary, determine.

(2) The licence fee shall be determined by reference to a schedule of fees published in the Gazette from time to time by the Regulatory Board.

63. Sewerage services levy.

(1) Pursuant to section 109 of the Act, the Regulatory Board may impose a sewerage services levy on all water services within the area of a licensee at a rate to be determined and gazetted from time to time following approval of tariffs.

(2) The sewerage services levy shall be used to cover part of the capital costs of developing waste water and faecal sludge management, treatment and disposal infrastructure within the area of supply of the water services provider.

(3) The water service provider shall maintain a separate account for funds collected from the sewerage services levy which shall be administered in accordance with Fund Administration Rules issued from time to time by the Regulatory Board.

64. Water consumption levy.

(1) Pursuant to section 117(2) of the Act, the Cabinet Secretary shall impose a levy of 3% of the monthly water consumption bill of each consumer as a water consumption levy to come into effect on a date to be notified by the Cabinet Secretary in the Gazette and which shall be payable into a Fund maintained by the Water Sector Trust Fund.

(2) The proceeds of the water consumption levy shall be used in accordance with the objects of the Fund under section 114 of the Act and on the basis of funding principles and criteria formulated by the Water Sector Trust Fund in consultation with the Cabinet Secretary and county governments.

(3) The Cabinet Secretary may, from time to time, following public consultation, review the water consumption levy in sub regulation (1) and notify any change through a notice published in the *Gazette*.

65. Levies bank account.

(1) The levy imposed under section 117(2) of the Act shall be collected by licenced water service providers and maintained in a separate bank account established for the purpose.

(2) A licenced water service provider shall keep books of account and other books and records in relation to its water consumption levy bank account and submit an annual audit of such books and records to the Regulatory Board.

66. Inspection of sales records.

The Regulatory Board shall have the right to inspect the records of the sales of water services by a licenced water services provider to verify that the account in regulation 65(2) is operated in accordance with the requirements of these Regulations and guidelines issued by the Regulatory Board from time to time.

[Subsidiary]

67. Operation of levies bank account.

Rules and guidelines for operating the water consumption levy bank account shall require that within fifteen days of the end of each month, a water services provider shall remit to the Water Sector Trust all of the monies collected as a water services consumption levy.

68. Administration fee.

A licenced water services provider shall charge an administration fee of not more than 0.1% of the proceeds of the water consumption levy to cover the costs of collecting and administering the levy.

69. Failure to remit levies.

(1) Notwithstanding regulation 65, the Regulatory Board may, taking account of a licenced water services provider's cash flow situation, from time to time grant to a licenced water services provider leeway to make payment on different instalment terms, provided that this shall not result in the water services provider defaulting on its payment within a financial year.

(2) Where, despite the leeway provided by the Regulatory Board under sub regulation (1), the water services provider fails to remit the water consumption levy, the Regulatory Board shall submit the noncompliance as a grievance to the Water Tribunal for determination.

PART XI – ADMINISTRATION OF CERTAIN WATER
SUPPLY AND INFRASTRUCTURE SERVICES

70. Availability and development of water sources.

(1) A licenced water services provider shall ensure the availability and development of sources of water for abstraction as necessary to enable it supply adequate quantities and quality of water to consumers.

(2) A licenced water services provider shall apply for and secure an abstraction permit from the Water Resources Authority, access rights, easements and source development agreements as may be necessary to enable it obtain such raw water as it requires for the performance of its functions.

(3) A licenced water services provider that has been issued an abstraction permit by the Authority shall pay such water use charges to the Authority as required under the applicable Water Resources Regulations.

(4) Where the water services provider does not have access to adequate sources of raw water for supply to consumers within its area of supply it shall, with the approval of the Regulatory Board, make arrangements for the purchase of water in bulk.

71. Easements, access rights, property rights etc.

(1) A water services provider desiring access for purposes of performing the licenced functions may acquire easements in accordance with the Third Schedule of the Act.

(2) A water services provider which acquires easements, access rights or property rights over land on or over which its facilities and infrastructure is constructed shall ensure that it has obtained and registered the property or access rights in its name and have in its custody the relevant title documents.

(3) A water services provider shall take steps to obtain and maintain in its records "as built" drawings of its facilities and infrastructure, geo-referenced maps and plans and other relevant documents which show the location and layout of the water infrastructure.

(4) Where the access rights to point water sources are enjoyed by community members on traditional or other non-statutory basis, the water services provider shall take steps to document the nature and extent of the access rights.

72. Borehole construction within supply area.

(1) A water services provider within whose area of supply a borehole is to be drilled shall be entitled to be consulted on the permit application and to issue a “no-objection.”

(2) In considering its “no-objection”, a water services provider shall take account its ability to provide the water services in respect to which the application for the borehole has been made and, if it reasonably believes that it can provide the required water services within a period not exceeding one year, shall decline the request for a “no-objection.”

(3) A water services provider shall maintain an inventory of small scale service providers including boreholes constructed within its exclusive area of supply and if within a period of one year of construction of a borehole the water service provider is able to provide water services to the owner of the borehole it shall require the owner of the borehole to discontinue the use of the borehole, with a notice period of one year, and to take supply of water from the water services provider.

(4) Where a water services provider wishes to take water from the borehole for supply to its customers, it shall enter into a contract with the owner of the borehole for the purchase of water from the owner of the borehole.

(5) Any dispute between the owner of the borehole and the water services provider over a “no-objection” or the use of the borehole by the water services provider for the provision of water to the water service provider’s customers shall in the first instance be submitted to the county director of water and sanitation for an amicable resolution and, if not resolved, be submitted to the Water Tribunal for determination.

(6) For purposes of exercising its mandate to supply water services within its area of supply, within three months of the coming into effect of these Regulations, owners or operators of boreholes in the supply area of each water service provider, whether private or public persons, shall submit to the Authority, the county government and the county water service provider, a copy of the permit or other authorization of the borehole, information on the use to which the water of the borehole is put and the number of households or establishments served by the borehole.

73. Regulation of water vending.

(1) A licenced water services provider, following consultation with the county government and stakeholders, shall formulate rules compliant with water vending guidelines issued by the Regulatory Board, for regulating, within the area of supply of the water services provider, water vending through kiosks or mobile means including water tankers.

(2) Rules made by the water services provider shall require water vendors, among other things, to—

- (a) acquire a permit from the water services provider;
- (b) source water for vending only from approved sources;
- (c) charge rates approved by the water services provider which are compliant with guidelines issued by the Regulatory Board;
- (d) operate vending kiosks or water tankers at approved locations; and
- (e) file annual reports according to a reporting format approved by the water services provider.

(3) A water services provider shall put in place measures to ensure that its staff members do not operate water vending businesses within its area of supply.

74. Closure of unsafe supplies of water.

(1) Where there exists within the area of supply of a water services provider a source of supply of water other than that supplied by the water services provider which, in the opinion of the water services provider does not provide a suitable supply of water for drinking and domestic purposes, the licensee may, in collaboration with the Authority and the public health officer, order such source of supply to be closed, and shall by order, compel users of such water to take a supply from the water services provider.

[Subsidiary]

(2) A person who disobeys an order of the water services provider given under this regulation commits an offence and is liable to prescribed penalties and the water services provider shall be entitled to close the source of supply either temporarily or permanently until remedial measures are implemented.

75. Water quality and service standards for rural and underserved areas.

(1) A water services provider shall ensure that water services in rural areas and underserved areas which are supplied by community water service providers or private water service providers under an arrangement with the county water services provider meet water quality and service quality standards set by the Regulatory Board for rural and underserved areas.

(2) Where a community service provider or small scale private water services provider is unable to meet the set water quality or service standards and such failure poses a public health risk, the water services provider with the approval of the Regulatory Board and the County Executive Committee member may require the community water services provider or private water services provider as the case may be to cease further supply and the licenced water services provider shall henceforth assume responsibility for the provision of water services in the area.

76. Septic tank sludge management.

(1) As soon as is reasonably practicable after being licensed a licenced water services provider shall make rules governing the receipt of septic tank sludge into the sewerage system or faecal sludge treatment and disposal facility operated by or under a contract with the water services provider.

(2) Rules made by water services providers shall—

- (a) require that persons providing exhauster services within the area of supply of a water services provider register with the water services provider using a form of registration to be provided by the water services provider;
- (b) require that the water services provider maintain a database of exhauster services within its area of supply including information on the persons providing exhauster services including their names or the names of their businesses, contact details and physical locations, particulars of the motor vehicles and other facilities used to provide the exhauster services and the areas of operation of the exhauster services;
- (c) impose fees for the use of the sewerage system or faecal sludge treatment and disposal facility of the water services provider to dispose of septic tank sludge;
- (d) require persons operating exhauster services to comply with standards set by the water services provider for the acceptance of septic tank sludge into its sewerage or faecal sludge treatment and disposal system.

(3) In order to facilitate the operation of exhauster services, a licenced water services provider shall provide and maintain discharge points for exhausters which meet standards set by the Regulatory Board.

(4) Where it is of the opinion that there is inadequate provision in its area of supply for the management and exhaustion of septic tank sludge a county water service provider may, with the consent of the Regulatory Board and the county executive committee member establish and operate an exhauster service in its area of supply.

PART XII – APPROVALS AND CONSTRUCTION OF WORKS AFFECTING INFRASTRUCTURE, ETC

77. Requirement to obtain water sector professional or contractor licence.

(1) No person shall be qualified to plan, design and operate water services infrastructure unless he holds, or works under a person who holds, a valid licence issued by the Cabinet Secretary as a qualified water sector professional and is in good standing from the Engineers Board of Kenya.

(2) No person shall be eligible to work as a contractor unless he is licenced by the Cabinet Secretary in the appropriate category of contractor for the works to be undertaken.

(3) No person shall be eligible to provide services as a water sector professional unless he holds a valid licence as a qualified water sector professional issued by the Cabinet Secretary and he possesses the requisite skills to work as a water sector professional.

(4) Any person who lays, fits or connects any pipes, trunks, mains, fittings, equipment, appliances or other connections to the water reticulation or sewerage system belonging to a licensee without the requisite authorization issued under these Regulations commits an offence and is liable on conviction to the penalties prescribed in section 147 of the Act.

(5) Any person whether an owner or occupier of premises or otherwise, who permits an unlicensed person to lay, fit or connect any pipe, trunk, mains or other connections to the existing water reticulation or sewerage system belonging to a licensee commits an offence and is liable on conviction to the penalties prescribed in section 147 of the Act.

78. Issuance, variation, suspension or cancellation of water sector professional or contractor licence.

The Cabinet Secretary, on the recommendation of the Technical Advisory Committee established under the applicable water resources regulations and the Regulatory Board, may—

- (a) issue, vary, suspend or cancel licences of water sector professionals or contractors in the water services sector in accordance with the applicable regulations;
- (b) inquire into and resolve complaints made against licenced water sector professionals and contractors.

79. Approval of construction works.

(1) A person who intends to undertake construction works which may affect water and sewerage infrastructure operated by a water services provider, shall apply for the approval of the water services provider on terms and conditions set by the water services provider, which may include the payment of a fee.

(2) A person who undertakes works under this regulation without the approval of the water services provider commits an offence and is liable on conviction to the penalties prescribed under section 147 of the Act.

(3) Where damage is caused to infrastructure belonging to or used by the water services provider through construction works, the person responsible for the construction works shall, in addition to any other prescribed penalties, be liable to a surcharge of the full cost of repairs or replacement and it shall not be a defence to any action taken against the person responsible, whether civil or criminal, that the water services provider had approved the works.

(4) The provisions of this regulation shall apply equally to public entities undertaking construction works as they do to private contractors undertaking works for private persons or under a contract with public bodies.

80. Certification of property development works connecting to water mains.

(1) Where a developer of property intends to undertake plumbing, sewerage and related works for connection of private property to the mains operated by a water services provider—

- (a) the developer shall present the plans for such plumbing and sewerage works to the water services provider for inspection and approval, prior to commencement of construction; and
- (b) upon completion of the works, the water services provider shall inspect the works and if the works comply with the approved plans, certify the works as approved for connection to the mains.

(2) A developer who fails to comply with this regulation commits an offence and is liable on conviction to the penalties prescribed under section 147 of the Act.

[Subsidiary]

81. Allowing of new water or sanitation fitting.

(1) No person shall cause a water fitting or sanitation fitting to communicate with any pipe, cistern or other receptacle or works used, or capable of being used, for the conveyance or reception of water or effluent other than water supplied by a licensee or its agents.

(2) No newly laid pipe or other water fitting shall, in the course of installation or alteration by any person other than a licensee, be covered until such pipe or water fitting has been examined and approved by the water services provider or other person authorized by him.

(3) No pipe or other water fitting shall be connected with a main, and no additional water fittings, except taps replacing old taps, shall be connected with existing water fittings, until they have been inspected by the water services provider or his agent and a certificate of approval given by him.

(4) The licensee shall ensure and enforce the regulations of installation work in the licenced area as a condition of the licence.

PART XIII – INSPECTION, EVALUATION AND MONITORING**82. Inspectorate service.**

(1) A licenced water services provider shall establish and maintain an inspectorate service with adequate resources and staff.

(2) An inspector employed by the water services provider may enter any premises to which it provides water or sewerage services in order to inspect and monitor—

- (a) the distribution system;
- (b) the water metre;
- (c) water storage systems;
- (d) the sewerage system;
- (e) such other elements of the water and sewerage services as it may deem appropriate.

(3) An inspection may only be undertaken between the hours of 8 am and 6 pm except in an emergency.

(4) A water services provider shall communicate to its customers the recommended methods and procedures of verifying the identity of inspectors seeking entry into premises and maintain at all times a customer help line to which customers may telephone to verify any information provided to them by the inspector.

(5) Where the water and sewerage services provider has knowledge of, or suspects the illegal or unauthorized access to, and use of its water or sewerage services in any premises, it shall apply to the appropriate court for a warrant to enter and search the premises.

(6) Nothing in this sub-regulation shall prevent a water services provider from disconnecting and terminating the water services from a point outside the premises in question.

(7) Notwithstanding sub regulation (1), a county water service provider may utilize inspectorate services operated by the respective county government provided that suitable arrangements are made to dedicate and train inspectors on matters relevant to water services, and this arrangement is approved by the Regulatory Board as being satisfactory.

83. Reporting by licenced water service providers.

(1) A licenced water services provider shall, at such intervals as the Regulatory Board may require, submit reports to the Regulatory Board using such reporting formats as the Regulatory Board may stipulate, on the nature and condition of its waterworks, facilities, installations and systems to enable the Regulatory Board ascertain the extent of compliance with prescribed standards.

(2) The Regulatory Board shall additionally put in place arrangements for collaboration with county governments and other regulatory agencies with a statutory mandate to inspect, approve and or certify constructions, works and buildings.

(3) An inspection of, or approval or certificate issued to, a licenced water services provider by a county government or regulatory body pursuant to a collaborative arrangement with the Regulatory Board shall be sufficient evidence of compliance by the licenced water services provider with the standards prescribed by the Regulatory Board unless the Regulatory Board, for good cause, determines otherwise.

PART XIV – REPORTING AND RECORD KEEPING

84. Annual Reports by the Regulatory Board.

(1) The Regulatory Board shall prepare an annual report of its work and activities within three months after the end of the each financial year.

(2) The Regulatory Board shall publish and publicise the annual report in sub regulation (1).

85. National database and georeferenced information system.

(1) The Regulatory Board shall maintain a national database and geo-referenced information system on water services.

(2) For purposes of sub regulation (1), each water services provider shall maintain equipment, accurate records and accounts relating to all aspects of its operations as shall be prescribed in the licence.

86. Annual reports by water service provider.

(1) Each water services provider shall, using a format provided by the Regulatory Board, submit to the Regulatory Board annual reports showing the status of—

- (a) the water service;
- (b) network expansion and rehabilitation;
- (c) commercial and business growth;
- (d) progress towards financial sustainability and viability; and
- (e) any other information specified by the Regulatory Board in its format of reporting.

(2) If required by the Regulatory Board, licenced water service providers shall additionally submit to the Regulatory Board quarterly reports on the status of its compliance with the terms and conditions of the licence using a format provided by the Regulatory Board.

(3) Each licensee shall submit to the Regulatory Board an audited financial report within six months of the end of the financial year.

87. Public reporting and transparency.

Each licensee shall provide information to the public on its plans and operations in the form, substance and frequency determined by the Regulatory Board.

88. Obtaining water service data.

(1) Any person requiring water service data maintained in the national monitoring and georeferenced information system on water services maintained by the Regulatory Board shall make an application in a standard form as may be prescribed.

(2) The applicant shall pay a prescribed fee to be published in the *Gazette* for the data, unless the Regulatory Board is satisfied that the data is to be used for research or non-commercial purposes.

(3) Data provided by the Regulatory Board to an applicant shall not be transferred to a third party and the Regulatory Board shall not be liable for any errors or omission in the data.

PART XV – COMPLAINTS

89. Complaints mechanism.

(1) Each water services provider shall establish a mechanism for handling complaints which meets guidelines stipulated by the Regulatory Board.

[Subsidiary]

(2) For the purposes of sub regulation (1), the water services provider shall—

- (a) provide easy access to information and where applicable contact details of the local water action groups;
- (b) maintain a customer service centre with qualified staff for the purpose of addressing and resolving consumer applications, consumer service requests and complaints.

(3) A water action group, customer or other member of the public may lodge complaints concerning the licenced water services through the consumer complaints mechanism established by the water services provider.

(4) Notwithstanding the generality of sub regulation (1), the procedures for lodging complaints shall provide for—

- (a) notification to customers of the right to complain;
- (b) availability of a complaint form or any other written method for raising complaints; and
- (c) maintenance of a log of customer complaints.

(5) Each licensee shall file its complaint handling procedures with the Regulatory Board, within sixty days after the issue of the licence.

90. Complaints to the Regulatory Board.

(1) A person who is not satisfied with the handling of his or her complaint by the water services provider may submit a written complaint by providing the information set out in the Second Schedule to the appropriate office of the Regulatory Board.

(2) The officer of the Regulatory Board shall reply to the complainant, copying all other relevant parties, within twenty one days of receiving the complaint, stating what action is being taken, the decision of the Regulatory Board on the matter and any recommendation to the water services provider for resolving the matter.

(3) If a party is dissatisfied with the decision of the officer of the Regulatory Board, he or she may forward the matter to the Chief Executive Officer of the Regulatory Board.

(4) The Chief Executive Officer shall within twenty one days of receiving the complaint respond to the complainant, copying all relevant parties, stating the final decision of the Authority including whether the Chief Executive Officer upholds or annuls as the case may be, the decision of the officer in sub regulation (2) and give reasons for his decision, and any recommendations to the complainant;

(5) If the complainant is dissatisfied with the final decision of the Regulatory Board, he or she may appeal the decision at the Water Tribunal.

(6) Each complaint lodged at the Regulatory Board shall be given a complaint number which shall be used for purposes of monitoring actions taken to remedy a complaint and the response to the complainant.

(7) The Chief Executive Officer of the Regulatory Board shall on an annual basis provide to the Cabinet Secretary a summary of the complaints received and action taken to address the complaints.

PART XVI – CONSUMER ENGAGEMENT

91. Water action groups.

(1) Water services providers and the Regulatory Board shall adopt a mechanism of engagement with consumer groups that are registered as community based organizations involved in water issues within the counties.

(2) Consumer groups who have entered into a recognition agreement with the water services provider shall be referred to as water action groups.

(3) The modalities of engagement with water action groups shall be set out in guidelines issued from time to time by the Regulatory Board.

92. Information by water action groups.

The water action groups shall be responsible for the provision of information to consumers and shall act as a liaison between the water services provider and consumers.

93. Consumer complaints and follow-up.

Water action groups shall follow up on resolution of consumer complaints by water services providers and submit unresolved complaints to the Regulatory Board as part of the water action group's operational reports, detailing the complaints and feedback on water services providers.

94. Supervision and oversight of consumer complaints mechanism.

The Regulatory Board shall supervise and oversee the operation of the mechanism relating to consumer engagement and the protection of consumer interests.

PART XVII – COMPLIANCE AND ENFORCEMENT

95. Enforcement action against licenced water service providers.

(1) The Regulatory Board may take enforcement action against a licenced water services provider for any of the following reasons—

- (a) serious or repeated breach of the licence conditions;
- (b) discovery of intentional misrepresentation by the licensee in its application for the licence;
- (c) operating in breach of legal requirements;
- (d) cessation of the licensee to meet the requirements to hold such licence;
- (e) failure to pay the prescribed fees for licensee or other obligation to the Regulatory Board; or
- (f) other sufficient cause.

(2) Where the Regulatory Board intends to take enforcement action against a licensee, the Regulatory Board shall issue a notice to show cause specifying the breach, a time frame for the required response and the consequences of failure to provide a response.

(3) After due consideration of such representations, the Regulatory Board may—

- (a) make a finding on the offending act or conduct and prescribe the time during which the licensee may remedy the offending act or conduct; or
- (b) require the payment of a penalty or fee as specified in the Act or these Regulations; and
- (c) recommend to the county government—
 - (i) the dissolution of the board of directors of the water services provider and its replacement with another board;
 - (ii) the variation of the licenced area;
 - (iii) any other action which it deems appropriate given the circumstances.

(4) A person aggrieved by the decision of the Regulatory Board under this regulation may within fifteen days from the date on which the decision is received, appeal to the Water Tribunal.

96. Cure Notice.

(1) Where despite a recommendation to the county government to take action against a licensee which is in default, the county government is unable, has failed or neglected to take action or take action effectively against the water services provider and it appears to the Regulatory Board that a licensee or an agent has persisted in its—

- (a) failure to adhere to a compliance programme agreed to without there being mitigating circumstances for that failure;

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- (b) failure to adhere to agreed standards of improved services in the water quality, service delivery, facilities maintenance and capital works expansion and rehabilitation failure to adhere to the approved tariff without any mitigating circumstances;
- (c) neglect of sound business principles and good governance as stipulated in its licence;
- (d) failure to deal with the bank account into which levies are deposited as required in guidelines issued by the Regulatory Board;
- (e) intention to sell, lease, mortgage, transfer, attach, assign, demise or encumber a licence, or assets used for the provision of water services without authority; or
- (f) commission of a serious breach of the terms and conditions of its licence, the Regulatory Board shall give an order for the licensee or agent to remedy that breach, specifying the action required to remedy the breach and a timeframe.

(2) The Regulatory Board may place the licensee under a “special regulatory regime” and direct—

- (a) a member of staff of the Regulatory Board or any agent of the Regulatory Board, or a licensee, as the case may be, to sit in the licensee’s or agent’s board or committee meeting to monitor the implementation of the order and the decisions being made in the licensee or the agent, as the case may be;
- (b) the licensee or the agent to transmit weekly reports of billings received and expenditures on operations and transactions to the Regulatory Board or the licensee as the case may be, and bank certificates for all its accounts;
- (c) an official from the Regulatory Board or an agent appointed for that purpose be placed in the concerned licensee or agent to monitor the day to day operations of the licensee or agent and to provide direction and technical assistance to the staff and board of directors of the licensee or agent for any length of time, that is deemed necessary to effect the cure.

(3) The Regulatory Board shall conduct regular inspections to ensure that the licensee complies with the terms of the licence and the cure notice is implemented by the concerned licensee or agent as the case may be.

(4) The costs of the “special regulatory measures” under this regulation shall be to the account of the licensee or agent as the case may be.

(5) If after six months of the special regulatory measures being undertaken or other extended period as determined by the Regulatory Board it still appears to the Regulatory Board that a licensee or agent is still unable or unwilling to meet obligations or continues to be in breach of obligations, the Regulatory Board may in addition to the measures in subregulation (1) and (2)—

- (a) mandate that an agent of the Regulatory Board appointed to enhance financial discipline shall become a mandatory signatory to the accounts of the concerned licensee or agent;
- (b) direct the commencement of disciplinary or other punitive process against key office staff responsible for network expansion and maintenance, billing, meter reading and disconnection or financial matters, subject to their right to be heard, and take steps to integrate the billing system with the financial management system at the cost of the concerned licensee or agent;
- (c) direct the concerned licensee or agent, as the case may be, to take measures to review and rationalize its staff complement to ensure efficiency ratios if the staff size and capacity is contributing to the breach and implement a time plan to execute it;
- (d) direct or recommend to the relevant board or appointing authority the suspension of chief officers of the concerned licensee or agent, as the case

may be, on tangible grounds identified, and subject to the concerned chief officers' right to be heard;

- (e) recommend to the County Government the taking of measures against the board of directors of the concerned licensee, or take remedial or punitive measures against the board of directors or management committee of the concerned agent, subject to their right to be heard; and
- (f) implement all other recommendations that have emerged from the regular inspections conducted.

97. Special Regulatory Regime.

(1) The special regulatory measures provided for in the Regulations shall be—

- (a) for a particular duration, not exceeding six months in the first instance, and subject to extension by a further period not exceeding six months;
- (b) intended to achieve improved results in the licensee and the agent;
- (c) funded from the operations of the concerned licensee and or agent performance guarantee which shall have been issued;
- (d) an integral part of the licence and the service provision agreement.

(2) Where the special regulatory regime fails, the Regulatory Board shall by order effect the transfer of the licensee's functions as envisaged in section 103 of the Act.

98. Delegation by Regulatory Board.

(1) The Regulatory Board may delegate to any person the exercise of any of the powers or performance of its function under these Regulations.

(2) The person to whom power is delegated under sub regulation (1) shall have the power to carry out inspection and enforcement functions of the Regulatory Board, and all other functions except licensing and prosecutorial functions.

99. Water services inspector.

(1) The Regulatory Board may, from time to time, by notice in the *Gazette*, appoint any person or class of persons to be water services inspectors for the purposes of these Regulations.

(2) An inspector shall have power of entry, inspection and apprehension, during normal working days and hours, for any offence under the Act.

(3) A person who obstructs or hinders or knowingly makes false or misleading statements to an inspector who is carrying out duties under sub regulation (2), commits an offence and is liable on conviction to the penalties prescribed in the Act.

PART XVIII – GENERAL OFFENCES

100. Offences by employees.

(1) An employee of a licenced water services provider shall have immunity from liability and prosecution for any losses arising from action taken in good faith in execution of lawful duties.

(2) Notwithstanding sub regulation (1), any actions of an employee of a licenced water services provider involving solicitation and receiving of bribes and corrupt practices shall be punishable, as appropriate, under the Public Officer Ethics Act, Penal Code, the AntiCorruption and Economic Crimes Act or any other applicable law.

(3) An employee of a water services provider who—

- (a) wilfully fails to read a metre when it is his or her duty to do so;
- (b) wilfully fails to disconnect water services to a customer who has defaulted in making payment contrary to rules set by the water services provider;
- (c) wilfully fails to notify the water services provider of an illegal or unauthorized access and utilization of the water or sewerage services; or

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- (d) colludes with other persons to allow or assist such persons illegally to access and use water services contrary to rules set by the water services provider commits an offence and is liable upon conviction to not more than six months imprisonment or a fine of not more than twenty thousand shillings or both such fine and imprisonment.

(4) For purposes of this regulation, an employee of a water services provider includes a person engaged on casual terms of service, as well as a contractor when performing duties falling within the scope of this regulation.

101. Impersonation of staff of water service provider.

Any person who impersonates an employee of a water services provider commits an offence and is liable upon conviction to a sentence of six months imprisonment, or a fine of not more than twenty thousands shillings, or both such fine and imprisonment.

102. Vandalism of water and sewerage services infrastructure.

(1) Any person who wilfully vandalizes, damages or destroys infrastructure or a facility of a water and sewerage services provider commits an offence and is liable on conviction, to the penalties prescribed in section 147 of the Act.

(2) Upon conviction for a second or subsequent offence involving the wilful destruction or vandalism of infrastructure or facilities belonging to a water services provider, the offender shall be liable in addition to any other prescribed penalty to a surcharge of an amount equivalent to the value of the vandalized infrastructure which surcharge shall be recoverable as a civil debt through a suit in a court of competent jurisdiction.

103. Illegal connection to water services.

(1) Any person who illegally connects to, diverts and utilizes for any purpose, water or sewerage services provided by a water services provider commits an offence and is liable upon conviction to the penalties prescribed in section 147 of the Act.

(2) Upon conviction the offender shall additionally be liable to a surcharge of the full value of the water services illegally utilized, with interest computed at the rate of 12% per annum until paid in full, which surcharge shall be recoverable as a debt owed to the water services provider.

104. Contamination of water and supply to domestic premises.

(1) Any person who wilfully contaminates or pollutes water which is used or intended to be used for domestic supply by discharging contaminants into it, throws waste or other contaminating matter into or otherwise handles such water in such a manner as to contaminate it, commits an offence and is liable upon conviction to the penalties prescribed under section 147 of the Act.

(2) Any person who supplies water to domestic premises which he knows or ought to know is not fit for domestic consumption without issuing a warning to persons who are likely to consume it to the effect that the water is not fit for consumption and should be treated prior to being consumed, commits an offence and is liable on conviction to the penalties prescribed under section 147 of the Act.

105. Further offences.

Any person who—

- (a) undertakes or carries out any water service or sanitation infrastructure services or works without being the holder of a licence appropriate for the category of services or works undertaken or carried out or without being under the direction of a suitably licenced qualified water sector professional or contractor;
- (b) contravenes or fails to comply with any of the terms and conditions of any water service licence granted under these Regulations or wilfully gives false or misleading information in relation to water service works or services;

- (c) submits or causes to be submitted to a public water service provider or to the Regulatory Board a completion certificate which he knows or has reason to believe is false in any material particular;
- (d) being a water service or sanitation service contractor, undertakes or carries out by himself, his servant, or agent any water service installation work at any time whilst his business or any branch thereof is not registered or while the registration of such business or branch is suspended or cancelled;
- (e) being a water service or sanitation service contractor, undertakes or carries out, by himself, his servant or agent any water service installation work except under the direction of a licenced water sector professional holding a licence of a type appropriate to such work or installs a pump on a service line, or
- (f) being an owner or occupier of any premises or any developer or main contractor of any premises under construction, causes or permits to be carried out upon the premises any water service installation work in contravention of these Regulations, commits an offence and is liable on conviction to the penalties prescribed in section 147 of the Act.

106. Penalties.

A person who commits an offence under these regulations for which no express penalty is provided shall on conviction be liable to the penalties prescribed under section 147 of the Act.

107. Revocation of L.N 137 of 2012.

The Water (Services Regulatory) Rules are hereby revoked.

FIRST SCHEDULE

[r. 10(4)]

PROVISIONS AS TO THE CONDUCT OF BUSINESS AND AFFAIRS
OF BOARDS OF COUNTY WATER SERVICES PROVIDERS

1. Meetings

The Board shall meet for the dispatch of business at such times and places as it shall appoint, or failing any such appointment, as the Chairperson shall appoint:

Provided that the Board shall meet not less than four times in any financial year.

2. Special meetings

The Chairperson or any three directors may, by not less than twenty-four hours' written notice to all other directors, summon a special meeting of the Board at the headquarters of the Corporation at any time.

3. Notice of meetings

Except where a shorter period is appointed notice of the date, time and place of each meeting shall be given in writing at least five clear days beforehand to every director at such address in Kenya as the director shall have notified to the Corporation [company] from time to time:

Provided that the failure of any director to receive such notice shall not invalidate any proceedings.

4. Quorum

The quorum necessary for the transaction of business by the Board shall be not less than two thirds of the members of the Board.

5. Chairperson

[Subsidiary]

The Chairperson shall preside at meetings of the Board:

Provided that if he is not present at the start or at any time during a meeting, the Vice Chairperson shall chair, and if both are absent, the directors present, if a quorum, may choose one of their number to act as chairperson during the Chairperson's absence from that meeting.

6. Voting

Questions arising at meetings shall be decided by a majority of the votes of the directors present and voting:

Provided that in the case of any equality of votes, the Chairperson of the meeting shall have a second or casting vote.

7. Minutes

The Board shall cause minutes to be kept of all resolutions and proceedings at each meeting and of the directors present thereat.

8. Other procedures

Subject to the provisions of this Schedule, the Board may determine its own procedure, and the procedure for any committee of the Board and for the attendance of other persons at its meetings, and may make standing orders in respect thereof.

9. Disclosure of interest

(1) If a director is directly or indirectly interested in any contract, proposed contract, or other matter and is present at a meeting of the Board at which the contract, proposed contract or other matter is the subject of consideration, he shall, at the meeting and as soon as practicable after the commencement thereof, disclose the fact, and shall not take part in the consideration or discussion of, or vote on, any question with respect to the contract or other matter, or be counted in the quorum of the meeting during the consideration of the matter.

(2) A disclosure of interest made under this paragraph shall be recorded in the minutes of the meeting at which it is made.

10. The common seal

The affixing of the common seal of the Corporation[company] shall be authenticated by the signatures of the Chairperson or some other director authorized generally or specially by the Board to act for the purpose, and of an employee of the Corporation [company] authorized generally or specially by the Board to act for the purpose.

11. Contracts and instruments

Any contract or instrument which, if entered into or executed by a person not being a body corporate, would not require to be under seal, may be entered into or executed on behalf of the Corporation [company] by any person generally or specially authorized by it for that purpose.

12. Proof of documents

Any document purporting to be a document duly executed or issued under the seal of the Corporation [company] or on behalf of the Corporation [company] shall be received in evidence and be deemed to be a document so executed or issued without further proof unless the contrary is shown.

SECOND SCHEDULE

[r. 90(1)]

INFORMATION TO BE GIVEN BY COMPLAINANT UNDER THESE REGULATIONS

Item	Information
(a)	Name of Complainant
(b)	Contact address, telephone number, email address (if any) of Complainant
(c)	Nature and location of the problem
(d)	Date that problem occurred
(e)	Name and, if available, the contact details of all parties to the dispute or complaint
(f)	Any other relevant details
(g)	Signature of the Complainant

THE WATER HARVESTING AND STORAGE REGULATIONS

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[Subsidiary]

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THE WATER HARVESTING AND STORAGE REGULATIONS

[Legal Notice 44 of 2021]

PART I – PRELIMINARY**1. Citation**

These Regulations may be cited as the Water Harvesting and Storage Regulations, 2021.

2. Interpretation

In these Regulations, unless the context otherwise requires—

“Act” means the Water Act (Cap. 372);

“applicant” means any person making an application to be licensed as an approved qualified water sector professional or a dam contractor;

“Authority” means the Water Resources Authority established under section 11 of the Act;

“base flood” means a flood having a one percent chance of being equaled or exceeded in any given year;

“Cabinet Secretary” means the Cabinet Secretary responsible for matters relating to water resources;

“dam” includes any existing or proposed structure together with appurtenant works, which is capable of containing, storing or impounding water, including temporary impoundment or storage above ground level, whether that water contains any substance or not;

“environmental impact assessment” has the meaning assigned to it under the Environmental Management and Co-ordination Act (Cap. 387);

“flood flow” means any flow that exceeds the Q80 flow value;

“levee” means a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding;

“maintenance” means all actions necessary for retaining water works as near as possible to its original condition, excluding rehabilitation or renewal;

“maintenance plan” means information, policies and procedures for the optimal maintenance of water works or group of water works;

“net freeboard” means the vertical distance between the maximum water surface and the crest of the dam;

“permit” means all approvals required under the Act for the construction and operation of a dam;

“proponent” means the owner, developer or other person

intending to construct or constructing a dam or other waterworks;

“qualified water sector professional” means a person licensed pursuant to the Act as a water sector professional;

“water harvesting system” means a system comprising entrapment, transportation, filtration, and storage of rainwater for reuse or recharge;

“regulated watercourse” means a watercourse where the flow has been modified from its natural state by water storage or flood mitigation structures which provide a means of controlling or otherwise regulating the release of water into the natural channel;

[Subsidiary]

"reservoir" means a body of water impounded by a dam or a dam with a safety risk;

"risk" means the measure of the probability and severity of an adverse effect to life, health, property or the environment;

"spillway" means a structure used to provide the controlled release of flows from a dam or levee into a downstream area typically the riverbed of the dammed river itself;

"storage capacity" means the total volume of free water excluding groundwater that could be stored below the lowest unobstructed spillway crest level or free outlet level of a dam, or below the maximum operating level established by the penstock inlet level or free decant level and as prescribed in the operation and maintenance manual or code of practice in the case of any residue deposit including tailings dams;

"storm water" means run-off water that has been concentrated by means of a drain, surface channel, subsoil drain or formed surface;

"watercourse" has the meaning assigned to it in the Act;

"water storage" means a location or structure where water is stored or retained for future use;

"Water Storage Authority" means the National Water Harvesting and Storage Authority established under section 30 of the Act;

"waterworks" means any man-made structure, apparatus, contrivance, device or thing for storing, impounding or diverting water permanently or temporarily, regulating the flow of water or containing or managing or controlling flooding and includes a dam, reservoir, water pan, dyke, levee and such like structures and devices; and

"Waterworks Development Agency" has the meaning assigned to it in the Act.

3. Application of the Regulations

These Regulations shall apply to—

- (a) the policies, plans, programmes and activities of the national government, county governments and entities of the national and county governments; and
- (b) public and private waterworks for water harvesting and storage, reservoirs for impounding surface run-off and for regulating stream flows to synchronize them with water demand patterns and structures and devices for flood control and management.

PART II – CLASSIFICATION OF STORAGE DAMS AND OTHER WATERWORKS

4. Classification of dams

(1) A storage dam or other waterworks shall provisionally be classified by the owner or operator as Class SD1, SD2 or SD3 on the basis of the criteria stipulated in Table 1 of the First Schedule by taking into account the risk factors set out in the Second Schedule.

(2) For purposes of determining an application for a permit for the development, operation and management of a storage dam or other waterworks or otherwise in exercise of its regulatory mandate, the Authority may affirm or vary the provisional classification assigned under subregulation (1).

(3) In classifying a storage dam or other waterworks, the principle to be applied is that the criteria or risk factor that results in the higher class of storage dam or other waterworks shall prevail.

5. Minimum net freeboard.

(1) The net freeboard for Class SD1 dams shall not be less than 0.6m.

(2) The net freeboard for Class SD2 and SD3 dams shall—

- (a) not be less than 1.0 m; or
- (b) be as specified by the Authority.

6. Minimum spillway design flood.

(1) The minimum acceptable return period for the design of a dam spillway shall be as provided in Table 5 in the Second Schedule.

(2) The Authority may require a higher return period with respect to the conditions and risks associated with a specific site.

7. National public waterworks.

(1) A national public waterworks which satisfies the criteria in subregulation (2) shall be developed and managed under a contract with the Water Storage Authority.

(2) National public waterworks shall—

- (a) comprise of dams, reservoirs or other artificial structures constructed to control the flow of the waters of a watercourse and designed or operated to regulate stream flows to synchronise such structures with water demand patterns implemented pursuant to section 8 (2)(d) of the Act;
- (b) be of strategic or national importance;
- (c) be financed using national government monies pursuant to section 8 (1)(b) of the Act; and
- (d) meet the requirements for classification as a Class SD2 or Class SD3 storage dam as set out in the First Schedule.

(3) A national public waterworks whose primary purpose is water storage for bulk distribution and provision of water services implemented pursuant to section 8(2)(b) of the Act may be developed and operated by or under a contract with a waterworks development agency or through the mechanisms set out in section 69 of the Act.

(4) Waterworks developed and managed by the Water Storage Authority for the storage of flood flows to enable downstream releases for the purposes of flow regulation, may in addition to the impoundment and flow regulation structures associated with the storage and release of water from the reservoir, comprise structures and facilities to enable multi-purpose use such as draw-off towers that facilitate direct abstraction from the reservoir.

(5) Facilities associated with the treatment or bulk transfer of water even if forming part of a water resources storage dam that meets the criteria set out in subregulation (2) shall not be developed or managed under a contract with the Water Storage Authority but, if financed by the national government as national public waterworks, shall be developed and managed under a contract with a waterworks development agency or through the mechanisms set out in section 69 of the Act.

(6) A private person may, under an agreement with the Water Storage Authority, and subject to compliance with the applicable law on public private partnerships, develop, operate and maintain a dam to regulate stream flows by releasing the water stored into a natural watercourse as a public private partnership venture.

(7) A county government may develop, operate and maintain a dam which falls into the category of a county waterworks, for water harvesting and storage for use in bulk water provision, irrigation or other approved activities.

(8) Where a water resource storage dam or reservoir has been constructed to enable multi-purpose use, a user may under a contract with the Water Storage Authority acquire rights of access to the water resources storage dam for purposes of abstraction of water directly from the dam or reservoir.

PART III – DEVELOPMENT OF WATERWORKS

8. Prior right to water for storage.

(1) The Authority shall, on behalf of the National Government, and following consultation with the Cabinet Secretary and county governments, formulate medium to long term water resources storage plans and programmes based on water allocation plans, guidelines and data gathered or submitted to the Authority.

[Subsidiary]

(2) The water resources plans of the Authority shall be undertaken on the basis that the right to store water shall be subject to the prior right to its uninterrupted flow required for actual and beneficial use and in compliance with the Act.

(3) The Authority, as a condition to the grant of a water use permit, may require a person applying for a permit to construct or develop a storage dam or facility to demonstrate that the proposed storage is in line with the National Government's medium and longterm plans for water resources and development.

9. Requirements for construction of waterworks.

(1) Prior to constructing waterworks, the applicant shall apply for and obtain—

- (a) a water use permit issued by the Authority under the Act and the Regulations;
- (b) an environmental impact assessment licence in accordance with the Environmental Management and Coordination Act; and
- (c) authorization from the mandated lead agency where the proposed water works is to be located inside a protected area or catchment area.

(2) subregulation (1) does not apply—

- (a) to works constructed in emergency circumstances;
- (b) to temporary works in operation for a period of less than two years; or
- (c) if the works are a structure less than 2 metres water depth or 10,000m³ total storage unless directed to do so by the Authority in any particular case.

(3) Within two years after the completion of the works contemplated in subregulation (2) (a), the owner, developer or operator of the waterworks shall –

- (a) demolish the works and restore the site; or
- (b) retain the works for purposes of water resources storage and or flood control subject to compliance with subregulation (1).

10. Feasibility study.

(1) The person intending to develop a storage dam or other waterworks falling into class SD 2 or SD 3 in Table 1 set out in the First Schedule shall prior to commencing the construction of the waterworks undertake a feasibility study.

(2) Prior to undertaking the feasibility study contemplated in subregulation (1), the terms of reference for the feasibility study shall be submitted by the proponent to the Authority for review and approval and in each such case the Authority shall finalize action within three months from the date of receiving the terms of reference.

(3) The feasibility study shall –

- (a) be planned and supervised by a qualified water sector professional of the appropriate category for that class of dam and selected on the basis of the categories in Table 3 of the Second Schedule;
- (b) identify and address the risk factors associated with the particular waterworks contemplated and the class of dam;
- (c) identify and address the main factors likely to affect the safe performance of the structures to be constructed.

(4) The feasibility study shall be submitted to the Authority for review, and if found to be satisfactory, the Authority shall within three months approve the proposal to proceed to full design.

(5) Where the Authority is not satisfied with the feasibility study, the Authority may require the proponent to enhance the feasibility study before a final decision is made.

(6) The Authority may before determining an application for a permit for a storage dam or other waterworks not required under subregulation (1) to undertake a feasibility study, require the applicant to undertake and submit such feasibility study.

(7) The Authority shall, in granting an approval under this regulation, undertake public participation through the invitation of comments from the public and stakeholders and public meetings where necessary.

11. Design by qualified water sector professional.

(1) Storage dams and other waterworks shall be designed and supervised by the appropriate category of qualified water sector professionals as set out in Table 3 in the Second Schedule.

(2) Storage dams and other waterworks shall be constructed by the appropriate category of contractor as set out in Table 4 in the Third Schedule.

(3) A contractor undertaking construction of waterworks pursuant to these Regulations shall be a registered contractor in accordance with section 15 of the National Construction Authority Act.

12. Dam Design Report.

(1) An application for a permit to construct a storage dam shall be accompanied by a Dam Design Report.

(2) The format of the Dam Design Report is as set out in the Third Schedule.

(3) The level of detail required in the Dam Design Report shall be based on the professional advice of the qualified water sector professionals preparing the report taking account of the class of dam to be constructed and the risk category, provided that the Authority may, before determining the application require the applicant to prepare and submit a more detailed report.

(4) If the circumstances require, the Authority may provisionally authorise the works on the basis of a preliminary Dam Design Report on condition that the applicant submits a complete design report acceptable to the Authority before commencement of construction of the works.

13. Dam Construction Progress Report.

A person authorized to construct a storage dam shall submit a dam construction progress report at such times and intervals as may be determined by the Authority.

14. Dam Completion Report and Dam Operation Report.

(1) On completion of construction, the applicant shall submit to the Authority, a Dam Completion Certificate, a Dam Completion Report and a Dam Operation Report as provided in the Third Schedule.

(2) A permit shall be issued by the Authority upon approval of the Dam Completion Report and Dam Operation Report.

15. Cessation or resumption plan.

An owner or operator of waterworks shall prepare and submit to the Authority for approval, a cessation or resumption plan if –

- (a) the owner or operator intends to cease, suspend, restrict or limit the operation of the dam for more than three hundred and sixty-five consecutive days; or
- (b) the owner or operator intends to resume the operation of a dam the operation of which has ceased or been suspended, restricted or limited for more than three hundred and sixtyfive consecutive days; and
- (c) the dam falls within the Risk Category SD2 or SD3 as set out in the Second Schedule.

[Subsidiary]

PART IV – RELEASE OF WATER FROM
STORAGE DAMS AND OTHER WATERWORKS

16. Release and use of stored water.

The water held in the storage dams of the Water Storage Authority shall –

- (a) not be diverted or abstracted for use for any purpose except with the written approval of the Authority and the Water Storage Authority; and
- (b) be released into a natural watercourse subject to reductions in volume arising from evaporation and seepage according to a water release programme provided in a Dam Operation Report and approved by the Authority.

17. Premiums for use of water from storage facilities.

(1) A holder of a permit shall pay a premium calculated in accordance with the Fourth Schedule in addition to the water use charge payable under the Act, to abstract or divert water directly from a storage dam operated by the Water Storage Authority or from a regulated watercourse downstream of a storage dam operated by the Water Storage Authority.

(2) The premium shall be paid on a monthly basis to the Water Storage Authority or a private owner or operator of the storage dam upon issuance of an invoice to the holder of a permit by the Water Storage Authority or private owner or operator of the dam, with a copy to the Water Resources Authority, to be used to offset a portion of the costs of operation and maintenance of the storage dam that is proportionate to the volume of the yield of the storage dam that is released into the regulated river and which the holder of a permit is entitled under his or her permit to abstract.

(3) The water use permit entitling an abstraction from a regulated river shall in addition provide for the payment to the Water Storage Authority by the holder of a permit of 20% of the premium payable under subregulation (2) towards the Water Storage Authority's general overhead costs and any deficit in its revenue.

(4) A delay or failure to pay the premium shall attract interest at the rate of 2% for each month of such delay or failure.

(5) Any premium which is in arrears is recoverable by the Water Storage Authority or private owner or operator of the dam as a civil debt in a court of competent jurisdiction without prejudice to the power of the Authority to treat the failure of the holder of a permit to make payment as a breach of the conditions of the permit and liable to suspension or cancellation of the permit.

18. Outlets for release of stored water.

A holder of a permit storing or arresting the flow of water by means of a dam or weir located on a body of water or watercourse shall unless otherwise decided by the Authority, provide, at a depth measured from the top of the dam or weir and to be specified by the Authority in each particular case, an outlet, controlled by a valve, sluice gate or other device, which shall be capable of being operated at all stages of the flow of such body of water or watercourse so that the normal flow or other flow as required by the Authority, of such body of water or watercourse can be passed through or around such dam or weir at all stages:

Provided that where the normal flow of the body of water or watercourse is automatically by-passed around the reservoir, without any storage or arresting of the flow of the water being effected, no such outlet works need be constructed.

19. Authorisation for release of stored water.

(1) A holder of a permit, other than the Water Storage Authority, who is authorised to store or impound the water of any body of water or the operator, may release the water so stored into a natural watercourse with the approval of the Authority and, subject to the water so stored being appurtenant to the land upon which it is to be utilized, and the conditions of his or her authorization or permit authorizing the diversion or abstraction herein afterwards

mentioned may, at a point downstream of the point of storage, divert or abstract from the body of water into which the stored water is released the quantity of water so released.

(2) Except in the case of the Water Storage Authority, a holder of a permit, who has a permit to store or impound water in any body of water, or the operator, before releasing water into a natural watercourse as aforesaid, shall give to the Authority and to all

persons entitled to use water from any part of the body of water between the point of release of the stored water and the points of utilization of the said water such notice of the use of the body of water for the purpose aforesaid and such particulars regarding the time during which it will be released into the body of water, the rate of discharge of the stored water and other matters as the Authority may, from time to time, require.

(3) Except with the prior written approval of the Authority, no holder of a permit, other than the holder of a permit who releases the stored water under subregulation (1) or the operator shall divert or abstract any proportion of the flow of the body of water due to the water so released, nor shall any holder of a permit impound or store, except to such an extent as may be imposed upon him or her by the maximum capacity of his or her works for discharging the flow of the body of water through or around his or her works which abstract the flow of the water, any proportion of the flow of the body of water due to the water so released.

20. Notice downstream.

(1) The operator of a dam shall take adequate measures at his or her cost as set out in the approved Dam Operation Report set out in the Third Schedule to notify the Authority and persons downstream likely to be affected by any discharge from the dam, whether caused by dam failure or intended releases from the dam that might result in damage downstream.

(2) The operator of a dam shall take adequate measures at his or her cost as set out in the approved Dam Operation Report to protect persons, infrastructure and environments downstream likely to be affected by any discharge from the dam whether caused by dam failure or intended releases from the dam that might result in damage downstream.

(3) In the event of such a discharge or intended release, failure to follow the steps detailed in the approved Dam Operation Report shall constitute an offence punishable under the Act and these Regulations.

PART V – MAINTENANCE AND MANAGEMENT OF WATER WORKS

21. Maintenance and management of works.

(1) An owner or operator of waterworks shall be responsible for the safety of the storage dam and shall directly or through an agent undertake the maintenance and management of the waterworks in

accordance with the requirements of the maintenance and operation systems detailed in the Third Schedule.

(2) Where an existing storage dam or waterworks appears not to have an owner, operator or other person or entity willing or capable of discharging the responsibilities of an owner or operator under this Part, the Water Storage Authority shall assume and discharge the responsibilities of the owner or operator pending a determination by the Cabinet Secretary of the person or entity upon whom the responsibility for the management and maintenance of the storage dam should be placed or its decommissioning as appropriate.

(3) Before the Water Storage Authority can assume the responsibilities under subregulation (2), it shall publish a notice in the *Gazette* of the intention to assume responsibility and upon the expiry of the notice period, if no person claims ownership or responsibility, the notice shall take effect.

(4) For the purposes of management and maintenance of the waterworks, the owner or operator of the waterworks shall—

- (a) undertake all measures necessary to maintain and manage the works including –

[Subsidiary]

- (i) routine inspections;
 - (ii) treatment of cracks, slides, sloughing and settlement;
 - (iii) concrete repair;
 - (iv) inspection and repair of spillway conduits;
 - (v) establishment and control of proper vegetation to prevent erosion of embankments and earth channel surfaces;
 - (vi) control of seepage in velocity and quantity;
 - (vii) rodent control;
 - (viii) installation of trash racks on pipe spillways;
 - (ix) inspection and repair of vegetated earth spillways; and
 - (x) repair of mechanical equipment;
- (b) create a monitoring and evaluation system for optimal use of the works;
 - (c) implement any other measures necessary for the safe operation and management of the storage dam or water works; and
 - (d) undertake an annual environmental audit on the compliance of the dam or water works with the environmental impact assessment licence and environmental management plan issued for the dam under the Environmental Management and Coordination Act.

22. Maintenance and management plans.

An owner or operator of a dam shall prepare and obtain the approval of the Authority on the maintenance and management plans appropriate to the class and risk category of the storage dam as set out in the Second Schedule which shall comprise –

- (a) a maintenance operational plan;
- (b) a maintenance budget;
- (c) maintenance systems; and
- (d) maintenance performance norms and standards.

23. Maintenance operational plan.

(1) An owner or operator of water works shall implement a maintenance operation plan for the works appropriate to the class and risk category of the storage dam as set out in the Second Schedule.

(2) An owner or operator of waterworks shall conduct a maintenance analysis for the works' infrastructure including—

- (a) identification of all the works;
- (b) identification of critical works based upon the risk of failure; and
- (c) analysis of the maintenance options and determination of the preferred option.

24. Results of maintenance activities.

An owner or operator of a dam shall document the results of maintenance activities and such a report shall include the following—

- (a) compliance with these Regulations;
- (b) reliability of the infrastructure; and
- (c) cost of maintenance.

25. Maintenance requirements analysis.

(1) An owner or operator of waterworks shall identify maintenance requirements based on the risk of failure taking account—

- (a) the environmental impact;

- (b) public health and safety impact;
- (c) financial impact; and
- (d) service delivery impact.

(2) The impact with regard to each of the criteria shall be rated using a 5 point scale.

(3) The individual ratings will be combined into a combined rating which will be used to identify the maintenance requirements of specific waterworks.

26. Infrastructure maintenance budget.

(1) For each storage dam or other waterworks operated and maintained under a contract with the Water Storage Authority any maintenance costs shall be calculated by reference to scales approved by the Authority.

(2) Where the maintenance budget is inadequate, the most critical maintenance action shall be undertaken.

27. Waterworks infrastructure maintenance system.

(1) An owner or an operator of waterworks shall maintain a register of the water works which shall be used for the identification of all assets and which shall be updated periodically to reflect newly developed infrastructure including any alterations and material modifications.

(2) The maintenance activities of the storage dam owner or operator shall be scheduled and controlled using an appropriate Waterworks Infrastructure Maintenance System.

(3) The Waterworks Infrastructure Maintenance System shall—

- (a) record the time, costs, maintenance, and other resources expended for maintenance activities;
- (b) include links to the financial management system to facilitate reconciliation of maintenance budgets;
- (c) include built-in maintenance analysis tools or ability to export information to other applications to facilitate maintenance analyses;
- (d) analyze infrastructure performance to be used as an input to maintenance planning; and
- (e) include disaster management plans for ensuring safety in the event of an emergency.

(4) The Water Storage Authority shall prepare and submit the initial Waterworks Infrastructure Maintenance System to the Authority for approval within twelve months of the commencement of these Regulations and the Authority shall finalize approval within forty-five days of submission or such extended period as may be notified by the Authority.

(5) In every subsequent year following the period provided for in subregulation (4), the Water Storage Authority shall submit the Waterworks Infrastructure Maintenance System to the Authority and highlight any modifications made to the previous plan.

28. Flood control works.

(1) An owner or operator of waterworks shall—

- (a) continuously maintain the structures and facilities for flood control in such a manner, and for such periods as may be necessary to obtain the maximum benefit.
- (b) ensure a reserve supply of materials is maintained at the works in the event of a flood emergency.

(2) No improvement shall be passed over, under, or through the walls, levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the structure right-of-way, nor shall any change be made in any feature of the flood control works without prior determination by the owner or operator, which determination shall be documented, that such improvement excavation, construction, or alteration will not adversely affect the functioning of the flood control facilities.

[Subsidiary]

(3) The improvements or alterations determined to be desirable and permissible under subregulation (2) shall be constructed in accordance with standard engineering practice.

29. Maintenance of levees.

(1) An owner or operator of waterworks shall undertake periodic maintenance of levees to ensure the effectiveness of the structures when floods occur.

(2) The maintenance activities shall be taken in order to—

- (a) promote the growth of sod;
- (b) exterminate burrowing animals;
- (c) provide for routine mowing of grass, weeds and removal of wild growth and drift deposits;
- (d) repair of damage caused by erosion or other forces; and
- (e) where practicable, to retard bank erosion by planting suitable growth on areas riverward of the levees.

(3) An owner or operator of a dam or reservoir shall undertake periodic inspections to ensure that maintenance measures are carried out effectively and to ensure that—

- (a) no unusual settlement, sloughing, or material loss of grade or levee cross section has taken place;
- (b) no caving has occurred on either the land side or the river side of the levee which might affect the stability of the levee section;
- (c) no seepage, saturated areas or sand boils occur;
- (d) toe drainage systems and pressure relief wells are in good working condition and that such facilities do not clog;
- (e) drains through the levees and gates on drains are in good working condition;
- (f) no revetment work or riprap is displaced, washed out, or removed; and
- (g) no action likely to retard or destroy the growth of sod such as burning grass and weeds is undertaken during inappropriate seasons.

(4) During flood periods, the owner or operator of a dam or reservoir, shall monitor any levee to locate possible sand boils or unusual wetness of the landward slope and to ensure that—

- (a) slides or sloughs do not develop;
- (b) wave wash or scouring action do not occur;
- (c) no low reaches of levee exist which may be overtopped; and
- (d) no other conditions exist which might endanger the structure.

(5) The owner or operator of a dam or reservoir shall take appropriate advance measures to ensure the availability of adequate labour and materials to meet all contingencies.

(6) Immediate steps shall be taken to control any condition which endangers the levee and to repair the damaged section.

30. Maintenance of flood walls.

(1) An owner or operator of a dam or reservoir shall undertake periodic inspections to ensure that—

- (a) no seepage, saturated areas or sand boils occur;
- (b) no undue settlement occurs which may affect the stability of the wall or its water tightness;
- (c) no trees exist, the roots of which might extend under the wall and offer accelerated seepage paths;
- (d) the concrete has not cracked, chipped, or broken to the extent of affecting the stability of the wall or its water tightness;

- (e) care is exercised to prevent the accumulation of trash and debris adjacent to walls and to ensure that no fires are built near the walls;
- (f) no bank caving conditions exist riverward of the wall which might endanger its stability;
- (g) the drainage systems and pressure relief wells are in good working condition, and that such facilities are not clogged.

(2) Any inspection made under this regulation shall be made immediately prior to the beginning of the flood season, immediately following each major high water period and at intervals not exceeding ninety days.

(3) Measures and repairs deemed necessary after inspections shall be undertaken immediately and all repairs shall be accomplished by methods acceptable in standard engineering practice.

31. Emergency management plans.

(1) The owner or operator of a waterworks shall—

- (a) set the requirements for dam safety emergency planning and audits of each works' response actions; and
- (b) in consultation with the county government, local communities and the relevant disaster management authorities, share information and engage in joint efforts to implement strategies to mitigate against the effect of disaster.

(2) The owner or operator of a dam shall prepare and submit to the Authority for approval, emergency preparedness plans for all dams and works and these plans shall—

- (a) describe the actions the owner or operator will take to address safety problems at a dam with a safety risk;
- (b) contain appropriate procedures and information to assist the owner or operator in issuing early warning notification messages to responsible disaster management authorities in the national and county governments, representatives of local county governments, representative bodies of any communities potentially threatened by the condition of the dam and with whom arrangements have been made in connection with the issue of warnings; and
- (c) contain engineering drawings of the dam and inundation maps to show disaster management authorities critical areas for action in case of an emergency.

(3) Prioritization of planning for dam emergencies shall be determined based on relevant information including—

- (a) the condition of the dam and the degree, if any, of dam safety deficiency;
- (b) population at risk and community vulnerability;
- (c) scale of flood risk costs;
- (d) range of other consequences such as those on property, the environment or community value of the damage;
- (e) stakeholder perceptions and expectations; and
- (f) state of knowledge and planning commitments for different scenarios.

(4) The owner or operator of a dam shall engage with the county government, civil society and other stakeholders in coordination with disaster management authorities to develop community awareness strategies.

32. Emergency contact information.

(1) A holder of a permit or operator of a dam shall review and update all emergency contact information contained in its emergency management plan—

- (a) at least once every twelve months; and
- (b) whenever the emergency management plan is updated.

[Subsidiary]

(2) Where there is a change to emergency contact information in an emergency management plan, a holder of a permit or operator of a dam must, not later than fourteen days after the change occurs submit the updated information in writing to the Authority.

33. Inspection and inspection reports.

(1) Every dam owner shall ensure that his or her dam is inspected in accordance with Table 6 in the Second Schedule and prepare and submit an Inspection Report in the format set out in the Third Schedule.

(2) The Inspection Report shall be submitted to the Authority within thirty days of the completion of the dam inspection.

(3) Before an application for renewal of a permit is made under these Regulations, the Authority shall ensure that the applicant has complied with dam inspection requirements.

34. Dam damage or failure report.

(1) In the event of serious damage or failure, the holder of a permit or operator of a dam, shall submit an interim Dam Damage or Failure Report to the Authority within three days of such damage or failure and a final report as provided in the Third Schedule within twenty-one days of the event or such longer period as the Authority may approve.

(2) A holder of a permit or operator of a dam who fails to submit the Dam Damage or Failure Report commits an offence and is liable on conviction to the penalties prescribed under the Act.

35. Insurance policy.

(1) The holder of a permit, operator or the person having the control of any dam if required to do so by the Authority shall obtain and maintain an insurance policy to cover the risk of dam failure resulting in injury, damage to or loss of human life, health, property or the environment.

(2) The Authority shall, following consultations with industry stakeholders, set guidelines on the conditions in which it will be appropriate to obtain and maintain an insurance policy and the levels and the amount of insurance to be maintained by the holder of a permit or operator of the dam.

PART VI – STRATEGIC WATER EMERGENCY INTERVENTIONS

36. Drought Response Plan.

(1) The Water Storage Authority shall develop and maintain a Drought Response Plan to be implemented in collaboration with the National Drought Management Authority.

(2) Drought preparedness measures may include, where appropriate, designing and constructing storage dams with features and facilities enabling diversion of water from the storage dam into natural watercourses in emergency drought situations.

(3) The Authority shall, following consultation with the Cabinet Secretary, approve the Drought Response Plan with or without conditions.

37. Water supply and demand management.

Pursuant to the Drought Response Plan, the Water Storage Authority shall implement the following measures including—

- (a) releasing water into watercourses designed to ameliorate the effects of drought;
- (b) permitting diversion of water from a storage dam into other natural watercourses; and
- (c) ordering the abstraction of water by water service providers from the Water Storage Authority's storage dams where practicable.

38. Improved system efficiency.

The Water Storage Authority may adopt measures to improve systems for efficient management of stored water in order to conserve water within its water resources storage facilities during drought.

PART VII – CLIMATE CHANGE AND FLOOD MITIGATION

39. National water resources storage and flood control data.

(1) The Water Storage Authority shall monitor, collect, collate and maintain data of floods experienced in flood prone areas including—

- (a) information on the state of the works infrastructure;
- (b) climate reports;
- (c) base flood data;
- (d) data on flood prone areas;
- (e) information of flood inundation levels;
- (f) flood hazard maps;
- (g) flood early warning systems;
- (h) socio-economic impacts; and
- (i) any other data relevant to the management of the national public water works for water resources storage and flood control.

(2) The data shall be made available on the Water Storage Authority's website provided that a person requiring an extract of the data certified to be true from the Water Storage Authority's database shall make an application for it in writing and pay such reasonable costs as the Water Storage Authority may require.

(3) The request for data should be reasonable and relevant with respect to a specific activity and area.

(4) Data provided by the Water Storage Authority shall not be transferable to a third party and the Water Storage Authority shall not be liable for any error or omissions in the data.

40. Climate change action plan.

The Cabinet Secretary shall, based on the information maintained pursuant to regulation 39(1), within twelve months of the coming into force of these Regulations and as required by the Climate Change Act, formulate and publicly disseminate an action plan and strategies to guide how climate change considerations shall be integrated in the management of water resources, including mitigation and adaptation actions, and the prevention and management of floods and other impacts of climate change.

41. Flood mitigation activities.

The Authority shall regulate implementation of Integrated Flood Management Plans in all the flood prone areas by relevant state organs in collaboration with stakeholder groups.

42. County governments and integrated flood management plans.

The Integrated Flood Management Plans shall be implemented through water resources users associations and other stakeholders in collaboration with county governments and in accordance with the guidelines issued by the Cabinet Secretary.

43. Check dams, green energy, projects, dykes etc.

The Authority may require the development of check dams, green energy projects and dykes for purposes of flood mitigation.

[Subsidiary]

PART VIII – WATER HARVESTING

44. Water Harvesting Policy and Strategy.

(1) The Cabinet Secretary shall, following public consultation, and on the basis of recommendations of the Water Storage Authority, gazette a Water Harvesting Policy and Strategy.

(2) The Water Harvesting Policy and Strategy shall—

- (a) not be in conflict with the national water resource strategy;
- (b) set out the policy objectives, plans, guidelines and procedures and strategies for rainwater harvesting;
- (c) take into account any relevant national or regional plans;
- (d) outline mechanisms and procedures for collaborating with other institutions, both public and private, at national and county level to achieve the objectives of the policy and strategy;
- (e) put in place measures and incentives to enhance the adoption and implementation by the public of rainwater harvesting;
- (f) facilitate the provision of technical and capacity building support to public and private institutions at national and county level on rainwater harvesting techniques; and
- (g) be time bound.

(3) All state organs at national and county level shall give effect to any water harvesting policy made under this Part when exercising any power or performing any duty in terms of these Regulations.

(4) The construction of the water harvesting systems in all new institutional, commercial, public and open areas shall give effect to the water harvesting policy and be undertaken in accordance with the applicable county government planning and building regulations and all other applicable rules and regulations.

45. Roof-based rainwater harvesting.

(1) Any building constructed after the commencement of these Regulations which is to be used—

- (a) as an institutional facility, place of employment or otherwise;
- (b) as a manufacturing or industrial establishment; or
- (c) commercial establishment or place for the service of customers,

shall have its roof adequately guttered for catching rain water or may have a ground catchment for the purposes of catching rainwater.

(2) Subject to subregulation (3), the storage capacity of the tank or other storage facility in respect of any building referred to in subregulation (1) shall be capable of storing water sufficient to meet the equivalent of seven days average water demand of the building.

(3) Where adequate reason is given to the county government in consultation with the Water Storage Authority to the effect that—

- (a) it is not practicable—
 - (i) to gutter the roof of a building mentioned in subregulation (1) for catching rain water;
 - (ii) to provide a ground catchment having the prescribed area; or
 - (iii) to provide a tank or tanks having the prescribed capacity; and
- (b) the building can in the opinion of the county government or water services provider, be adequately supplied with drinking water from a main piped supply, the county government may, subject to such conditions and restrictions as it may think proper to impose, allow the owner or occupier of

the building to dispense in part or in whole, compliance with subregulation (1) or subregulation (2).

(4) Roof based rainwater shall be harvested for use through a filter into a storage tank or subject to compliance with the water resource quality standards prescribed by the Authority, for recharge of an open well or borehole.

(5) In case of a borehole in a building, rainwater shall be harvested through artificial structures or pits, irrespective of the nature of subsoil conditions.

(6) Rainwater from the roof of a building such as tiled, sloped roof and flat roof may be collected using appropriate sized gutters or pipe lines and stored either in a collection tank or storage structure of appropriate size placed over the ground or underground after proper filtration and disinfection.

(7) An appropriate filter shall be used for filtering rain water and the water shall be used for non-potable purposes.

(8) The rainwater collected to be used for potable purposes by the owner or occupier shall be treated before use according to the Drinking Water Guidelines made by the Water Services Regulatory Board.

(9) Any surplus water available after filling a storage tank may be diverted to an open well through a recharge structure or a pit.

46. Land based rainwater harvesting.

(1) A person may —

- (a) directly capture and store precipitation on a parcel of land owned or leased by that person in accordance with subregulation (2); and
- (b) place the water captured and stored as provided in subregulation (1)(a) to beneficial use on the parcel on which the water is captured and stored.

(2) Land based rain water harvesting shall be done using the appropriate ground water recharge structures or pits depending on the nature of the sub-soil conditions.

47. Technical and capacity building support.

(1) The Water Storage Authority shall establish a website on which a person may register to receive technical and capacity building support from the Water Storage Authority or its agents to enable the person comply with these Regulations.

(2) A person registering under subregulation (1) shall furnish the Water Storage Authority with the following information—

- (a) name and address of the person capturing or storing precipitation;
- (b) total capacity of all containers storing precipitation; and
- (c) street address or other suitable description of the location where precipitation is to be captured and stored.

48. Rainwater harvesting by agricultural establishments.

(1) An agricultural establishment using water resources for irrigation purposes shall implement water harvesting and storage measures capable of storing flood water sufficient to meet three months water demand.

(2) An agricultural establishment using water resources for commercial irrigation shall submit to the Water Resources Authority a plan of water harvesting and storage strategies to be implemented.

(3) The Water Resources Authority or its agent may conduct an inspection to verify compliance with the implementation report.

49. Storm water run off.

County governments shall put in place measures to ensure that provision is made for planning, managing, maintaining, financing, extending and improving drainage services and storm water run-off collection within its area of jurisdiction.

[Subsidiary]

PART IX – LICENSING OF QUALIFIED PROFESSIONALS AND
QUALIFIED CONTRACTORS IN RESPECT TO WATERWORKS

50. Licencing of qualified water sector professional or approved dam contractor.

A water sector professional or dam contractor desiring to be licensed as a qualified water sector professional for storage dams or other waterworks or qualified dam contractor, if not already licensed under the applicable water resources regulations for the appropriate class of storage dam, shall apply in writing to the Cabinet Secretary for licensing.

51. Application to be licensed qualified water sector professional of approved dam contractor.

(1) The application referred to in regulation 50 shall be accompanied by—

- (a) a description of the class of waterworks and risk categories of the waterworks which the water sector professional or contractor wishes to be licensed of; and
- (b) particulars of the applicant's qualifications, training and experience.

(2) Before determining an application made under subregulation (1), the Cabinet Secretary shall forward it to the Technical Advisory Committee established under the applicable Water Resources Regulations for consideration, except when the procedure provided for in subregulation (5) is followed.

(3) The Technical Advisory Committee may recommend an application under subregulation (1)—

- (a) for approval by the Cabinet Secretary subject to conditions if there are limited shortcomings in the relevant skills, and experience on the specific storage dams or other waterworks construction, engineering, design, operation and management; or
- (b) for rejection if substantial weaknesses are evident.

(4) The Cabinet Secretary shall take into account the recommendations made by the Technical Advisory Committee before granting an approval or rejecting an application made under subregulation (1).

(5) The Cabinet Secretary may approve an application by a qualified water sector professional for any task with a safety risk, taking into account the recommendation by the Technical Advisory Committee, provided that—

- (a) the type of dam is the same, or can be logically associated with a similar category or combination of dam types, for which the applicant has been previously approved;
- (b) the maximum wall height of the dam as defined in these Regulations does not exceed that for which the applicant has been previously licensed by more than—
 - (i) three metres in the case of Class SD1 dams;
 - (ii) five meters in the case of Class SD2 dams; and
 - (iii) fifteen meters in the case of Class SD3 dam.

(6) The Cabinet Secretary may also approve an application for any specific task if the task is, in the opinion of the Cabinet Secretary on the basis of the recommendation of the Technical Advisory Committee, no more complex than that for which the applicant has previously been approved as a qualified water sector professional.

(7) In the case of tasks to be carried out for a Class SD3 dam, a qualified water sector professional shall apply to the Cabinet Secretary for approval of members of the professional team and provide the names, qualifications, curriculum vitae, relevant professional experience and description of each component of the task entrusted to each team member.

(8) The water sector professional or qualified contractor shall be informed in writing of any decision of the Cabinet Secretary.

(9) A professional contemplated under subregulation (1) shall—

- (a) inform the dam owner of the decision of the Cabinet Secretary whether the application has been approved, conditionally approved or not approved;
- (b) apply to the Cabinet Secretary for approval of a person or group of persons to assist him or her in the specified field of dam engineering if the approval is subject to conditions requiring assistance; and
- (c) immediately inform the Cabinet Secretary in writing if he or she has withdrawn from a task or if his or her appointment has been terminated by the dam owner.

(10) An application under subregulation (9)(b) shall include the name, qualifications, curriculum vitae and relevant experience of the person or group of persons providing assistance.

(11) The different categories of qualified professionals and contractors shall be as provided in Table 3 and Table 4 in the Second Schedule and by taking note of factors such as the maximum wall height of the dam, type of dam wall, regional maximum flood or type of task that the approved professional person may undertake.

(12) The requirements for admission to a class of approved water sector professional on the register are the same as those for regulating the approval of a professional person as a qualified water sector professional for a specific task, with the additional requirement that a water sector professional shall have successfully completed at least one task for a specific dam as the qualified water sector professional in accordance with these Regulations.

(13) The Cabinet Secretary shall maintain two separate registers for qualified water sector professionals and qualified dam contractors in accordance with the applicable Regulations.

(14) The registers under subregulation (13) shall be published annually in the *Gazette* and shall be made available within reasonable time to any person who has made a written request to the Cabinet Secretary for a copy of the register

(15) A qualified water sector professional on the register may undertake tasks as provided in the register without having to reapply.

(16) A qualified water sector professional on the register may only perform a task or tasks within the class for which he or she has been approved and shall—

- (a) follow the procedure set out in regulation 10 (6) for tasks related to Class SD3 dams if applicable;
- (b) follow the procedure set out in regulation 10 (3) in the case of conditional approval; and
- (c) submit a copy of the licence issued by the Cabinet Secretary to the Water Resources Authority for its records and a written confirmation from the dam owner confirming that he or she has been licenced to perform a specific task, within seven days of the licence being issued.

PART X – GENERAL PROVISIONS

52. Offence.

Any breach of the provisions of these Regulations shall—

- (a) constitute an offence, punishable in accordance with the provisions of section 147 of the Act; and
- (b) constitute a reason for suspension or cancellation of the permit or other authorisation held by the owner or operator of the storage dam or waterworks.

53. Other offences.

(1) No person may use any works otherwise than as permitted under the Act or these Regulations.

[Subsidiary]

(2) For the avoidance of doubt, a person who—

- (a) fails to comply with any condition attached to the operation and maintenance of waterworks for water resources storage and flood control under the Act and these Regulations;
- (b) fails to comply with an order or directive issued under the Act and these Regulations and unlawfully and intentionally or negligently tampers or interferes with any works, any seal or measuring device attached to a waterworks for water resources storage and flood control;
- (c) fails or refuses to give data or information, or gives false or misleading data or information when required to give information under the Act;
- (d) intentionally refuses to perform a duty or obstructs any other person in the exercise of any power or performance of any of that person's duties in terms of the Act and these Regulations;
- (e) unlawfully and intentionally or negligently commits any act or omission which detrimentally affects or is likely to effect a waterworks for water resources storage and flood control. commits an offence and is liable on conviction, to the penalties prescribed under section 147 of the Act.

54. Complaints mechanism.

(1) Any person with a complaint related to any matter falling within the mandate of the Water Storage Authority shall submit the complaint to the appropriate office of the Water Storage Authority by providing the details shown in the Fifth Schedule.

(2) The Water Storage Authority shall reply to the complainant, with copies to all other relevant parties, within twenty-one days of receiving the complaint, stating what action is being taken, the position of the Water Storage Authority on the matter or any recommendation to the complainant.

(3) If the complainant is dissatisfied, he or she may forward the matter to the Chief Executive Officer of the Water Storage Authority.

(4) The Chief Executive Officer shall respond to the complainant by upholding or overruling the action taken or decision made by the agent or officer within twenty-one days of receiving the complaint and the Chief Executive Officer shall furnish copies of the decision to all other relevant parties.

(5) If the complainant is dissatisfied with the decision of the Chief Executive Officer or if the Chief Executive Officer fails to communicate his or her decision to the complainant within twenty-one days, the person may have recourse under section 121 (2) of the Act and may forward the matter to the Water Tribunal for determination.

(6) Each complaint shall be given a complaint number by the Water Storage Authority which shall be used for purposes of monitoring the response and action taken to address the complaint.

55. Transitional arrangements.

(1) Construction of works by the Water Storage Authority or its agent prior to the commencement of these Regulations or construction work in progress on that date shall within a period of twelve months following the commencement of the Regulations or such longer period as the Authority may permit take measures to bring the waterworks into compliance with these Regulations.

(2) Where existing or ongoing waterworks are not authorised, the owner or operator shall within a period of twelve months following the commencement of these Regulations lodge an application with the Authority for a water use permit.

FIRST SCHEDULE

[r. 4(1), 7(2)(d), 10(1)]

CLASSIFICATION OF STORAGE DAMS

Table 1: Classification of Storage Dams

Class of Dam	Maximum Depth of Water at NWL (m)	Impoundment at NWL (m ³)	Catchment Area (km ²)
SD1	0 – 4.99	< 100,000	< 100
SD2	5.00 – 14.99	100,000 to 1,000,000	100 to 1,000
SD3	> 15.00	> 1,000,000	> 1,000

NWL = Normal Water Level

SECOND SCHEDULE

[r. 4(1), 6(1), 10(3)(a), 11(1), 15(c), 22, 23(1), 33(1), 51(11)]

RISK FACTORS OF STORAGE DAMS AND OTHER WATERWORKS

Table 2: Risk Factors

Classification	Population at Risk	Incremental Loss of Life	Consequences of Failure
SD 1 (Low Risk)	Temporary/ Permanent	Minimal numbers	Environmental and cultural values Limited presence of: a) important fisheries b) important wildlife habitats c) rare or endangered species, or d) unique landscapes e) sites of cultural significance and/or damage to additionally Infrastructure, economics and other property Low economic losses affecting limited infrastructure and residential buildings, public transportation or services or commercial facilities; alternatively limited destruction locations used occasionally and irregularly for temporary purposes.
SD 2 (Medium Risk)	Permanent	Significant numbers	Significant presence: (a) critical fisheries; (b) critical wildlife habitats; public transportation or services or

[Subsidiary]

			(c) rare or endangered species, or (d) unique landscapes (e) sites of cultural significance and additionally Restoration or compensation in kind for losses and damage difficult.	commercial facilities, or moderate destruction or severe damage to residential areas.
SD 3 (High Risk)	Permanent	Large numbers	Presence of : (a) critical fisheries; (b) critical wildlife habitats; (c) rare or endangered species, or (d) unique landscapes (e) sites of cultural significance and additionally	High economic losses affecting critical infrastructure, public transportation or services or commercial facilities, or significant destruction or damage to residential areas.

Table 3: *Design and Supervision of Dam*

Class of Dam	Category of Qualified Water Professional
SD1	Panel II C, Panel I C1 & Panel I C2
SD2	Panel I C1 & Panel I C2
SD3	Panel I C2

Table 4: *Category of Dam Contractor*

Class of Dam	Category of Dam Contractor
SD1	C1, C2
SD2	C1, C2
SD3	C1

Table 5: *Minimum Return Period for Spillway Design*

Class of Dam	Minimum Return Period for Design of Spillway
SD1	1 in 50 years
SD2	1 in 100 years
SD3	1 in 500 years

Table 6: *Dam Safety Inspection Schedule*

Class of Dam	Frequency of inspection	Inspection by
SD1	Once in 3 years	Panel I C1, Panel I C2, Panel II C
SD2	Once in 2 years	Panel I C2, Panel I C1

SD3

Once a year

Panel I C2

 THIRD SCHEDULE

[r. 11(2), r 12(2), 14(1), 20(1), 21(1), 33(1), 34(1)]

CONTENT AND FORMAT OF TECHNICAL REPORTS

The following technical reports shall substantially provide the details required.

DAM DESIGN REPORT (FOR CLASS SD1, SD2AND SD3 DAMS)

<i>Item</i>	<i>Contents</i>
1.	Details of location
2.	Details of hydrological assessment
3.	Details of design flood and return period
4.	Details of embankment
5.	Details of reservoir
6.	Details of draw-off and compensation works
7.	Details of spillway(s)
8.	Details of ancillary structures
9.	Details of construction materials
10.	Details of construction schedule
11.	Details of operational rules
12.	Procedures to notify and protect downstream inhabitants, infrastructure and environments
13.	Schedule of inspection and maintenance
14.	Assessment of impacts and risks

DAM OPERATION REPORT

<i>Item</i>	<i>Contents</i>
1.	Basic summary of technical details
2.	Details of management structure for dam operations
3.	Details of operational and release rules
4.	Details of operation and maintenance systems
5.	Procedures to notify and protect downstream inhabitants, infrastructure and environments
6.	Schedule of inspection and maintenance

DAM COMPLETION REPORT

<i>Item</i>	<i>Contents</i>
1.	Changes and explanation for differences between as-constructed and design details
2.	As-constructed drawings
3.	Summary of as-constructed details

DAM INSPECTION REPORT

<i>Item</i>	<i>Contents</i>
1.	Current condition of dam with respect to approved design and "as-constructed" condition
2.	Any action required to restore the functional and structural integrity of the dam to the required state
3.	Any changes with regard to the risk of or impact in the event of dam failure
4.	Review appropriateness of the action plan in event of dam failure

[Subsidiary]

DAM DAMAGE OR FAILURE REPORT

<i>Item</i>	<i>Contents</i>
1.	Details of location
2.	Date and time of dam failure or damage
3.	Preceding climate
4.	Preceding hydrology
5.	Cause of dam failure or damage
6.	Steps taken to notify downstream inhabitants
7.	Nature and extent of damage caused to the dam or caused by the dam failure

FOURTH SCHEDULE

[r. 17(1)]

CALCULATION OF PREMIUM

PREMIUMS FOR USE OF WATER FROM A REGULATED WATERCOURSE ETC.

In the case of a permit to abstract or divert water from a regulated river, a premium shall be paid by the water user which shall be calculated using the formula herein:

$$**(O \& M) + 20\% \times \text{allocation to individual water user in MCM/year} = \text{Annual Design Yield of Storage Dam in MCM/year; Kshs per year}**$$

Where:

1. (O&M) is the Water Storage Authority's or proponent's operation and maintenance costs of the dam releasing the water into the natural watercourse from which abstraction or diversion occurs.
2. The allocation to individual water user is the water allocated by the permit to the individual water user in cubic metres per year.
3. Annual design yield is the design yield of the storage dam releasing into the regulated river in cubic metres per year.
4. The formula provides the basis for deriving the amount payable by the water user as a premium.

FIFTH SCHEDULE

[r. 54(1)]

COMPLAINTS INFORMATION TO BE GIVEN BY COMPLAINANT UNDER THESE RULES

<i>Item</i>	<i>Information</i>
(a)	Name of Complainant
(b)	Contact address, telephone number, email address (if any) of Complainant
(c)	Nature and location of the problem
(d)	Date that problem occurred
(e)	Name and, if available, the contact details of all parties to the dispute or complaint
(f)	Any other relevant details
(g)	Signature of the Complainant

THE WATER RESOURCES REGULATIONS

ARRANGEMENT OF REGULATIONS

PART I – PRELIMINARY

Regulation

1. Citation
2. Interpretation
3. Application of Regulations

PART II – PRESCRIPTION OF WATER USE ACTIVITIES

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THE WATER RESOURCES REGULATIONS

[Legal Notice 43 of 2021]

PART I – PRELIMINARY

1. Citation

These Regulations may be cited as the Water Resources Regulations.

2. Interpretation

(1) In these Regulations, unless the context otherwise requires—

"abstraction" means the taking of water from any water resource, either permanently or temporarily;

"airline" is a tube installed in a borehole or well for the purposes of measuring water level;

"alteration" means any physical change in the depth, diameter, casing, screen or any other structural change in an existing borehole, or any consequent change in Permit yield as a result of an approved Variation;

"analysis" means the testing or examination of any matter, substance or process for the purpose of determining its composition or qualities or its effect (whether physical, chemical or biological) on any segment of water or examination thereof;

"annual potential recharge" means, in respect to an aquifer, annual potential recharge as defined by the Authority in water resources allocation guidelines issued by the Authority from time to time.

"aquifer" means a geological formation, group of formations or part of a formation containing sufficient saturated permeable material to yield significant quantities of water to boreholes or springs;

"artificial groundwater recharge" means the intentional augmentation of groundwater resources by directly improving the infiltration of water to a target aquifer through the construction of suitable recharge structures;

"Association" means a water resources user association;

"authorisation" means authorisation issued by the Authority to construct works;

"authorised" means as approved by the Authority;

"basic human needs" means the quantity of water required for drinking, food preparation, washing of clothes, bathing, basic sanitation

and is assumed to be equal to twenty-five litres per person per day;

"basin area water resources management strategy" refers to a document that has been prepared for the purpose of directing the management of the water resources within the basin area;

"borehole" means a hole, usually vertical, drilled for the extraction of or measurement of groundwater;

"canal" means any surface drain, ditch, furrow, channel, flume or other conduit for conveying water, the surface of which is at atmospheric pressure;

"chemical" means a chemical substance in any form whether by itself or in a mixture or preparation, whether manufactured or derived from nature and includes industrial chemicals, pesticides, fertilizers and drugs;

"commercial irrigation" means irrigation primarily for commercial purpose;

"dam" includes any existing or proposed structure together with appurtenant works, which is capable of containing, storing or impounding water (including temporary impoundment or storage) above ground level, whether that water contains any substance or not;

"discharge" means volumetric flow rate;

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“driller” or “drilling contractor” means a person, firm or agency which is registered under these potential Regulations to undertake the construction or rehabilitation of a borehole;

“effluent” means waste which is—

- (a) a liquid which flows out of a containing space;
- (b) sewage water or other liquid, untreated, partially or completely treated discharged directly or indirectly into a water resource;

“environment” includes the physical factors of the surroundings of human beings including land, water, atmosphere, climate, sound, odour, taste, the biological factors of animals and plants and the social factor of aesthetics and includes both the natural and the built environment;

“emergency” means a disaster or hazard caused by climatic, hydrologic, tectonic, accidental, natural or man-made events which have or potentially can affect a large population and which require extraordinary measures to be undertaken to safeguard public interests;

“flow” means a volume of water passing a cross section of a body of water, watercourse or works in a unit of time;

“groundwater” means the water of underground streams, channels, artesian basins, reservoirs, lakes and other bodies of water in the ground, and includes water in interstices below the water table;

“groundwater potential” means groundwater potential as defined by the Authority in water resources allocation guidelines issued by the Authority from time to time;

“indexation” means the methodology for adjustment of the water use charge whereby the water use charge is allowed to change by the rate of inflation over the initial price;

“inspector” means any water service inspector appointed in accordance with regulation 81;

“irrigation” refers to the artificial application of water to a plant;

“land holder” in relation to land, means the registered owner of the land or the person in whom the land is otherwise vested by law, and includes—

- (a) any person who by any established right, customer estate whatsoever is, or is entitled to be, the holder or possessor of land;
- (b) any person lawfully holding or occupying land in accordance with the provisions of any law empowering the allotment of land upon the promise of title, subject to the fulfilment by the allottee of prescribed conditions; and
- (c) any person to whom a mining lease or mining location has been granted under the Mining Act (Cap. 306);

“land reclamation” means the process of making land capable of more intensive use by changing its general character, as by drainage of excessively wet land; irrigation of arid or semiarid land; or recovery of submerged land from seas, lakes and rivers;

“measuring device” refers to a fitting, equipment or infrastructure which can be calibrated to provide an accurate measure of the flow or level of water;

“natural resources” include resources of air, land, water, animals and plants including their aesthetic qualities;

“operator” means any person authorized to construct works under these regulations by authorization, or to divert, abstract, or use water by permit;

“permit” means a permit for the time being in force under this Act;

“permit holder” means the person the Authority has issued with a permit or any other person acting under the authority of the permit holder;

“plan” means map or drawing and the associated literature;

“point source” means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, conduit, tunnel, well, discrete fissure, container, rolling

stock, concentrated animal feeding operation or vessel or other floating craft from which pollutants are or may be discharged;

"pollution", in relation to a water resource, means any direct or indirect alteration of the physical, thermal, chemical and biological properties of the water resource so as to make it—

- (a) less fit for any beneficial purpose for which it is or may reasonably be expected to be used; or
- (b) harmful or potentially harmful to—
 - (i) the welfare, health or safety of human beings;
 - (ii) any aquatic or non-aquatic life or property; or
 - (iii) the environment;

"pond" means a natural depression that contains water;

"qualified water sector professional" means a person qualified under these to provide the services of a professional chemist, hydrologist, hydrogeologist, engineer, surveyor or other professional service required to be performed under the Act;

"receiving water body" means any surface or groundwater body that may be used for effluent disposal under the Act;

"regional office" means an office of the Authority established within or near to a basin area pursuant to the provisions of the Act;

"rehabilitation" means any physical, mechanical or chemical process conducted in any water infrastructure which is undertaken to improve its operational status;

"riparian area" is land which by virtue of the proximity of the land to a water body, management obligations shall be imposed on the owner of the land by the Authority;

"soil and water conservation plan" refers to a set of activities that have to be done in order to reduce the likelihood of soil and water loss from the landscape;

"stakeholder" is a person or entity that has influence over or is affected by a certain activity on the resource;

"standard" means the limits as established under these regulations which are made pursuant to the Act or any other written law;

"subsistence irrigation" means irrigation primarily for household food security purposes;

"use", in relation to water contained in or forming part of a water resource, means—

- (a) abstraction, obstruction, or diversion of the water resource;
- (b) discharge of materials or substances into the water resource;
- (c) derivation of energy from the water resource;
- (d) derivation or extraction of natural resources or other materials from a water resource;
- (e) any other activity, of a kind prescribed by these Regulations, in relation to the water resource;

"variation" means any authorised amendment made to a water permit.

"waste" includes any matter prescribed to be waste and any matter whether liquid, solid, gaseous, hot or radioactive substances, which is discharged, emitted or deposited in the environment in such volume composition or manner likely to cause an alteration of the environment;

"waste disposal" means the action of releasing, depositing, discharging emitting all forms of waste not authorized by the Authority into the environment that has the potential to causing pollution and adversely affecting the quality of water resources;

"waste disposal control plan" means the plan referred to in the Fourth Schedule of these Regulations whose purpose is to control the discharge of any pollutant into a water resource;

"water resources monitoring network" means the set of equipment, infrastructure established for the purpose of monitoring the quantity and quality of the water resources;

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"water resource user association" means an association of water users, or other stakeholders who have formally and voluntarily associated for the purposes of cooperatively sharing, managing and conserving a common water resource and resolution of water use conflict;

"Water Tribunal" means the Water Tribunal established by section 119 of the Act;

"weir" means an obstruction placed across the watercourse or body of water for the primary purpose of abstracting or diverting water,

or of arresting or retarding its flow, but not for storage; and

"wetland" refers to an area where plants and animals have become adapted to temporary or permanent flooding by saline, brackish or fresh water.

(2) Unless otherwise provided, the units shall be International System of Units.

3. Application of Regulations

(1) These Regulations shall apply to the regulation, management, use and development of water resources.

(2) These Regulations shall apply to all water resources whether perennial or seasonal and including water resources of the territorial sea.

PART II – PRESCRIPTION OF WATER USE ACTIVITIES

4. Schedule of activities

Without prejudice to the generality of section 2 of the Act, the activities set out in Part 1 of the First Schedule carried out on or in relation to a water resource shall be regarded as water use activities requiring a water use permit.

5. Requirement for a permit for water use activities

The activities listed in Part 2 of the First Schedule are water use activities in respect of which an application for variation of permit shall be required.

6. Categorization of water resource use applications

(1) Water use activities shall be categorised into four categories on the basis of the criteria stipulated in Part 3 of the First Schedule.

(2) In the categorisation of water resources under sub regulation (1), the views of the Basin Water Resources Committee and the Association shall be taken into account, and, where there is no registered Association, the views of the local representative associations whose objectives are natural resource use or natural resource use conflict resolution shall be considered.

(3) In determining the category into which a water use activity falls, account shall be taken of and effect given to the differences associated with the characteristics of the catchment or basin in which the water resources is located and the particular circumstances of each water resource as stipulated by the Authority in water allocation guidelines.

(4) A person aggrieved by the decision of the Authority on the category into which a water use falls may appeal to the Water Tribunal.

PART III – APPLICATION FOR A PERMIT OR OTHER AUTHORITY FOR WATER USE

7. Application for a permit

(1) A person who intends to undertake an activity involving the use of water from a water resource shall apply to the Authority for a permit before commencing the activity.

(2) A person who fails to obtain a permit as provided under sub regulation (1) commits an offence.

8. Permit for temporary use

Where the activity for which the water is intended to be used is temporary in nature, the application shall be for a permit for a period of one year or such longer period, not exceeding two years, as may be determined by Authority.

9. Water use to be appurtenant to land

(1) An application for a water use permit shall be made by the owner of the land on which the water use is to take place and, where the applicant is not the landowner, the consent of the owner of the land shall be endorsed on the application.

(2) An application for a permit under sub regulation (1) shall be accompanied with evidence of ownership of the land which shall be—

- (a) the registered document of title, where the land is registered; or
- (b) where the land is not registered, other documentary evidence satisfactory to the Authority that the applicant is the lawful landowner or has the authority of the lawful landowner to make the application.

10. Easements, wayleaves, etc.

(1) A permit holder seeking to use water on land other than the land on which the water use activity is to occur shall obtain an easement, wayleaves or other legal right of access.

(2) An application for an easement or other right of access under sub regulation (1) shall be made in the Form WRA 002 set out in the Thirteenth Schedule and accompanied by the fee set out in the Second Schedule.

(3) The easement or right of access referred to in this regulation may be in existence at the time of the application or to be granted upon the issue of the water use permit.

(4) A person intending to enter upon land belonging to other persons for survey or investigative purposes of water resource management or development shall submit to the Authority an application in Form WRA 016 set out in the Thirteenth Schedule and accompanied by the fee set out in the Second Schedule.

(5) The Authority shall be indemnified against all claims by landowners for damage or losses arising from works developed by a permit holder or a person authorised to construct works for the use of water.

11. Consent of owner of works

(1) An applicant intending to use works owned by another person shall, at the time of the application and on every renewal thereafter, produce to the Authority satisfactory evidence of the consent or agreement of the owner of the works to the intention to use the works.

(2) Where in the opinion of the Authority monitoring and control of the water use activity would be best achieved by the issuance of separate permits to applicants intending to share common works, the Authority may issue separate water permits or a supplementary permit in the Form WRA 019 set out in the Thirteenth Schedule.

12. Use of existing works in the public interest

(1) Where, in the opinion of the Authority, public interest would best be served by the use of existing works, the Authority may, after giving the owner of the works an opportunity to make representations, order the owner of the works to make available the works to any applicant so long as the water use of the owner of the works is not adversely affected.

(2) The owner of the works whose works are, pursuant to an order of the Authority, to be used by another applicant for a water use activity, shall be entitled to prompt and fair compensation for use of the works.

13. Category A applications

(1) An application for a permit for a proposed water use activity falling within category A activity specified in the First Schedule shall be—

- (a) made prior to constructing or installing of the works;

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- (b) made to the Authority in Form WRA 001 set out in the Thirteenth Schedule;
- (c) accompanied by the fee specified in the Second Schedule;
- (d) accompanied by evidence of consultations undertaken with respective Associations and, where there is no registered Association, the local representative associations whose objectives are natural resource use or natural resource use conflict resolution and their views.

(2) Upon receipt of the application under sub regulation (1), the Authority shall verify the evidence provided including seeking confirmation of the officials of the consulted Association or local representative association and upon confirmation, the regional office shall process the application.

(3) If satisfied that the proposed water use activity poses a low risk of impact on the water resource and taking account of the comments of the Association or the respective local representative associations, the Authority shall approve the application by endorsing approval on the application.

(4) Upon endorsement by the Authority under sub regulation (3), the applicant may commence the water use activity described in the application subject to conditions applicable to Category A water users.

(5) The Authority may at any time require any Category A water user to be re-classified after an assessment of the water resource or for other reasonable cause.

(6) Where there is a material change in any aspect of the water use—

- (a) the water user shall notify the Authority within twenty-one days of the change; and
- (b) the Authority shall assess whether, in light of the change, a re-application or a variation of the conditions imposed on the water use is necessary.

(7) Where a permit holder—

- (a) fails to notify the Authority of a material change to the water use;
- (b) uses water in breach of the conditions applicable to the water use;
- (c) withholds relevant information from the Authority or gives information which is misleading in any material particular, commits an offence and the Authority may, in addition to any other penalties, cause the cancellation of the Category A water use permit.

14. Category B, C and D applications

(1) An application for a permit for a proposed water use activity falling within Category B, C or D as specified in Part III of in the First Schedule shall—

- (a) be made to the Authority in the Form WRA 001 set out in the Thirteenth Schedule;
- (b) state the intended purpose of water use;
- (c) be accompanied by a site assessment report, a hydrological assessment report or hydrogeological survey report and an environmental impact assessment study report which is compliant with the requirements in the Third Schedule; and
- (d) be accompanied by the fee specified in the Second Schedule.

(2) A separate application for water resource use as specified in the Second Schedule shall be required for each water use activity including for—

- (a) each abstraction point, whether from surface or groundwater;
- (b) each effluent discharge point unless covered under another application;
- (c) each point of storage unless covered under another application; and
- (d) separate water use activities other than those covered in paragraphs (a), (b) and (c).

(3) The applicant shall pay the application fees for each complete application before the application is processed by the Authority.

15. Maps to accompany applications

(1) Every water use applicant shall submit to the Authority a map showing the water body, the location of the works, supply area, location of all authorizations or permits currently held by the applicant which are relevant to the application and any other relevant details as may be required by the Authority.

(2) All significant points on the map shall be geo-referenced showing Universal Transverse Mercator (UTM) coordinates and zone with respect to the Arc 1960 datum.

16. Technical report

(1) Without prejudice to the provisions of regulation 14, each application for a water use activity under Category C or D shall be accompanied by a technical report prepared in accordance with the Fourth Schedule:

Provided that following a review of the application, the Authority may, require a category B applicant to submit a technical report.

(2) A site assessment report or a technical report shall be prepared by a qualified and licensed water sector professional;

(3) Where it is sufficiently demonstrated that an applicant is unable to use the services of a consultant in the preparation of a technical report as required under sub regulation (2), the Authority may, at the request of the applicant, undertake the report preparation.

(4) A person seeking the services of the Authority in the preparation of the any technical report, shall—

- (a) make a written request to the Authority; and
- (b) pay prescribed fees for the Authority's services of preparing the report.

(5) Where the Authority is satisfied that it is in the interest of the public and the applicant that the Authority undertakes the preparation of any technical report, the Authority shall prepare the report in accordance with these Regulations:

Provided that any water sector professional officer of the Authority who prepares the report shall not be involved in the evaluation of the same report following its submission to the Authority in support of the application for a permit.

(6) Where a water sector professional officer of the Authority undertakes duties of preparing a site assessment report or any other technical report, he or she shall be deemed to be a qualified water sector professional for the purpose of preparing the site assessment report or any other technical report.

17. Recommendations by Associations on applications

(1) An water use applicant shall submit with each application evidence of consultations undertaken with the relevant Association and, where there is no registered Association operating in the area of the proposed water use, with the main local representative associations whose objectives are natural resource use or natural resource use conflict resolution and their views on the proposed water use.

(2) Upon receipt of an application for a water use activity under a category B, C and D, the regional office of the Authority shall provide a copy of the application to the Association and the Basin Water Resource Committee for comments and where there is no registered Association operating in the area of the proposed water use, to the key local representative associations whose objectives are natural resource use or natural resource use conflict resolution named by the applicant as having been consulted.

(3) The Association or local representative associations shall submit their comments to the Authority in the Form WRA 003 set out in the Thirteenth Schedule and copied to the applicant within thirty days of receipt of the application by the Association or associations as the case may be and the Authority shall make its decision within fourteen days of receipt of the comments.

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(4) Where the Association or local representative association does not submit comments within the period specified under sub regulation (3), the Authority may proceed to determine the application after the expiry of thirty days.

18. Public notification

(1) Applicants for Category C and D permits shall cause the permit application to be published in a national newspaper of wide circulation and in the Kenya Gazette.

(2) At the end of each month, the Authority shall display all permit applications received, within the region, on the Authority's website, its regional and sub-regional offices and at the offices of the county commissioner, deputy county commissioner, assistant county commissioner, chief and assistant chief.

(3) A public notification issued under this regulation shall specify—

- (a) the name of the applicant;
- (b) the water resource in respect to which the application has been made;
- (c) the quantity of water applied for;
- (d) the purpose of water use for which the application has been made;
- (e) the land registration number;
- (f) the location or other local administrative unit within which the water use is to be undertaken; and
- (g) any other details relevant to the public with respect to the permit application.

19. Objection to permit application

(1) Any person may object in writing to any permit application by stating grounds for the objection.

(2) The objection shall be lodged with the Authority within thirty calendar days of the public notification issued under regulation 18.

(3) The Authority shall consider all objections received within the prescribed period for submitting objections before determining the application and in its decision state how it has addressed the objections.

20. Guidelines and procedures for permits of temporary nature

The Authority shall administratively make guidelines and procedures for the application for permits for a temporary period.

21. Open meeting

(1) If, based on the objections or representations received in response to a category C and D applications or other considerations, the Authority considers it necessary to hold an open meeting with relevant stakeholders and the public, the Authority shall convene such meeting at or near the site of the proposed water use to hear views on objections, representations and other considerations before determining the application.

(2) The Authority shall give not less than fourteen days written notice of the intention to hold an open meeting on a stated day, time and venue to all the persons whose written objections were received on time and post the notice on the Authority's website, at the site of the proposed meeting and at the Authority's regional and sub-regional office.

(3) The meeting under sub regulation (1) shall be open to the public and, if appropriate, may be conducted using a virtual platform.

22. Rejection of application

(1) Where the Authority rejects an application for a permit, it shall within thirty days of its decision, notify the applicant, and any objector to the application, of its decision in writing.

(2) Where the applicant is aggrieved by the decision of the Authority under sub regulation (1), the applicant may within fourteen days of receiving the Authority's decision appeal against the decision of the Authority to the Water Tribunal.

23. Authorisation to construct works

(1) Where the Authority approves an application for a water use permit, it shall issue an Authorisation to Construct Works in Form WRA 004 set out in the Thirteenth Schedule.

(2) The Authorization issued under this regulation shall specify the period of time for completion of the works which may only be extended with the written permission of the Authority for good cause.

(3) Failure to complete works within the stipulated time or to comply with the stipulated conditions may result in the cancellation of the Authorization.

24. Limitation on authorization

An Authorization to Construct Works does not authorise an applicant to commence abstraction or the proposed use of the water before the conditions governing the authorisation are certified as having been met.

25. Extension of Authorization

(1) Where the works are not completed within the time specified by the Authorization—

- (a) a Progress Report shall be submitted to the Authority in lieu of a Completion Certificate; and
- (b) the applicant may apply for an extension of time in Form WRA 005 set out in the Thirteenth Schedule accompanied by the Progress Report and an Explanatory Report for the failure to complete the Works within the time stipulated.

(2) The Authority shall consider the Progress report and explanatory statement and may grant an extension for six months or such longer period as appears necessary to complete the works:

Provided that an extension shall not be granted for a period longer than the period initially stipulated for constructing the works.

(3) If, despite the extension under this regulation, the construction of the Works is still not complete within the extended time, the Authorisation shall lapse and the Applicant shall, within a time stipulated by the Authority, submit to the Authority a plan for restoration of the site to, as near as is practicable, its original condition.

26. Register of authorizations and permits

(1) The Authority shall maintain a Register of authorisations and a Register of permits in the form shown in the Thirteenth Schedule for each particular resource.

(2) Any person may obtain a copy of the Register of authorisations or Register of permits on payment of the fee specified in the Second Schedule.

27. Completion certificates

(1) Upon completion of the works, the applicant shall submit a completion certificate to the Authority in Form WRA 006 set out in the Thirteenth Schedule.

(2) Upon receipt of the completion certificate, and on payment by the applicant of inspection fees specified in the Second Schedule, the Authority shall inspect the works to ascertain that all the conditions stated on the Authorisation have been complied with to its satisfaction.

(3) An inspector or a person authorised by the Authority shall inspect the works to ensure compliance to the Act and these Regulations.

(4) Where the inspector is not satisfied with the completion status of the works, then he or she shall issue an Order within fourteen days detailing steps that shall be taken to bring the works to a satisfactory condition.

(5) Where the inspector is satisfied that the works are complete, and that the conditions have been complied with, the Authority shall, following receipt of a water use permit

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application, issue a permit on the Form WRA 009 in the Thirteenth Schedule within thirty one days of receipt of a complete application.

28. Application for water use permit for surface and groundwater

Within thirty days of the date of the completion of the works, the applicant shall apply to the Authority for a water use permit in relation to surface water and ground water.

29. Water use permit validity

A water use permit granted under regulation 28 shall be issued for a period of five years but may be renewed or extended for a similar or shorter period following an application by the permit holder.

30. Water resource user identification number

A water use permit shall bear a unique water resource user identification number or security code which shall whenever practicable identify the basin or sub-basin area in which the water use occurs.

31. Permit fees

(1) The permit holder shall pay the applicable fees as prescribed in the Second Schedule.

(2) Failure to pay the prescribed permit fees may be a basis for revocation of the permit, disconnection of intakes, variation of the permit conditions, recovery proceedings through a civil suit or other enforcement action deemed appropriate by the Authority.

(3) Where the permit holder, without due cause, delays in the payment of the water use fees to the Authority, interest at two per cent per month shall accrue on a daily basis until the water use fees are fully paid.

32. Conditions of Permit

(1) The Authority shall state on the permit, conditions to which the permit is subject to after considering the characteristics of the water resource or body of water, the water use proposed, the technical report, the representations received and any other relevant considerations.

(2) A permit issued by the Authority shall be subject to such terms, restrictions and limitations as the Authority may deem proper to impose and to any, or all of the following minimum conditions—

- (a) a permit shall not limit in any way the exercise of existing lawful water use rights of any other person nor imply any guarantee that the quantity of water referred to is or will become available;
- (b) the water used under a permit if it is to be returned to any water resource shall not be polluted with any matter to such an extent as to be capable of causing injury or damage whether directly or indirectly to any person, public health or to livestock, animals fish, or crops or to any undertaking in respect of which such water is used;
- (c) the permit holder shall take all reasonable precautions to the satisfaction of the Authority to prevent accumulation in any watercourse of silt, sand, gravel, stones, sawdust, refuse, sewerage, waste or any other substance which may be injurious to the water resource;
- (d) in every permit issued by the Authority for mining, industrial purposes or hydropower the following conditions are implied—
 - (i) the water used shall be returned, if reasonably practicable, to the water resource from which it was taken or to such other water resource as the Authority may direct; and

- (ii) the water used shall, in so far as the use to which it is to be put allows, be returned substantially undiminished in quantity or quality to the water resource from which it was taken.

(3) The permit holder is responsible for fulfilling and meeting the cost of fulfilling all the conditions attached to the permit.

(4) Failure to comply with the conditions attached to the permit may be used by the Authority as a basis for suspension or cancellation of the permit.

(5) A permit holder shall maintain a record of all water abstracted, diverted, stored or discharged, giving the date, time, quality and quantity and methods of such abstraction, diversion, storage or discharge and the purpose or purposes for which such water was used and such record shall be furnished to the Authority annually or at such more frequent periods as the Authority may specify.

33. Transfer of permit by permit holder

A permit holder may apply to the Authority for the transfer of the permit to another person in the Form WRA 012 set out in the Thirteenth Schedule.

34. Variation of permit by permit holder

(1) A permit holder may apply to the Authority for variation of the permit in Form WRA 011 set out in the Thirteenth Schedule and accompanied by the assessment fees set out in the Second Schedule.

(2) Where the variation does not result in a change in the category of water user or materially change the permitted water use, the Authority may, after taking into account any representations received, grant the application.

(3) Before granting a variation application, the Authority shall give public notice of the application by posting for a period of thirty days on its web-site and at the regional and relevant sub-regional office particulars of the application and a brief summary of the nature and effect of the proposed variation and inviting persons with comments on the application to provide such comments within the thirty days.

(4) Where the variation results in a change in the category of water use, the permit holder shall be required to apply for a new permit.

(5) The permit as varied shall be made available in the register of permits maintained by the Authority.

(6) A person who contravenes this regulation commits an offence and is liable, on conviction, to the penalties prescribed by these Regulations.

35. Variation or cancellation of permit by the Authority

(1) The Authority may, on its own motion, vary or cancel a water permit after giving the permit holder thirty days' notice to show cause why the permit should not be varied or cancelled and considering any representations made by the permit holder following receipt of the notice.

(2) The Authority may undertake the following measures for enforcement—

- (a) suspension;
- (b) cancellation; or
- (c) variation of a permit; or
- (d) confiscation of any equipment or plant, or removal of works

(3) Any cost incurred by the Authority in effecting a measure under this regulation shall be a cost recoverable from the permit holder.

(4) The Authority shall post on its website and at the regional and sub-regional office, particulars of any permit variations or cancellations within thirty days of the variation or cancellation.

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36. Renewal of permits

(1) Three months before the expiry of a permit, a permit holder shall apply for its renewal by—

- (a) making an application in Form WRA 010 in the Thirteenth Schedule; and
- (b) paying the fees for renewal, any water use charge arrears and works inspection fees as prescribed in the Second Schedule.

(2) A late submission of the application for the renewal of a permit will attract a penalty of twenty-five thousand shillings for each month of delay.

(3) The Authority shall inspect the works before processing the application for renewal.

(4) The Authority may require submission of technical reports contemplated under regulation 16 indicating the condition of the water resources at the time of the application for renewal before processing an application for renewal or impose new conditions or alter existing permit conditions as necessary in response to causes as stipulated in section 46 (1) of the Act.

(5) If the permit holder does not apply for the renewal of the permit on expiry of the permit, the permit will automatically lapse and the Authority shall initiate the cancellation process in accordance with section 49 of the Act.

37. Register of approved water users, water uses and permits

(1) The Authority shall maintain a Register of approved water users, water uses and permits as required by section 54 of the Act

and post an electronic copy of the Register on its website.

(2) A person may obtain a copy of the Register of approved water users, water uses and permits certified by the Authority on payment of the applicable fees set out in the Second Schedule.

38. Permit of authorisation not a defence

The issue by the Authority of an authorisation or permit shall not be a defence to any civil action or to a criminal prosecution.

39. Public notification of authorisations and permits

(1) The Authority shall cause to be displayed on the notice board, at its offices and at the offices of the chief, a list of notifications on authorisations, permits and cancellations.

(2) The list shall include a summary of the information pertaining to the water use activity.

(3) Any person wishing to obtain full details of a particular permit shall apply using form WRA 009 as set out in the Thirteenth Schedule and pay the required fee as specified in the Second Schedule.

40. Compliance with other laws

The right of a permit holder shall, notwithstanding anything contained in his or her authorisation or permit, be subject to and conditional to his or her compliance with the provisions of the Act and any other applicable laws.

PART IV – SURFACE WATER

41. Surface water allocation plan and guidelines

(1) For purposes of the exercise of its water allocation functions under the Act, the Authority shall from time to time and in consultation with the Cabinet Secretary, formulate and make available surface water allocation plans and guidelines.

(2) Without prejudice to sub regulation (1), for purposes of the allocation of surface water resources—

- (a) “flood flow” means any flow that exceeds the Q80 flow value;
- (b) “normal flow” means any flow that is less than the Q80 flow value;

- (c) "Q80 flow value" means the flow value that is equalled or exceeded eighty percent of the time; and
- (d) the Q80 flow value shall be derived from a naturalised flow duration curve, preferably derived from daily flows.

42. Declaring of a water course

(1) The Authority may, after public consultation, declare a natural watercourse not to be a watercourse or a constructed channel to be a watercourse for the purposes of water resources management and regulation.

(2) Where a body of water has changed into a new course, the Authority shall recognise the new course to be a watercourse and shall require the original course to be retained as a flood channel.

43. Boundary of properties defined by a watercourse

If, owing to any natural events or authorised or unauthorised works being constructed on a water body, a body of water which constitutes the boundary of two or more properties ceases to flow between or to separate such properties or has changed into a new course, the boundaries of such properties shall, unless readjusted by mutual agreement between the parties concerned, remain as before.

44. Wetlands

(1) Any portion of land in excess of one hectare which is naturally subject to seasonal or permanent flooding and has the ecological characteristics of a swamp or marsh shall be considered to be a wetland under these Regulations.

(2) The Authority may by notice in the *Gazette* and for good cause, declare any portion of land which is less than one hectare as a wetland for purposes of water resources management and regulation.

(3) The land owner or legally authorised representative of the landowner of the land on which a wetland is situated shall apply to the Authority for approval for any proposed or ongoing activities including drainage, discharge into the wetland or construction that would affect the wetland.

(4) Whenever any proposal for the drainage and reclamation of a swamp involves the subsequent use by the applicant of all or any of the water conserved by the drainage or reclamation of such swamp, the applicant shall submit an application for a permit for the diversion, abstraction, storage or use of such water with a Hydrological Assessment Report, Hydrogeological Survey Report and Environment Impact Assessment Report and licence.

(5) No works involving the drainage of a swamp shall deprive any lawful water user of reasonable access to water except by agreement or on payment of compensation, or on supplying water from other sources or by other means, and the applicant concerned shall submit to the Authority all plans and documents showing the proposals to provide such water user with access to water, and any agreements to this effect, and he shall, if the proposals include any works for supplying such water user with water, submit an application for a permit.

45. Land reclamation

(1) The Authority may in accordance with this regulation, authorise the reclamation of land for infrastructure development over and upon the sea-bed, lake or river irrespective of the ownership of land bordering on any land borders of such sea-bed, lake or river.

(2) Notification of the proposed land reclamation shall be published—

- (a) in the *Gazette* by the Cabinet Secretary;
- (b) on the Authority's website; and
- (c) in two national newspapers of wide circulation in Kenya.

(3) A notification under sub regulation (2) shall—

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- (a) describe the proposed land reclamation and give the approximate area to be occupied in connection therewith; and
- (b) call upon all persons having objections to the reclamation or any claims of private right in respect thereof to submit to the Authority before the expiration of such period being not less than thirty days or as may be specified in such notification, such objections or claims in writing specifying the nature thereof and giving an estimate of any loss which it is alleged would be incurred by reason of the extinguishment of any private right.

(4) Whenever claims or objections are submitted pursuant to sub regulation (3)(b) and the Authority considers it expedient so to do, it may establish a Panel to hold a public inquiry on such matters as set out in the terms of reference.

(5) Such Panel shall keep or cause to be kept a record of any evidence taken at the public inquiry and shall transmit the same together with a report of its findings to the Authority.

(6) The Authority may, after considering the proposed land reclamation together with all objections and claims submitted and, where a public inquiry has been held, the evidence taken by, and the report of the Panel holding the inquiry, authorise such land reclamation with or without modifications or refuse to authorise the land reclamation.

(7) A notification of an authorisation together with a description of the proposed reclamation shall be published in the *Gazette*.

(8) Upon the publication of the authorisation of a proposed reclamation, all public and private rights of navigation or fishing and rights ancillary thereto, all public and private rights of access or user, and all other public or private rights in, upon or over the sea-bed, lake or river occupied by the proposed reclamation or by the infrastructure development shall be extinguished and cease to exist.

46. Requirement to obtain permit after land reclamation

(1) Any person intending to or currently undertaking a water use activity in relation to a water resource on reclaimed land shall apply to the Authority for a water use permit.

(2) Where the proposed water use is in relation to a lake or river, the application shall be accompanied by a letter of no objection of the Basin Water Resources Committee, the water resource users associations or local representative associations.

(3) A permit holder is responsible for complying with these Regulations in relation to any activities on reclaimed land.

47. Allocation of water for irrigation

(1) In allocating water for irrigation, the Authority shall—

- (a) give priority to irrigation for subsistence purposes;
- (b) be guided by crop water requirements in the area and the efficiency of water use;
- (c) limit the permit holder to abstract, impound or divert only flood flow for purposes of irrigation; and
- (d) require the applicant, to the extent practicable, to make provision for not less ninety days' storage of flood flow for use during the dry season unless the abstraction of water is to be from a regulated watercourse or river.

(2) In considering aggregate water demand for subsistence irrigation, the Authority may declare by public notification for each catchment area or part thereof an upper limit for the allocation of water either in aggregate or for any one permit where the allocation is shared among more than one household.

48. Hydro Power

(1) Every permit to develop an amount of power less than the full hydro power potential of the site may be subject to special conditions if the Authority considers that the full power development of the site at a later date may be required.

(2) If an existing permit holder is unable, or unwilling, to enlarge the works to develop the full hydropower potential of the site, and it is considered by the Authority, following consultation with the regulatory agency responsible for matters relating to electricity generation, to be in the public interest to do so, the Authority may cancel the authorization or permit and authorize the works to be carried out by another person provided that the incoming operator shall pay compensation to the person whose permit has been cancelled.

(3) For the purpose of ascertaining the hydropower potential under any authorization or permit, the Authority shall have access to reports, plans and records of the permit holder and may request for any other information or data it may require.

(4) A permit issued for hydropower purpose, shall at all times be subject to any law affecting the construction and operation of works for the supply of power.

49. Works associated with fish movement for protection and control of fish

(1) Where, in the opinion of the Authority, after consultation with the government department responsible for fisheries it is necessary for the free movement of fish upstream or downstream of any dam or weir on any body of water, the Authority may require a person applying for a permit or a permit holder to provide at his or her cost in such dam or weir a fish pass, fish ladder or other structure, approved by the Authority, to enable fish to move freely up or down such a body of water:

(2) Notwithstanding anything contained in these Regulations, the Authority may, on the application of any person, authorize the construction or erection in a body of water of—

- (a) works of a temporary nature which are designed solely for the purpose of improving the conditions of fish life or the facilities for fishing, in such body of water provided such works will not have the effect of raising the normal level of the body of water more than one metre;
- (b) fish ladders or other means of ingress and egress for fish provided such works do not cause any obstruction in the flow of such body of water.

(3) An application under this regulation shall be on Form WRA 001 as set out in the Thirteenth Schedule and shall be submitted to the Authority together with the comments of the department responsible for fisheries.

50. Water resources data

(1) The Authority shall put in place and maintain measures, arrangements and systems for data gathering, analysis and management including data collection centres, rain gauging stations, laboratories and similar systems.

(2) On the basis of information gathered by or submitted to it, the Authority shall maintain a surface water database from which data shall be accessible during normal office hours by any person on the payment of the prescribed fees listed in the Second Schedule.

PART V – GROUNDWATER

51. Authorisation of groundwater development

(1) A person intending to abstract ground water shall apply for approval of the activity by Authority in Form WRA 001 set out in the Thirteenth Schedule.

(2) Upon receipt of an application under sub regulation (1), the Authority shall determine the category of the activity in the manner specified in regulation 6.

(3) Where the Authority determines that the application made under this regulation is for an activity that falls under a Category A water use activity and the method of abstraction does not include motorised pumping, the Authority shall determine the application in accordance with the procedure specified for determining Category A applications.

(4) Where any borehole or well is to be equipped with a motorised pump, the application shall be accompanied by a Hydrogeological Survey Report prepared in the form set out in the Fourth Schedule.

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(5) Where the Authority determines that the application under this regulation is for an activity that falls under Categories B, C, or D water use activity, the application shall be determined in accordance with the procedure specified for approval of Categories B, C and D applications.

(6) Before any well or borehole is replaced, deepened or widened, the owner of the well or borehole, or his duly authorised representative, shall file with the Authority an application for authorisation to carry out such replacement, deepening or widening of an existing well or borehole, for any water use category.

(7) Where, in the course of drilling, the owner of a well or borehole encounters down hole problems, the owner shall drill a replacement borehole on a site not more than fifteen metres from the previously approved site.

(8) Before any well or borehole encountering down hole problems is moved to a new site in accordance with sub regulation (7), the owner of the borehole or well, or his or her duly authorised representative, shall seek the approval of the Authority to move to the new site.

(9) For purposes of sub regulation (7), “down hole problems” means the collapse, loss of tools, or other associated drilling problems excluding a dry borehole,

(10) A person who contravenes this regulation commits an offence and is liable on conviction to the penalty prescribed in these Regulations.

52. Regulation of groundwater development

(1) Where any borehole or well is being constructed within five hundred metres of an existing borehole or well, the Authority may by notice require the person constructing the borehole or well to undertake tests, specified in the notice, on the existing well and to supply to the Authority the particulars of the results of such tests including the rate of pumping and rest levels of water.

(2) Without prejudice to sub regulation (1), the Authority shall determine in the allocation plan for a given aquifer or part thereof, the spacing of boreholes or well to be equipped with motorised pump and in doing so shall be guided by—

- (a) existing borehole or well spacing;
- (b) individual aquifer characteristics, including water quality;
- (c) existing aquifer use;
- (d) existing bodies of surface water; and
- (e) any other relevant considerations.

(3) The allocation plan shall be available and accessible to the public, during normal working hours, on the Authority’s website and from any of the Authority offices.

53. Borehole and well test pumping

(1) A borehole and well that is to be equipped with a motorised pump shall be subjected to test pumping.

(2) Test pumping shall comprise a continuous and constant rate pumping test of not less than twenty-four hours duration and recovery duration of not less than twenty hours, or as otherwise stipulated by the Authority.

54. Supervision of works

A borehole and well that is to be equipped with a motorised pump shall be constructed under the supervision of a qualified and licensed water sector professional.

55. Borehole or well completion record

(1) On the completion of construction of the borehole or well specified in regulation 53, the applicant shall, within twenty-eight days of completion of works, submit to the Authority, a borehole or well completion record in WRA Form 008A or 008B respectively set out in the Thirteenth Schedule, together with the completion certificate.

(2) A person who contravenes sub regulation (1) commits an offence and is liable on conviction to the prescribed penalties.

56. Issue of permit or approval

(1) Approval to abstract groundwater under Category A for a well, shall be issued by the Authority following the procedure stipulated in regulation 7.

(2) Where the Authority determines that verification on site is necessary, the Authority shall undertake the verification within twenty-eight days upon payment by the applicant of the prescribed site verification fees.

(3) An approval to abstract groundwater from a borehole, in Category A, shall not be issued until the Authority has analysed the data provided in the Borehole Completion Record Form WRA 008A.

(4) A permit to abstract groundwater from boreholes, or wells intended to be equipped with motorised pumps in Categories B, C, or D as defined in the First Schedule shall not be issued until after the Authority has analysed the data provided in the Borehole or Well Completion Record Form WRA 008A or 008B, respectively.

57. Groundwater conservation

(1) Every borehole owner shall ensure that a wellhead protection area within a radius of ten meters is reserved where any activity including land use activities, are likely to negatively impact groundwater resources.

(2) Where in its assessment the Authority determines that a proposed borehole is within a radius of ten meters of any activity likely to negatively impact the quality of groundwater resources, it shall not issue an authorization or permit for the drilling of the borehole or well.

(3) Within twelve months of the coming into effect of these Regulations, all borehole water abstractors shall ensure that—

- (a) boreholes are fitted with dipper tubes;
- (b) water is not abstracted without passing through a meter; and
- (c) the water meter is periodically inspected to ensure that it is not defective.

58. Artificial ground water recharge

(1) No person shall undertake construction works for the purposes of conducting the artificial groundwater recharge of an aquifer, whether or not in a groundwater conservation area, unless such a person has been duly authorised by the Authority.

(2) An application for authorization under sub regulation (1) shall be accompanied by a technical report and a Hydrogeological Assessment Report prepared in the form set out in the Fourth Schedule—

- (a) defining the aquifer parameters and the water quality evolution after recharge;
- (b) specifying the impacts on the recharged water,
- (c) specifying the contents of the injection and the proposed geotechnical mechanisms with analysis on its positive and

negative impacts on groundwater resources.

(3) Any person applying for the necessary authorisation under sub regulation (1), shall give such particulars relative to his or her

application as the Authority may require and such authorisation may, after consideration of the application be granted upon such conditions as the Authority may deem necessary or refuse the application.

(4) A person who contravenes this regulation commits an offence and is liable on conviction to the prescribed penalties under the Act.

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59. Groundwater data

The Authority may, from time to time and in carrying out its responsibilities in respect to groundwater resources protection and regulation, require any person or entity, permit holder or operator, to provide the Authority with abstraction, water levels, water quality or any other specified information within a reasonable time or on a regular basis as it may specify including the requirement to observe protection measures as shall be prescribed by the Authority.

60. Groundwater allocation Guidelines

(1) The Authority shall from time to time formulate groundwater allocation guidelines on the basis of which it will exercise its groundwater allocation functions under this Part.

(2) The groundwater allocation guidelines shall be accessible on the Authority's website and during normal office hours to any person.

(3) The Authority may, on the payment of the prescribed fees listed in the Second Schedule, provide an extract of data from its records to any person.

PART VI – WATER QUALITY MONITORING AND WASTE DISPOSAL

61. Control of water pollution

(1) No person shall discharge or apply any poisonous, toxic, noxious or obstructing matter, radioactive waste or other pollutants or permit any person to dump or discharge such matter into a water resource unless the discharge of such poisonous, toxic, noxious or obstructing matter, radioactive waste or pollutant is authorised by the Authority and treated to permissible standards.

(2) A person intending to discharge waste, effluent or other pollutant into a water resource shall apply to the Authority for waste disposal permit.

(3) The category of waste disposal permit shall be determined on the basis of the effluent discharge load, the concentration of pollutants, the capacity of the receiving water body and the applicable resource quality objectives.

(4) A person who discharges waste, effluents or other pollutants into a water resource at the commencement of these Regulations without a waste disposal permit issued by the Authority shall apply for a waste disposal permit within six months of the commencement of these Regulations.

(5) The right of a permit holder to discharge waste shall be exercised in accordance with the conditions in the waste disposal permit and shall be limited to the quantity and quality of pollutants stipulated in the permit.

(6) A waste disposal permit shall be subject the payment of the water user charges specified in the Second Schedule.

(7) Any person who contravenes this regulation commits an offence and is liable on conviction to the penalties prescribed in the Act.

62. Waste disposal control plan

(1) A person in charge of an undertaking or establishment shall formulate and put in place and implement a waste disposal control plan approved by the Authority to prevent and or control the discharge into a water resource of waste, effluent or other pollutants from run-off or point and non-point sources in, on or adjoining the establishment or undertaking.

(2) A waste disposal control plan shall be prepared by a licensed and registered water sector professional and be substantially in the form stipulated in the Fourth Schedule.

(3) Any person who contravenes this regulation commits an offence and is liable on conviction to the penalties prescribed in the Act.

63. Water quality requirements

In determining the water quality standards for a waste disposal permit, the Authority shall be guided by the following criteria—

- (a) the capacity of the receiving water resource to assimilate the effluent without violating the water resource quality objectives for that water resource;
- (b) the toxicity and persistence of the pollutant; and
- (c) any other criteria as determined from time to time by the Authority.

64. Liquid Waste Disposal Records

(1) A person who disposes liquid waste shall maintain monthly records of the liquid waste discharged in terms of quantity and quality in accordance with the Waste Disposal Control Plan approved by the Authority.

(2) The waste disposal records shall be submitted to the Authority and verified by the Authority on a quarterly basis.

(3) The waste disposal records shall be maintained and shall be available for inspection by the Authority.

(4) Any person who falsifies information about the waste disposed into a water resource, in the records submitted to the Authority commits an offence and is liable, on conviction, to the penalties specified in the Act.

(5) The falsification of information in the waste disposed into a water resource may be used by the Authority as a basis for the cancellation of the waste disposal permit.

65. Consideration of category waste disposal applications

(1) The Authority shall consider an application for a waste disposal permit falling into Category A using the specified procedure for consideration of Category A applications.

(2) The Authority shall process Category B, C and D applications for waste disposal permits using the procedures provided for consideration of applications for category B, C and D.

(3) Where the Authority is satisfied that the waste discharge to a water resource meets the limits stipulated by the Authority, the Authority may issue an authorisation and append the necessary conditions including volume and waste discharge requirements.

66. Issuance of waste disposal permits

(1) Upon inspection and approval of the authorised waste discharge works, the Authority shall issue a waste disposal permit and shall append the necessary conditions including limits to and monitoring frequency for volume and quality of effluent discharge.

(2) A water service provider shall provide effluent quality and quantity data to the Authority on a quarterly basis for the facilities supplied with water including those connected and discharging into a sewer line.

67. Spillage

(1) No person shall wilfully and deliberately allow any substance to spill out into any water resource or onto land where such spillage may contaminate a body of surface or groundwater.

(2) In the event of accidental spillage where such spillage may contaminate a body of surface or groundwater, the person in charge of the spilt substance shall immediately, and in any case within twenty- four hours, inform the Authority of the accident, urgently take measures to prevent spread of the spillage and take remedial measures as may be required by the Authority to mitigate against likely adverse effects to water resources.

(3) The Authority shall upon receiving information of a spillage, take measures to notify the public of the spillage and cause appropriate action to be taken to address likely adverse effects of the spillage on water resources.

(4) The costs incurred by the Authority in regard to notifying the public and addressing the spillage shall be recovered from the person in charge of the spilt substance as a debt.

(5) Any owner of a spilt substance who fails to inform the Authority immediately after spillage or fails to take immediate action to prevent spread of the spillage and its likely

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adverse effects to water resources commits an offence and is liable on conviction to the penalty specified under these Regulations or the Act.

(6) The Authority shall undertake periodic assessment of pollution impacts to various water resources and as necessary issue precautionary public notices in line with the precautionary principles.

(7) The Authority may require, in a format prescribed by the Authority, information and reports of the annual state of any infrastructure that may cause spillage or compromise a water resource.

68. Water quality monitoring

(1) The Authority may inspect any premises and sample any sources of water pollution for water quality monitoring without the need to give prior notice of the inspection.

(2) A person, who obstructs, constrains or prevents an inspector who has identified himself or herself from undertaking a pollution control inspection commits an offence and is liable, on conviction to the prescribed penalties under these Regulations.

69. Water quality, liquid waste disposal and effluent discharge data

(1) The Authority shall maintain a water quality database that will include effluent discharge data.

(2) The Authority shall maintain data on its website and at the Authority's offices during normal office hours and any person may obtain a copy of such data from the Authority on the payment of the fees specified in the Second Schedule.

70. Water quality sample procedure

(1) In the event that an inspector intends to take a water quality sample for purposes of prosecution, the procedure stipulated in the Eleventh Schedule shall apply.

(2) The Authority may, notwithstanding the procedures prescribed in the Eleventh Schedule, install automatic water quality monitoring and sampling equipment for any purpose.

71. Pollution control enforcement

The Authority may, with good cause, order any person or entity being the landholder or occupier or having charge over a piece of land to put in place adequate measures for the safe disposal of solid or other wastes including agricultural chemicals present on the land which may present a risk to the water resource quality.

PART VII – WORKS

73. Inspection of works prior to, during and post construction

The Authority may undertake an inspection or series of inspections of the site associated with a proposed, ongoing, existing or abandoned water works.

74. Temporary works

(1) Where it is necessary for purposes of a construction activity to divert, abstract, impound, obstruct, store or use water temporarily, an application shall be made to the Authority for a permit for temporary waterworks.

(2) A permit for temporary waterworks shall authorise the diversion, abstraction, impoundment, obstruction, storage or use of water temporarily to such extent only as may be necessary for such construction, and at such times and in such manner as to interfere as little as possible with the works of other operators and cause as little damage as possible to property.

(3) The holder of a temporary waterworks permit shall be liable for any interference or damage resulting from the temporary works.

(4) All temporary works shall be removed by the temporary works permit holder within a period of three months, or such other period as the Authority may specify, from the date

of completion of the works which made it necessary to acquire the temporary waterworks permit or from the date of expiry of the authorization, whichever is earlier:

Provided that any quarries, burrow-pits, excavations, cuttings, tunnels or other temporary works which cannot be economically rehabilitated or removed shall instead be rendered safe in the interest of the health and safety of person and property by fencing or such other measure as the Authority may consider necessary.

(5) In the event that any temporary works are not removed, rehabilitated or rendered safe within the prescribed period, the Authority shall issue an order for the removal, rehabilitation or rendering safe of the works.

(6) A person who fails to comply with an order issued by the Authority under this regulation commits an offence and is liable on conviction to the penalties prescribed in these Regulations or the Act.

75. Abandoned Works

(1) Despite, the abandonment or cancellation of an authorization or permit or any part thereof, the owner or permit holder, is liable for any damage resulting from any works constructed, operated or maintained by the permit holder, or for any defect or insufficiency in the works.

(2) The Authority may, within six months of the cancellation or expiry of an authorization or permit, serve upon the permit holder or former permit holder whose authorization or permit has been cancelled or expired, an order for the disposal of all or any portion of the works previously used under the authorization or permit.

(3) A person who fails to comply with the order on abandoned works commits an offence.

PART VIII – CONDITIONS OF AUTHORISATION, PERMITS AND APPROVED WATER USES

76. Compliance with the Environmental Management and Coordination Act

The Authority shall require an applicant as a condition to the grant of a water resource use permit to—

- (a) provide evidence of compliance with the provisions of the Environmental Management and Coordination Act (No. 8 of 1999) regarding integrated environmental assessments, and any other provisions as the Authority may deem necessary; and
- (b) if not already a member, join and maintain membership of a water resource users association.

77. Inspection

(1) The Authority may place on any authorisation or permit, a schedule of inspection by an inspector which may be at specified intervals or at the completion of specified milestones during the construction of any works.

(2) Any person who undertakes any activity that damages or hinders the proper functioning of the water resource monitoring network shall be given the opportunity of meeting the cost of repair, within a period of time determined by the Authority.

(3) Any person under sub regulation (2) who fails to make good the damage or cover the costs of repair, commits an offence and is liable on conviction to the penalties prescribed under these Regulations and the Act.

78. Controlling and measuring devices

(1) Within two years of the coming into effect of these Regulations, every Category B, C or D water user, whether for water abstraction or effluent discharge, shall install an automated measuring meter or smart meter for the accurate measurement of water abstracted, obstructed or diverted and the effluent discharged.

(2) A Category B, C or D water user shall inspect, or cause to be inspected, at such intervals as may be necessary, any automated measuring meter or “smart” meter prescribed

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in the permit in order to ensure that the quantity of water abstracted, diverted or stored, or effluent discharged is accurately measured.

(3) A permit holder shall ensure that every adjustable device or controlling device, including any sluice gate, valve or other works, where such device or work is used to control the quantity of water diverted, abstracted or stored, or effluent discharged, has a means of locking it sufficiently to prevent any unauthorized person from interfering with such adjustable device or controlling device.

(4) The keys of such locking device or works shall be immediately availed to an officer of the Authority when required provided that the locking device may be designed in such way that two people shall be required to operate it during opening and locking.

(5) Any measuring device used for the purpose of measuring abstraction or effluent discharge shall be calibrated and such calibration results shall be made available to the Authority upon request.

(6) The calibration of the flow measuring device may be verified by the Authority or an agent of the Authority.

(7) In case of doubt over the accuracy of a flow measuring device the Authority may require the accuracy of the device to be verified and where required, the device shall be recalibrated at the cost of the permit holder.

(8) A measuring device shall be automated and be in the form of a calibrated meter for piped or pumped systems and a calibrated weir or flume for open channel abstraction or discharge systems, or other appropriate device approved by the Authority.

(9) The controlling device shall be located at the point where the water is abstracted or diverted or the liquid waste discharged or at a point approved by the Authority while a measuring device shall be located at a point approved by the Authority.

(10) Where a water user fails or neglects to comply with any order given under this regulation, the Authority may take such steps as it may consider necessary to execute the order, and any expenses incurred in taking such steps shall be recoverable as a civil debt from the water user or person upon whom such order is made.

(11) The automated meters and measuring devices installed under these Regulations shall be sealed by the Authority with an approved seal bearing the Authority's distinguishing brand or mark impressed thereon.

(12) Where any seal affixed is broken without the approval of the Authority, the water user upon whose premises the seal was placed commits an offence and is liable on conviction to the penalties prescribed under the Act:

Provided that, where it can be proved that the offence was committed by some person other than the water user, that person shall be punishable as if he were the water user upon whose premises the breach occurred.

79. Limitation of flow or quantity

(1) Notwithstanding the quantity of water granted by the permit, a permit holder shall not abstract or divert more water from a body or bodies of water than can, for the time being, be beneficially used by him or her in accordance with the terms of his or her permit.

(2) Having due regard to the priority of the purpose for which the water is granted, a permit holder shall, on being so directed by the Authority—

- (a) abstract, impound, or divert the quantity of water which may be necessary for his or her purpose at such times and in accordance with a schedule of abstraction that encompasses all other permit holders using the same body of water, or other body of water, as may, in the opinion of the Authority, secure the most equitable use of water; and
- (b) discharge the quantity of water in accordance with a schedule of releases that encompasses all other permit holders using the same body of water, or other body of water, as may, in the opinion of the Authority, secure the most equitable use of water.

80. Collection and submission of abstraction, water quality and effluent discharge data

(1) Each Category B, C or D permit holder is required to maintain a record of the daily abstraction or effluent discharge, in cubic metres per day, made by him or her.

(2) The record shall state the permit number, date and volume of abstraction or discharge.

(3) The records for abstraction or discharge for the preceding twenty-four months shall be available for inspection by the Authority.

(4) The Authority may require an applicant for water use, or applicant for permit renewal to take water quality samples and cause the samples to be analysed at the permit holder's cost in a water quality laboratory approved by the Authority.

(5) Where the water analysis results show that the water is not fit for human consumption, the water use permit shall be conditional on the requirement that appropriate treatment is undertaken and evidence provided to the Authority before the water may be used for human consumption.

81. Airline

(1) Every permit holder, shall install an airline in his or her boreholes, such that the measurement of water levels is possible by the Authority or any authorised person.

(2) A permit holder who fails to install an airline commits an offence and is liable on conviction to the penalties prescribed under the Act and these Regulations.

82. Water resources inspector

(1) The Authority may, in writing, authorize any person employed in the public service, or any servant, agent or contractor of such person, to perform any of the powers, duties or obligations vested in it by these Regulations.

(2) The following persons shall perform the duties and have the powers of a water resources inspector—

- (a) any person appointed to a post that is equal to or more senior than that of a water resources officer or water rights officer in the Authority;
- (b) persons other than officers of the Authority, appointed by the Authority by notice in the *Gazette*, as water resources inspectors, which persons may receive such payment in respect of their services as the Authority may determine;

(3) Every person appointed to perform the duties of a water resources inspector shall carry a document of identification and shall produce the document when required in the performance of his or her duties.

83. Water resources data

(1) The Authority shall, on the basis of data gathered by or submitted to it maintain a database for purposes of water resource management.

(2) The database shall contain data on climate, surface water, groundwater, water quality, catchment conditions, abstractions, permits, water use and any other data relevant to the management of the water resources.

(3) Any person requiring water resource data from the Authority shall apply for such data in writing and pay for the data according to the fees prescribed in the Second Schedule, except where the Authority is satisfied that the data is to be used for research or non-commercial purposes.

(4) In responding to a request for data the Authority shall be guided by Article 35 of the Constitution of Kenya.

(5) A person who sells any data obtained from the Authority or transfers such data to a third party commits an offence.

(6) The Authority shall not be held liable for any errors or omissions in its data.

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(7) A person who uses the citation for a publication that derives data from the Authority shall submit to the Authority such citation with a brief summary of the publication within thirty days of the date of publication.

84. Register of water bodies

(1) To the extent practicable, the Authority shall maintain a register and map of all water bodies which shall contain the official name and class (if any) of each water body.

(2) The official name of the Register shall be determined by the Authority after consultation with other government departments and other stakeholders.

PART IX – WATER USE CHARGES

85. Water use charges

(1) A person in possession of a valid water use permit or who is required to have a valid permit for water use, shall pay to the Authority water use charges on the basis of the water abstracted, diverted, obstructed or used including energy derived from a water resource at the appropriate rate as set out in the Second Schedule.

(2) A person in possession of a valid water use permit or who is required to have a valid permit for water use shall pay in addition to the water use charge, a levy amounting to 5 percent of the monthly water use charge as a water conservation levy.

(3) Water use charges payable to the Authority under sub regulation (1) shall be used by the Authority to meet the costs of discharging the regulatory functions pursuant to section 12 of the Act together with reasonable overhead and incidental costs incurred in exercising its mandate.

(4) The monies collected by the Authority as a water conservation levy shall be segregated from the water use charges and reported on separately and, on the basis of agreements entered into between the Authority and county government entities and water resource users associations used to finance part of the costs of the implementation by water resources associations and county government entities of catchment or sub-catchment soil and water conservation plans.

(5) Payment of water use charges and conservation levies shall be made to the Authority by the 15th day of every month for water used in the preceding calendar month.

(6) With the approval of the Authority, payment of the water use charge and conservation levies may be remitted to the Authority in instalments exceeding monthly instalments.

86. Annual adjustment of water use charges

The Authority shall adjust the water use charges annually in order to give effect to indexation by reference to the officially published annual inflation index.

87. Review of water use charges

The Authority may at any time, following public consultation, review and gazette new water use charges on the basis of—

- (a) a significant increase in the cost of regulating the water resources;
- (b) the desire that water use charges facilitate water resources demand management; and
- (c) any other criterion that the Authority may consider appropriate.

88. Automated measuring device

(1) A permit holder or any person who is required to have a valid permit shall ensure that there is an automated measuring device for the assessment of the quantity of water used with respect to each permit.

(2) The permit holder shall take readings from the measuring device and submit the readings to the Authority in the Form WRA 014 set out in the Thirteenth Schedule.

(3) In the event that the permit holder does not submit readings of the quantity of water used, the Authority shall take readings of the quantity of water used provided that if the Authority reasonably believes that the meter readings are inaccurate, the Authority shall make a fair estimate of the quantity of water used.

(4) In making the assessment, the Authority shall be guided by the allocation in the permit and by observations and evidence of water use activities.

(5) In the event that the assessed quantity of water used, as determined by the Authority, is 25 percent more or less than the permitted allocation, taking into account seasonal variations, the Authority may re-evaluate and vary the permitted allocation.

(6) Where the permit holder and the Authority cannot agree on the assessment of the quantity of water used, then the opinion of the Authority shall prevail and the permit holder shall pay the amount assessed by the Authority.

(7) The permit holder may lodge a complaint under these Regulations notwithstanding having made the payment under sub regulation (6).

(8) Without prejudice to the provisions of sub regulation (6), the Authority shall be at liberty to adopt alternative methods in assessment of water use charges including reference to crop production, resources extracted and similar methods.

89. Time limitation on arrears

(1) Where the Authority discovers that a permit holder, or a person who is required to have a water permit, has not paid water use charges, the Authority may charge arrears.

(2) Where the Authority discovers that a permit holder has tampered with or has caused such meter to be tampered with and underdeclared his or her water use, the Authority shall be entitled to charge for the under declared water use in arrears.

90. Groundwater conservation charge

An additional 10 percent shall be added to the water use charges payable for any water use within a groundwater conservation area or protected area gazetted under the Act to cover for the cost of enhanced regulation required in such areas.

91. Penalty for over - abstraction

In the event that the water abstracted exceeds the permitted amounts by over 5 percent, the excess shall be charged at a penalty rate of ten shillings per cubic metre.

92. Waiver of premium payable

(1) A water user in possession of a valid permit who has installed and used water from its own flood water storage facilities shall be entitled to a waiver of the premium payable under applicable Regulations on use of water from a regulated watercourse.

(2) The waiver shall only apply in the case of storage that equals or exceeds ninety days water demand otherwise the premium payable shall be calculated on a pro rata basis.

93. Penalty for failure to use automated measuring device

If the assessment of the water used is not based on continuous measurement by means of an automated and appropriately sealed flow measuring device, a penalty of 10 per cent shall be charged on the full amount of water used.

94. Revenue collection agents

The Authority may appoint revenue collection agents and shall pay for the cost of the services rendered.

95. Modes of payment

Water use charges shall be paid directly to the Authority or where applicable to a revenue collection agent.

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96. Interest for late payment

Late payment of water use charges shall attract a simple interest charge of 2 percent per month until the whole amount is paid in full.

97. Failure to pay water use charges

(1) Failure to pay the appropriate water use charges is a breach of the conditions of a permit and may be a basis for the revocation or suspension of the permit.

(2) The Authority may within fourteen days, following notice given to the permit holder, suspend, initiate the cancellation process or vary in whole or in part the permit if the permit holder fails to pay in full the water use charges for any one payment period for a period of four months after the due date.

(3) Any permit holder whose permit has been suspended, cancelled or varied due to non-payment may not apply for a lifting of the suspension or a new permit or amendment until the outstanding amount and any associated cost is paid in full.

(4) Any application for a new permit or amendment of an existing permit shall not be considered if the permit holder has arrears.

(5) A person who reconnects abstraction facilities without permission from the Authority, after the Authority disconnects or dismantles an intake or abstraction equipment or facility, due to non-payment of water use charges, commits an offence.

PART X – WATER RESOURCE USERS ASSOCIATIONS

98. Registration and Operation of associations

(1) A water resource user association shall register with the Authority by submitting Form WRA 017 in the Thirteenth Schedule.

(2) For a water resource users association to qualify for registration by the Authority, it shall—

- (a) be registered under the Societies Act (Cap. 108) as an Association:

Provided that prior to the registration, the association shall seek a letter of no objection from the Authority;

- (b) have a constitution conducive to collaborative management of the water resources of a particular sub-catchment and which promotes public participation, conflict mitigation and resolution, gender main-streaming and environmental sustainability;
- (c) have a delineated boundary map of its coverage area;
- (d) submit minutes of the meeting of elections of its officials and a list of members.

(3) The Authority shall respond in writing within thirty days of the receipt of the application for registration of a water resource users' association.

(4) If after thirty days there are no objections or if any objections received have been satisfactorily addressed, the Authority shall issue the association with a certificate of registration in Form WRA 018 set out in the Thirteenth Schedule and enter its name in the Register of water resource users associations.

(5) A Water resource user association's operations shall be guided by the following—

- (a) it's Plans shall be facilitated by the Authority and any review sanctioned by the Authority;
- (b) it shall receive and utilize funds with approval from the Authority in related water resource management activities;
- (c) it must adhere to its Constitution and shall not develop by laws that contradict the Constitution;
- (d) it shall submit an annual report to the Authority and as when required;
- (e) it shall make annual returns to the Registrar General and share the same information with the Authority; and

(f) it shall not engage in any political activity.

(6) Without prejudice to sub regulation (5), the Authority shall develop standards, guidelines and manuals of water resource users associations that shall contain the following —

- (a) training manuals for association;
- (b) association's institutional framework;
- (c) operations guidelines;
- (d) financing framework;
- (e) reporting guidelines; and
- (f) guidelines on preparation of Sub Catchment Management Plans.

(7) For a water resource users association to qualify to enter into a tripartite water resource management Memorandum of Understanding with the Authority and the respective county government, it shall—

- (a) be registered under the Societies Act;
- (b) have a constitution that promotes collaborative management of a water resource or resources, active membership open to all water users in the area and public participation, conflict mitigation and resolution, gender mainstreaming and environmental sustainability;
- (c) have a sub-catchment management plan developed in line with the basin area water resources management strategy in accordance with section 29 (3) of the Act;
- (d) have a functioning and duly functioning management committee;
- (e) have requisite technical, administrative and organizational capacity to perform the functions specified in the Memorandum of Understanding; and
- (f) have a record of compliance with financial procedures and obligations, including the remittance of statutory deductions, income tax and other applicable taxes.

(8) Where a water resource users' association traverses more than one County, the Memorandum of Understanding shall be between the Authority, the water resource users associations and all the counties traversed by the water resource users associations.

(9) The conditions for entering into the Memorandum of Understanding shall be as provided under the requirements in sub regulation (7).

(10) The Authority, county government and the water resource users associations shall before entering into a water resource management Memorandum of Understanding —

- (a) identify the sub-basin and water resource proposed to be subject of the agreement including on a map; and
- (b) assess and agree on a proposed mechanism for collaborative management of the water resource.

(11) The Authority shall maintain a Register of water resource users associations in the Form R001 set out in the Thirteenth Schedule.

(12) The Authority shall publish on its website annually, details of—

- (a) registered water resource users associations;
- (b) water resource users associations under suspension;
- (c) deregistered water resource users associations.

(13) A person may make a written application to the Authority for certified copies of the information in sub regulation (12) upon payment of the prescribed costs.

(14) Whenever the particular details of the water resource users' associations change in Form WRA 017 in the Thirteenth Schedule should be re-submitted to the Authority.

(15) The Memorandum of Understanding shall identify modalities for administrative technical or financial support to the water resource users associations by the Authority

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and county government in respect of activities related to collaborative water resource management.

(16) Without prejudice to financial support mechanisms referred to in sub regulation (12), the Authority shall equitably allocate financing to water resource users associations for conservation and management of water resources.

(17) The Authority may with good cause suspend a water resource user association from its register of water resource users associations in the following circumstances—

- (a) if the association fails to adhere to its own Constitution;
- (b) if the association becomes deregistered under the Societies Act;
- (c) if the association breaches any conditions under these Regulations or fails to honour the tripartite Memorandum of Understanding with the Authority and the county government; or
- (d) any other justifiable cause which in the view of the Authority undermines the objectives of association.

(18) Where the Authority intends to remove a water resource users associations from its Register of water resource users associations, it shall give the water resource user association thirty days' notice in writing to show cause why it should not be suspended and during this period, the associations shall be suspended.

(19) During the period a water resource user association is suspended, it shall not be engaged in any activities related to any Memorandum of Understanding entered into with the Authority and county government, without the approval of the Authority.

(20) The Authority may lift the suspension upon being satisfied that the water resource users' association has taken corrective measures on the issues that led to the suspension.

(21) Failure to take corrective measures, within a specified time, the Authority shall remove the water resource user association from its register and the association shall cease to be engaged in any water resource management activity covered under any Memorandum entered into with the Authority and county government.

(22) The registration of a water resource user association with the Authority does not confer any legal standing on the association, but serves only to affirm the entity considered by the Authority to be a water resource users associations for a particular water resource.

(23) The officials of any water resource user association under suspension that violates the conditions of the suspension, or of any water resource user association that has been removed from the register that engages in water resources management activities covered in the Memorandum of Understanding entered into with the Authority commits an offence.

PART XI – BASIN WATER RESOURCES COMMITTEES

99. Consideration of Category B, C and D applications

(1) Following the establishment of the basin water resources committees, all Category C and D water use applications shall be submitted by the regional office of the Authority for consideration and advice before the Authority makes a decision on the application.

(2) The Authority shall take into account the advice of the basin water resources committee in making its decision and where the decision differs from the advice in any material particulars the Authority shall before implementing provide to the members of the committee the reasons for departing from the advice of the committee.

(3) Where an applicant for a water use permit appeals against the decision of the Authority the reasons for the decision of the Authority, the advice of the basin water resources committee and the explanation provided to the committee for departing from its advice will be disclosed to the Tribunal and to the appellant.

100. Quorum of basin water resource committee

(1) Notwithstanding the First Schedule of the Act, provisions of Basin Area Management Strategies developed under section 28 of the Act in respect to soil and water conservation for implementation by County Governments or the operations of a water resources users

association in implementing sub-catchment management plans in the sub-basin is to be discussed, the committee shall only be quorate if at least one-third of the county governments participate in the meeting at which that item is to be discussed.

(2) Sub regulation (1) shall not limit or in any way constrain the basin water resources committee in discussing and determining an application for a water use permit or its cancellation or suspension or the recommendation for the taking of other enforcement action by the Authority against a permit holder.

101. Regional offices

(1) The regional office of the Authority shall facilitate the work and activities of the committee through the provision of technical, administrative, financial, logistical and other support.

(2) The regional officer of the Authority in charge of the basin area shall provide secretariat services to the basin water resources committee.

(3) The Authority shall make requests in accordance with the provisions of the Public Finance Management Act, 2012 for budgetary allocation to be utilized for the payment of salaries, allowances and other expenses of the basin water resources committees as determined under section 26 (7) of the Act.

102. Publication of committee report

(1) A basin water resources committee shall publish each year, a report of its activities for the government financial year.

(2) A copy of the report shall be submitted by the Authority to each county government within the area of the basin and where appropriate the Authority shall convene a meeting of the county governments in the basin to discuss the report and identify priorities for action in the following year.

PART XII – PROTECTED AREAS AND GROUNDWATER CONSERVATION AREAS

104. Identification of protected or designated groundwater conservation areas

(1) Pursuant to sections 22 and 23 of the Act, the Authority may identify a catchment area, part of a catchment area or water resource to be identified as areas to be protected or designated as groundwater conservation areas if the Authority is satisfied that doing so is necessary for the protection of the water resource and its multiple uses.

(2) In identifying a protected area or groundwater conservation area, the Authority shall be guided by the criteria shown in the Seventh Schedule and any other relevant considerations.

(3) The Authority shall in conjunction with relevant institutions and stakeholders, describe the boundaries of the proposed protected area or ground water conservation area for gazettelement.

105. Management Regulations

(1) The Authority shall, in conjunction with relevant institutions and stakeholders, establish management regulations or plans that shall apply to each protected area or groundwater conservation area.

(2) The management regulations or plans shall contain the items listed in the Seventh Schedule.

(3) A person who fails to comply with the gazetted management regulations or plans commits an offence.

106. Public Consultation

The Authority shall undertake public consultation with respect to the establishment of areas to be protected or designated as groundwater conservation areas and the management regulations or plans that shall apply with respect to these areas.

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PART XIII – THE RESERVE

107. Composition of the Reserve

The Reserve in all instances shall comprise of one element related to the quantity of the resource and the respective probability associated with that quantity and a second element related to the quality of the resource.

108. Reserve Quantity

(1) In all instances where water resource records are available, the Authority shall establish the Reserve.

(2) The Reserve Quantity for—

- (a) streams and rivers, shall not be less than the flow value that is exceeded ninety-five per cent of the time as measured by a naturalised flow duration curve at any point along the water course;
- (b) lakes and naturally occurring stagnant waters, shall not be less than the water volume that is exceeded ninety-five per cent of the time as measured by a naturalised volume duration curve or, failing bathymetric data, a naturalised level duration curve;
- (c) aquifers shall be the Annual Potential Recharge minus the Groundwater Potential as determined by the Authority; and
- (d) aquifers whose recharge rate has not been determined by the Authority, for each point of abstraction shall be seventy-five per cent of the tested yield expressed in cubic metres per day as determined by test pumping analysis.

(3) In all instances where water resource records are not available or where there are significant ambiguities, the Authority shall establish the Reserve and shall be guided by—

- (a) ecological vulnerability;
- (b) vulnerability of local populations dependant on that water resource;
- (c) local observations with respect to the naturalised flows or water levels of minimum values observed during periods of prolonged droughts;
- (d) in all instances where water flow is known to be normally perennial, then the Reserve Quantity shall be sufficient to ensure perennial flow;
- (e) consultations with the water resources users associations if such exist.

109. Information on and protection of the Reserve Quantity

(1) The Authority shall make the Reserve information on water resources accessible to the public.

(2) Any person may make a verbal or written report or complaint to any office of the Authority within the relevant catchment or to the Chief Executive Officer if—

- (a) he or she is unable to obtain sufficient water from the water resource for basic human needs as a result of the Reserve being violated;
- (b) as a result of his or her observations, she or he considers that the ecology is threatened as a result of the Reserve being violated.

(3) Each complaint or report registered with the Authority in regard to a violation of the reserve quantity or quality, shall be given a Complaint Number by the Authority which shall be used for purposes of monitoring the response to the complaint or report.

(4) In any instance where a complaint or report has been registered with the Authority in regard to a violation of the Reserve Quantity or Quality, the Authority shall take measures within fortyeight hours to respond to the complaint or report including activities listed in the Eighth Schedule.

(5) Within thirty days after each report of a Reserve violation, the Authority shall prepare a report detailing the nature of the reserve violation and the measures taken to restore the Reserve.

(6) If the Authority considers that the Reserve Quantity or Quality is threatened, it shall cause to be placed in or near the water resource or in a public place frequented by the water users of a particular resource a legible signboard displaying the current condition of the resource and action required by the water users to safeguard the Reserve.

PART XIV – REGISTRATION OF WATER SECTOR PROFESSIONALS

110. Categories of qualified water sector professionals

The categories of qualified water sector professionals shall be as shown in the Ninth Schedule.

111. Licensing of qualified water sector professional or qualified

(1) No person or entity shall carry out the work of a qualified water sector professional or qualified contractor under these Regulations unless that person has been licensed as a water sector professional by the Cabinet Secretary.

(2) The Cabinet Secretary shall constitute and maintain a Technical Advisory Committee at all times to advise him on the registration, and all other matters regarding the conduct, of qualified water sector professionals and qualified contractors under these Regulations.

(3) The Technical Advisory Committee shall comprise of not more than eight members excluding the Chairperson all of whom shall be appointed by the Cabinet Secretary.

(4) Membership to the Technical Advisory Committee shall comprise of a representative from the Authority, Water Services Regulatory Board, National Water Harvesting and Storage Authority, representatives of regulatory bodies of relevant professions and representatives of professional associations.

(5) The Cabinet Secretary shall develop administrative guidelines to govern the conduct of business of the Technical Advisory Committee and such guidelines may be revised from time to time as need arises.

(6) No final decision on the application for licensing or conduct of a qualified contractor or qualified water sector professional under these Regulations shall be made except on the basis of a recommendation of the Technical Advisory Committee.

(7) A final decision on the application for a licence or conduct of a qualified contractor or qualified water sector professional under these Regulations shall be communicated to the concerned party within fourteen days from the date of the decision.

(8) Any qualified contractor or qualified water sector professional aggrieved by the final decision of the Cabinet Secretary may appeal to the Water Tribunal.

112. Qualification for application for licence

The following persons shall be entitled to apply for a qualified water sector professional licence—

- (a) a person who has graduated with a degree from any recognized university and who has had at least five years practical experience in a profession or discipline relevant to the management water resources or provision of water and sewerage services; and
- (b) a person who is registered member of the respective professional body where the relevant profession is governed by a professional body.

113. Professionals holding non-Kenyan qualifications.

(1) The Cabinet Secretary, may register and issue a licence to a professional holding non-Kenyan qualifications to practice as a qualified water sector professional or qualified contractor for the purpose of any specified task or in regard to a task which the person so applying for registration and licencing has been engaged to undertake under a contract with an entity established or operating under the laws of Kenya.

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(2) Every water sector professional or foreign contractor licenced under sub regulation (1) during and for the purposes of completing a task shall be deemed to be a qualified water sector professional or qualified contractor.

(3) No water sector professional or contractor holding non- Kenyan qualifications shall be entitled to carry out works until he has been licenced by the Cabinet Secretary and has paid the prescribed fee.

(4) Where a complaint is made in respect of a water sector professional or contractor holding non-Kenyan qualifications, the Cabinet Secretary may immediately suspend the licence of such water sector professional or contractor from performing any tasks in Kenya pending the making of a final determination.

114. Application for a licence

Any individual who provides or is proposing to provide professional services related to water resources or the provision of water or sewerage services shall apply for a licence as a qualified water sector professional under the appropriate area of specialisation to the Cabinet Secretary in Form WRP 001 as prescribed in the Thirteenth Schedule.

115. Professional interview

The Cabinet Secretary, after receiving an application for a qualified water sector professional licence, may require the attendance of the applicant before the Technical Advisory Committee, and the Committee may examine or question him or her on any matter relevant to the application.

116. Qualified water sector professional licence

(1) If, on the basis of the recommendations of the Technical Advisory Committee, the Cabinet Secretary is satisfied that the applicant is qualified to be licensed, the Cabinet Secretary shall issue a licence in Form WRP 002 in the Thirteenth Schedule for such period and on such conditions, as it may deem desirable.

(2) A qualified water sector professional is required to pay an annual licence fee as set out in the Second Schedule.

(3) Payments of the licence fees shall be made to the Cabinet Secretary no later than the end of the third month each year.

(4) Failure to renew the licence fee is a breach of the conditions of the licence and shall result in the licence being suspended in which case the person may not practise as a qualified water sector professional.

(5) A suspended licence may be reinstated after payment of all outstanding fees.

(6) Failure to renew the licence for a consecutive period of three years shall result in the licence being revoked.

117. Codes of Practice for qualified water sector professionals

(1) The Cabinet Secretary shall in consultation with the relevant professional bodies develop and publish Codes of Practice to regulate the various professions.

(2) All qualified water sector professionals shall comply with the applicable Codes of Practice.

118. Register of qualified water sector professionals

(1) The Cabinet Secretary shall keep a Register in accordance with the Thirteenth Schedule of all qualified water sector professional licences issued under these Regulations providing for different classes of approved water sector professionals.

(2) The Cabinet Secretary shall, once in every year and not later than the 30th April, publish in the *Gazette* a list containing—

- (a) the names and addresses of all licensed qualified water sector professionals;
- and

- (b) the names and addresses of qualified water sector professionals deleted from the Register.

(3) A qualified water sector professional shall inform the Cabinet Secretary in writing of any change in the particulars of his or her licence within twenty-eight days of such change.

(4) A qualified water sector professional who fails to notify the Cabinet Secretary of any changes in the licence may face disciplinary action, including suspension of the licence.

119. Complaints

(1) A complaint may be made to the Cabinet Secretary against any person licensed as a qualified water sector professional under these Regulations if the professional—

- (a) is incapable of carrying out the work of a qualified water resource professional;
- (b) is unfit, on account of any reason, to practise as a qualified water resource professional;
- (c) has failed to comply with or is in breach of the conditions of his or her licence or any provisions of the Act or of these Regulations; or
- (d) is guilty of professional malpractice or negligence in the performance of his duties.

(2) The Cabinet Secretary shall refer all complaints received against water sector professionals to the Technical Advisory Committee which shall hold an inquiry within thirty days of the complaint being lodged, and if after such inquiry the Technical Advisory Committee is satisfied that the complaint is justified, the Committee shall provisionally suspend the licence of the professional and immediately thereafter submit its findings to the Cabinet Secretary with a recommendation of the appropriate action.

(3) A water sector professional found culpable of professional misconduct shall be subject to the cancellation or suspension of his or her licence, the removal of his name from the register and notification of the suspension or cancellation of the licence in the Gazette and websites of the relevant regulatory authorities.

(4) Pending the decision of the Cabinet Secretary on the recommendation of the Technical Advisory Committee, the water sector professional shall, on the basis of the provisional suspension of the licence, cease to undertake any professional assignments in the water sector.

(5) The person against whom a complaint has been made shall be entitled to appear and be heard at such inquiry, before his or her case is determined.

(6) Any person whose licence has been suspended or cancelled or whose name has been deleted from the register of qualified water sector professional under sub regulation (3) may, within thirty days of the date of notification of such cancellation and deletion, appeal to the Water Tribunal.

120. Validity of certificates, documents or plans

(1) No certificate, document or plan required by the Act or these Regulations to be signed by a qualified water sector professional shall be valid unless it is signed by a person whose name is in the register referred to in these Regulations and who is not at the time of signing under a suspension.

(2) Despite sub regulation (1), an officer of the Ministry, if he or she is so authorized to sign by the Cabinet Secretary, shall be deemed to be a person whose name is in the said register.

121. Misrepresentation as licensed qualified water sector professional

Any person who wilfully and falsely takes or uses any name, title or addition implying that he or she is a qualified water sector professional licensed under these Regulations commits an offence and is liable on conviction to the penalties prescribed under section 147 of the Act.

[Subsidiary]

PART XV – LICENSING OF CONTRACTORS

122. Categories of qualified contractors

The categories of qualified contractors shall be as shown in the Ninth Schedule.

123. Criteria for qualified contractors

(1) The Cabinet Secretary shall develop detailed criteria for different categories of qualified contractors.

(2) The detailed criteria, which shall be provided to any person upon request, shall be based on the following—

- (a) plant and equipment;
- (b) qualifications and experience of professional staff;
- (c) past experience and performance;
- (d) any other criteria that the Authority considers to be relevant.

124. Application to register as qualified contractor

(1) Any individual, corporate entity, non-governmental or charitable organisation, or public body that constructs or is proposing to construct, modify, rehabilitate or service water works shall apply for registration under the appropriate category as a qualified contractor to the Cabinet Secretary, in the Form WRC 001 in the Thirteenth Schedule.

(2) No contractor shall be licensed or continue to hold a valid licence as a qualified contractor unless he is in possession of a valid certificate issued by the National Construction Authority for the category of works he proposes to undertake.

125. Qualified contractor licence

(1) The Cabinet Secretary shall verify the details of the application by visiting the premises and reviewing the state of the equipment and the experience and qualifications of the applicant and his, her or its staff.

(2) If the Cabinet Secretary is satisfied, on the basis of recommendations of the National Construction Authority, Regulatory Board or Storage Authority as appropriate, that the applicant is qualified to be licensed, the Cabinet Secretary shall issue a licence in the Form WRC 002 in the Thirteenth Schedule for such period and on such conditions as he or she may deem suitable.

(3) A qualified contractor shall pay the annual licence fee set out in the Second Schedule and payments shall be made to the Cabinet Secretary no later than the end of the third month in each calendar year.

(4) A qualified contractor who fails to renew the licence fee is in breach of the conditions of the licence and the Cabinet Secretary may suspend the licence.

(5) A suspended licence may be reinstated after payment of all outstanding fees.

(6) Failure to renew the licence for a consecutive period of three years shall result in the licence being revoked.

126. Verification of necessary and valid authorisations

(1) A contractor engaged to undertake any works shall verify that all necessary and valid authorisations have been obtained by the client in regard to the proposed works prior to commencement of the works.

(2) Commencement of works by the contractor without having verified the availability of the required authorisations may be used as a basis by the Cabinet Secretary to take disciplinary action, which may include the de-registration of the contractor.

127. Code of Practice for qualified contractors

(1) The Cabinet Secretary shall in consultation with the relevant professional bodies develop and publish a Code of Practice to regulate contractors.

(2) All qualified contractors shall comply with the Code of Practice.

128. Complaints

(1) A complaint may be made to the Cabinet Secretary against any person licensed as a qualified contractor under these Regulations if such contractor—

- (a) is incapable of carrying out the work of a qualified contractor;
- (b) becomes unfit, through any reason, to practise as a qualified contractor;
- (c) fails to comply with the conditions of his or her licence or any provisions of the Act, or of these Regulations; or
- (d) is guilty of malpractice or negligence.

(2) The Cabinet Secretary shall hold an inquiry within thirty days of the complaint being lodged and if after such inquiry the Cabinet Secretary is satisfied that the complaint has been justified, the Cabinet Secretary shall take disciplinary action which may include suspension or cancellation of the licence of the contractor and if the licence is cancelled the name of the contractor shall be deleted from the register of qualified contractors.

(3) The contractor against whom a complaint has been made shall be entitled to appear and be heard at such inquiry, before the case is determined.

(4) A contractor whose licence has been suspended or cancelled and whose name has been deleted from the register of qualified contractors under sub regulation (2) may, within thirty days of the date of notification of such suspension or cancellation and deletion, appeal to the Water Tribunal.

129. Register of qualified contractors

(1) The Cabinet Secretary shall keep a register as set out in the Thirteenth Schedule of licences for qualified contractors issued under these Regulations.

(2) The Cabinet Secretary shall, once in every year and not later than the 30th April, publish in the *Gazette* a list containing—

- (a) the names and addresses of all licensed qualified contractors; and
- (b) the names and addresses of qualified contractors deleted from the Register.

(3) A qualified contractor shall inform the Cabinet Secretary in writing of any change in the particulars of his or her licence within twenty-eight days of such change.

(4) A qualified contractor who fails to notify the Cabinet Secretary of any changes in the licence may face disciplinary action, including suspension of the licence.

130. Misrepresentation as qualified contractor

Any individual, corporate entity, non-governmental or charitable organisation, or public body who wilfully and falsely takes or uses any name, title or addition implying that he, she or it is a qualified contractor licensed under these Regulations commits an offence.

PART XVI – MISCELLANEOUS

131. Recognized water quality laboratories

A water quality laboratory which is registered, accredited or gazetted by the National Environment Management Authority shall be recognised by the Authority.

132. Orders

(1) The Authority may issue an Order to any person to desist from any activity, or for the carrying out of corrective measures to improve compliance to these Regulations or conditions for better water resource quality and or catchment conditions.

(2) The Order shall be in Form WRA 015 in the Thirteenth Schedule and shall specify what measures are required to be taken, the period of time for compliance with the Order and any other conditions pertaining to compliance with the Order.

[Subsidiary]

(3) A person who has been served with an Order by the Authority and fails to comply within the stated period of time shall be considered to be in breach of these Regulations and guilty of an offence punishable under these Regulations.

(4) Failure to comply with an Order by the Authority may be a reason for suspension, cancellation or variation of a permit in addition to any other prescribed penalties.

(5) Any person who objects to any part of an Order served on him or her by the Authority shall respond in writing to the Authority within fourteen days, giving justification for the basis of his or her objection.

(6) In the event of an objection to an Order, the Authority shall, within seven days of receiving the objection, notify the person served with the Order of changes to the conditions of the Order, if any.

(7) In the event that an Order is not complied with within the timeframe stated on the Order, the Authority may take any appropriate measures to prevent the activity mentioned in the Order including the confiscation of equipment, plant or works, and any costs incurred by the Authority in effecting these measures is a cost recoverable from the recipient of the Order.

(8) If the complainant is dissatisfied, he or she may follow the complaints mechanism as specified in these Regulations.

(9) In the event that the Authority determines that an activity may cause deterioration of the resource quality, the Authority shall take immediate corrective measures as an emergency without reference to the person who caused it, and any costs incurred by the Authority in effecting these measures may be recovered from the person responsible.

133. Emergency Order

(1) In the event of unusual climatic, accidental or hydrological events, the Cabinet Secretary may impose by public notification an Emergency Order in the interests of maintaining the Reserve and domestic water supplies.

(2) The Emergency Order shall comprise of the details listed in the Twelfth Schedule.

(3) An Emergency Order will be lifted or varied by public notification.

(4) Any person who fails to comply with an Emergency Order commits an offence.

134. Complaints mechanism

(1) A person with a complaint related to any matter under these Regulations shall submit his or her complaint to the relevant department of the Authority by providing the particulars set out in the Tenth Schedule.

(2) The Authority shall reply to the complainant, copied to all other relevant parties, within twenty-one days of receiving the complaint stating what action is being taken, the position of the Authority on the matter and any recommendation to the complainant.

(3) If the complainant is dissatisfied with the decision made in sub regulation (2), he or she may forward the matter to the Chief Executive Officer of the Authority.

(4) The Chief Executive Officer shall reply to the complainant, copied to all other relevant parties, within twenty-one days of receiving the complaint stating the final decision of the Authority including whether the Chief Executive Officer upholds or annuls the decision as the case may be, and give reasons for his decision, and any recommendation to the complainant.

(5) If the complainant is dissatisfied with the final decision of the Authority, he or she may appeal this decision at the Water Tribunal.

(6) Each complaint shall be given a complaint number by the Authority which shall be used for purposes of monitoring any remedial action taken and the response to the complainant.

135. Penalties

(1) Penalties for offences committed under these Regulations are as set out in the Fifth Schedule.

(2) A person who commits an offence under these Regulations shall, if no other penalty is prescribed in respect of the offence, be liable to the penalty prescribed under section 147 of the Act.

136. Revocation of LN No 171 of 2007

The Water Resources Management Rules, 2007, are hereby revoked.

FIRST SCHEDULE

[r. 4, 5, 6, 13(1), 56(4)]

WATER USE ACTIVITIES AND PERMIT DETAILS**PART 1 – WATER USE ACTIVITIES THAT REQUIRE APPROVAL BY AUTHORITY:**

Item	Water Use Activity
1.	Temporary abstraction for construction
2.	Diversion of water from a water course;
3.	Abstraction from surface water;
4.	Diversion of a water course
5.	Abstraction from groundwater, either by a borehole or a shallow well;
6.	Groundwater recharge augmentation;
7.	Water storage in dams and pans;
8.	Liquid waste including the effluent discharged, disposed or emitted into the environment likely to adversely impact on a water resource;
9.	Swamp, marsh or wetland drainage;
10.	Obstruction of water;
11.	In-streamworks;
12.	Mixing of waters from different water resources;
13.	Hydropower generation;
14.	Exploiting and using sea water for salt production;
15.	Dredging of the bed of a watercourse, lake, territorial sea or other water bodies;
16.	Construction of boundary walls adjoining a water body, retaining walls, dykes and similar structures;
17.	Dumping of debris or waste materials into a water resource;
18.	Reclamation of land either on account of the recession of a water body or the seabed or for other reason;
19.	Non-consumptive utilisation involving recreational activities including training exercises if routinely carried out by a group of persons either formally or informally organised;
20.	The extraction of salt or other non-living natural resources from the waters of the territorial sea or other water bodies;

[Subsidiary]

- 21. The extraction of geothermal resources;
- 22. Drilling, tunnelling, the use of explosives, excavation, quarrying and other extractive activities into or in close proximity to a water resource;
- 23. Sand harvesting.

PART 2 – ACTIVITIES FOR WHICH APPLICATION FOR VARIATION OF PERMIT SHALL BE MADE:

- | Item | Activity |
|------|--|
| (a) | Modifications at the point of diversion or abstraction; |
| (b) | Varying the water use; |
| (c) | Changing the point of use; |
| (d) | Mixing water covered under different permits; |
| (e) | Replacement, deepening, widening or any other modification to an existing borehole, shallow well or any water works requiring approval by the Authority; |
| (f) | Abandonment of an existing waterworks that would normally require approval by the Authority; |
| (g) | Artificial recharge of groundwater; |
| (h) | Any other type of water use activity that may, from time to time, be determined by the Authority |

PART 3 – CATEGORY OF WATER RESOURCE USE ACTIVITIES:

CATEGORY	DESCRIPTION
A	Water use activity deemed by virtue of its scale to have a low risk of impacting the water resource. Applications in this category will be determined by Regional Office.
B	Water use activity deemed by virtue of its scale to have the potential to make a significant impact on the water resource. Permit applications in this category will be determined by Regional Office following consultation with the WRUA or equivalent local representative association whose objective is natural resources management and conflict resolution.
C	Water use activity deemed by virtue of its scale to have a significant impact on the water resource. Permit applications in this category will be determined by regional offices on the basis of advice of the basin water resource committee and following consultation with the concerned WRUAs local representative association(s) whose objective is natural resources management and conflict resolution.
D	Water use activity which involves either two different catchment areas, or is of a large scale or complexity and which is deemed by virtue of its scale to have a large impact on the water resource. Permit applications in this category will be determined by the Authority headquarters on the basis of the advice of the concerned basin water resource committees.

SECOND SCHEDULE

[(r. 10(2), 13(1)(c), 14(1)(d), 26(2), 27(2), 31(1), 34(1), 36(1)
(b), 37(2), 39(3), 50(2), 60(3), 61(6), 69(2), 82(3), 84(1)]

FEES AND WATER USE CHARGES

PART A – FEES

1. GENERAL FEES

Relevant Form (if applicable)	Description of Activity	Relevant Regulation(s)	Fees Kshs
WRA 001	Application for Water Permit	15(1), 15(5), 16(1), 51(3), 53(1), 53(2)	See Second Schedule, Part 2
WRA 002	Application for Easement	12	4000
WRA 003	Comments by WRUA on Application for Water Permit	19	Nil
WRA 004	Authorisation to Construct Works	25	Nil
WRA 005	Application for Extension of Time of Authorisation	27	4000
WRA 006	Issuance of Extension of Authorisation to Construct Works	29	2000
WRA 007	Inspection	89	
WRA 008A or B	Completion Certificate	58	None
WRA 009	Water Permit	29	See second schedule, Part 2
WRA 010	Renewal of Permit	38	See second schedule, Part 2
WRA 011	Variation of Permit	36	4000
WRA 012	Transfer of Permit	35	4000
WRA 013	Search of Water Permit	-	2000
WRA 014	Assessment of Water Use and Charges	100	None
WRA 015	WRA Order	150	None
WRA 016	Authority to Enter Land	12	4000
WRA 017	WRUA Registration	116	None
WRA 018	Certificate of Registration of WRUA	116	None

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Water

[Subsidiary]

WRA 019	Supplement to Water Permit/ Authorisation	13	6000
WRP 001	Application for Qualified Water Sector Professional	132	6000
WRP 002	Licence as Qualified Water Sector Professional	134	6000
WRC 001	Application for registration as Qualified Contractor	142	10000
WRC 002	Licence as Qualified Contractor	143	10000
	Annual Licence Fee for Qualified Water Sector Professional	134	4000
	Annual Licence Fee for Qualified Contractor	143	4000
	For re-issue of or alteration to Authorizations, Permits, and Licences	-	4000

2. FEES FOR ASSESSMENT AND ISSUANCE OF WATER USE PERMITS BY CATEGORY

Applications	Assessment of Application (Kshs)	Issue of Initial Permit (Kshs) (for 5 years)	Assessment for renewal and/or variation of Permit
Water Use Category A	2,000	1,000	1,000
Water Use Category B	20,000	25,000	45,000
Water Use Category C	40,000	50,000	90,000
Water Use Category D	80,000	100,000	180,000

NOTE:

a) Application fees in respect of Ground Water Permits shall be accompanied with payment for physical chemical analysis.

b) For permits issued for less than 1 year, the cost of the permit will be charged on a pro rata basis.

c) The fees for Assessment for renewal and/or variation of Permit is inclusive of issuance of the Permit (renewal).

3. FEES FOR DATA, INVESTIGATIONS, LABORATORY ANALYSIS AND RELATED SERVICES

Item	Type	Unit	Rate
------	------	------	------

Water

[Subsidiary]

			(Kshs)
Groundwater Data	Basic data (WSL, WRL, Yield, Depth) up to a maximum of 10 boreholes	Per request	5,000
	Borehole or Well Completion Record (Form 008A or 008B) including test pumping and water quality data	Per borehole	5,000
Hydro-meteorological Data	Rainfall (daily, monthly, or annual)	Per station record	5,000
	Climatic parameter	Per station record	5,000
	Water level and rating equations	Per station record	5,000
	discharge	Per station record	5,000
	lake/ reservoir level	Per station record	5,000
	sediment load	Per station record	5,000
Water Apportionment	Copy of Authorisation or Permit	Per copy	1,000
Water Quality Data	All parameters (up to a Maximum of 20 data sets)	Per request	5,000
INVESTIGATIONS			
Groundwater	Hydrogeological Assessment or surveys including borehole siting	Per site	40,000/- plus staff days based on contracted consultancy day rate and AA rates for mileage exclusive of lab analysis costs
Surface water	Hydrological Assessment or surveys	Per request	Ditto
WQ & pollution Control	Water Quality Assessment or surveys	Per request	Ditto
Surface water	Flow measurement	Per site	20,000/- plus staff days based on contracted consultancy day rate and AA rates for mileage

[Subsidiary]

Thematic maps & reports	blue prints	Per copy	2,000
	coloured prints	Per A1 copy	5,000
		Per A0 copy	5,000
	coloured prints	Per A4 copy	1,000
		Per A3 copy	1,000
	Digital Maps Reports	Per Theme	20,000
Equipment Hire		Per page	50
		Per day	As per prevailing schedule of rates issued by WRA from time to time
Copy of Register of WRUAs		Per region	5000
Copy of Register of Water Bodies		Per region	5,000
Copy of Register of Authorisations or Permits		Per 100 or part thereof	5,000
Copy of Register of Qualified Water Sector Professionals or Qualified Contractors		Per copy	5,000
Recommendations by WRUA on Application for Permit	Permit	Per Permit	2,000
<i>Note</i>			
<i>Recommendation by WRUA does not confer or imply a Permit for water abstraction by the Applicant</i>			
Certified Copy of Register of WRUAs		Per Sub region	1,000
WRUA Development Cycle			4,000

PART B – WATER USE CHARGES

RATES FOR WATER USE CHARGES FOR PERMIT CATEGORIES A, B, C AND D

Type of Water Use	Criteria	Rate
Domestic, Public, Livestock	Domestic, public, and livestock purposes	5 Kes/m ³
Hydropower Generation	Amount of energy generated	No charge
	First 1 MW	
	Over 1 MW	2 Kes per kWh

Water

[Subsidiary]

Irrigation	First 300 m ³ /day	5 Kes/m ³
	Over 300 m ³ /day	6 Kes/m ³
Fish Farming	Amount supplied	1 Kes/m ³
Commercial / Industrial	First 300 m ³ /day	5 Kes/ m ³
	Over 300 m ³ /day	6 Kes/ m ³
Effluent Discharge		As per the Amendments.
Salt Extraction		
Desalination		
Suspended Buildings on Lakes And Ocean		
Permit For Temporary Diversion of Rivers/Sea/Water Courses During Construction of Bridges		
Permit For Dredging and Training of Rivers/Water Courses For Construction of Roads		
Lab Analysis Charges		
Change of Use (WR Infrastructure)		
Searches	WRUAs Wetlands Dams Swamp List of Professionals	
Data Sets	WR Maps	
Registration of Professionals	Registration Renewal	5,000 5,000
Registration of Contractors		1,000

NOTE:

A) All water use under category A, B, C and D attract water use charges.

B) Water use charges apply to water abstracted, diverted, stored, and or used for hydropower generation.

PART C – LABORATORY WATER QUALITY TESTING CHARGES

PARAMETER	CHARGES (Kshs)	Individual Parameters	CHARGES (Kshs)
Physical	5000	22.Total	600
Chemical Analysis		Hardness	
Biological Analysis	3500	23. Sulphides	350
Partial Effluent Analysis	5000	24 Dissolved Oxygen	300
Full Effluent Analysis	8000	25.	200
Individual Parameters		Temperature	
		26. Salinity	300

[Subsidiary]

1. pH	200	27. Chemical Oxygen Demand	1000
2. Colour	200	28. Biochemical Oxygen Demand	1000
3. Turbidity	300	29. Chlorine Demand	1000
4. Conductivity	300	30. 4 Hr. Permaganate Value	500
5. Magnesium	400	31. Oil & Grease	1000
6. Total Alkalinity	350	32. Total Suspended Solids	500
7. Free Carbon Dioxide	200	33. Pesticides (each)	8000*
8. Orthophosphate	500	34. Detergents	2000
9. Total Phosphorus	700	35. Residue Chlorine	300
10. Chloride	300	36. Total Nitrogen	1000
11. Iron	700	37. Phenols	500*
12. Nitrate	500	38. Heavy metals (each)	1000
13. Nitrite	500	39. Coliforms & <i>E.Coli</i>	3500
14. Total Dissolved solids	300	40. Legionella	5000
15. Sulphate	400	41. Jar Test	5000
16. Fluoride	400	42. Water Treatment Chemical Analysis	5000
17. Calcium	400	43. Arsenic	1000
18. Manganese	700	44. Water quality Data for all parameters (up to Max. 20 datasets)	2000
19. Potassium	350		
20. Sodium	350		
21. Ammonia	500		

THIRD SCHEDULE

[r. 14(1)(c)]

REGULATION OF DAMS

Table 1: Classification of Storage Dams

Class of Dam	Maximum Depth of Water at NWL (m)	Impoundment at NWL (³)	Catchment Area (km²)
SD1	0 – 4.99	< 100,000	< 100
SD2	5.00 – 14.99	100,000 to 1,000,000	100 to 1,000
SD3	> 15.00	> 1,000,000	> 1,000

NWL = Normal Water Level

Table 2: Risk Factors of Storage Dams and other waterworks

Classification	Population at Risk	Incremental Loss of Life	Consequences of Failure
SD 1 (Low Risk)	Temporary/ Permanent	Minimal numbers	Environmental and cultural values Limited presence of: a) important fisheries b) important wildlife habitats c) rare or endangered species, or d) unique landscapes e) sites of cultural significance and Restoration or compensation in kind for losses and damage is possible.
SD 2 (Medium Risk)	Permanent	Significant numbers	Infrastructure, economics and other property losses affecting limited infrastructure and residential buildings, public transportation or services or commercial facilities; alternatively limited destruction or damage to locations used occasionally and irregularly for temporary purposes. Moderate economic losses affecting important infrastructure, public transportation or services or commercial facilities, or moderate

[Subsidiary]

			(e) sites of cultural significance and additionally Restoration or compensation in kind for losses and damage difficult.	destruction or severe damage to residential areas.
SD 3 (High Risk)	Permanent	Large numbers	Presence of: (a) critical fisheries; (b) critical wildlife habitats; (c) rare or endangered species, or (d) unique landscapes (e) sites of cultural significance and additionally Restoration or compensation in kind for losses and damages is impossible or impracticable.	High economic losses affecting critical infrastructure, public transportation or services or commercial facilities, or significant destruction or damage to residential areas.

Table 3: Minimum Return Period for Spillway Design

Class of Dam	Minimum Period for Design of Spillway
SD1	1 in 50 years
SD2	1 in 100 years
SD3	1 in 500 years

Table 4: Dam Safety Inspection Schedule

Class of Dam	Frequency of inspection	Inspection by
SD1	Once in 5 years	Panel II C1, Panel II C2, Panel II C
SD2	Once in 3 years	Panel II C2, Panel II C1
SD3	Once every 2 years	Panel I C2

FOURTH SCHEDULE

[r. 16(1), 51(4), 58(2), 62(2)]

CONTENT AND FORMAT OF TECHNICAL REPORTS

The following are guidelines for Technical Reports and compilers are expected to exercise their professional judgement in including other appropriate items in the Technical Report.

FORMAT OF REPORTS

All reports shall be submitted to the Authority in the following format:

Item	Format
1.	One original paper hardcopy of all documents, duly signed, and adequately bound together;
2.	Two paper copies of all documents;
3.	A digital Portable Document Format (PDF) format of the document and drawings submitted on a Compact Disk or any other appropriate electronic medium.

FORMAT OF DRAWINGS

All technical drawings submitted to the Authority shall comply with the following format:

Item	Format
1.	One original paper hardcopy of all drawings, duly signed, and adequately bound together;
2.	Two paper copies of all drawings;
3.	A digital DXF (Digital Exchange Format) format of the technical drawings submitted on a Compact Disk (CD) or other electronic medium as appropriate;

Every plan shall be signed and dated by the person making it, and, if it is made by any person other than the applicant to whom it relates, the application or his or her lawfully authorized agents shall also approve, sign and date it.

Every plan prepared by a qualified professional shall have endorsed thereon a certificate in the following form:-

CERTIFICATE I/We of
 hereby certify that this plan was made
 by me/us[or under my/our direction]and that it correctly represents the places,
 lands, areas and works shown thereon.
 Qualified Professional(s)

All reduced levels or elevations shown on any plan, or set of plans, longitudinal sections cross sections of any work or works shall be to the same datum, and reference shall be made on at least one sheet of any set of plans, longitudinal sections or cross sections indicating the datum used, and also the positions of all bench marks, which shall be properly located and described on the general map(and which benchmarks one shall be in the immediate vicinity of the point of diversion, abstraction or storage), from which the datum may be gained. The location of the datum shall be described by the Grid Reference in UTM Coordinates based on the Arc 1960 datum. The elevation shall be referenced to mean sealevel. The nature of the datum shall be adequately described.

FORMAT OF MAPS AND DRAWINGS

All technical drawings and maps submitted to the Authority shall comply with the following format:

Item	Format
------	--------

[Subsidiary]

1. A digital Tagged Image File Format (TIFF) format of the maps submitted on a CD, or other appropriate media

SITE ASSESSMENT REPORT

A Site Assessment Report shall substantially provide the following details:

- | Item | Details |
|------|----------------------------------|
| 1. | Name and details of Applicant; |
| 2. | Description of Proposed Activity |
| 3 | Confirmation of Site details; |
| 4 | Relevant hydrological features; |
| 5 | Relevant catchment features; |
| 6 | Recommendations |

TECHNICAL REPORTS

The following technical reports shall substantially provide the details required

DAM DESIGN REPORT (FOR CLASS SD1, SD2 AND SD3 DAMS)

- | Item | Contents |
|------|--|
| 1. | Details of location |
| 2. | Details of hydrological assessment |
| 3. | Details of design flood and return period |
| 4. | Details of embankment |
| 5. | Details of reservoir |
| 6. | Details of draw-off and compensation works |
| 7. | Details of spillway(s) |
| 8. | Details of ancillary structures |
| 9. | Details of construction materials |
| 10. | Details of construction schedule |
| 11. | Details of operational regulations |
| 12. | Procedures to notify and protect downstream inhabitants, infrastructure and environments |
| 13. | Schedule of inspection and maintenance |
| 14. | Assessment of impacts and risks |

TECHNICAL DESIGN REPORT

- | Item | Detail |
|------|---------------------------------------|
| 1 | Name and details of Applicant; |
| 2. | Description of Proposed Activity; |
| 3. | Analysis of Demand; |
| 4. | Details of Hydrological Assessment |
| 5 | Details of Structures to be built; |
| 6. | Details of Equipment to be installed; |
| 7. | Details of Controlling Device; |
| 8. | Details of Measuring Device; |
| 9. | Details of operating procedures; |
| 10 | Details of safety devices |

PROGRESS REPORT

- | Item | Detail |
|------|--|
| 1. | Name and details of applicant; |
| 2. | Description of proposed Activity; |
| 3. | Details of Authorisation including the time frame; |
| 4. | Cause of delay; |

5. Revised timeframe for completion;

DAM INSPECTION REPORT

Item	Contents
1.	Current condition of dam with respect to approved design and “as-constructed” condition
2.	Any action required to restore the function a land structural integrity of the dam to the required state
3.	Any changes with regard to the risk of or impact in the event of dam failure
4.	Review appropriateness of the action plan in event of dam failure

DAM DAMAGE OR FAILURE REPORT

Item	Contents
1.	Details of location
2.	Date and time of dam failure or damage
3.	Preceding climate Preceding hydrology
5.	Cause of dam failure or damage
6.	Steps taken to notify downstream inhabitants
7.	Nature and extent of damage caused to the dam or caused by the dam failure

HYDROLOGICAL ASSESSMENT REPORT

Item	Details
1.	Name and details of Applicant;
2.	Location and Description of Proposed Activity;
3	Details of Climate;
4	Details of river or water body (name, nearest Regular Gauging Station, Sub-catchment);
5	Details of catchment (area, slopes, soils);
6	Details of vegetation and land use;
7	Details of Registered and Non registered Abstraction on the resource ;
8	Details of all other permits related to this application;
9	Hydrological characteristics and analysis (annual, monthly, extreme events, flow duration or probability of events occurring);
10	Hydrochemistry;
11	Analysis of the Reserve;
12	Assessment of availability of flow;
13	Impact of proposed activity on flow regime, water quality, other abstractors;
14	Recommendations on Proposed Activity;

HYDROGEOLOGICAL SURVEY REPORT

Item	Detail
1.	Name and details of applicant
2	Location and description of proposed Activity
3	Details of climate
4	Details of geology and hydrogeology
5	Details of neighbouring boreholes, and neighbouring proposed valid authorizations, including location,

[Subsidiary]

- distance from proposed borehole or boreholes, number and construction details, age, current status and use, current abstraction and use.
- 6 Description and details (including raw and processed data) of prospecting methods adopted, e.g. remote sensing, geophysics, geological and or hydrogeological cross sections Hydro- geological characteristics and analysis, to include but not necessarily be limited to, the following:
 Aquifer transmissivity;
 Borehole specific capacities;
 Storage coefficient and or specific yield;
 Hydraulic conductivity;
 Groundwater flux;
 Estimated mean annual recharge, and sensitivity to external factors.
- 7 Assessment of water quality and potential infringement of National standards
- 8 Assessment of availability of groundwater;
- 9 Analysis of the reserve
- 10 Impact of proposed activity on aquifer, water quality, other abstractors, including likelihood of coalescing cones of depression and implications for other groundwater users in any potentially impacted areas.
- 11 Recommendations for borehole development, to include but not limited to, the following:
 Locations of recommended borehole(s) expressed as a coordinate(s) and indicate do n a sketch map
 Recommendations regarding borehole or well density and minimum spacing in the project area
 Recommended depth and maximum diameter
 Recommended construction characteristics, e.g. wire-wound screen, grouting depth
 Anticipated yield
- 12 Any other relevant information (e.g. need to monitor neighbouring boreholes during tests)

WASTE DISPOSAL CONTROL PLAN

- | Item | Detail |
|------|---|
| 1. | Name and details of applicant |
| 2. | Quantity and quality of in flow water and waste |
| 3. | Type and source of waste |
| 4. | Design of waste treatment plant |
| 5. | Location and description (frequency, quantity, quality and nature) of effluent |
| 6. | Description of treatment and operations, if any |
| 7. | Hydrology, hydrogeology and hydrochemistry of receiving water body |
| 8. | Impacts on receiving water body in terms of quantity and quality |
| 9. | Proposed water quality requirements for the permit and the timeframe for achieving compliance |

-
10. Monitoring programme, (measuring device, controlling device, sampling, records, reporting procedures)
 11. Emergency plan for accidental discharges and their risks.

WATER QUALITY AND POLLUTION CONTROL ASSESSMENT REPORT

- | Item | Detail |
|------|---|
| 1. | Name and details of applicant: |
| 2. | Location and description of activity or proposed activity; |
| 3. | Details of river or water body (name, nearest Regular Gauging Station, Sub- catchment); |
| 4. | Details of flow regime and hydrochemistry; |
| 5. | Nature and characteristics of waste disposed; |
| 6. | Impact of waste upon water resource and other water users; |
| 7. | Other sources of pollution in the project area: |
| 8. | Conclusions and recommendations. |

SOIL AND WATER CONSERVATION PLAN

- | Item | Detail |
|------|---|
| 1. | Existing soil and water conservation structures and practises; |
| 2. | Potential sources of sediment and other pollutants to the water course; |
| 3. | Slope of land; |
| 4. | Land use; |
| 5. | Condition of the riparian land; |
| 6. | Proposed measures and targets for improved soil and water conservation; |
| 7. | Targets and timeframe for adoption and implementation of proposed soil and water conservation structures and practices; |
| 8. | Schedule of inspection of the Soil and Water Conservation Plan; |
| 9. | Site sketch showing:-
Demarcation of boundaries of land covered under the Soil and Water Conservation Plan;
Identification of significant features. |

BASIN AREA WATER RESOURCES MANAGEMENT STRATEGY

- | Item | Detail |
|------|--|
| 1 | A description of the institutional framework for water resource management detailing institutional roles and responsibilities; |
| 2. | A strategy for the conservation of the catchment areas; |
| 3 | A water resource development strategy capturing the need for improved water resource reliability and availability to meet current and future demands and to address poverty alleviation targets; |

[Subsidiary]

- 4 A stakeholder participation strategy that will include mechanisms for encouraging the formation and establishment of Water Resource Users Associations and strengthening them once established;
- 5 A communication strategy that will capture the communication needs and mechanisms for the catchment;
- 6 A water resource monitoring strategy that will capture the resource monitoring network and flow prediction targets;
- 7 A compliance strategy that will detail the time frame, approaches and requirements to bring water users into compliance with water management regulations;
- 8 A water demand management strategy that will capture approaches and targets for improving water allocation and use efficiencies;
- 9 A water allocation plan detailing:
 - A description of the class of resources and their resource quality objectives;
 - An analysis of current and future water demands;
 - Allocation of the resource to the Reserve and to different types of uses;
 - Measures to be taken to ensure that water use approvals remain true to the allocations;
 - Measures to be taken when resource availability is limited;
 - A compliance plan;An enforcement plan;
 - Mechanisms for reviewing the allocation plan from time to time as the need arises.

FIFTH SCHEDULE

[r. 133]

PENALTIES FOR SPECIFIED OFFENCES

Relevant Regulations	Offence	Minimum Penalty	Maximum Penalty
150	Failure to comply with an Order	Ksh 20,000/- or 6 months imprisonment and compliance with the order at his or her cost	Penalty prescribed in section 147 of the Act.
89(3)	Damage to Water Resources monitoring network	Ksh 20,000/- or 6 months imprisonment and repair damage at his or her cost	Penalty prescribed in section 147 of the Act and repair damage at his or her cost
8(2)	Failure to Apply for Water Use Permit	Ksh20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.

Water

[Subsidiary]

36(6)	Failure to apply for Variation of Permit	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
86(3)	Failure to Follow Notification Procedure with respect Dam releases	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
87(2)	Failure to submit dam damage or failure report	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
57(2)	Failure to submit a Borehole or Well Completion Record	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
60(4)	Failure to apply for approval to undertake artificial groundwater recharge	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
63(7)	Unapproved Effluent Discharge	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
69(5)	Failure to Inform with Respect to spillage	Ksh 20,000/- or 2 months imprisonment	Penalty prescribed in section 147 of the Act.
70(2)	Obstructing a Water Resources Inspector	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
75(6)	Failure to remove or make safe	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
76(3)	Temporary or Abandoned Works	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
115(9)	Failure to comply with Soil and Water Conservation Plan	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
123(3)	Failure to comply with Management Regulations for Protected Area or Groundwater Conservation Area	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
139,148	Misrepresentation as Qualified Water Sector Professional or Qualified Contractor	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
151(4)	Failure to Comply with an Emergency Order	Ksh 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.

[Subsidiary]

SIXTH SCHEDULE

[r. 64]

GUIDELINE STANDARDS FOR WASTE DISPOSAL

PART 1 – GUIDELINES FOR DISCHARGE OF
WASTE INTO SURFACE WATER RESOURCES

PARAMETER	MAX ALLOWABLE (LIMITS)
Arsenic as Ag (mg/l)	0.1
Biochemical Oxygen Demand (BOD 5 Days at 20 °C) (mg/l)	30
Cadmium as Cd (mg/l)	10
Chemical Oxygen Demand (COD) (mg/l)	100
Chromium as Cr (mg/l)	Less than 001
Lead as Pb (mg/l)	Less than 001
Oil and grease (mg/ml)	0.05
pH (pH scale)	5.0-9.0
Phenols total (mg/l)	0.05
Sulphide as S (mg/l)	2.0
Total Suspended Solids (mg/l)	30
Temperature (in degrees Celsius) based on ambient temperature	± 5
Cyanides as CN (mg/l)	Less than 0.2
Nickel as Ni (mg/l)	Less than 2.0
Detergents (ABS) (mg/l)	Less than 5.0
Mercury as Hg (mg/l)	Less than 0.01
Total Phosphorus as P (mg/l)	2
Total Nitrogen as N (mg/l)	10
Total pesticide residues (µg/l)	0.05

Remarks

The Authority may issue industry-specific Guidelines for waste disposal based on the water quality objectives, the Reserve water quality and dry weather stream flow for individual water courses or bodies.

PART 2 – GUIDELINES FOR DISCHARGE OF WASTE
ONTO LAND (WITH IMPACTS ON GROUNDWATER)

PARAMETER	MAXIMUM
pH	5.5 – 9.0
Boron (mg/l)	2.0
BOD (mg/l)	500
Chloride (mg/l)	600
Total Dissolved Solids (mg/l)	2100
Oil and grease (mg/l)	30
Sulphates (mg/l)	1000
Sodium (as percentage of total cation concentration)	60

SEVENTH SCHEDULE

[r. 110, 111, 112, 113, 114, 115]

CATCHMENT PROTECTION AND CONSERVATION AREAS

1. THE CRITERIA FOR REQUIRING A SOIL AND WATER CONSERVATION PLAN ARE:

Item	Criterion
(a)	Existing condition of the catchment area and the risk of riverbank erosion, sources of direct runoff into the water course and sediment sources within the catchment areas;
(b)	Slope of the land;
(c)	Land use and land management practices and the risk of soil erosion and destruction from excessive direct runoff;
(d)	Presence or otherwise of soil and water conservation structures;
(e)	Potential water resource pollution arising from the land use;
(f)	Any other criteria that the Authority considers to be significant.

2. THE CRITERIA FOR IDENTIFYING A PROTECTED AREA OR GROUNDWATER CONSERVATION AREA ARE:

Item	Criterion
(a)	Catchment characteristics;
(b)	The vulnerability of the water resource;
(c)	The water resource quality objectives and the current status of the water resource;
(d)	The class of the water resource;
(e)	Water demands, present and projected, on the water resources;
(f)	Land uses and their potential impact on the water resources;
(g)	Any other criterion that the Authority considers relevant;

3. CONTENTS OF MANAGEMENT REGULATIONS OR PLANS RELATED TO A PROTECTED AREA OR GROUNDWATER CONSERVATION AREA MAY INCLUDE:

Item	Contents
(a)	Procedures to be applied for the management of the protected area or groundwater conservation area;
(b)	Prohibited activities;
(c)	Any measures required to be undertaken for water resource conservation and protection;
(d)	The timeframe for implementation of required measures;
(e)	Any other conditions that the Authority may consider relevant.

[Subsidiary]

EIGHTH SCHEDULE

[r. 107]

MEASURES THAT THE AUTHORITY MAY TAKE IN RELATION
TO A REPORT ON VIOLATION OF THE RESERVE INCLUDE:

Item	Measures
(a)	Investigating the cause of the reserve violation;
(b)	Advise the Cabinet Secretary that an emergency situation exists and there serve is being violated by virtue of natural and or anthropogenic events;
(c)	Enforcing any conditions on any approvals, authorisations or permits that may rectify the situation;
(d)	Temporarily suspending or varying permits;
(e)	Hydrographic and abstraction surveys;
(f)	Establishing or revising a water allocation plan or a effluent discharge control plan;
(g)	Informing the public on the condition of the reserve and any actions that are needed to restore the reserve;
(h)	Any other measures considered appropriate by the Authority.

NINTH SCHEDULE

[r. 108, 120]

QUALIFIED WATER SECTOR PROFESSIONALS AND QUALIFIED CONTRACTORS

CATEGORIES OF QUALIFIED WATER SECTOR PROFESSIONALS

Panel I - Water Engineer

A	Water Supply Works (exceeding 1,000 m ³ /day)
B	Effluent Treatment Works (exceeding 1,000 m ³ /day)
C	Dams 1. Class SD1 and SD2 Dams 2. Class SD1, SD2 and SD3 Dams
D	Irrigation Works (exceeding 7,500 m ³ /day)

Panel II - Water Engineer

A	Water Supply Works (less than 1,000 m ³ /day)
B	Effluent Treatment Works (less than 1,000 m ³ /day)
C	Class SD1 Dams
D	Irrigation Works (less than 7,500 m ³ /day)

Panel III

A	Hydrologists
B	Hydrogeologists
C	Hydrometeorologists
D	Chemists
E	Biologists
F	Ecologists
G	Geophysicists
H	Other relevant category recognised by the Technical Advisory Committee

CATEGORIES OF QUALIFIED CONTRACTORS

Category 1

A	Water Supply Works (exceeding 1,000 m ³ /day)
B	Effluent Treatment Works (exceeding 1,000 m ³ /day)
C	Dams for Class SD3 Dams
D	Irrigation Works (exceeding 7,500 m ³ /day)
E	Borehole Drilling (Eligible to drill boreholes); Class 1: Able to drill less than depth of 150 metres Class 2: Able to drill in excess of 150 metres

Category 2

A	Water Supply Works (less than 1,000 m ³ /day)
B	Effluent Treatment Works (less than 1,000 m ³ /day)
C	Dams for Class SD1 and SD2 Dams
D	Irrigation Works (less than 7,500 m ³ /day)
E	Borehole Servicing (Eligible to service or rehabilitate boreholes).

DESIGN AND SUPERVISION OF DAM

Class of Dam	Category of Qualified Water Sector Professional
SD1	Panel II C, Panel I C1 & Panel I C2
SD2	Panel I C1 & Panel I C2
SD3	Panel I C2

CATEGORY OF DAM CONTRACTOR

Class of Dam	Category of Dam Contractor
SD1	C1, C2
SD2	C1, C2
SD3	C1

TENTH SCHEDULE

[r. 132]

COMPLAINTS

INFORMATION TO BE GIVEN BY COMPLAINANT UNDER THESE REGULATIONS

Item	Information
(a)	Name of Complainant
(b)	Contact address, telephone number, email address (if any) of Complainant
(c)	Nature and location of the problem
(d)	Date that problem occurred
(e)	Name and, if available, the contact details of all parties to the dispute or complaint
(f)	Any other relevant details
(g)	Signature of the Complainant

ELEVENTH SCHEDULE

[r. 70]

WATER QUALITY SAMPLING PROCEDURES

**PROCEDURES TO BE FOLLOWED WHERE WATER QUALITY
SAMPLE IS TAKEN FOR PROSECUTION PURPOSES**

Item	Procedure
(a)	The presence of the alleged polluter at the place and time of sampling;
(b)	Where the intended analysis is to determine compliance with physical and chemical parameters, then a sample shall be taken and divided into three portions, each contained in an appropriate capacity container and preserved according to standard practice;
(c)	Where the intended analysis is to determine compliance with microbiological parameters, then a sample shall be taken and divided into three portions, each contained in a sterile glass bottle;
(d)	All three portions will be sealed in the presence of the alleged polluter who is required to sign an acknowledgement that he has witnessed the sampling;
(e)	One portion will be provided to the alleged polluter who may obtain his or her own independent analysis from a gazetted laboratory of his or her choice;
(f)	One portion shall be sent by the Authority to a gazetted laboratory for analysis;
(g)	One portion shall be retained by the Authority for future reference provided that the storage of the sample is safe enough and the period of storage does not result in the deterioration of the sample.

TWELFTH SCHEDULE

[r. 131(2)]

EMERGENCY ORDERS

Contents of an Emergency Order include;

Item	Contents
(a)	That an emergency exists;
(b)	Start date of the Emergency Order;
(c)	The factors that have caused the emergency
(d)	What area or water resource(s) are affected;
(e)	What action or activities are restricted or prohibited;
(f)	What action or activities will be undertaken;
(g)	Conditions that need to be fulfilled for the Emergency Order to be lifted.

THIRTEENTH SCHEDULE

[r. 10(2), 10(4), 11(2), 13(1)(b), 14(1)(a), 17(3), 23(1), 25(1)(b), 26(1), 27(1), 27(5), 33, 34(1), 36(1)(a), 39(3), 49(3), 51(1), 55(1), 87(2), 97(1), 97(4), 112, 114(1), 116(1), 122(1), 127(1), 130(2)]

FORMS AND REGISTERS

Form Number	Description	Relevant Regulation
WRA	Application for Water Permit	15, 16, 51, 52
WRA	Effluent Discharge Permit	
WRA	Application for Easement	12
WRA	Comments by WRUA on Application for	19
WRA	Authorisation to Construct Works	24
WRA	Application for Extension of Time of	26
WRA	Completion Certificate	28
WRA 007	Inspection Report	28, 37, 65, 67, 69, 73,
WRA 008 A or	Borehole or Well Completion Record	57
WRA	Water Permit	28
WRA	Renewal of Permit	30
WRA	Variation of Permit	35
WRA	Transfer of Permit	34
WRA 013	Search for Water Permit	-
WRA	Assessment of Water Use and Charges	87
WRA	WRA Order	137
WRA	Authority to Enter Land	12
WRA	WRUA Registration	103
WRA	Certificate of Registration of WRUA	103
WRA	Supplement to Authorisation/Supplementary	13
WRP 001	Application for registration as Qualified Water Sector Professional	119
WRP 002	Licence for Qualified Water Sector	121
WRC 001	Application for registration as for Qualified	129
WRC 002	Licence for Qualified Contractor	130
Official Registers		
Register number	Official Registers	Relevant Regulation(s)
R 001	Register of WRUAs	103
R 002	Register of Water Bodies	84
R 003	Register of	27
R 004	Register of Approved Water Users, Uses and	38

[Subsidiary]

R 005	Register of Qualified Water Sector	123
R 006	Register of Qualified	134

The Chief Executive
Officer,
Water Resources
Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works
(UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Water Resources Authority
APPLICATION FOR WATER PERMIT

(To be submitted in triplicate) (Regulation 15, 16, 51, 52)

Type of Water Use	Surface Water	Groundwater	Effluent Discharge	Swamp Drainage
	Diversion	Abstraction	on-stream Works	Storage
				Shallow well
				Borehole

Tick Box
Attach Form
1B 1B 1B 1C 1D 1D 1E 1F

PARTICULARS OF APPLICANT DETAILS

1. Full name of applicant(s) (In Block Letters)
2. Category of Applicant - Individual, Group [Association, Society], Company, Institution
3. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies
4. PIN Number (where available)
- Physical Address where water is to be used Contact Address of Applicant
5. L.R Number(s) 10. Box Number
6. Village(s)/Ward(s) 11. Town
7. Sub-location(s) 12. Post Code
8. Location(s) 13. Telephone Contact (Landline)
9. Division(s) 14. Telephone Contact (Mobile)
10. District(s) 15. Email Contact

WATER RESOURCE DETAILS

16. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored
17. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)
18. Sub-catchment Number

- 19. Class of Water Resource
- 20. Name of Body of Water or Aquifer where effluent is to be discharged
- 21. Sub-catchment Number (Effluent)
- 22. Class of Water Resource (Effluent)
- 23. Category of Application (Class of Permit)

MIXING WATERS

- 24. State the authorization(s) and permits already issued in respect of the water use on the land described in No. 4. (If NIL, state "Nil", if YES, list authorisation or permit numbers).

Note: Shaded Areas to be filled in by WRA Officials

LAND

- 25. Does applicant own all the land related to the permit application? Yes/No
- 26. If No, have easement(s) been attached (Yes = 1, No = 0)
- 27. Does application involve land located within or adjacent to a riparian, protected or groundwater conservation area? Yes/No
- 28. Is proposed activity permitted within the riparian area, protected or groundwater conservation area? Yes/No

OWNERSHIP OF WORKS

- 29. Will the applicant own all the works related to the permit application?
- 30. If No, have agreement(s) been obtained from owner(s) of all works and these agreements are adequate and are attached (Yes/No)

SUPPLEMENT TO PERMIT/AUTHORISATION

- 31. Is application made under section 21 of WRA Regulations? Yes/No
- 32. Provide Permit Number for Main Permit

QUANTITY WATER REQUIRED

- 33. Brief Description of Project and Intended Use for Water

Type of Water Use	Groundwater	Surface Water (m ³ /day)			
(m ³ /day)		River - Normal Condition	River - Flood Condition	River- Regulated Flows	Lake

- 34. Public
- 35. Domestic
- 36. Livestock
- 37. Subsistence Irrigation

[Subsidiary]

38. Commercial Irrigation
 39. Industry/ Commercial
 40. Hydropower
 41. Others
 42. Sub-total
 43. Quantity Returned
 44. Water Used (row 41- row 42)
 45. Effluent Discharge

PERIOD OF CONSTRUCTION

46. State the estimated period of construction of the works (months)
 47. State the period for which the permit is required (year– maximum 5 years)

DESCRIPTION OF WATER USE DOMESTIC

Population to be served (number of people)
 Basic Human Needs (m^3/day)
 Domestic Water Demand (m^3/day)

LIVESTOCK

Type of Livestock	Number of Animals
Number of Grade Cattle	
Number of Local Cattle or donkeys	
Number of goats & sheep	
Number of camels	
Other	

PUBLIC PURPOSE

Supply Area (km^2)
 Population to be served

SUBSISTENCE IRRIGATION –Water for Household Food Security

Number of connections
 Area per connection (ha)
 Total Irrigated Area (ha)
 Expected Rate of Water Use $m^3/ha/day$
 Total Expected Water Requirements (m^3/day)

COMMERCIAL IRRIGATION

Water

[Subsidiary]

Type of Crop (hectares)	Type of Production System (Outdoor, GH, hydroponics)	Type of Irrigation Technology (overhead, micro-sprinkler, drip)	Expected Rate of Water Use m ³ /ha/day	Total Expected Water Requirements (m ³ /day)
----------------------------	--	--	---	--

TOTAL

INDUSTRIAL

Number of Persons Employed

Type of Industry (*tick whichever is appropriate*)

Food Processing

Pulping (Coffee,
sisal, sugar,)

Horticultural

Tea

Packaging

Chemical

Bottling

Manufacturing

Tanning

Others (state type)

Water Requirements

Water required for Plant/Processing (m³/
day)

Water required for Sanitation Facilities
(m³/day)

Water required for other purposes (m³/
day)

Total Water Requirements (m³/day)

POWER

Maximum static head (m)

Expected Power Generated (KVa-hr) at Maximum
Static Head

Fishponds (volume – m³)

OTHER USES

FEES SUBMITTED

Category A, B, C or D Application

Fees for Examination of
Application

AMOUNT PAID

Receipt Number

ATTACHMENTS

Attached (Yes/No)

Comments/Remarks

Form 1B

Form 1C

Form 1D

Form 1E

Form 1F

Copy of Identification

Documents

Copy of Land Documents

Copy of Agreements on

Land Use

[Subsidiary]

Copy of Agreements on
 Use of Water Works
 Relevant Maps
 Copy of EIA Licence
 Site Assessment Report
 Technical Reports
 Hydrological Assessment
 Report
 Hydrogeological Survey
 Report
 Technical Design Report
 Dam Design Report
 Effluent Discharge Control
 Plan
 Soil and Water
 Conservation Plan
 Copy of Receipt for
 Payment
 WRUA Comment Form
 I agree to supply any further information which may be required by the Water
 Resources Authority.

SIGNATURE

Signature of Applicant or duly Authorised Agent
 Name
 Date of Application

SIGNATURE OF WRA OFFICIAL RECEIVING APPLICATION

Signature of WRA Official
 Name
 Position
 Date Application Received

OFFICIAL SECTION

(To be filled in by WRA officials)

	Tick	Date	Officer
Submission			
WRUA advice received			
Recommended			
Rejected			
Conditional			
Recommendation			
BWRC advice received			
Recommended			
Rejected			
Conditional			
Recommendation			
WRUA National Office (Category D)			
Recommended			
Rejected			
Conditional			
Recommendation			

WRA Regional Office

Recommended

Rejected

Authorisation

Issue of

Authorisation

Validity Period

(months)

Expiry

Extension of

Validity Period

(months)

Revised Expiry

Date

Inspection

of Final

Completion

Date of Issue of Permit

Date of Expiry of Permit

SURFACE WATER - ABSTRACTION, DIVERSION, IN-STREAM AND CONVEYANCE WORKS

Grid Reference for Works (UTM ,
based on ARC1960 Datum, Zone 36/37)

Easting

Northing

Altitude (m above sea level)

Map Sheet

Details of Site Datum

Grid Reference for Datum (UTM ,
based on ARC1960 Datum, Zone 36/37)

Easting

Northing

Altitude (m above sea level)

Map Sheet

Description of Datum

Weir (1) or Collection Chamber (2)

Dimensions

Width/diameter (m)

Length (m)

Height (m)

Materials

Compensation Flow Capacity (m³/day)

Pump

Type of Pump

Type of driving machine

Power source of driving machine

(diesel, electric, wind, water)

Maximum Power rating (KV_a)

Expected operating head (m)

Delivery Rate at expected operating head (m³/hr)

Expected operating hours (hrs)

 [Subsidiary]

Canal

Length (m)

Top width (m)

Bottom width

Lined or unlined

Lining material

Gradient (m/100m or %)

Maximum velocity (m/s)

Maximum Capacity (m³/day)

Pipeline

Internal diameter of delivery pipe

Material

Length (m)

Maximum Capacity (m³/day)

Any other relevant details

STORAGE DAMS

Name of dam

Class of Dam (SD1, SD2 or SD3)

Grid Reference for Dam (UTM ,
based on ARC1960 Datum, Zone 36/37)

Easting

Northing

Altitude (m above sea level)

Map Sheet

Details of Site Datum

Grid Reference for Datum (UTM ,
based on ARC1960 Datum, Zone 36/37)

Easting

Northing

Altitude (m above sea level)

Map Sheet

Description of Datum

Spillway

Catchment Area (km²)Design Flood (m³/s)

Return Period for Spillway Design (1 in ...years)

Material of outflow channel

Dimensions at control

Width (m)

Length (m)

Height (m)

Embankment

Material (earth, concrete, masonry, others)

Dimensions

Width at Crest (m)

Length at Crest (m)

Upstream slope (1 to ...)

Downstream slope (1 to ...)

Maximum Depth of Water (Measured from bed to
normal water level) (m)

Maximum Height of Embankment (m)
 Gross Freeboard (m)
 Net Freeboard (m)
 Impoundment
 Estimated Area at Normal Water Level (m²)
 Estimated Impounded Volume (m³)
 Other Details
 Maximum Drawoff Capacity (m³/day)
 Maximum Compensation Flow capacity (m³/day)

GROUNDWATER - WELLS/BOREHOLES

Grid Reference for
 Abstraction Point (UTM,
 based on ARC1960
 Datum, Zone 36/37)

Easting

Northing

Altitude (m above sea
 level)

Map Sheet

Is the well or borehole
 within a distance of 100m
 of a body of surface
 water?

List all Wells/Boreholes within 1000 m of proposed site	L.R. Number	Distance (m)
---	-------------	--------------

Expected Yield (m³/hr)

Intended Depth of
 excavation or drilling (m)

Intended Diameter of
 excavation or drilling (mm)

Expected Type of draw off
 works (*tick as appropriate*)

Handpump - Type

Wind-pump - Type

Electric pump

Direct drive

Windlass

EFFLUENT DISCHARGE

Grid Reference for Effluent Discharge Point
 (UTM, based on ARC1960 Datum, Zone 36/37)

Easting

Northing

Altitude (m above sea level)

Map Sheet

Source of water supply

Source of Effluent(domestic,
 institutions, industrial, agricultural, urban)

Mode of discharge (pipe, canal, ..)

[Subsidiary]

Maximum Daily Effluent discharge (m³/day)
 Details of Treatment System
 Chemical
 Settling
 Anaerobic digesters
 Oxidation or aerated ponds
 Natural or constructed Wetland
 Other (specify)
 Retention time (days)
 Nature of Pollutants (Chemical, biological, Physical)

EFFLUENT QUALITY

Parameter	Units	Value
BOD (5 days at 20C)	mg/l	
COD	mg/l	
Total Dissolved Solids	mg/l	
pH	pH scale	
Temperature	°C	
Total Coliforms	Counts/100ml	
Turbidity or colour	NTU/Hazen	
Ammonia -NH ₃	mg/l	
Ammonium-NH ₄	mg/l	
Nitrite – NO ₂	mg/l	
Nitrate-NO ₃	mg/l	
Total Phosphorous	mg/l	
Total Nitrogen	mg/l	
Total suspended solids	mg/l	
Metals	mg/l	
Non metal toxics (sulphides, cyanides, fluorides)	mg/l	
Pesticide residues	µg/l	
Phenols	mg/l	
Oils and grease	mg/l	
Others		

SWAMP DRAINAGE

Name of swamp
 Size of swamp to be drained (ha)
 Purpose of swamp drainage (agricultural, residential,
 recreational, public health, industrial, abstraction)
 Means of swamp drainage (tick as appropriate)
 Channelling or canalisation of flows
 Diversion of inflow
 Expected % of inflow waters to be diverted
 Construction of drainage canals or drainage pipes
 Expected reduction in water level in swamp (m)

Note: Form WRA 001B is required to be filled if swamp drainage is planned in conjunction with water abstraction or diversion

The Chief Executive Officer, Water Resources Authority, P.O. Box 45250 – 00100 NAIROBI



Grid Reference for Works (UTM Arc 1960) Easting: Catchment: Northing: WRA ID: Zone: File No:

Water Resources Authority APPLICATION FOR EASEMENT

(To be submitted in triplicate) (Regulation 12)

PARTICULARS OF APPLICANT DETAILS

- 11. Full name of applicant(s) (In Block Letters)
12. Category of Applicant - Individual, Group [Association, Society], Company, Institution
13. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies
14. PIN Number (where available)
Physical Address where water is to be used Contact Address of Applicant
15. L/R Number(s) 10. Box Number
16. Village(s)/ Ward(s) 11. Town
17. Sub-location(s) 12. Post Code
18. Location(s) 13. Telephone Contact (Landline)
19. Division(s) 14. Telephone Contact (Mobile)
20. District(s) 15. Email Contact

In respect of an easement of aqueduct in connection with the passage of water from the [Description and name of body of water] across the property [description of property] and in respect of an easement of work in connection with the water from the [body of water] at the point shown on the plan attached hereto and in respect of an easement of storage in connection with water from the [body of water]

1. The applicant named above is the landholder [or agent lawfully authorized by the landholder] of the property [Description of property and L.R. (Nos) of farms (if any) and / or mining locations or leases]

2. The applicant bases his claim for the easement on the following grounds

.....
.....

3. The accompanying plan[s] marked

Show the general arrangement, the nature and locality of the proposed works and the land or lands on which [an] easement[s] is [are] now required and the area[s] within the lines

[Subsidiary]

shown in red on the said plan is [are] the maximum area[s] over which the easement[s] now applied for is [are] required.

(a) The following is a description of the work[s] in respect of which [an] easement[s] is [are] now required²

.....

(b) The maximum quantity of water to be conveyed or dealt with by the aqueduct is cubic meters per day.

(c) The position of the dam and the storage reservoir are shown on the plan marked and the blue line thereon shows the approximate area which will be submerged at high flood level of the reservoir, and the red line shown on the said plan shows the limit of area over which easement is claimed.

(d) The easement of aqueduct is required for a period of

1

Here give the number of any authorization, or permit which applicant holds and all other information on which the claim is based. Show that the claim is made in good faith and that, without the easements, the utilization of water would not be economically feasible.

2

Here give brief description, with dimensions, of the proposed aqueduct and state the area of the land over which the easement is claimed.

(a) The following is a description of the work[s] in respect of which [an] easement[s] of work is [are] required³

.....

.....

(b) The quantity and nature of materials required from the land referred to in paragraph (a) above for the purpose of constructing the proposed works are as follows:—

.....

(c) The easement of work is required for a period of

(a) The following is a description of the work[s] in respect of which [an] easement [s] of storage is [are] required⁴

.....

(b) The positions of the dam and the storage reservoir are shown on the plan marked

And the blue line thereon shows the approximate area that will be submerged at high flood level of the reservoir, and the red line shown on the said plan shows the limit of area over which easement is claimed.

(c) The quantity and nature of materials required from the land for the purpose of constructing the proposed works referred to in paragraph (a) above are as follows:—

3

Here give brief description, with dimensions, of the proposed weir or other work and state the area of land over which the easement is claimed.

4

Here give brief description, with dimensions, of proposed storage works and state the area of land over which the easement is claimed.

(d) The easement of storage is required for a period of

7. On the schedule attached to this form is set forth the names of the landholders, mortgages and lessees of the property over which the easement is claimed.

8. In accordance with section 28 of the Act , notice with full particulars of the proposed works was given not less than two months before the date of this application given to all the landholders, mortgages and lessees named in the said schedule with the result shown in the attached Schedule:

9. I have served a copy of this claim on all the landholders, mortgages and lessees mentioned in the attached Schedule.

I enclose herewith Bankers Cheque No..... of Ksh..... cents ... for an examination of this application. I understand that the fee does not cover the preparation of the necessary deed in the event of my application being successful.

.....

Signature

AFFIDAVIT

I of do solemnly and sincerely declare as follows:—

I have read the foregoing and the particulars and things set out therein are true and accurate.

I make this declaration conscientiously believing the same to be true, and according to the oaths and Statutory Declarations Act.

Sworn at

Thisday of20

Before me,

.....
*Magistrate or
Commissioner for Oaths.)*

NOTES

1. The applicant shall fill in the blank spaces in this form with the required information, and, where alternative

[Subsidiary]

expressions are given, he shall strike out those, which do not apply.

2. The area of land over which the easement is claimed must include the area of land, if any, occupied by the works, flooded as a result of the works, required for purposes of inspection and maintenance of the works, required for the excavation or collection of material for the works, required for the deposit of spoil or material derived from the works or required for a road or roads to obtain access to the works.
3. The plans submitted must show clearly any works, irrigated and / or cultivated areas, roads, buildings and / or any other features which will be affected if the easement applied for is granted, and the area of swamp or land to be reclaimed.

SCHEDULE OF LANDHOLDERS, MORGAGEES AND LESSEES

Attached to the application of

For easement of dated 20

(Use additional sheets if required)

Reference No. of Property (conservatively on plan)	C.R. No. of property or mining location or been preserved	Name of person or holder, mortgagor or sublessee	State	Postal address of landholder, mortgagor or sublessee	Area of easement (area in acres)	Amount of compensation tendered to landholder or sublessee	Purpose for the easement required to be granted	Does the person agree to the claim for easement (Yes/No)	Signature of landholder or mortgagee or lessee	Date of signature
--	---	--	-------	--	----------------------------------	--	---	--	--	-------------------

The Chief Executive Officer,
Water Resources Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works
(UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Water Resources Authority

COMMENTS BY WRUA ON APPLICATION FOR WATER PERMIT

(To be submitted in triplicate)

(Regulation 19)

NAME OF WRUA

PARTICULARS OF PERMIT APPLICANT

- | | |
|---|-------------------------------|
| 1. Full name of applicant(s) (In Block Letters) | 2. WRA ID Number of Applicant |
| 3. Box Number | 4. Town |
| 5. Telephone Contact (Landline) | 6. Telephone Contact (Mobile) |

7. Email Contact

WATER RESOURCE DETAILS

Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored

Type of Water Surface Water Groundwater Effluent Discharge Swamp Drainage

Use Diversion Abstraction Storage Shallow well Borehole

 stream Works

Tick Box

WRUA COMMENTS

ANSWER / COMMENTS

1. Application was discussed by WRUA on (date)
2. Is proposed application for water use likely to severely impact dry season flows?
3. Is proposed application for water use likely to severely impact water quality?
4. Is proposed application for water use likely to put public at risk?
5. Is proposed application likely to increase the risk of water use conflicts?
6. Is proposed application for water use considered beneficial to the public?
7. Is there an alternative water source for the applicant that should be considered? (provide details)
8. WRUA Conclusion (*Objection, No objection, or Conditional No-Objection, or unable to make a conclusion due to lack of information*)
9. Reasons for Objection or Conditions for No-Objection

SIGNATURE BY TWO WRUA OFFICIALS

Name of WRUA Official

Position

Signature of WRUA Official

Date of Signature

The Chief Executive Officer,
Water Resources Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works (UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Form: WRA 013

Water Resources Authority

AUTHORIZATION TO CONSTRUCT WORKS FOR THE USE OF WATER

Dear Sir/Madam;

I have the honour to inform you that the Water Resources Authority has given you approval to construct the proposed works based on your application datedfor a Water Permit.

[Subsidiary]

Authorization No.

Dated

WRA

Type of Surface Water
Water

Groundwater

Effluent Swamp
Discharge Drainage

Use Diversion Abstraction
stream Works

Storage Shallow Borehole
well

Tick Box

PARTICULARS OF APPLICANT

DETAILS

1. Full name of applicant(s) (In Block Letters)

2.

3. Category of Applicant - Individual, Group [Association, Society], Company, Institution

4. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies

5. PIN Number (where available)

Physical Address where water is to be used

Contact Address of Applicant

6. L/R Number(s)

7. Box Number

8. Village(s)/

9. Town

Ward(s)

10. Sub-location(s)

11. Post Code

12. Location(s)

13. Telephone

Contact (Landline)

14. Division(s)

15. Telephone

Contact (Mobile)

16. District(s)

17. Email Contact

WATER RESOURCE DETAILS

18. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored

19. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)

20. Sub-catchment Number

21. Class of Water Resource

22. Name of Body of Water or Aquifer where effluent is to be discharged

23. Sub-catchment Number (Effluent)

24. Class of Water Resource (Effluent)

25. Category of Application (Class of Permit)

Supplement to Permit/

Authorisation

26. Are there any supplements approved under section 21 of WRA Regulations (Yes/No)

27. Supplement No.

28. Brief

Description

of Project

and

Water

[Subsidiary]

Intended Use for Water	Type of Water Use (m ³ /day)	Surface Water (m ³ /day)			
		Groundwater	River - Normal Condition	River - Flood Condition	River- Regulated Flow
29. Public					
30. Domestic					
31. Livestock					
32. Subsistence					
33. Irrigation					
34. Commercial					
35. Industry/ Commercial					
36. Hydro-power					
37. Others					
38. Sub-total					
39. Quantity Returned					
40. Water Abstracted (row 34- row 35)					
Effluent Discharge					

*Having filed the necessary application, maps and plans, and having complied with the provisions of the Water Act 2016, and the Regulations there under relating to the applications for Water Permits *is/are hereby authorized to construct, subject to the acquisition of the necessary rights of way or easements therefore, if any, the works shown by the said applications, maps and plans in accordance with provisions of the Water Act 2016, the Regulations there under, and the following conditions:—*

1. *The construction of the works hereby authorized shall commence within a period of..... days/months/years and shall be completed within a period of..... months/ years from the date of this authorization.*
 - (a) *Any person who erects or constructs temporary works shall be entitled to divert, abstract, impound, obstruct, store or use water to such extent only as may be necessary for the construction or erection of the works, and whenever it shall be necessary to divert, abstract or impound water during the erection or construction of the works authorized, such diversion, abstraction, obstruction, impounding, or use of water shall be made at such time and in such manner that the works of other operators are interfered with as little as possible and*

[Subsidiary]

that no damage will be caused to property of another landholder. Provided that if any damage is caused it shall, failing agreement between the parties concerned, be settled by arbitration under the Arbitration Act.

- (b) Unless empowered thereto by the Water Resources Authority in writing, all temporary works shall be removed within a period of three months from the date of completion of the works authorized or from the date of determination of the authorization (whichever be the earlier) and where any temporary works exist, such as quarries, burrow-pits, excavations, cuttings, tunnels or things of a like nature which cannot be economically removed, efficient precautions to the satisfaction of the Water Resources Management Authority shall be taken, by the person named in the authorization, to render and to maintain all such temporary works safe in the interest of life and property.

The Water Resources Authority reserves the right to inspect the works authorized by this authorization, and attention is drawn to section 90 of the Act.

3. Any changes between the original proposed design and final as-constructed arrangement has been documented and such documentation submitted to the Authority.

**Delete words not required*

3. CONDITIONS OF AUTHORISATION DETAILS

- Measuring device
- Controlling device
- Water Quality Report
- Evidence of EMCA Compliance
- Soil and Water Conservation Plan
- Compensation Flow (m³/day)
- Inspection Milestones
 - 1
 - 2
 - 3
 - 4
- Notification Requirements
 - 1
 - 2
 - 3
 - 4
- Storage
- Airline
- Test pumping
- Other Technical Details
- Effluent Discharge Requirements

4. This Authorization will be automatically cancelled, when the authorized period expires, without any further reference to you unless extension of time limit is applied for prior to date of expiry.

5. The following details/documents/fees are required to complete your application before a Permit may be issued:

- (a) Form WRA 008 must be returned dully signed when works have been installed.
- (b)
- (c)
- (d)

SIGNATURE

Yours faithfully,
 Signature of WRA Officer
 Name of Officer
 Position
 Date of Signature

The Chief Executive
 Officer,
 Water Resources
 Authority,
 P.O. Box 45250 – 00100
 NAIROBI



Grid Reference for Works (UTM Arc 1960)
 Easting: _____ Catchment: _____
 Northing: _____ WRA ID: _____
 Zone: _____ File No: _____

Water Resources Authority
 APPLICATION FOR EXTENSION OF TIME FOR AUTHORISATION TO
 CONSTRUCT WORKS
 (To be submitted in triplicate)

(name), being the holder of Authorisation No., do hereby apply for an extension of time in order to complete the proposed works.

I confirm that all other particulars of the Authorisation remain the same.

The need to extend the period of time has been caused by (state cause)

.....

Type of Water	Surface Water	Groundwater	Effluent Discharge	Swamp Drainage
Use	Diversion Abstraction stream Works	Storage	Shallow well	Borehole

Tick Box

PARTICULARS OF PERMIT APPLICANT

- | | |
|--|----------------------------------|
| 1. Full name of applicant(s) (In Block Letters) | 2. |
| 3. Category of Applicant - Individual, Group [Association, Society], Company, Institution | |
| 4. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies | |
| 5. PIN Number (where available) | |
| Physical Address where water is to be used | Contact Address of Applicant |
| 6. L/R Number(s) | 7. Box Number |
| 8. Village(s)/ Ward(s) | 9. Town |
| 10. Sub-location(s) | 11. Post Code |
| 12. Location(s) | 13. Telephone Contact (Landline) |

[Subsidiary]

- 14. Division(s)
- 15. Telephone Contact (Mobile)
- 16. District(s)
- 17. Email Contact

WATER RESOURCE DETAILS

- 18. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored
- 19. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)
- 20. Sub-catchment Number
- 21. Class of Water Resource
- 22. Name of Body of Water or Aquifer where effluent is to be discharged
- 23. Sub-catchment Number (Effluent)
- 24. Class of Water Resource (Effluent)
- 25. Status of Water Resource (Effluent)
- 26. Category of Application (Class of Permit)

FEES SUBMITTED

- Category A, B, C or D Class Application
- Amount (KES)
- Application Fees for Extension of Time of Authorisation
- Receipt Number
- Time Period for Construction
- Initial Authorisation Issued on (date)
- Authorisation Expiry Date
- Proposed Revised Authorisation Expiry Date
- Number of Times that Period of Authorisation has been revised

SIGNATURE

- Signature of Applicant or duly Authorised Agent
- Name
- Date of Application

SIGNATURE OF WRA OFFICIAL RECEIVING APPLICATION FOR EXTENSION OF TIME OF AUTHORISATION

- Signature of WRA Official
- Name
- Position
- Date Application for Renewal Received

OFFICIAL SECTION

(To be filled in by WRA officials)

WRA Action	Decision	Date	Comment/Reference
Time Extension			
Accepted			
Rejected			
Conditional Acceptance			
Authorisation			

Valid until
(date)

The Chief Executive
Officer,
Water Resources
Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works
(UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Water Resources Authority
EXTENSION OF TIME LIMIT FOR AN AUTHORISATION

The period within which the works authorized by Authorization No P _____, dated _____, issued to _____

Shall be completed is hereby extended, subject to the conditions endorsed on the above mentioned authorization and to the under mentioned conditions, to the (date) _____:

Type of Water	Surface Water	Groundwater	Effluent Discharge	Swamp Drainage
Use	Diversion Abstraction stream Works	Storage	Shallow well	Borehole

Tick
Box

PARTICULARS OF APPLICANT

1. Full name of applicant(s) (In Block Letters)
3. Category of Applicant - Individual, Group [Association, Society], Company, Institution
4. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies
5. PIN Number (where available)

DETAILS

- | | |
|--|----------------------------------|
| Physical Address where water is to be used | Contact Address of Applicant |
| 6. L/R Number(s) | 7. Box Number |
| 8. Village(s)/Ward(s) | 9. Town |
| 10. Sub-location(s) | 11. Post Code |
| 12. Location(s) | 13. Telephone Contact (Landline) |
| 14. Division(s) | 15. Telephone Contact (Mobile) |
| 16. District(s) | 17. Email Contact |

WATER RESOURCE DETAILS

[Subsidiary]

- 18. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored
- 19. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)
- 20. Sub-catchment Number
- 21. Class of Water Resource
- 22. Name of Body of Water or Aquifer where effluent is to be discharged
- 23. Sub-catchment Number (Effluent)
- 24. Class of Water Resource (Effluent)
- 25. Category of Application (Class of Permit)

This Extension of Time Limit is issued subject to the special conditions shown below:

1. SIGNATURE

Yours faithfully,

Signature of WRA Officer

Name

of Officer

Position

of Officer

Date of Signature

The Chief Executive
Officer,
Water Resources
Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works (UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Water Resources Authority

INSPECTION REPORT

Type of Water	Surface Water	Groundwater	Effluent Discharge	Swamp Drainage
Use	Diversion	Abstraction	Storage	Shallow Borehole well
	stream Works			

Tick Box

PARTICULARS OF OWNER OF WORKS OR LAND INSPECTED DETAILS

- 1. Full name of applicant(s) (In Block Letters) 2.
- 3. Category of Applicant - Individual, Group [Association, Society], Company, Institution
- 4. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies
- 5. PIN Number (where available)

Water

[Subsidiary]

Physical Address where water is to be used	Contact Address Owner of Works or Land Inspected
6. L/R Number(s)	7. Box Number
8. Village(s)/ Ward(s)	9. Town
10. Sub-location(s)	11. Post Code
12. Location(s)	13. Telephone Contact (Landline)
14. Division(s)	15. Telephone Contact (Mobile)
16. District(s)	17. Email Contact

WATER RESOURCE DETAILS

- 18. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored
- 19. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)
- 20. Sub-catchment Number
- 21. Class of Water Resource
- 22. Name of Body of Water or Aquifer where effluent is to be discharged
- 23. Sub-catchment Number (Effluent)
- 24. Class of Water Resource (Effluent)
- 25. Category of Application (Class of Permit)

QUANTITY WATER AUTHORISED/PERMITTED

26. Description of Project and Intended Use for Water	Type of Water Use	Groundwater (m ³ /day)	Surface Water (m ³ /day)	River - Normal Condition	River - Flood Condition	River – Regulated Flow	Lake
27. Public							
28. Domestic							
29. Livestock							
30. Minor Irrigation							
31. General Irrigation							
32. Industry/ Commercial							
33. Power							
34. Others							
35. Sub-total							

[Subsidiary]

36. Quantity Returned
 37. Water Abstracted (row 42-row 44)
 38. Effluent Discharge
 Remarks regarding status, condition, compliance of works with authorisation or permit conditions
 Recommended Action to be taken by Owner of Works
 Recommended Action to be taken by WRA

SIGNATURE OF WRA OFFICIAL
 Signature of WRA Official
 Name
 Position
 Date Inspection Undertaken

The Chief Executive Officer,
 Water Resources Authority,
 P.O. Box 45250 – 00100
 NAIROBI



Grid Reference for Works (UTM Arc 1960)
 Easting: _____ Catchment: _____
 Northing: _____ WRA ID: _____
 Zone: _____ File No: _____

Water Resources Authority
COMPLETION CERTIFICATE
 (To be submitted in triplicate)

I, (name), being the holder of Authorisation to Construct Works No., do hereby state that the proposed Works have been constructed in accordance with the conditions contained in the Authorisation. Any changes between the original proposed design and final as-constructed arrangement has been documented and such documentation submitted to the Authority.

Type of Water Use	Surface Water	Groundwater	Effluent Discharge	Swamp Drainage
	Diversion	Abstraction	Shallow well	Borehole
	stream Works	Storage		

Tick Box

PARTICULARS OF APPLICANT DETAILS

1. Full name of applicant(s) (In Block Letters)
2. Category of Applicant - Individual, Group [Association, Society], Company, Institution

- 3. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies
- 4. PIN Number (where available)
- Physical Address where water is to be used (see sketch) Contact Address of Applicant
- 5. L/R Number(s) 6. Box Number
- 7. Village(s)/Ward(s) 8. Town
- 9. Sub-location(s) 10. Post Code
- 11. Location(s) 12. Telephone Contact (Landline)
- 13. Division(s) 14. Telephone Contact (Mobile)
- 15. District(s) 16. Email Contact

WATER RESOURCE DETAILS

- 17. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored
- 18. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)
- 19. Sub-catchment Number
- 20. Class of Water Resource
- 21. Name of Body of Water or Aquifer where effluent is to be discharged
- 22. Sub-catchment Number (Effluent)
- 23. Class of Water Resource (Effluent)
- 24. Category of Application (Class of Permit)

QUANTITY WATER REQUIRED

- 25. Brief Description of Project and Intended Use for Water

Type of Water Use	Groundwater (m ³ /day)	Surface Water (m ³ /day)	River - Normal Condition	River - Flood Condition	River – Regulated Flow	Lake
-------------------	-----------------------------------	-------------------------------------	--------------------------	-------------------------	------------------------	------

- 26. Public
- 27. Domestic
- 28. Livestock
- 29. Subsistence Irrigation
- 30. Commercial Irrigation

[Subsidiary]

- 31. Industry/
Commercial
- 32. Hydropower
- 33. Others
- 34. Sub-total
- 35. Quantity
Returned
- 36. Water
Abstracted
(row 33-row
34)
- 37. Effluent
Discharge

SIGNATURE

Signature of Applicant or duly Authorised Agent
Name
Date of Application

SIGNATURE OF WRA OFFICIAL RECEIVING COMPLETION CERTIFICATE

Signature of WRA Official
Name
Position
Date Application Received

The Chief Executive
Officer,
Water Resources
Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works (UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Form: WRA 013

Water Resources Authority
BOREHOLE COMPLETION RECORD
(To be submitted in triplicate)

Borehole No
Borehole Name
Formation

PARTICULARS OF APPLICANT

DETAILS

- 1. Full name of applicant(s) (In Block Letters)
- 2. Category of Applicant - Individual, Group [Association, Society], Company, Institution
- 3. ID Number of Applicant (Individual) or Certificate

of Incorporation or Registration for Groups or Companies

Physical Address where water is to be used (see sketch)

Contact Address of Applicant

- 4. L/R
Number(s)

- 5. Box
Number

- | | |
|---------------------------|--|
| 6. Village(s)/
Ward(s) | 7. Town |
| 8. Sub-
location(s) | 9. Post Code |
| 10. Location(s) | 11. Telephone
Contact
(Landline) |
| 12. Division(s) | 13. Telephone
Contact
(Mobile) |
| 14. District(s) | 15. Email
Contact |

PARTICULARS OF CONTRACTOR

- | | |
|-------------------------------------|-------------------------------|
| 16. Box Number | Licence
Number |
| 17. Town | Gazetted On |
| 18. Post Code | Drilling
Supervisor |
| 19. Telephone Contact
(Landline) | Type and Make
of Drill Rig |
| 20. Telephone Contact
(Mobile) | |
| 21. Email Contact | |

INTENDED USE OF WATER

Public W.S.; Irrigation.; Industries.;

Domestic.; Stock, other

PARTICULARS OF BOREHOLE

Type of Borehole: - Drilled; Driven; Bored;

Jetted; Other

Borehole Construction (also see

sketch page

3)

Drilling started (date)	Drilling completed (date)	All work completed (date)
Total Depth: Reported (m)	Measured (m)	Final (back- filled) Depth (m)
Hole Diameter (mm)	From (m)	To (m)
Hole Diameter (mm)	From (m)	To (m)
Hole Diameter (mm)	From (m)	To (m)
Hole Diameter (mm)	From (m)	To (m)

[Subsidiary]

Permanent Casing

Plain

Type	Diam (mm)	Length (m)	From (m)	To (m)
Type	Diam (mm)	Length (m)	From (m)	To (m)
Type	Diam (mm)	Length (m)	From (m)	To (m)

Slotted or Perforated:

Size

and Description of
Openings

Type	Diam (mm)	Length (m)	From (m)	To (m)
Type	Diam (mm)	Length (m)	From (m)	To (m)

Screen:

Type and Make

Diameter (mm)	Length (m)	set from (m)	To (m)
------------------	---------------	--------------------	--------

Gravel Pack

Size of grains (mm)	Roundness (good, fair, poor) From (m)	Volume inserted in annular Space (m ³) To (m)
---------------------------	--	--

Open

Hole

Diam (mm)	From (m)	To (m)
--------------	-------------	--------

Aquifer

1st Water
Struck at (m) Water Rest Level
(m)

2nd Water
Struck at (m) Water Rest Level
(m)

Main
Aquifer Struck
at (m) Water Rest Level
(m)

Water bearing material	From (m)	To (m)
------------------------------	-------------	--------

Other

Aquifers,

Remarks, etc

(also see log on
page3)

Yield:

SWL (m)	PWL (m below surface)	Discharge (litres per minute)
------------	--------------------------------	----------------------------------

Water

[Subsidiary]

After pumping (hours) Recovered to SWL in (minutes)
 Expected production discharge (litres per hour) With pump set at (m below surface)
Pumping
 Test Record in Summary (Detailed test records on attached sheets): (all depth measurements to be in metres below ground surface)

	Test No. 1	Test No. 2
Date of Test (day, month, year)		
Depth of Borehole at time of test (m)		
Water Entry (perforations or screen setting at time of test)	From (m)	From (m)
	To (m)	To (m)
Static Water (SWL) before test (m)		
Type of Pump (Bailler) used		
Depth of Pump intake (m)		
Discharge (in litres per minute)		
Pumping Water Level (PWL m)		
After pumping continuously for (hours)		
Time of Recovery to Original SWL (minutes)		
Rate of Recovery-WL after 5 minutes (m)		
Rate of Recovery-WL after 20 minutes (m)		
Rate of Recovery-WL after 60 minutes (m)		
Rate of Recovery-WL after 180 minutes (m)		

(Additional pumping tests to be mentioned in REMARKS and included with file).
 Government representative witnessing the test

Quality of Water

Sample (Yes/No)	Collected at (hour)	On (date)
Sediment	Taste	Odour
Colour	Temperature (0c)	Spec. Conductivity (Dmho/cm3)

Remarks: (drilling difficulties, gravel-pack details, all pertinent information about the drilling and completion of the hole)

<i>Drilling Supervisor</i>	<i>Drilling Contractor</i>
Signature	Signature
Name	Name
Date	Date

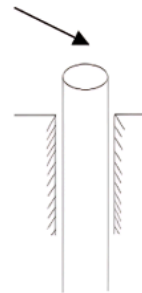
[Subsidiary]

Borehole No

1. Driller's Log.

12. Sketch of Borehole Construction:

From (m.)	To (m.)	Drilling Rate (m./hr.)	Description of Formation Penetrated
		Total depth	
		(Sketch to include: - depth and changes of hole	
		diameter; casing	
		positions, manner of	
		casing (of different diam.)	
		connections, and casing	
		connection to screen;	
		depths of screens or	
		slotted casing lengths;	
		how casing is closed at	
		bottom; formation caving	
		zones; and any other	

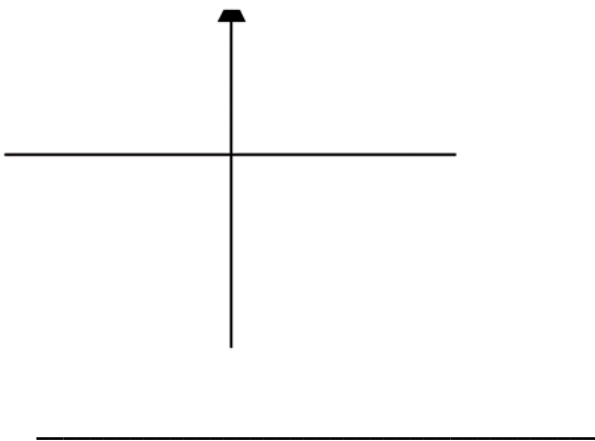


(Geologist's log on attached sheets).

Remarks or additional information on Driller's log, or on sketch of Borehole:

.....

13. Location Sketch: (To be sketched by the driller on the site, showing roads, tracks and prominent land marks, with road distances to nearest town or trading centre and to water source).



Water

[Subsidiary]

For Official Use Only

Entered on Schedule (Yes/No) Water Sample Received (Yes/No)
 Drilling Samples Received(Yes/No) Chemical Analysis Received (Yes/No)
 Drilling Samples Filed (Yes/No) Geologist's Log Available(Yes/No)
 Location Plotted on Maps..... (Yes/No)
 Hydro geological Report No. of (Date)
 Geophysical Curve No.of (Date)
 Borehole Data entered and checked by (Name) Signature.....
 Permit details
 Permit Number Authorised abstraction m³/d
 Authorised water use(s)
 Pump intake depth m bgl Maximum authorised abstraction rate m³/hr

All Borehole Completion Records duly completed should be sent to the appropriate WRA Regional Office.

The Chief Executive
 Officer,
 Water Resources
 Authority,
 P.O. Box 45250 – 00100
 NAIROBI



Grid Reference for Works
 (UTM Arc 1960)
 Easting: _____ Catchment: _____
 Northing: _____ WRA ID: _____
 Zone: _____ File No: _____

Form: WRA 013

Water Resources Authority
WELL COMPLETION RECORD

(To be submitted in triplicate) (Regulation 76,77)

Well Authorisation No.

Well Name

Geological formation

PARTICULARS OF APPLICANT **DETAILS**

- 21. Full name of applicant(s) (In Block Letters)
- 22. Category of Applicant – Individual, Group [Association, Society], Company, Institution
- 23. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies
- Physical Address where water is to be used (see Contact Address of Applicant sketch)
- 24. L.R Number(s) 10. Box Number

[Subsidiary]

- | | |
|----------------------------|--|
| 25. Village(s)/
Ward(s) | 11. Town |
| 26. Sub-
location(s) | 12. Post Code |
| 27. Location(s) | 13. Telephone
Contact
(Landline) |
| 28. Division(s) | 14. Telephone
Contact
(Mobile) |
| 29. District(s) | 15. Email
Contact |

PARTICULARS OF CONTRACTOR (IF APPLICABLE)

- | | |
|-------------------------------------|----------------------------|
| 16. Box Number | 22. Email
Contact |
| 17. Town | 23. Licence
Number |
| 18. Post Code | 24. Gazetted on |
| 19. Telephone Contact
(Landline) | 25. Drilling
Supervisor |
| 20. Telephone Contact (Mobile) | |

INTENDED USE OF WATER

Public; Irrigation; Industry; Domestic; Livestock;
other

PARTICULARS OF WELL

Type of Well: Hand-dug; Machine-dug; Other

Well Construction (also see Figure 1)

Construction started (date)	Construction completed (date)	All works completed (date)
Total Depth: Reported (m)	Measured (m)	Final (back- filled) Depth (m)
Well Diameter (mm)	From (m)	To (m)
Well Diameter (mm)	From (m)	To (m)
Well Diameter (mm)	From (m)	To (m)
Hole Diameter (mm)	From (m)	To (m)

Permanent Lining where relevant (if well is not lined, state "unlined" in the box below)

Plain Type	Diam (mm)	Length (m)	From (m)	To (m)
---------------	-----------	---------------	----------	--------

Water

[Subsidiary]

Type	Diam (mm)	Length (m)	From (m)	To (m)
------	-----------	------------	----------	--------

Type	Diam (mm)	Length (m)	From (m)	To (m)
------	-----------	------------	----------	--------

Screens or equivalent where relevant (if well is not lined, state "unlined" in the box below)

Size/ Description of Openings

Type	Diam (mm)	Length (m)	From (m)	To (m)
------	-----------	------------	----------	--------

Type	Diam (mm)	Length (m)	From (m)	To (m)
------	-----------	------------	----------	--------

Gravel Pack

Size of grains (mm)	Roundness (good, fair, poor)	Volume inserted into annular space (m ³)
From (m)	To (m)	

Open Hole

Diam (mm)	From (m)	To (m)
-----------	----------	--------

Aquifer

Water Struck at (m)	Water Rest Level (m)
From (m)	To (m)

Water bearing material	From (m)	To (m)
------------------------	----------	--------

Other Aquifers, Remarks, etc. (also see log on page 4), technical information (specific capacity, transmissivity) etc.

Pumping Test Record in Summary (detailed test records on attached sheets):

(all depth measurements to be in metres below ground surface)

Information to be provided Test No. 1 Test No. 2

Date of test (day, month, year)

Depth of well at time of test

Water Entry (aquifer zone)	From:	From:
	To:	To:

Static water level (SWL) before test

Type of pump or bailer used

Depth of pump intake

Discharge (in m³/hr)

Distance from well to point of discharge of water pumped

[Subsidiary]

Pumping water level (PWL) at end of test
 After pumping continuously for (hours)
 Time of recovery to start SWL (minutes)
 Rate of recovery – WL after 5 minutes
 Rate of recovery – WL after 20 minutes
 Rate of recovery – WL after 60 minutes
 Rate of recovery – WL after 180 minutes
 Full test data and curves to be appended to this form

(Additional pumping tests to be given in REMARKS below and included in the file).

Authority representative witnessing the test.....

Quality of Water

Sample (Yes/No)	Collected at (hour)	On (date)
Sediment	Taste	Odour
Colour	Temperature (°C)	Electrical Conductivity (DS/cm)

Full chemical and bacteriological data to be appended to this form

Remarks:

(Construction difficulties and any pertinent information about the construction and completion of the well)

<i>Drilling Supervisor</i>	<i>Drilling Contractor</i>
Signature	Signature
Name	Name
Date	Date

Well Number

Well Name

Constructor's Log (hydrogeologist's log to be appended to this form if applicable).

From (m)	To (m)	Description of Formation Penetrated	From (m)	To (m)	Description of Formation Penetrated
----------	--------	-------------------------------------	----------	--------	-------------------------------------

Remarks or additional information on Driller's log, or on sketch of well:

Figure 1 Sketch of Well Construction:

(Sketch to include: details of well headworks and sanitary protection; depths and changes of hole diameter; lining positions, type and diameter of lining and related information)

if applicable; location of aquifer (and screens if applicable); if casing closed at bottom, show how; formation caving zones; and any other pertinent information).

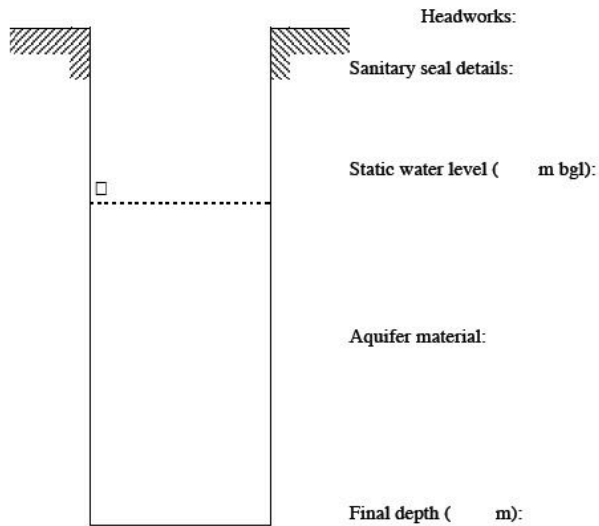
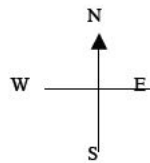


Figure 2 Location Sketch:

(To be sketched by the constructor or applicant on-site, showing latrines, septic tanks or sewerage network and distances; roads, tracks and prominent land marks; road distances to nearest town or trading centre and to nearest alternative water source).



For Official Use Only: complete as applicable

Entered on Schedule (Yes/No) Water sample received..... (Yes/No)
 Geological samples received (Yes/No) Chemical analysis received..... (Yes/No)
 Geological samples filed.....(Yes/No) Geologist's Log available..... (Yes/No)
 Location plotted on maps..... (Yes/No)

Hydrogeological report No. of (Date) by (Name)

Geophysical Curve No.of (Date) by (Name)

Well data entered and checked by (Name) Signature.....

Permit details

Permit Number Authorised abstraction m³/d

Authorised water use(s)

Pump intake depth m bgl Maximum authorised abstraction rate M³/hr

[Subsidiary]

All Well Completion Records duly completed should be sent to the appropriate WRA Regional Office.

The Chief Executive
Officer,
Water Resources
Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works
(UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Form: WRA 013

Water Resources Authority
WATER PERMIT

By virtue of the authority vested in us by the Water Act 2016, we, the Water Resources Authority, do hereby grant unto (name) _____, hereinafter called the permit holder, or his/her/their executors, Administrators and assigns permission to use water in accordance with the details contained herein, subject to the provisions of the Water Act 2016, and the Regulations thereunder, and the conditions following hereafter and endorsed hereon and attached hereto:—

<i>Permit No. P</i>	<i>Permit Expiry Date</i>	
Type of Surface Water	Groundwater	Effluent Swamp
Water		Discharge
Use	Diversion	Abstraction
	stream	Works
	Storage	Shallow Borehole well

Tick
Box

PARTICULARS OF PERMIT HOLDER DETAILS

1. Full name of applicant(s) (In Block Letters)
2. Category of Applicant - Individual, Group [Association, Society], Company, Institution
3. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies
4. PIN Number (where available)
- Physical Address where water is to be used
5. L/R Number(s)
7. Village(s)/ Ward(s)
9. Sub-location(s)
11. Location(s)
13. Division(s)
- Contact Address of Applicant
6. Box Number
8. Town
10. Post Code
12. Telephone Contact (Landline)
14. Telephone Contact (Mobile)

15. District(s) 16. Email Contact

WATER RESOURCE DETAILS

17. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored

18. Is the point of abstraction or storage in a Protected

Area or a Groundwater Conservation Area? (yes/no)

19. Sub-catchment Number

20. Class of Water Resource

21. Name of Body of Water or Aquifer where effluent is to be discharged

22. Sub-catchment Number (Effluent)

23. Class of Water Resource (Effluent)

24. Category of Application (Class of Permit)

SUPPLEMENT TO PERMITS

25. Does permit include Supplements approved under section 21 of WRA Regulations (yes/no)

26. List

Reference Number for each Supplement

Brief

Description

of Project

and

Intended

Use for

Water

Type of	Groundwater	Surface Water (m ³ /day)		
Water Use (m ³ /day)	River - Normal Condition	River - Flood Condition	River – Regulated Flow	Lake

1. Public

2.

Domestic

3.

Livestock

4.

Subsistence

Irrigation

5.

Commercial

Irrigation

6. Industry/

Commercial

7.

Hydropower

8. Others

9. Sub-

total

[Subsidiary]

10.

Quantity

Returned

11. Water

Abstracted

(row 9-row

11)

12.

Effluent

Discharge

13. Basic

Human

Needs

CONDITONS OF PERMIT

Availability of Resource

DETAILS

When the resource availability drops into the Reserve, the permit holder is only entitled to Basic Human Needs

Water Quality Report

Payment of Water Use Charges

Inspections

1

2

3

4

Other Technical Details

Effluent Discharge Requirements

Meter ID Numbers Related to this permit

1.

2.

3.

SURFACE WATER - ABSTRACTION, DIVERSION, IN-STREAM AND CONVEYANCE WORKS

Grid Reference for Works (UTM , based on ARC1960 Datum, Zone 36/37)

Easting

Northing

Altitude (m above sea level)

Map Sheet

Weir (1) or Collection Chamber (2)

Dimensions

Width/diameter (m)

Length (m)

Height (m)

Materials

Compensation Flow Capacity (m³/day)

Pump

Type of Pump

Type of driving machine

Powersource of driving machine

(diesel, electric, wind, water)
 Maximum Power rating (KV_a)
 Expected operating head (m)
 Delivery Rate at expected operating head
 (m³/hr)

Expected operating hours (hrs)

Canal

Length (m)

Top width (m)

Bottom width (m)

Lined or unlined

Lining material

Gradient (m/100m or %)

Maximum velocity (m/s)

Maximum Capacity (m³/day)

Pipeline

Internal diameter of delivery pipe (mm)

Maximum Capacity (m³/day)

GROUND WATER

Grid Reference for Works (UTM ,
 based on ARC1960 Datum, Zone 36/37)

Easting

Northing

Altitude (m above sea level)

Map Sheet

W.R.M.A. number of well/ borehole

Total depth of well/ borehole

Depth to which the cylinder or suction pipe may be
 installed

STORAGE DAM

Name of dam

Class of Dam (A, B or C)

Grid Reference for Dam (UTM ,
 based on ARC1960 Datum, Zone 36/37)

Easting

Northing

Altitude (m above sea level)

Map Sheet

Spillway

Dimensions at control

Width (m)

Length (m)

Height (m)

Embankment

Material (earth, concrete, masonry, others)

Dimensions

Width at Crest (m)

Length at Crest (m)

Upstream slope (1 to ...)

Downstream slope (1 to ...)

[Subsidiary]

Maximum Depth of Water (Measured from bed to normal water level) (m)
 Maximum Height of Embankment (m)
 Gross Freeboard (m)
 Net Freeboard (m)
 Impoundment
 Estimated Impounded Volume (m³)
 Other Details
 Maximum Drawoff Capacity (m³/day)
 Maximum Compensation Flow capacity (m³/day)

SWAMP DRAINAGE

Name of swamp
 Size of swamp to be drained (ha)
 Purpose of swamp drainage (agricultural, residential, recreational, public health, industrial, abstraction)
 Means of swamp drainage (tick as appropriate)
 Channelling or canalisation of flows
 Diversion of inflow
 Expected % of inflow waters to be diverted
 Construction of drainage canals or drainage pipes
 Expected reduction in water level in swamp (m)

EFFLUENT DISCHARGE

Grid Reference for Effluent Discharge Point (UTM, based on ARC1960 Datum, Zone 36/37)
 Easting
 Northing
 Altitude (m above sea level)
 Map Sheet
 Source of water supply
 Source of Effluent (domestic, institutions, industrial, agricultural, urban)
 Mode of discharge (pipe, canal,)
 Maximum Daily Effluent discharge (m³/day)
 Details of Treatment System
 Chemical
 Settling
 Anaerobic digesters
 Oxidation or aerated ponds
 Natural or constructed Wetland
 Other (specify)
 Retention time (days)
 Nature of Pollutants (Chemical, biological, physical)

EFFLUENT QUALITY

Parameter	Units	Guideline Value	Parameter	Units	Guideline Value
BOD (5 days at 20C	mg /		Total Phosphorous	mg/l	

Water

[Subsidiary]

COD	mg/l	Total	mg/l
Total	mg/l	Nitrogen	
Dissolved		Total	mg/l
Solids		suspended	
pH	pH scale	solids	
Temperature	° C	Metals	mg/l
		Non metal	mg/l
		toxics(sulphides,	
		cyanides,	
		fluorides)	
Total	Counts/100ml	Pesticide	µg/l
Coliforms		residues	
Turbidity	NTU/Hazen	Phenols	mg/l
or colour			
Ammonia -	mg/l	Oils and	mg/l
NH3		grease	
Ammonium-	mg/l	Others	
NH4			
Nitrite – NO2	mg/l		
Nitrate-NO3	mg/l		

SIGNATURE

Yours faithfully,
Signature of WRA Officer
Name of Officer
Position of Officer
Date of Signature

The Chief Executive
Officer,
Water Resources
Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works (UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Water Resources Authority
APPLICATION FOR RENEWAL OF WATER PERMIT
(To be submitted in triplicate)

I, the undersigned hereby apply for renewal of the Permit No.

I, certify that the works have been maintained and the water used in accordance with the provisions of the permit referred to above.

Type of	Surface Water		Groundwater	Effluent	Swamp
Water				Discharge	Drainage
Use	Diversion	Abstraction	Storage	Shallow	Borehole
		on-stream	Works	well	

Tick
Box
Attach 1B 1B 1B 1C 1D 1D 1E 1F

[Subsidiary]

Form

PARTICULARS OF APPLICANT DETAILS

- | | |
|--|----------------------------------|
| 1. Full name of applicant(s) (In Block Letters) | 2. |
| 3. Category of Applicant - Individual, Group [Association, Society], Company, Institution | |
| 4. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies | |
| 5. PIN Number (where available) | |
| Physical Address where water is to be used | Contact Address of Applicant |
| 6. L/R Number(s) | 7. Box Number |
| 8. Village(s)/ Ward(s) | 9. Town |
| 10. Sub-County(s) | 11. Post Code |
| 12. County(s) | 13. Telephone Contact (Landline) |
| | 14. Telephone Contact (Mobile) |
| | 15. Email Contact |

WATER RESOURCE DETAILS

16. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored
17. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)
18. Sub-catchment Number
19. Class of Water Resource
20. Name of Body of Water or Aquifer where effluent is to be discharged
21. Sub-catchment Number (Effluent)
22. Class of Water Resource (Effluent)
23. Category of Application (Class of Permit)

Note: Shaded Areas to be filled in by WRA Officials

QUANTITY WATER REQUIRED

24. Description of Project and Intended Use for Water
- | | | | | | | |
|-------------------|-----------------------------------|-------------------------------------|--------------------------|-------------------------|------------------------|------|
| Type of Water Use | Groundwater (m ³ /day) | Surface Water (m ³ /day) | River - Normal Condition | River - Flood Condition | River – Regulated Flow | Lake |
|-------------------|-----------------------------------|-------------------------------------|--------------------------|-------------------------|------------------------|------|
25. Public
26. Domestic

- 27. Livestock
- 28. Subsistence Irrigation
- 29. Commercial Irrigation
- 30. Industry/ Commercial
- 31. Hydropower
- 32. Others
- 33. Sub-total
- 34. Quantity Returned
- 35. Water Abstracted (row 42-row 44)
- 36. Effluent Discharge

FEES SUBMITTED

Category A, B, C or D Class Permit Amount (KES)

Permit Fees

AMOUNT PAID

Receipt Number

SIGNATURE

Signature of Applicant or duly Authorised Agent

Name

Date of Application

SIGNATURE OF WRA OFFICIAL RECEIVING PERMIT RENEWAL APPLICATION

Signature of WRA Official

Name

Position

Date Application for Renewal Received

OFFICIAL SECTION (To be filled in by WRA officials)

WRA Action	Decision	Date	Comment/ Reference
------------	----------	------	--------------------

Recommended

Rejected

Conditional

Recommendation

Permit Renewed

until

(date)

[Subsidiary]

The Chief Executive
Officer,
Water Resources
Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works
(UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Water Resources Authority
APPLICATION FOR VARIATION OF WATER PERMIT
(To be submitted in triplicate)

I, (name) _____, the holder of Permit No. _____, do hereby apply for a variation to the permit.

The need to vary the permit has been caused by (state cause)

Which item(s) of the permit is/are changing?	Original Value	New Value	Comments
Type of Water Use	Surface Water	Groundwater	Effluent Discharge
Diversion/Abstraction Works	stream	Shallow well	Swamp Drainage
		Borehole	

Tick Box

PARTICULARS OF PERMIT HOLDER DETAILS

- Full name of applicant(s) (In Block Letters)
- Category of Applicant - Individual, Group [Association, Society], Company, Institution
- ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies
- PIN Number (where available)
- Physical Address where water is to be used
- Contact Address of Applicant
- L/R Number(s)
- Box Number
- Village(s)/Ward(s)
- Town
- Sub-County(s)
- Post Code
- County(s)
- Telephone Contact (Landline)
- Telephone Contact (Mobile)
- Email Contact

WATER RESOURCE DETAILS

- 15. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored
- 16. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)
- 17. Sub-catchment Number
- 18. Class of Water Resource
- 19. Name of Body of Water or Aquifer where effluent is to be discharged
- 20. Sub-catchment Number (Effluent)
- 21. Class of Water Resource (Effluent)
- 22. Category of Application (Class of Permit)

FEES SUBMITTED

Category A, B, C or D Class Permit Amount (KES)
 Application Fees for Variation
 Receipt Number

SIGNATURE

Signature of Applicant or duly Authorised Agent
 Name
 Date of Application

SIGNATURE OF WRA OFFICIAL RECEIVING APPLICATION TO VARY PERMIT

Signature of WRA Official
 Name
 Position
 Date Application for Variation Received

OFFICIAL SECTION

(To be filled in by WRA officials)

WRA Action	Decision	Date	Comment/ Reference
------------	----------	------	-----------------------

Variation
 Accepted
 Rejected
 Conditional
 Acceptance
 Permit Valid until
 (date)

The Chief Executive
 Officer,
 Water Resources
 Authority,
 P.O. Box 45250 – 00100
 NAIROBI



Grid Reference for Works
 (UTM Arc 1960)
 Easting: _____ Catchment: _____
 Northing: _____ WRA ID: _____
 Zone: _____ File No: _____

Form: WRA 013

Water Resources Authority
APPLICATION FOR TRANSFER OF WATER PERMIT
(To be submitted in triplicate)

[Subsidiary]

I, (name), being the holder of Permit No., do hereby apply for the permit to be transferred to (name)

I confirm that all other particulars of the Permit remain the same.

The need to transfer the permit has been caused by (state cause)

Type of Water Use	Surface Water	Groundwater	Effluent Discharge	Swamp Drainage
	Diversion	Shallow well		
	Abstraction	Borehole		
	on-stream Works	Storage		

Tick

Box

PARTICULARS OF CURRENT PERMIT DETAILS

HOLDER

- | | |
|--|----------------------------------|
| 1. Full name of applicant(s) (In Block Letters) | |
| 2. Category of Applicant - Individual, Group [Association, Society], Company, Institution | |
| 3. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies | |
| 4. PIN Number (where available) | |
| Physical Address where water is to be used | Contact Address of Applicant |
| 5. L/R Number(s) | 6. Box Number |
| 7. Village(s)/ Ward(s) | 8. Town |
| 9. Sub-County(s) | 10. Post Code |
| 11. County(s) | 12. Telephone Contact (Landline) |
| 13. Division(s) | 14. Telephone Contact (Mobile) |
| 15. District(s) | 16. Email Contact |

PARTICULARS OF PROPOSED

PERMIT HOLDER

- | | |
|---|------------------------------|
| 17. Full name of applicant(s) (In Block Letters) | |
| 18. Category of Applicant - Individual, Group [Association, Society], Company, Institution | |
| 19. ID Number of Applicant (Individual) or Certificate of Incorporation or Registration for Groups or Companies | |
| Physical Address where water is to be used | Contact Address of Applicant |
| 20. L/R Number(s) | 21. Box Number |

Water

[Subsidiary]

- 22. Village(s)/ Ward(s)
- 23. Town
- 24. Sub-County(s)
- 25. Post Code
- 26. County(s)
- 27. Telephone Contact (Landline)
- 28. Telephone Contact (Mobile)
- 29. Email Contact

WATER RESOURCE DETAILS

- 30. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored
- 31. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)
- 32. Sub-catchment Number
- 33. Class of Water Resource
- 34. Name of Body of Water or Aquifer where effluent is to be discharged
- 35. Sub-catchment Number (Effluent)
- 36. Class of Water Resource (Effluent)
- 37. Category of Application (Class of Permit)

FEES SUBMITTED

Category A, B, C or D Class Permit	Amount (KES)
Application Fees for Transfer of Permit	
Receipt Number	

SIGNATURE

Signature of Applicant or duly Authorised Agent
 Name
 Date of Application

SIGNATURE OF WRA OFFICIAL RECEIVING PERMIT TRANSFER APPLICATION

Signature of WRA Official
 Name
 Position
 Date Application for Renewal Received

OFFICIAL SECTION

(To be filled in by WRA officials)

WRA Action	Decision	Date	Comment/Reference
Transfer Accepted			
Rejected			
Conditional Acceptance			
Permit Valid until (date)			

APPLICATION FOR SEARCH OF WATER PERMIT

I, (name)....., request the Water Resources Authority to provide me with a copy of the Water Permit in respect of the person or parcel of land shown below (submit as much information as possible):

[Subsidiary]

PARTICULARS OF PERMIT HOLDER DETAILS

- | | |
|---|----------------------------------|
| 1. Full name of Permit Holder(s) (In Block Letters) | |
| 2. Category of Permit Holder - Individual, Group [Association, Society], Company, Institution | |
| 3. Permit Number | |
| Physical Address where water is being used | Contact Address of Permit Holder |
| 4. L/R Number(s) | 5. Box Number |
| 6. Village(s)/ Ward(s) | 7. Town |
| 8. Sub-location(s) | 9. Post Code |
| 10. Location(s) | 11. Telephone Contact (Landline) |
| 12. Division(s) | 13. Telephone Contact (Mobile) |
| 14. District(s) | 15. Email Contact |

WATER RESOURCE DETAILS

16. Name of Body of Water or Aquifer where water is diverted, abstracted or stored
17. Sub-catchment Number
18. Name of Body of Water or Aquifer where effluent is discharged
19. Sub-catchment Number (Effluent)

FEEES SUBMITTED

Amount (KES)

Search Fees
Receipt Number

SIGNATURE

Signature of Applicant or duly Authorised Agent
Name
Date of Application

ASSESSMENT OF WATER USE AND CHARGES

(To be submitted in triplicate)

PARTICULARS OF APPLICANT DETAILS

- | | |
|---|----------------------------------|
| 1. Full name of applicant(s) (In Block Letters) | |
| 2. PIN Number (where available) | |
| Physical Address where water is to be used | Contact Address |
| 3. L/R Number(s) | 4. Box Number |
| 5. Village(s)/ Ward(s) | 6. Town |
| 7. Sub-location(s) | 8. Post Code |
| 9. Location(s) | 10. Telephone Contact (Landline) |

- 11. Division(s)
- 12. Telephone Contact (Mobile)
- 13. District(s)
- 14. Email Contact

WATER RESOURCE DETAILS

- 15. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored
- 16. Is the point of abstraction or storage in a Protected Area or a Groundwater Conservation Area? (yes/no)
- 17. Sub-catchment Number
- 18. Class of Water Resource
- 19. Status of Water Resource
- 20. Name of Body of Water or Aquifer where effluent is to be discharged
- 21. Sub-catchment Number (Effluent)
- 22. Class of Water Resource (Effluent)
- 23. Status of Water Resource (Effluent)
- 24. Category of Application (Category B, C or D)

QUANTITY WATER USED

BASED ON

MEASUREMENTS

- 25. Meter Number
- 26. Current Date of Assessment of Water Used
- 27. Date of Last Assessment
- 28. Current Meter Reading (m3)
- 29. Last Meter Reading (m3)
- 30. Total Consumption (m3)

BASED ON ESTIMATE

- 31. Estimate of water used (m3) between current & last assessment
- 32. *Show calculations/ justification for estimate of water used*

CALCULATION OF WATER USE CHARGES AND CURRENT STATEMENT

		Units	Quantity	Rates Kshs	Charges Kshs	Instructions
a	b	c	d	e	f	g
1	Total Consumption	m3				
2	Number of Days in Accounting Period	Days				

[Subsidiary]

3	DOMESTIC/ PUBLIC/ LIVESTOCK WATER USE				
4	Amount Allocated on Permit	m ³ /day			
5	Total amount allocated for accounting period	m ³			Col. d (Row 4 x row 2)
6	Total amount lawfully used	m ³	0.5	+	Not to exceed col d row 5
7	IRRIGATION WATER USE				
8	Amount Allocated on Permit	m ³ /day			
9	Total amount allocated for accounting period	m ³			Col. d (Row 8 x row 2)
10	Total amount lawfully used	m ³ /day			Not to exceed col. d row 9
11	Volume of water charged at lower rate	m ³	0.5	+	Max. vol.= col. d row 2 x 300
12	Volume of water charged at higher rate	m ³	0.75	+	Col. d Row 10 – row 11
13	INDUSTRIAL/ COMMERCIAL WATER USE				
14	Amount Allocated on Permit	m ³ /day			

Water

[Subsidiary]

15	Total amount allocated for accounting period	m3			Col. d (Row 14 x row 2)
16	Total amount lawfully used	m3			Not to exceed col. d row 15
17	Volume of water charged at lower rate	m3	0.5	+	Max. vol.= col. d row 2 x 300
18	Volume of water charged at higher rate	m3	0.75	+	Col. d Row 10 – row 11
19	FISH FARMING WATER USE				
20	Amount Allocated on Permit	m ³ /day			
21	Total amount allocated for accounting period	m3			Col. d (Row 20 x row 2)
22	Total amount lawfully used	m3	0.05	+	Not to exceed col. d row 21
23	HYDROPOWER				
24	Total amount hydropower generated	Kw.hr			
25	Total amount hydropower charged	Kw.hr	0.05	+	If (Row 24 – 1) >1, then Row 24 – 1
26	Sub-Total Water Use Charges			+	Sum Col f Rows 6, 11, 12, 17, 18, 22, 25
27	EXTRAS				

Water

[Subsidiary]

28	Water Resource Conservation charge for abstraction or effluent within a GWCA or protected area	0.05	+	Col. f Row 26 x 0.05
29	Penalty for lack of flow measuring device	0.1	+	Col. f Row 26 x 0.1
30	Incentive for flood water conservation	0.1	-	Col. f Row 26 x 0.1 (note negative sign)
31	Penalty for Over abstraction			
32	Total water m3 used			Col. d Row 1
33	Total water m3 lawfully used			Sum Col. d Rows 6, 10, 16, 22
34	Total water m3 used in excess of permit	1.0	+	Col. d (Row 32 – row 33)
35	TOTAL WATER USE CHARGES THIS PERIOD		+	Sum Col. f Rows 26,28,29, 30, 34
36				
37	STATEMENT			
38	Previous balance		+	
39	Payments within last period		-	
40	Outstanding balance		+	Col. f (Row 38 - row 39)
41	Interest Charges		+	Col. f Row 40 x 0.02 x 3 months

Water

[Subsidiary]

42	TOTAL AMOUNT DUE	Sum Col. f Rows 35, 40, 41
----	------------------------	----------------------------------

I certify that the information presented in this form provides an accurate estimate of the quantity of water used and the water use charges due.

Name

Signature

Date

(The Water Act (Cap. 372))

ORDER

PARTICULARS OF PERSON ISSUED WITH ORDER

1. Full name of receiving Order (In Block Letters)

Physical Address where water is to be used Contact Address

2. L/R Number(s) 3. Box Number

4. Village(s)/ 5. Town

Ward(s)

6. Sub-location(s) 7. Post Code

8. Location(s) 9. Telephone

Contact
(Landline)

10. Division(s) 11. Telephone

Contact
(Mobile)

12. District(s) 13. Email Contact

WATER RESOURCE DETAILS

14. Name of Body of Water or
Aquifer related to Order

You are hereby required to undertake the following action by the deadline stated below:

Action Required

Deadline

You are required to notify the Authority when you have complied with this Order.

Issued by:

Signature of Officer

Name of Officer

Position of Officer

Date of Signature

Reference: Regulation 1378 of WRM Regulations

(To be submitted in triplicate)

APPLICATION FOR AUTHORITY TO ENTER INTO AND UPON LANDS OF
OTHER LANDHOLDERS FOR THE PURPOSE OF INVESTIGATION AND
SURVEYING IN CONNECTION WITH A PROPOSED APPLICATION FOR A
PERMIT OR EASEMENT

PARTICULARS OF APPLICANT DETAILS

1. Full name of applicant(s) (In Block Letters)

2. PIN Number (where available)

[Subsidiary]

Physical Address where water is to be used	Contact Address
3. L/R Number(s)	4. Box Number
5. Village(s)/ Ward(s)	6. Town
7. Sub-location(s)	8. Post Code
9. Location(s)	10. Telephone Contact (Landline)
11. Division(s)	12. Telephone Contact (Mobile)
13. District(s)	14. Email Contact

DETAILS FOR WHICH ENTRY IS REQUIRED

15. Name of Body of Water or Aquifer where water is to be diverted, abstracted or stored

16. State as specifically as you can the proposed purposes for which you wish to use the water

17. Give a general description of the proposed project referring where necessary to the Cadastral map which you are required to submit herewith:

18. State the time in months which you estimate it will take to make the necessary survey and investigations

19. State when you propose to start the above investigation (give date)

PERSONS LIKELY TO BE AFFECTED (Attach extra sheet if required)

Description of land (Give LName of Owner R (No.))	Postal address and Tel of the owner or of his duly authorized agent
---	---

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

APPLICATION FEE
Application Fee (KES)

Receipt Number

SIGNATURE

Signature of Applicant or duly Authorised Agent

Date of Signature

ATTACHEMENTS	Attached (Yes/No)	Comments/Remarks
--------------	-------------------	------------------

Copy of Identification

Documents

Copy of Land Documents

(Land

Registrar)

Relevant Maps

Copy of Receipt for

Payment

APPLICATION FOR REGISTRATION BY WATER RESOURCE USER ASSOCIATION

(To be submitted in triplicate)

PARTICULARS OF WRUA DETAILS

APPLICANT

1. Full name of applicant(s) (In

Block Letters)

2. Registration Number

3. Date of Registration

Physical Address:

Contact Address

Contact Office or Person

4. L/R

5. Box Number

Number(s)

6. Village(s)/

7. Town

Ward(s)

8. Sub-

9. Post Code

County(ies)

10. County(ies)

11. Telephone

Contact

(Landline)

12. Telephone

13. Email

Contact

Contact

(Mobile)

WATER RESOURCE DETAILS

14. Name of Body of Water or Aquifer for which WRUA is applying

15. Sub-catchment Number

16. Class of Water Resource

17. Status of Water Resource

DETAILS OF OFFICIALS

Chairman (Name):

Date

Elected

Secretary (Name):

Date

Elected

Treasurer (Name):

Date

Elected

SIGNATURE BY TWO WRUA OFFICIALS

[Subsidiary]

Name of WRUA Official
 Position
 Signature of WRUA
 Official
 Date of Signature

INFORMATION ATTACHED
 Copy of Constitution
 Copy of Bylaws
 Minutes of election of officials

The Chief Executive
 Officer,
 Water Resources
 Authority,
 P.O. Box 45250 – 00100
 NAIROBI



Grid Reference for Works
 (UTM Arc 1960)
 Easting: _____ Catchment: _____
 Northing: _____ WRA ID: _____
 Zone: _____ File No: _____

**CERTIFICATE OF REGISTRATION
 FOR WATER RESOURCE USER ASSOCIATION**

Dear Sir/Madam;

I have the honour to inform you that the Water Resources Authority has registered the Water Resources Users Association.

**PARTICULARS OF WRUA DETAILS
 APPLICANT**

- | | |
|---|----------------------------------|
| 1. Full name of WRUA (In Block Letters) | |
| 2. Registration Number | |
| 3. Date of Registration | |
| Physical Address: | Contact Address |
| Contact Office or Person | |
| 4. L/R Number(s) | 5. Box Number |
| 6. Village(s)/Ward(s) | 7. Town |
| 8. Sub-County(s) | 9. Post Code |
| 10. County(s) | 11. Telephone Contact (Landline) |
| | 13. Telephone Contact (Mobile) |
| 12. | 15. Email Contact |
| 14. | |

WATER RESOURCE DETAILS

16. Name of Body of Water or Aquifer for which WRUA is applying
 17. Sub-catchment Number

18. Class of Water Resource

SIGNATURE OF WRA OFFICIAL
 Signature of WRA Official
 Name
 Position
 Date of Registration

The Chief Executive
 Officer,
 Water Resources
 Authority,
 P.O. Box 45250 – 00100
 NAIROBI



Grid Reference for Works
 (UTM Arc 1960)
 Easting: _____ Catchment: _____
 Northing: _____ WRA ID: _____
 Zone: _____ File No: _____

Water Resources Authority

SUPPLEMENT TO WATER PERMIT/AUTHORISATION

SUPPLEMENT No. _____ to be attached to

*Authorisation, Permit No. _____

dated _____ issued to and declared to form part thereof as
 if written or printed thereon (**delete as appropriate*).

DETAILS OF SUPPLEMENT

Type of Water	Surface Water	Groundwater	Effluent Discharge	Swamp Drainage
Use	Diversion Abstraction on-stream Works	Storage	Shallow well	Borehole

Tick
 Box

PARTICULARS OF PERSON TO WHICH SUPPLEMENT APPLIES

DETAILS

- | | |
|---|----------------------------------|
| 1. Full name (In Block Letters) | |
| 2. Category of Person - Individual, Group [Association, Society], Company, Institution | |
| 3. ID Number (Individual) or Certificate of Incorporation or Registration for Groups or Companies | |
| 4. PIN Number (where available) | |
| Physical Address where water is to be used | Contact Address |
| 5. L/R Number(s) | 6. Box Number |
| 7. Village(s)/Ward(s) | 8. Town |
| 9. Sub-County(s) | 10. Post Code |
| 11. County(s) | 12. Telephone Contact (Landline) |

[Subsidiary]

- 13. Telephone Contact (Mobile)
- 14. Email Contact

Brief

Description of Intended Use of Water Covered under Supplement

Type of Water Use	Groundwater (m ³ /day)	Surface Water (m ³ /day)	River - Normal Condition	River - Flood Condition	Lake
-------------------	-----------------------------------	-------------------------------------	--------------------------	-------------------------	------

- 17. Public
- 18. Domestic
- 19. Livestock
- 20. Subsistence Irrigation
- 21. Commercial Irrigation
- 22. Industry/ Commercial
- 23. Hydropower
- 24. Others
- 25. Sub-total

26. Quantity Returned

27. Water Abstracted (row 9- row 11)

28. Effluent Discharge

29. Basic Human Needs

ADDITIONAL DETAILS RELEVANT TO THE SUPPLEMENT
 Meter ID Numbers Related to this supplement

- 1.
- 2.
- 3.

SIGNATURE

Yours faithfully,

Signature of WRA Officer
 Name of Officer
 Position of Officer
 Date of Signature

The Chief Executive
Officer,
Water Resources
Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works
(UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

The Water Act
(Cap. 372)

APPLICATION FOR REGISTRATION AS A QUALIFIED WATER SECTOR PROFESSIONAL

(To be submitted in triplicate)

Category being applied for (tick as appropriate):

Panel I	Panel II	Panel III
A. Water Supply (>1000m ³ /day)	A. Water Supply (<1000m ³ /day)	Hydrologist
B. Effluent Treatment Works C2. Class SD2 Dams	B. Effluent Treatment Works C1. Class SD1 Dams	Hydrogeologist
C3. Class SD3 Dams		Hydrometeorologist
D. Irrigation (> 7,500 m ³ /day)	D. Irrigation (< 7,500 m ³ /day)	Chemist
		Biologist
		Ecologist
		Geologist

Name (Surname first)

1. Box Number
2. Town
3. Post Code
4. Telephone Contact (Landline)
5. Telephone Contact (Mobile)
6. Email Contact
7. Age (years)
8. PIN Number

Provide Details of Professional Training (Attach Certified copies of Certificates)

Institution	Course	Dates	Level Attained
-------------	--------	-------	----------------

Provide Details of Employment Record

(Attach Letters from Employer confirming position and dates)

Employer	Position Held	Dates
----------	---------------	-------

Provide Details of Professional Qualifications (Attach Certified copies of Certificates)

Institution	Level	Dates
-------------	-------	-------

Provide Details of Three Professional Referees

[Subsidiary]

Name Postal Address Tel Contact Email Address
 Testimonials. The number attached is.
 (You should submit not more than six testimonials to
 cover as far as possible your training and experience

SIGNATURE
 Signature of Applicant
 Date of Signature

The Chief Executive
 Officer,
 Water Resources
 Authority,
 P.O. Box 45250 – 00100
 NAIROBI



Grid Reference for Form: WRA 013
 Works
 (UTM Arc 1960)
 Easting: _____ Catchment: _____
 Northing: _____ WRA ID: _____
 Zone: _____ File No: _____

Water Resources Authority
 (The Water Act
 (Cap. 372))

LICENCE AS A QUALIFIED WATER SECTOR PROFESSIONAL

Dear Sir/Madam;

I have the honour to inform you that the Ministry of Water and Irrigation has given you a licence as a Qualified Water Sector Professional in the following categories.

DETAILS OF QUALIFIED WATER SECTOR PROFESSIONAL

Name (Surname
 first)

- | | |
|---------------|------------------------------------|
| 1. Box Number | 2. Telephone
Contact (Landline) |
| 3. Town | 4. Telephone
Contact (Mobile) |
| 5. Post Code | 6. Email Contact |
| 7. PIN Number | |

DETAILS OF LICENCE

Panel I	Panel II	Panel III
A. Water Supply ($>1000\text{m}^3/\text{day}$)	A. Water Supply ($<1000\text{m}^3/\text{day}$)	Hydrologist
B. Effluent Treatment Works	B. Effluent Treatment Works	Hydrogeologist
C2. Class SD2 Dams	C1. Class SD1 Dams	Hydrometeorologist
C3. Class SD3 Dams		Chemist
D. Irrigation ($> 7,500 \text{ m}^3/\text{day}$)	D. Irrigation ($< 7,500 \text{ m}^3/\text{day}$)	Biologist
		Ecologist

Geologist

Conditions of Licence:

1. _____

2. _____

Yours Faithfully

SIGNATURE OF MWI OFFICIAL

Signature of MWI Official

Name

Position

Date

The Chief Executive
Officer,
Water Resources
Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works
(UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

Water Resources Authority
(The Water Act
(Cap. 372))

APPLICATION FOR REGISTRATION AS A QUALIFIED CONTRACTOR

(To be submitted in triplicate)

Category being applied for (*tick as appropriate*):

- | | |
|--|--|
| Category I | Category II |
| A. Water Supply
($>1000\text{m}^3/\text{day}$) | A. Water Supply
($<1000\text{m}^3/\text{day}$) |
| B. Effluent
Treatment
($>1000\text{m}^3/\text{day}$) | B. Effluent
Treatment
($<1000\text{m}^3/\text{day}$) |
| C2. Class SD2
Dams | C1. Class SD1
Dams |
| C3. Class SD3
Dams | |
| D. Irrigation ($>7,500\text{m}^3/\text{day}$) | D. Irrigation ($<7,500\text{m}^3/\text{day}$) |
| E1. Borehole
Drilling – Class 1 ($<150\text{m}$) | E. Borehole
Servicing |
| E2. Borehole
Drilling – Class 2 ($>150\text{m}$) | |

Name of Contractor
(Attach Certified Copy of Registration Document)

1. Box Number
2. Town

[Subsidiary]

- 3. Post Code
- 4. Telephone Contact (Landline)
- 5. Telephone Contact (Mobile)
- 6. Email Contact
- 7. Year Established
- 8. Physical Address of Head Office

Provide Details of Professional Staff

Name	Professional Qualifications	Years of Experience	Position in Organisation
------	-----------------------------	---------------------	--------------------------

Provide Details of Equipment

Type of Equipment	Number of Units
-------------------	-----------------

Provide Details of Projects Completed in Last 5 Years

Type of Project	Name	Client	Contract Value (KES)	Date of Completion
-----------------	------	--------	----------------------	--------------------

Provide Details of Three Professional Referees

Name	Postal Address	Tel Contact	Email Address
------	----------------	-------------	---------------

Testimonials The number attached is.
 (You should submit not more than six testimonials to
 cover as far as possible your training and experience

SIGNATURE

Signature of Applicant
 Date of Signature

The Chief Executive
 Officer,
 Water Resources
 Authority,
 P.O. Box 45250 – 00100
 NAIROBI



Grid Reference for Works (UTM Arc 1960)
 Easting: _____ Catchment: _____
 Northing: _____ WRA ID: _____
 Zone: _____ File No: _____

Water Resources Authority
 The Water Act
 (Cap. 372)

LICENCE AS A QUALIFIED CONTRACTOR

Dear Sir/Madam;

I have the honour to inform you that the Water Resources Authority has given you a licence as a Qualified Contractor in the following category:

DETAILS OF QUALIFIED CONTRACTOR

Name of Company

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. Box Number 3. Town 5. Post Code | <ul style="list-style-type: none"> 2. Telephone Contact (Landline) 4. Telephone Contact (Mobile) 6. Email Contact |
|--|--|

7. PIN Number

DETAILS OF LICENCE

Category I	Category II
A. Water Supply (>1000m ³ /day)	A. Water Supply (<1000m ³ /day)
B. Effluent Treatment (>1000m ³ /day)	B. Effluent Treatment (<1000m ³ /day)
C2. Class SD2 Dams	C1. Class SD1 Dams
C3. Class SD3 Dams	
D. Irrigation (> 7,500 m ³ /day)	D. Irrigation (< 7,500 m ³ /day)
E1. Borehole Drilling – Class 1 (<150 m)	E. Borehole Servicing
E2. Borehole Drilling – Class 2 (>150 m)	

Conditions of Licence:

1. _____
2. _____

Yours Faithfully

SIGNATURE OF WRA OFFICIAL

Signature of WRA Official

Name

Position

Date

The Chief Executive Officer,
Water Resources Authority,
P.O. Box 45250 – 00100
NAIROBI



Grid Reference for Works (UTM Arc 1960)
Easting: _____ Catchment: _____
Northing: _____ WRA ID: _____
Zone: _____ File No: _____

WATER RESOURCES AUTHORITY
EFFLUENT DISCHARGE PERMIT
PERMIT CLASS-----
FACILITY AND EFFLUENT DISCHARGE DESCRIPTION
Name and Location of Facility
Activity of Facility
WRA's Facility Classification (FC1or FC2,,,))
Effluent Discharge Receiving Water Resource (River, Lake, Dam, etc.)

[Subsidiary]

Effluent Discharge Receiving Water Resource's
Quantity Threshold-WRA
Effluent Discharge Receiving Water Resource's
Quantity Threshold-WRA
WRA's Effluent Discharge Points (EDPs)
Grid Reference for Effluent Discharge Point
Easting
Northing
Altitude (m above sea level)
Map Sheet
Mode of discharge (pipe, canal,)
Daily Effluent discharge (m³/day)
Basis: description of how the average waste water
flow has been determined
Hours of discharge: Number of days per week &
hours per day's
List of process raw materials utilised and wastes
generated on site
Details of Treatment System
Chemical
Settling
Anaerobic digesters
Oxidation or aerated ponds
Natural or constructed Wetland
Other (specify)
Retention time (days)
Nature of Pollutants (Chemical, Biological, Physical)
A list of the potential impacts on the environment and
the proposed mitigation methods to be used
Details of any emergency / spillage control
arrangements
State if there any seasonal, or other variations
(including any arising from plant malfunction) in
volumes of effluent to be discharged

Attach a sketch plan showing fencing and drainage, storage area for liquid, sludge, solid waste awaiting treatment and residue awaiting removal for disposal elsewhere

EFFLUENT DISCHARGE QUALITY

<i>Compulsory Parameter</i>	<i>Units</i>	<i>Value</i>
BOD (5 days at 20 ^o C	mg/1	
COD	mg/1	
Electrical Conductivity (EC)	µS/cm	
Total Dissolved Solids (TDS)	mg/1	
pH	pH scale	
Temperature	°C	
Feacal coliforms	Counts / 100ml	
Total Coliforms	Counts / 100ml	
Flow rate	m ³ /day	
Colour	Hazen Units	

Total Suspended Solids (TSS)	mg/l
Chemical Parameters	
Sulphate (SO ₄)	mg/l
Sulphides, (S ²⁻)	mg/l
Phenols	mg/l
Fluorides (F)	mg/l
Chlorides (Cl)	mg/l
Free CO ₂	mg/l
Ammonium-NH ₄	mg/l
Nitrite – NO ₂	mg/l
Nitrate-NO ₃	mg/l
Total Phosphorous (P)	mg/l
Total Nitrogen (N)	mg/l
Potassium (K)	mg/l
PCBs	mg/l
Total Petroleum	mg/l
Hydrocarbons (TPH)	
Oils and grease	mg/l
Surfactants	mg/l
Heavy Metals (Cd, Cu, Pb, Zn, Al, Se, As, Sn, Mn, Co, Fe,)	mg/l
Pesticide residues	µg/l
WRA's Accruing Quality Points (AQPs)	

EFFLUENT DISCHARGE CLASSIFICATION AND CHARGES

WRA's Pollution Loading Points (EDP × AQP=PLP)

WRA's Class of Permit

Effluent Discharge Charge (cents/m³)

THE WATER HARVESTING AND STORAGE REGULATIONS

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THE WATER HARVESTING AND STORAGE REGULATIONS

[Legal Notice 169 of 2021]

PART I – PRELIMINARY**1. Citation**

These Regulations may be cited as the Water Harvesting and storage Regulations.

2. Interpretation

In these Regulations, unless the context otherwise requires—

"Act" means the Water Act (Cap. 372);

"applicant" means any person making an application to be licensed as an approved qualified water sector professional or a dam contractor;

"Authority" means the Water Resources Authority established under section 11 of the Act;

"proponent" means the owner, developer or other person intending to construct or constructing a dam or other waterworks;

"qualified water sector professional" means a person licensed pursuant to the Act as a water sector professional;

"water harvesting system" means a system comprising entrapment, transportation, filtration, and storage of rainwater for reuse or recharge;

"regulated watercourse" means a watercourse where the flow has been modified from its natural state by water storage or flood mitigation structures which provide a means of controlling or otherwise regulating the release of water into the natural channel;

"reservoir" means a body of water impounded by a dam or a dam with a safety risk;

"risk" means the measure of the probability and severity of an adverse effect to life, health, property or the environment;

"spillway" means a structure used to provide the controlled release of flows from a dam or levee into a downstream area typically the riverbed of the dammed river itself;

"storage capacity" means the total volume of free water excluding groundwater that could be stored below the lowest unobstructed spillway crest level or free outlet level of a dam, or below the maximum operating level established by the penstock inlet level or free decant level and as prescribed in the operation and maintenance manual or code of practice in the case of any residue deposit including tailings dams;

"storm water" means run-off water that has been concentrated by means of a drain, surface channel, subsoil drain or formed surface;

"watercourse" has the meaning assigned to it in the Act;

"water storage" means a location or structure where water is stored or retained for future use;

"Water Storage Authority" means the National Water Harvesting and Storage Authority established under section 30 of the Act;

"waterworks" means any man-made structure, apparatus, contrivance, device or thing for storing, impounding or diverting water permanently or temporarily, regulating the flow of water or containing or managing and controlling flooding and includes a dam, reservoir, water pan, dyke, levee and such like structures and devices; and

"Waterworks Development Agency" has the meaning assigned to it in the Act.

[Subsidiary]

3. Application of the Regulations

These Regulations shall apply to—

- (a) the policies, plans, programmes and activities of the national government, county governments and entities of the national and county governments; and
- (b) public and private waterworks for water harvesting and storage, reservoirs for impounding surface run-off and for regulating stream flows to synchronize them with water demand patterns and structures and devices for flood control and management.

PART II – CLASSIFICATION OF STORAGE DAMS AND OTHER WATERWORKS

4. Classification of dams

(1) A storage dam or other waterworks shall provisionally be classified by the owner or operator as Class SD 1, SD2 or SD3 on the basis of the criteria stipulated in Table 1 of the First Schedule by taking into account the risk factors set out in the Second Schedule.

(2) For purposes of determining an application for a permit for the development, operation and management of a storage dam or other waterworks or otherwise in exercise of its regulatory mandate, the Authority may affirm or vary the provisional classification assigned under subregulation (1).

(3) In classifying a storage dam or other waterworks, the principle to be applied is that the criteria or risk factor that results in the higher class of storage dam or other waterworks shall prevail.

5. Minimum net freeboard

- (1) The net freeboard for Class SD1 dams shall not be less than 0.6m.
- (2) The net freeboard for Class SD2 and SD3 dams shall—
 - (a) not be less than 1.0 m; or
 - (b) be as specified by the Authority.

6. Minimum spillway design flood

(1) The minimum acceptable return period for the design of a dam spillway shall be as provided in Table 5 in the Second Schedule.

(2) The Authority may require a higher return period with respect to the conditions and risks associated with a specific site.

7. National public waterworks

(1) A national public waterworks which satisfies the criteria in subregulation (2) shall be developed and managed under a contract with the Water Storage Authority.

- (2) National public waterworks shall—
 - (a) comprise of dams, reservoirs or other artificial structures constructed to control the flow of the waters of a watercourse and designed or operated to regulate stream flows to synchronise such structures with water demand patterns implemented pursuant to section 8 (2)(d) of the Act;
 - (b) be of strategic or national importance;
 - (c) be financed using national government monies pursuant to section 8(1)(b) of the Act; and

(3) A national public waterworks whose primary purpose is water storage for bulk distribution and provision of water services implemented pursuant to section 8(2)(b) of the Act may be developed and operated by or under a contract with a waterworks development agency or through the mechanisms set out in section 69 of the Act.

(4) Waterworks developed and managed by the Water Storage Authority for the storage of flood flows to enable downstream releases for the purposes of flow regulation, may in addition to the impoundment and flow regulation structures associated with the storage and

release of water from the reservoir, comprise structures and facilities to enable multi-purpose use such as draw-off towers that facilitate direct abstraction from the reservoir.

(5) Facilities associated with the treatment or bulk transfer of water even if forming part of a water resources storage dam that meets the criteria set out in subregulation (2) shall not be developed or managed under a contract with the Water Storage Authority but, if financed by the national government as national public waterworks, shall be developed and managed under a contract with a waterworks development agency or through the mechanisms set out in section 69 of the Act.

(6) A private person may, under an agreement with the Water Storage Authority, and subject to compliance with the applicable law on public private partnerships, develop, operate and maintain a dam to regulate stream flows by releasing the water stored into a natural watercourse as a public private partnership venture.

(7) A county government may, with the permission of the Water Storage Authority, develop, operate and maintain a dam for water harvesting and storage for use in bulk water provision, irrigation or other approved activities.

(8) Where a water resource storage dam or reservoir has been constructed to enable multi-purpose use, a user may under a contract with the Water Storage Authority acquire rights of access to the water resources storage dam for purposes of abstraction of water directly from the dam or reservoir.

PART III – DEVELOPMENT OF WATERWORKS

8. Prior right to water for storage

(1) The Authority shall on behalf of the National Government, and following consultation with the Cabinet Secretary, formulate medium to long term water resources storage plans and programmes based on water allocation plans, guidelines and data gathered or submitted to the Authority.

(2) The water resources plans of the Authority shall be undertaken on the basis that the right to store water shall be subject to the prior right to its uninterrupted flow required for actual and beneficial use and in compliance with the Act.

(3) The Authority, as a condition to the grant of a water use permit, may require a person applying for a permit to construct or develop a storage dam or facility to demonstrate that the proposed storage is in line with the National Government's medium and long-term plans for water resources and development.

9. Requirements for construction of waterworks

(1) Prior to constructing waterworks, the applicant shall apply for and obtain—

- (a) a water use permit issued by the Authority under the Act and the Regulations;
- (b) an environmental impact assessment licence in accordance with the Environmental Management and Co-ordination Act (Cap. 387); and
- (c) authorization from the mandated lead agency where the proposed water works is to be located inside a protected area or catchment area.

(2) Subregulation (1) does not apply—

- (a) to works constructed in emergency circumstances;
- (b) to temporary works in operation for a period of less than two years; or
- (c) if the works are a structure less than 2 metres water depth or 10,000m³ total storage unless directed to do so by the Authority in any particular case.

(3) Within two years after the completion of the works contemplated in subregulation (2)

(a), the owner, developer or operator of the waterworks shall—

- (a) demolish the works and restore the site; or
- (b) retain the works for purposes of water resources storage and or flood control subject to compliance with subregulation (1).

[Subsidiary]

10. Feasibility study

(1) The person intending to develop a storage dam or other waterworks falling into class SD 2 or SD 3 in Table 1 set out in the First Schedule shall prior to commencing the construction of the waterworks undertake a feasibility study.

(2) Prior to undertaking the feasibility study contemplated in subregulation (1), the terms of reference for the feasibility study shall be submitted by the proponent to the Authority for review and approval and in each such case the Authority shall finalize action within three months from the date of receiving the terms of reference.

(3) The feasibility study shall—

- (a) be planned and supervised by a qualified water sector professional of the appropriate category for that class of dam and selected on the basis of the categories in Table 3 of the Second Schedule;
- (b) identify and address the risk factors associated with the particular waterworks contemplated and the class of dam;
- (c) identify and address the main factors likely to affect the safe performance of the structures to be constructed.

(4) The feasibility study shall be submitted to the Authority for review, and if found to be satisfactory, the Authority shall within three months approve the proposal to proceed to full design.

(5) Where the Authority is not satisfied with the feasibility study, the Authority may require the proponent to enhance the feasibility study before a final decision is made.

(6) The Authority may before determining an application for a permit for a storage dam or other waterworks not required under subregulation (1) to undertake a feasibility study; require the applicant to undertake and submit such feasibility study.

(7) The Authority shall, in granting an approval under this regulation, undertake public participation through the invitation of comments from the public and stakeholders and public meetings where necessary.

11. Design by qualified water sector professional

(1) Storage dams and other waterworks shall be designed and supervised by the appropriate category of qualified water sector professionals as set out in Table 3 in the Second Schedule.

(2) Storage dams and other waterworks shall be constructed by the appropriate category of contractor as set out in Table 4 in the Third Schedule.

(3) A contractor undertaking construction of waterworks pursuant to these Regulations shall be a registered contractor in accordance with section 15 of the National Construction Authority Act (Cap. 118).

12. Dam Design Report

(1) An application for a permit to construct a storage dam shall be accompanied by a Dam Design Report.

(2) The format of the Dam Design Report is as set out in the Third Schedule.

(3) The level of detail required in the Dam Design Report shall be based on the professional advice of the qualified water sector professionals preparing the report taking account of the class of dam to be constructed and the risk category, provided that the Authority may, before determining the application, require the applicant to prepare and submit a more detailed report.

(4) If the circumstances require, the Authority may provisionally authorise the works on the basis of a preliminary Dam Design Report on condition that the applicant submits a complete design report acceptable to the Authority before commencement of construction of the works.

13. Dam Construction Progress Report

A person authorized to construct a storage dam shall submit a dam construction progress report at such times and intervals as may be determined by the Authority.

14. Dam Completion Report and Dam Operation Report

(1) On completion of construction, the applicant shall submit to the Authority, a Dam Completion Certificate, a Dam Completion Report and a Dam Operation Report as provided in the Third Schedule.

(2) A permit shall be issued by the Authority upon approval of the Dam Completion Report and Dam Operation Report.

15. Cessation or resumption plan

An owner or operator of waterworks shall prepare and submit to the Authority for approval, a cessation or resumption plan if resumption plan.

- (a) the owner or operator intends to cease, suspend, restrict or limit the operation of the dam for more than three hundred and sixty-five consecutive days; or
- (b) the owner or operator intends to resume the operation of a dam the operation of which has ceased or been suspended, restricted or limited for more than three hundred and sixty-five consecutive days; and
- (c) the dam falls within the Risk Category SD2 or SD3 as set out in the Second Schedule.

PART IV – RELEASE OF WATER FROM
STORAGE DAMS AND OTHER WATERWORKS

16. Release and use of stored water

The water held in the storage dams of the Water Storage Authority shall—

- (a) not be diverted or abstracted for use for any purpose except with the written approval of the Authority and the Water Storage Authority; and
- (b) be released into a natural watercourse subject to reductions in volume arising from evaporation and seepage according to a water release programme provided in a Dam Operation Report and approved by the Authority.

17. Premiums for use of water from storage facilities

(1) A holder of a permit shall pay a premium calculated in accordance with the Fourth Schedule in addition to the water use charge payable under the Act, to abstract or divert water directly from a storage dam operated by the Water Storage Authority or from a regulated watercourse downstream of a storage dam operated by the Water Storage Authority.

(2) The premium shall be paid on a monthly basis to the Water Storage Authority or a private owner or operator of the storage dam upon issuance of an invoice to the holder of a permit by the Water Storage Authority or private owner or operator of the dam, with a copy to the Water Resources Authority, to be used to offset a portion of the costs of operation and maintenance of the storage dam that is proportionate to the volume of the yield of the storage dam that is released into the regulated river and which the holder of a permit is entitled under his or her permit to abstract.

(3) The water use permit entitling an abstraction from a regulated river shall in addition provide for the payment to the Water Storage Authority by the holder of a permit of 20% of the premium payable under subregulation (2) towards the Water Storage Authority's general overhead costs and any deficit in its revenue.

(4) A delay or failure to pay the premium shall attract interest at the rate of 2% for each month of such delay or failure.

(5) Any premium which is in arrears is recoverable by the Water Storage Authority or private owner or operator of the dam as a civil debt in a court of competent jurisdiction

[Subsidiary]

without prejudice to the power of the Authority to treat the failure of the holder of a permit to make payment as a breach of the conditions of the permit and liable to suspension or cancellation of the permit.

18. Outlets for release of stored water

A holder of a permit storing or arresting the flow of water by means of a dam or weir located on a body of water or watercourse shall unless otherwise decided by the Authority, provide, at a depth measured from the top of the dam or weir and to be specified by the Authority in each particular case, an outlet, controlled by a valve, sluice gate or other device, which shall be capable of being operated at all stages of the flow of such body of water or watercourse so that the normal flow or other flow as required by the Authority, of such body of water or watercourse can be passed through or around such dam or weir at all stages:

Provided that where the normal flow of the body of water or watercourse is automatically by-passed around the reservoir, without any storage or arresting of the flow of the water being effected, no such outlet works need be constructed.

19. Authorisation for release of stored water

(1) A holder of a permit, other than the Water Storage Authority, who is authorised to store or impound the water of any body of water or the operator, may release the water so stored into a natural watercourse with the approval of the Authority and, subject to the water so stored being appurtenant to the land upon which it is to be utilized, and the conditions of his or her authorization or permit authorizing the diversion or abstraction herein afterwards mentioned may, at a point downstream of the point of storage, divert or abstract from the body of water into which the stored water is released the quantity of water so released.

(2) Except in the case of the Water Storage Authority, a holder of a permit, who has a permit to store or impound water in any body of water, or the operator, before releasing water into a natural watercourse as aforesaid, shall give to the Authority and to all persons entitled to use water from any part of the body of water between the point of release of the stored water and the points of utilization of the said water such notice of the use of the body of water for the purpose aforesaid and such particulars regarding the time during which it will be released into the body of water, the rate of discharge of the stored water and other matters as the Authority may, from time to time, require.

(3) Except with the prior written approval of the Authority, no holder of a permit, other than the holder of a permit who releases the stored water under subregulation (1) or the operator shall divert or abstract any proportion of the flow of the body of water due to the water so released, nor shall any holder of a permit impound or store, except to such an extent as may be imposed upon him or her by the maximum capacity of his or her works for discharging the flow of the body of water through or around his or her works which abstract the flow of the water, any proportion of the flow of the body of water due to the water so released

20. Notice downstream

(1) The operator of a dam shall take adequate measures at his or her cost as set out in the approved Dam Operation Report set out in the Third Schedule to notify the Authority and persons downstream likely to be affected by any discharge from the dam, whether caused by dam failure or intended releases from the dam that might result in damage downstream.

(2) The operator of a dam shall take adequate measures at his or her cost as set out in the approved Dam Operation Report to protect persons, infrastructure and environments downstream likely to be affected by any discharge from the dam whether caused by dam failure or intended releases from the dam that might result in damage downstream.

(3) In the event of such a discharge or intended release, failure to follow the steps detailed in the approved Dam Operation Report shall constitute an offence punishable under the Act and these Regulations.

PART V – MAINTENANCE AND MANAGEMENT OF WATER WORKS

21. Maintenance and management of works

(1) An owner or operator of waterworks shall be responsible for the safety of the storage dam and shall directly or through an agent undertake the maintenance and management of the waterworks in accordance with the requirements of the maintenance and operation systems detailed in the Third Schedule.

(2) Where an existing storage dam or waterworks appears not to have an owner, operator or other person or entity willing or capable of discharging the responsibilities of an owner or operator under this Part, the Water Storage Authority shall assume and discharge the responsibilities of the owner or operator pending a determination by the Cabinet Secretary of the person or entity upon whom the responsibility for the management and maintenance of the storage dam should be placed or its decommissioning as appropriate.

(3) Before the Water Storage Authority can assume the responsibilities under subregulation (2), it shall publish a notice in the Gazette of the intention to assume responsibility and upon the expiry of the notice period, if no person claims ownership or responsibility, the notice shall take effect.

(4) For the purposes of management and maintenance of the waterworks, the owner or operator of the waterworks shall facilitate—

- (i) routine inspections;
- (ii) treatment of cracks, slides, sloughing and settlement;
- (iii) concrete repair;
- (iv) inspection and repair of spillway conduits;
- (v) establishment and control of proper vegetation to prevent erosion of embankments and earth channel surfaces;
- (vi) control of seepage in velocity and quantity;
- (vii) rodent control;
- (viii) installation of trashracks on pipe spillways;
- (ix) inspection and repair of vegetated earth spillways; and
- (x) repair of mechanical equipment;
- (xi) create a monitoring and evaluation system for optimal use of the works;
- (xii) implement any other measures necessary for the safe operation and management of the storage dam or water works; and
- (xiii) undertake an annual environmental audit on the compliance of the dam or water works with the environmental impact assessment licence and environmental management plan issued for the dam under the Environmental Management and Co-ordination Act (Cap. 387).

22. Maintenance and management plans

An owner or operator of a dam shall prepare and obtain the approval of the Authority of the maintenance and management plans appropriate to the class and risk category of the storage dam as set out in the Second Schedule which shall comprise—

- (a) a maintenance operational plan;
- (b) a maintenance budget;
- (c) maintenance systems; and
- (d) maintenance performance norms and standards.

23. Maintenance operational plan

(1) An owner or operator of water works shall implement a maintenance operation plan for the works appropriate to the class and risk category of the storage dam as set out in the Second Schedule.

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(2) An owner or operator of waterworks shall conduct a maintenance analysis for the works' infrastructure including—

- (a) identification of all the works;
- (b) identification of critical works based upon the risk of failure; and
- (c) analysis of the maintenance options and determination of the preferred option.

24. Results of maintenance activities

An owner or operator of a dam shall document the results of maintenance activities and such a report shall include the following—

- (a) compliance with these Regulations;
- (b) reliability of the infrastructure; and
- (c) cost of maintenance.

25. Maintenance requirements analysis

(1) An owner or operator of waterworks shall identify maintenance requirements based on the risk of failure taking account—

- (a) the environmental impact;
- (b) public health and safety impact;
- (c) financial impact; and
- (d) service delivery impact.

(2) The impact with regard to each of the criteria shall be rated using a 5 point scale.

(3) The individual ratings will be combined into a combined rating which will be used to identify the maintenance requirements of specific waterworks.

26. Infrastructure maintenance budget

(1) For each storage dam or other waterworks operated and maintained under a contract with the Water Storage Authority any maintenance costs shall be calculated by reference to scales approved by the Authority.

(2) Where the maintenance budget is inadequate, the most critical maintenance action shall be undertaken.

27. Waterworks infrastructure maintenance system

(1) An owner or an operator of waterworks shall maintain a register of the water works which shall be used for the identification of all assets and which shall be updated periodically to reflect newly developed infrastructure including any alterations and material modifications.

(2) The maintenance activities of the storage dam owner or operator shall be scheduled and controlled using an appropriate Waterworks Infrastructure Maintenance System.

(3) The Waterworks Infrastructure Maintenance System shall—

- (a) record the time, costs, maintenance, and other resources expended for maintenance activities;
- (b) include links to the financial management system to facilitate reconciliation of maintenance budgets;
- (c) include built-in maintenance analysis tools or ability to export information to other applications to facilitate maintenance analyses;
- (d) analyze infrastructure performance to be used as an input to maintenance planning; and
- (e) include disaster management plans for ensuring safety in the event of an emergency.

(4) The Water Storage Authority shall prepare and submit the initial Waterworks Infrastructure Maintenance System to the Authority for approval within twelve months of the

commencement of these Regulations and the Authority shall finalize approval within forty-five days of submission or such extended period as may be notified by the Authority.

(5) In every subsequent year following the period provided for in subregulation (4), the Water Storage Authority shall submit the Waterworks Infrastructure Maintenance System to the Authority and highlight any modifications made to the previous plan.

28. Flood control works

(1) An owner or operator of waterworks shall—

- (a) continuously maintain the structures and facilities for flood control in such a manner, and for such periods as may be necessary to obtain the maximum benefit.
- (b) ensure a reserve supply of materials is maintained at the works in the event of a flood emergency.

(2) No improvement shall be passed over, under, or through the walls, levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the structure right-of-way, nor shall any change be made in any feature of the flood control works without prior determination by the owner or operator, which determination shall be documented, that such improvement excavation, construction, or alteration will not adversely affect the functioning of the flood control facilities.

(3) The improvements or alterations determined to be desirable and permissible under subregulation (2) shall be constructed in accordance with standard engineering practice.

29. Maintenance of levees

(1) An owner or operator of waterworks shall undertake periodic maintenance of levees to ensure the effectiveness of the structures when floods occur.

(2) The maintenance activities shall be taken in order to—

- (a) promote the growth of sod;
- (b) exterminate burrowing animals;
- (c) provide for routine mowing of grass, weeds and removal of wild growth and drift deposits;
- (d) repair of damage caused by erosion or other forces; and
- (e) where practicable, to retard bank erosion by planting suitable growth on areas riverward of the levees.

(3) An owner or operator of a dam or reservoir shall undertake periodic inspections to ensure that maintenance measures are carried out effectively and to ensure that —

- (a) no unusual settlement, sloughing, or material loss of grade or levee cross section has taken place;
- (b) no caving has occurred on either the land side or the river side of the levee which might affect the stability of the levee section;
- (c) no seepage, saturated areas or sand boils occur;
- (d) toe drainage systems and pressure relief wells are in good working condition and that such facilities do not clog;
- (e) drains through the levees and gates on drains are in good working condition;
- (f) no revetment work or riprap is displaced, washed out, or removed; and
- (g) no action likely to retard or destroy the growth of sod such as burning grass and weeds is undertaken during inappropriate seasons.

(4) During flood periods, the owner or operator of a dam or reservoir, shall monitor any levee to locate possible sand boils or unusual wetness of the landward slope and to ensure that—

- (a) slides or sloughs do not develop;
- (b) wave wash or scouring action do not occur;

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- (c) no low reaches of levee exist which may be overtopped; and
- (d) no other conditions exist which might endanger the structure.

(5) The owner or operator of a dam or reservoir shall take appropriate advance measures to ensure the availability of adequate labour and materials to meet all contingencies.

(6) Immediate steps shall be taken to control any condition which endangers the levee and to repair the damaged section.

30. Maintenance of flood walls

(1) An owner or operator of a dam or reservoir shall undertake periodic inspections to ensure that—

- (a) no seepage, saturated areas or sand boils occur;
- (b) no undue settlement occurs which may affect the stability of the wall or its water tightness;
- (c) no trees exist, the roots of which might extend under the wall and offer accelerated seepage paths;
- (d) the concrete has not cracked, chipped, or broken to the extent of affecting the stability of the wall or its water tightness;
- (e) care is exercised to prevent the accumulation of trash and debris adjacent to walls and to ensure that no fires are built near the walls;
- (f) no bank caving conditions exist riverward of the wall which might endanger its stability;
- (g) the drainage systems and pressure relief wells are in good working condition, and that such facilities are not clogged.

(2) Any inspection made under this regulation shall be made immediately prior to the beginning of the flood season, immediately following each major high water period and at intervals not exceeding ninety days.

(3) Measures and repairs deemed necessary after inspections shall be undertaken immediately and all repairs shall be accomplished by methods acceptable in standard engineering practice.

31. Emergency management plans

(1) The owner or operator of a waterworks shall—

- (a) set the requirements for dam safety emergency planning and audits of each works' response actions; and
- (b) in consultation with the county government, local communities and the relevant disaster management authorities, share information and engage in joint efforts to implement strategies to mitigate against the effect of disaster

(2) The owner or operator of a dam shall prepare and submit to the Authority for approval, emergency preparedness plans for all dams and works and these plans shall—

- (a) describe the actions the owner or operator will take to address safety problems at a dam with a safety risk;
- (b) contain appropriate procedures and information to assist the owner or operator in issuing early warning notification messages to responsible disaster management authorities in the national and county governments, representatives of local county governments, representative bodies of any communities potentially threatened by the condition of the dam and with whom arrangements have been made in connection with the issue of warnings; and
- (c) contain engineering drawings of the dam and inundation maps to show disaster management authorities critical areas for action in case of an emergency.

(3) Prioritization of planning for dam emergencies shall be determined based on relevant information including—

- (a) the condition of the dam and the degree, if any, of dam safety deficiency;
- (b) population at risk and community vulnerability;
- (c) scale of flood risk costs;
- (d) range of other consequences such as those on property, the environment or community value of the damage;
- (e) stakeholder perceptions and expectations; and
- (f) state of knowledge and planning commitments for different scenarios.

(4) The owner or operator of a dam shall engage with the county government, civil society and other stakeholders in coordination with disaster management authorities to develop community awareness strategies.

32. Emergency contact information

(1) A holder of a permit or operator of a dam shall review and update all emergency contact information contained in its emergency management plan—

- (a) at least once every twelve months; and
- (b) whenever the emergency management plan is updated.

(2) Where there is a change to emergency contact information in an emergency management plan, a holder of a permit or operator of a dam must, not later than fourteen days after the change occurs submit the updated information in writing to the Authority

33. Inspection and inspection reports

(1) Every dam owner shall ensure that his or her dam is inspected in accordance with Table 6 in the Second Schedule and prepare and submit an Inspection Report in the format set out in the Third Schedule.

(2) The Inspection Report shall be submitted to the Authority within thirty days of the completion of the dam inspection.

(3) Before an application for renewal of a permit is made under these Regulations, the Authority shall ensure that the applicant has complied with dam inspection requirements.

34. Dam damage or failure report

(1) In the event of serious damage or failure, the holder of a permit or operator of a dam, shall submit an interim Dam Damage or Failure Report to the Authority within three days of such damage or failure and a final report as provided in the Third Schedule within twenty-one days of the event or such longer period as the Authority may approve

(2) A holder of a permit or operator of a dam who fails to submit the Dam Damage or Failure Report commits an offence and is liable on conviction to the penalties prescribed under the Act.

35. Insurance, policy

(1) The holder of a permit, operator or the person having the control of any dam if required to do so by the Authority shall obtain and maintain an insurance policy to cover the risk of dam failure resulting in injury, damage to or loss of human life, health, property or the environment.

(2) The Authority shall, following consultations with industry stakeholders, set guidelines on the conditions in which it will be appropriate to obtain and maintain an insurance policy and the levels and the amount of insurance to be maintained by the holder of a permit or operator of the dam.

[Subsidiary]

PART VI – STRATEGIC WATER EMERGENCY INTERVENTIONS

36. Drought Response Plan

(1) The Water Storage Authority shall develop and maintain a Drought Response Plan to be implemented in collaboration with the National Drought Management Authority.

(2) Drought preparedness measures may include, where appropriate, designing and constructing storage dams with features and facilities enabling diversion of water from the storage dam into natural watercourses in emergency drought situations.

(3) The Authority shall, following consultation with the Cabinet Secretary, approve the Drought Response Plan with or without conditions.

37. Pursuant to the Drought Response Plan, the Water Storage

Authority shall implement the following measures including—

- (a) releasing water into watercourses designed to ameliorate the effects of drought;
- (b) permitting diversion of water from a storage darn into other natural watercourses; and
- (c) ordering the abstraction of water by water service providers from the Water Storage Authority's storage dams where practicable.

38. Improved system efficiency

The Water Storage Authority may adopt measures to improve systems for efficient management of stored water in order to conserve water within its water resources storage facilities during drought.

PART VII – CLIMATE CHANGE AND FLOOD MITIGATION

39. National water resources storage and flood control data

(1) The Water Storage Authority shall monitor, collect, collate and maintain data of floods experienced in flood prone areas including—

- (a) information on the state of the works infrastructure;
- (b) climate reports;
- (c) base flood data;
- (d) data on flood prone areas;
- (e) information of flood inundation levels;
- (f) flood hazard maps;
- (g) flood early warning systems;
- (h) socio-economic impacts; and
- (i) any other data relevant to the management of the national public water works for water resources storage and flood control.

(2) The data shall be made available on the Water Storage Authority's website provided that a person requiring an extract of the data certified to be true from the Water Storage Authority's database shall make an application for it in writing and pay such reasonable costs as the Water Storage Authority may require.

(3) The request for data should be reasonable and relevant with respect to a specific activity and area.

(4) Data provided by the Water Storage Authority shall not be transferable to a third party and the Water Storage Authority shall not be liable for any error or omissions in the data.

40. Climate change action plan.

The Cabinet Secretary shall, based on the information maintained pursuant to regulation 39(1), within twelve months of the coming into force of these Regulations and as required by the Climate Change Act (Cap. 387A), formulate and publicly disseminate an action

plan and strategies to guide how climate change considerations shall be integrated in the management of water resources, including mitigation and adaptation actions, and the prevention and management of floods and other impacts of climate change.

41. Flood mitigation activities

The Authority shall regulate implementation of Integrated Flood Management Plans in all the flood prone areas by relevant state organs in collaboration with stakeholder groups.

42. County governments and integrated flood management plans

The Integrated Flood Management Plans shall be implemented through water resources users associations and other stakeholders in collaboration with county governments and in accordance with the guidelines issued by the Cabinet Secretary.

43. Check dams, green energy, projects, dykes etc.

The Authority may require the development of check dams, green energy projects and dykes for purposes of flood mitigation.

PART VIII – WATER HARVESTING

44. Water Harvesting Policy and Strategy

(1) The Cabinet Secretary shall, following public consultation, and on the basis of recommendations of the Water Storage Authority, gazette a Water Harvesting Policy and Strategy.

(2) The Water Harvesting Policy and Strategy shall—

- (a) not be in conflict with the national water resource strategy;
- (b) set out the policy objectives, plans, guidelines and procedures and strategies for rainwater harvesting;
- (c) take into account any relevant national or regional plans;
- (d) outline mechanisms and procedures for collaborating with other institutions, both public and private, at national and county level to achieve the objectives of the policy and strategy;
- (e) put in place measures and incentives to enhance the adoption and implementation by the public of rainwater harvesting;
- (f) facilitate the provision of technical and capacity building support to public and private institutions at national and county level on rainwater harvesting techniques; and
- (g) be time bound.

(3) All state organs at national and county level shall give effect to any water harvesting policy made under this Part when exercising any power or performing any duty in terms of these Regulations.

(4) The construction of the water harvesting systems in all new institutional, commercial, public and open areas shall give effect to the water harvesting policy and be undertaken in accordance with the applicable county government planning and building regulations and all other applicable rules and regulations.

45. Roof-based rainwater harvesting

(1) Any building constructed after the commencement of these Regulations which is to be used—

- (a) as an institutional facility, place of employment or otherwise;
- (b) as a manufacturing or industrial establishment; or
- (c) commercial establishment or place for the service of customers, shall have its roof adequately guttered for catching rain water or may have a ground catchment for the purposes of catching rainwater.

[Subsidiary]

(2) Subject to subregulation (3), the storage capacity of the tank or other storage facility in respect of any building referred to in subregulation (1) shall be capable of storing water sufficient to meet the equivalent of seven days average water demand of the building.

(3) Where adequate reason is given to the county government in consultation with the Water Storage Authority to the effect that—

- (a) it is not practicable—
 - (i) to gutter the roof of a building mentioned in subregulation (1) for catching rain water;
 - (ii) to provide a ground catchment having the prescribed area; or
 - (iii) to provide a tank or tanks having the prescribed capacity; and
- (b) the building can in the opinion of the county government or water services provider, be adequately supplied with drinking water from a main piped supply, the county government may, subject to such conditions and restrictions as it may think proper to impose, allow the owner or occupier of the building to dispense in part or in whole, compliance with subregulation (1) or subregulation (2).

(4) Roof based rainwater shall be harvested for use through a filter into a storage tank or subject to compliance with the water resource quality standards prescribed by the Authority, for recharge of an open well or borehole. In case of a borehole in a building, rainwater shall be harvested through artificial structures or pits, irrespective of the nature of subsoil conditions.

(5) Rainwater from the roof of a building such as tiled, sloped roof and flat roof may be collected using appropriate sized gutters or pipe lines and stored either in a collection tank or storage structure of appropriate size placed over the ground or underground after proper filtration and disinfection.

(6) An appropriate filter shall be used for filtering rain water and the water shall be used for non-potable purposes.

(7) The rainwater collected to be used for potable purposes by the owner or occupier shall be treated before use according to the Drinking Water Guidelines made by the Water Services Regulatory Board.

(8) Any surplus water available after filling a storage tank may be diverted to an open well through a recharge structure or a pit.

46. Land based rainwater harvesting

(1) A person may—

- (a) directly capture and store precipitation on a parcel of land owned or leased by that person in accordance with subregulation (2); and
- (b) place the water captured and stored as provided in subregulation (1)(a) to beneficial use on the parcel on which the water is captured and stored.

(2) Land based rain water harvesting shall be done using the appropriate ground water recharge structures or pits depending on the nature of the sub-soil conditions.

47. Technical and capacity build support

(1) The Water Storage Authority shall establish a website on which a person may register to receive technical and capacity building support from the Water Storage Authority or its agents to enable the person comply with these Regulations.

(2) A person registering under subregulation (1) shall furnish the Water Storage Authority with the following information—

- (a) name and address of the person capturing or storing precipitation;
- (b) total capacity of all containers storing precipitation; and
- (c) street address or other suitable description of the location where precipitation is to be captured and stored.

48. Rainwater harvesting by agricultural establishments

(1) An agricultural establishment using water resources for irrigation purposes shall implement water harvesting and storage measures capable of storing flood water sufficient to meet three months water demand.

(2) An agricultural establishment using water resources for commercial irrigation shall submit to the Water Resources Authority a plan of water harvesting and storage strategies to be implemented.

(3) The Water Resources Authority or its agent may conduct an inspection to verify compliance with the implementation report.

49. Storm water run-off

County governments shall put in place measures to ensure that provision is made for planning, managing, maintaining, financing, extending and improving drainage services and storm water run-off collection within its area of jurisdiction.

PART IX – LICENSING OF QUALIFIED PROFESSIONALS AND
QUALIFIED CONTRACTORS IN RESPECT TO WATERWORKS

50. Licencing of qualified water sector professional or approved dam contractor

A water sector professional or dam contractor desiring to be licensed as a qualified water sector professional for storage dams or other waterworks or qualified dam contractor, if not already licensed under the applicable water resources regulations for the appropriate class of storage dam, shall apply in writing to the Cabinet Secretary for licensing.

51. Application to be licensed qualified water sector professional of approved dam contractor

(1) The application referred to in regulation 50 shall be accompanied by—

- (a) a description of the class of waterworks and risk categories of the waterworks which the water sector professional or contractor wishes to be licensed in respect of; and
- (b) particulars of the applicant's qualifications, training and experience.

(2) Before determining an application made under subregulation (1), the Cabinet Secretary shall forward it to the Technical Advisory Committee established under the applicable Water Resources Regulations for consideration, except when the procedure provided for in subregulation (5) is followed.

(3) The Technical Advisory Committee may recommend an application under subregulation (1)—

- (a) for approval by the Cabinet Secretary subject to conditions if there are limited shortcomings in the relevant skills, and experience on the specific storage dams or other waterworks construction, engineering, design, operation and management; or
- (b) for rejection if substantial weaknesses are evident.

(4) The Cabinet Secretary shall take into account the recommendations made by the Technical Advisory Committee before granting an approval or rejecting an application made under subregulation (1).

(5) The Cabinet Secretary may approve an application by a qualified water sector professional for any task with a safety risk, taking into account the recommendation by the Technical Advisory Committee, provided that—

- (a) the type of dam is the same, or can be logically associated with a similar category or combination of dam types, for which the applicant has been previously approved;

[Subsidiary]

- (b) the maximum wall height of the dam as defined in these Regulations does not exceed that for which the applicant has been previously licensed by more than—
- (i) three metres in the case of Class SD1 dams;
 - (ii) five meters in the case of Class SD2 dams; and
 - (iii) fifteen meters in the case of Class SD3 dam.

(6) The Cabinet Secretary may also approve an application for any specific task if the task is, in the opinion of the Cabinet Secretary on the basis of the recommendation of the Technical Advisory Committee, no more complex than that for which the applicant has previously been approved as a qualified water sector professional.

(7) In the case of tasks to be carried out for a Class SD3 dam, a qualified water sector professional shall apply to the Cabinet Secretary for approval of members of the professional team and provide the names, qualifications, curriculum vitae, relevant professional experience and description of each component of the task entrusted to each team member.

(8) The water sector professional or qualified contractor shall be informed in writing of any decision of the Cabinet Secretary.

(9) A professional contemplated under subregulation (1) shall—

- (a) inform the dam owner of the decision of the Cabinet Secretary whether the application has been approved, conditionally approved or not approved;
- (b) apply to the Cabinet Secretary for approval of a person or group of persons to assist him or her in the specified field of dam engineering if the approval is subject to conditions requiring assistance; and
- (c) immediately inform the Cabinet Secretary in writing if he or she has withdrawn from a task or if his or her appointment has been terminated by the dam owner.

(10) An application under subregulation (9) (b) shall include the name, qualifications, curriculum vitae and relevant experience of the person or group of persons providing assistance.

(11) The different categories of qualified professionals and contractors shall be as provided in Table 3 and Table 4 in the Second Schedule and by taking note of factors such as the maximum wall height of the dam, type of dam wall, regional maximum flood or type of task that the approved professional person may undertake.

(12) The requirements for admission to a class of approved water sector professional on the register are the same as those for regulating the approval of a professional person as a qualified water sector professional for a specific task, with the additional requirement that a water sector professional shall have successfully completed at least one task for a specific dam as the qualified water sector professional in accordance with these Regulations.

(13) The Cabinet Secretary shall maintain two separate registers for qualified water sector professionals and qualified dam contractors in accordance with the applicable Regulations.

(14) The registers under subregulation (13) shall be published annually in the Gazette and shall be made available within reasonable time to any person who has made a written request to the Cabinet Secretary for a copy of the register.

(15) A qualified water sector professional on the register may undertake tasks as provided in the register without having to reapply.

(16) A qualified water sector professional on the register may only perform a task or tasks within the class for which he or she has been approved and shall—

- (a) follow the procedure set out in regulation 10 (6) for tasks related to Class SD3 dams if applicable;
- (b) follow the procedure set out in regulation 10 (3) in the case of conditional approval; and

- (c) submit a copy of the licence issued by the Cabinet Secretary to the Water Resources Authority for its records, and a written confirmation from the dam owner confirming that he or she has been licenced to perform a specific task, within seven days of the licence being issued.

PART X – GENERAL PROVISIONS

52. Offences

Any breach of the provisions of these Regulations shall—

- (a) constitute an offence, punishable in accordance with the provisions of section 147 of the Act; and
- (b) constitute a reason for suspension or cancellation of the permit or other authorisation held by the owner or operator of the storage dam or waterworks.

53. Other offences

(1) No person may use any works otherwise than as permitted under the Act or these Regulations.

(2) For the avoidance of doubt, a person who—

- (a) fails to comply with any condition attached to the operation and maintenance of waterworks for water resources storage and flood control under the Act and these Regulations;
- (b) fails to comply with an order or directive issued under the Act and these Regulations and unlawfully and intentionally or negligently tampers or interferes with any works, any seal or measuring device attached to a waterworks for water resources storage and flood control;
- (c) fails or refuses to give data or information, or gives false or misleading data or information when required to give information under the Act;
- (d) intentionally refuses to perform a duty or obstructs any other person in the exercise of any power or performance of any of that person's duties in terms of the Act and these Regulations;
- (e) unlawfully and intentionally or negligently commits any act or omission which detrimentally affects or is likely to effect a waterworks for water resources storage and flood control, commits an offence and is liable on conviction, to the penalties prescribed under section 147 of the Act.

54. Complaints mechanism

(1) Any person with a complaint related to any matter falling within the mandate of the Water Storage Authority shall submit the complaint to the appropriate office of the Water Storage Authority by providing the details shown in the Fifth Schedule.

(2) The Water Storage Authority shall reply to the complainant, with copies to all other relevant parties, within twenty-one days of receiving the complaint, stating what action is being taken, the position of the Water Storage Authority on the matter or any recommendation to the complainant.

(3) If the complainant is dissatisfied, he or she may forward the matter to the Chief Executive Officer of the Water Storage Authority.

(4) The Chief Executive Officer shall respond to the complainant by upholding or overruling the action taken or decision made by the agent or officer within twenty-one days of receiving the complaint and the Chief Executive Officer shall furnish copies of the decision to all other relevant parties.

(5) If the complainant is dissatisfied with the decision of the Chief Executive Officer or if the Chief Executive Officer fails to communicate his or her decision to the complainant within twenty-one days, the person may have recourse under section 121(2) of the Act and may forward the matter to the Water Tribunal for determination

[Subsidiary]

(6) Each complaint shall be given a complaint number by the Water Storage Authority which shall be used for purposes of monitoring the response and action taken to address the complaint.

55. Transitional arrangements

(1) Construction of works by the Water Storage Authority or its agent prior to the commencement of these Regulations or construction work in progress on that date shall within a period of twelve months following the commencement of the Regulations or such longer period as the Authority may permit take measures to bring the waterworks into compliance with these Regulations.

(2) Where existing or ongoing waterworks are not authorised, the owner or operator shall within a period of twelve months following the commencement of the Regulations lodge an application with the Authority for a water use permit.

FIRST SCHEDULE

[r. 4(1), 7(1), 10(1)]

CLASSIFICATION OF STORAGE DAMS

Table 1: Classification of Storage Dams

<i>Class of Dam</i>	<i>Maximum Depth of Water at NWL (m)</i>	<i>Impoundment at NWL (m³)</i>	<i>Catchment Area (km)</i>
SD1	0 — 4.99	< 100,000	< 100
SD2	5.00 — 14.99	100,000 to 1,000,000	100 to 1,000
SD3	> 15.00	> 1,000,000	> 1,000

NWL = Normal Water Level

SECOND SCHEDULE

[r. 4(1), 6(1), 10(3)(a), 11(1), 15(c), 22,23(1), 33(1), 51(1)]

RISK FACTORS OF STORAGE DAMS AND OTHER WATERWORKS

Table 2: Risk Factors

<i>Classification</i>	<i>Population at Risk</i>	<i>Incremental Consequences of Failure</i>		
		<i>Loss of Life</i>	<i>Environmental and cultural values</i>	<i>Infrastructure, economics and other property</i>
SD 1 (Low Risk)	Temporary/ Permanent	Minimal numbers	Limited presence of: (a) important fisheries (b) important wildlife habitats (c) rare or endangered species, or (d) unique landscapes (e) sites of cultural Significance	Low economic losses affecting limited infrastructure and residential buildings, public transportation or services or commercial facilities; alternatively limited destruction or damage to

			and additionally locations used	
			Restoration or occasionally	
			compensation and irregularly	
			in kind for for temporary	
			losses and purposes.	
			damage is	
			possible	
SD 2 (Medium Risk)	Permanent	Significant numbers	Significant presence:	Moderate economic losses affecting important infrastructure, public transportation or services or commercial facilities, or moderate destruction or severe damage to residential areas.
			(a) critical fisheries;	
			(b) critical wildlife habitats;	
			(c) rare or endangered species, or	
			(d) unique landscapes	
			(e) sites of cultural significance and additionally	
			Restoration or compensation in kind for losses and damage difficult.	
SD 3 (High Risk)	Permanent	Large numbers	Presence of :	High economic losses affecting critical infrastructure, public transportation or services or commercial facilities, or significant destruction or damage to residential areas.
			(a) critical fisheries;	
			(b) critical wildlife habitats;	
			(c) rare or endangered species, or	
			(d) unique landscapes	
			(e) sites of cultural significance and additionally	
			Restoration or compensation in kind for losses and damages is impossible or impracticable.	

Table 3: Design and Supervision of Dam

[Subsidiary]

<i>Class of Dam</i>	<i>Category of Qualified Water Professional</i>
SD1	Panel II C, Panel I C1 & Panel I C2
SD2	Panel I C1 & Panel I C2
SD3	Panel I C2

Table 4: Category of Dam Contractor

<i>Class of Dam</i>	<i>Category of Dam Contractor</i>
SD1	C1, C2
SD2	C1, C2
SD3	C1

Table 5: Minimum Return Period for Spillway Design

<i>Class of Dam</i>	<i>Minimum Return Period for Design of Spillway</i>
SD1	1 in 50 years
SD2	1 in 100 years
SD3	1 in 500 years

Table 6: Dam Safety Inspection Schedule

<i>Class of Dam</i>	<i>Frequency of inspection</i>	<i>Inspection by</i>
SD1	Once in 3 years	Panel I C1, Panel I C2, Panel II C
SD2	Once in 2 years	Panel I C2, Panel I C1
SD3	Once a year	Panel I C2

THIRD SCHEDULE

[r. 11(2), 12(2), 14(1), 20(1), 21(1), 33(1), 34(1)]

CONTENT AND FORMAT OF TECHNICAL REPORTS

The following technical reports shall substantially provide the details required.

DAM DESIGN REPORT (FOR CLASS SD1, SD2 AND SD3 DAMS)

<i>Item</i>	Contents
1.	Details of location
2.	Details of hydrological assessment
3.	Details of design flood and return period
4.	Details of embankment
5.	Details of reservoir
6.	Details of draw-off and compensation works
7.	Details of spillway(s)
8.	Details of ancillary structures
9.	Details of construction materials
10.	Details of construction schedule
11.	Details of operational rules
12.	Procedures to notify and protect downstream inhabitants, infrastructure and environments
13.	Schedule of inspection and maintenance
14.	Assessment of impacts and risks

DAM OPERATION REPORT

<i>Item</i>	Contents
1.	Basic summary of technical details
2.	Details of management structure for dam operations

3. Details of operational and release rules
4. Details of operation and maintenance systems
5. Procedures to notify and protect downstream inhabitants, infrastructure and environments
6. Schedule of inspection and maintenance

DAM COMPLETION REPORT

- | <i>Item</i> | Contents |
|-------------|---|
| 1. | Changes and explanation for differences between as-constructed and design details |
| 2. | As-constructed drawings |
| 3. | Summary of as-constructed details |

DAM INSPECTION REPORT

- | <i>Item</i> | Contents |
|-------------|---|
| 1. | Current condition of dam with respect to approved design and "as-constructed" condition |
| 2. | Any action required to restore the functional and structural integrity of the dam to the required state |
| 3. | Any changes with regard to the risk of or impact in the event of dam failure |

DAM DAMAGE OR FAILURE REPORT

- | <i>Item</i> | Contents |
|-------------|--|
| 1. | Details of location |
| 2. | Date and time of dam failure or damage |
| 3. | Preceding climate |
| 4. | Preceding hydrology |
| 5. | Cause of dam failure or damage |
| 6. | Steps taken to notify downstream inhabitants |
| 7. | Nature and extent of damage caused to the dam or caused by the dam failure |

FOURTH SCHEDULE

[r. 17(1)]

PREMIUMS FOR USE OF WATER FROM A REGULATED WATERCOURSE ETC

In the case of a permit to abstract or divert water from a regulated river, a premium shall be paid by the water user which shall be calculated using the formula herein

(O&m) 20% x allocation to individual water user in MCM/year—

$$\frac{(\text{O \& M}) 20\% \times \text{allocation to individual water user in MCM/year}}{\text{Annual Design Yield of Storage Dam in MCM/year!}} = \text{Kshs per year}$$

Where:

1. (O&M) is the Water Storage Authority's operation and maintenance costs of the dam releasing the water into the natural watercourse from which the abstraction or diversion occurs.
2. The allocation to individual water user is the water allocated by the permit to the individual water user in cubic metres per year.

[Subsidiary]

3. Annual design yield is the design yield of the storage dam releasing into the regulated river in cubic metres per year.
4. The formula provides the basis for deriving the amount payable by the water user as a premium.

FIFTH SCHEDULE

[r. 54(1)]

COMPLAINTS

INFORMATION TO BE GIVEN BY COMPLAINANT UNDER THESE RULES

<i>Item</i>	<i>Information</i>
(a)	Name of Complainant
(b)	Contact address, telephone number, email address (if any) of Complainant
(c)	Nature and location of the problem
(d)	Date that problem occurred
(e)	Name and, if available, the contact details of all parties to the dispute or complaint
(f)	Any other relevant details
(g)	Signature of the Complainant

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THE WATER RESOURCES REGULATIONS

[Legal Notice 170 of 2021]

1. Citation.

These Regulations may be cited as the Water Resources Regulations.

2. Interpretation.

(1) In these Regulations, unless the context otherwise requires—

"abstraction" means the taking of water from any water resource, either permanently or temporarily;

"airline" is a tube installed in a borehole or well for the purposes of measuring water level;

"alteration" means any physical change in the depth, diameter, casing, screen or any other structural change in an existing borehole, or any consequent change in Permit yield as a result of an approved Variation;

"analysis" means the testing or examination of any matter, substance or process for the purpose of determining its composition or qualities or its effect (whether physical, chemical or biological) on any segment of water or examination thereof;

"annual potential recharge" means, in respect to an aquifer, annual potential recharge as defined by the Authority in water resources allocation guidelines issued by the Authority from time to time.

"aquifer" means a geological formation, group of formations or part of a formation containing sufficient saturated permeable material to yield significant quantities of water to boreholes or springs;

"artificial groundwater recharge" means the intentional augmentation of groundwater resources by directly improving the infiltration of water to a target aquifer through the construction of suitable recharge structures;

"Association" means a water resources user association;

"authorisation" means authorisation issued by the Authority to construct works;

"authorised" means as approved by the Authority;

"basic human needs" means the quantity of water required for drinking, food preparation, washing of clothes, bathing, basic sanitation and is assumed to be equal to twenty-five litres per person per day;

"basin area water resources management strategy" refers to a document that has been prepared for the purpose of directing the management of the water resources within the basin area;

"borehole" means a hole, usually vertical, drilled for the extraction of or measurement of groundwater;

"canal" means any surface drain, ditch, furrow, channel, flume or other conduit for conveying water, the surface of which is at atmospheric pressure;

"chemical" means a chemical substance in any form whether by itself or in a mixture or preparation, whether manufactured or derived from nature and includes industrial chemicals, pesticides, fertilizers and drugs;

"commercial irrigation" means irrigation primarily for commercial purpose;

"dam" includes any existing or proposed structure together with appurtenant works, which is capable of containing, storing or impounding water (including temporary impoundment or storage) above ground level, whether that water contains any substance or not;

"discharge" means volumetric flow rate;

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"driller" or "drilling contractor" means a person, firm or agency which is registered under these potential Regulations to undertake the construction or rehabilitation of a borehole;

"effluent" means waste which is—

- (a) a liquid which flows out of a containing space;
- (b) sewage water or other liquid, untreated, partially or completely treated discharged directly or indirectly into a water resource;

"environment" includes the physical factors of the surroundings of human beings including land, water, atmosphere, climate, sound, odour, taste, the biological factors of animals and plants and the social factor of aesthetics and includes both the natural and the built environment;

"emergency" means a disaster or hazard caused by climatic, hydrologic, tectonic, accidental, natural or man-made events which have or potentially can affect a large population and which require extraordinary measures to be undertaken to safeguard public interests;

"flow" means a volume of water passing a cross section of a body of water, watercourse or works in a unit of time;

"groundwater" means the water of underground streams, channels, artesian basins, reservoirs, lakes and other bodies of water in the ground, and includes water in interstices below the water table;

"groundwater potential" means groundwater potential as defined by the Authority in water resources allocation guidelines issued by the Authority from time to time;

"indexation" means the methodology for adjustment of the water use charge whereby the water use charge is allowed to change by the rate of inflation over the initial price;

"inspector" means any water service inspector appointed in accordance with regulation 81;

"irrigation" refers to the artificial application of water to a plant;

"landholder" in relation to land, means the registered owner of the land or the person in whom the land is otherwise vested by law, and includes—

- (a) any person who by any established right, customer estate whatsoever is, or is entitled to be, the holder or possessor of land;
- (b) any person lawfully holding or occupying land in accordance with the provisions of any law empowering the allotment of land upon the promise of title, subject to the fulfilment by the allottee of prescribed conditions; and
- (c) any person to whom a mining lease or mining location has been granted under the Mining Act (Cap. 306);

"land reclamation" means the process of making land capable of more intensive use by changing its general character, as by drainage of excessively wet land; irrigation of arid or semiarid land; or recovery of submerged land from seas, lakes and rivers;

"measuring device" refers to a fitting, equipment or infrastructure which can be calibrated to provide an accurate measure of the flow or level of water;

"natural resources" include resources of air, land, water, animals and plants including their aesthetic qualities;

"operator" means any person authorized to construct works under these regulations by authorization, or to divert, abstract, or use water by permit;

"permit" means a permit for the time being in force under this Act;

"permit holder" means the person the Authority has issued with a permit or any other person acting under the authority of the permit holder;

"plan" means map or drawing and the associated literature;

"point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, conduit, tunnel, well, discrete fissure, container, rolling

stock, concentrated animal feeding operation or vessel or other floating craft from which pollutants are or may be discharged;

"pollution", in relation to a water resource, means any direct or indirect alteration of the physical, thermal, chemical and biological properties of the water resource so as to make it—

- (a) less fit for any beneficial purpose for which it is or may reasonably be expected to be used; or
- (b) harmful or potentially harmful to—
 - (i) the welfare, health or safety of human beings;
 - (ii) any aquatic or non-aquatic life or property; or
 - (iii) the environment;

"pon" means a natural depression that contains water;

"qualified water sector professional" means a person qualified under these to provide the services of a professional chemist; hydrologist, hydrogeologist, engineer, surveyor or other professional service required to be performed under the Act;

"receiving water body" means any surface or groundwater body that may be used for effluent disposal under the Act;

"regional office" means an office of the Authority established within or near to a basin area pursuant to the provisions of the Act;

"rehabilitation" means any physical, mechanical or chemical process conducted in any water infrastructure which is undertaken to improve its operational status;

"riparian area" is land which by virtue of the proximity of the land to a water body, management obligations shall be imposed on the owner of the land by the Authority;

"soil and water conservation plan" refers to a set of activities that have to be done in order to reduce the likelihood of soil and water loss from the landscape;

"stakeholder" is a person or entity that has influence over or is affected by a certain activity on the resource;

"standard" means the limits as established under these regulations which are made pursuant to the Act or any other written law;

"subsistence irrigation" means irrigation primarily for household food security purposes;

"use", in relation to water contained in or forming part of a water resource, means—

- (a) abstraction, obstruction, or diversion of the water resource;
- (b) discharge of materials or substances into the water resource;
- (c) derivation of energy from the water resource;
- (d) derivation or extraction of natural resources or other materials from a water resource;
- (e) any other activity, of a kind prescribed by these Regulations, in relation to the water resource;

"variation" means any authorised amendment made to a water permit;

"waste" includes any matter prescribed to be waste and any matter whether liquid, solid, gaseous, hot or radioactive substances, which is discharged, emitted or deposited in the environment in such volume composition or manner likely to cause an alteration of the environment;

"waste disposal" means the action of releasing, depositing, discharging emitting all forms of waste not authorized by the Authority into the environment that has the potential to causing pollution and adversely affecting the quality of water resources;

"waste disposal control plan" means the plan referred to in the Fourth Schedule of these Regulations whose purpose is to control the discharge of any pollutant into a water resource;

"water resources monitoring network" means the set of equipment, infrastructure established for the purpose of monitoring the quantity and quality of the water resources;

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"water resource user association " means an association of water users, or other stakeholders who have formally and voluntarily associated for the purposes of cooperatively sharing, managing and conserving a common water resource and resolution of water use conflict;

"Water Tribunal" means the Water Tribunal established by section 119 of the Act;

"weir" means an obstruction placed across the watercourse or body of water for the primary purpose of abstracting or diverting water, or of arresting or retarding its flow, but not for storage; and

"wetland" refers to an area where plants and animals have become adapted to temporary or permanent flooding by saline, brackish or fresh water.

(2) Unless otherwise provided, the units shall be International System of Units.

3. Application of Regulations.

(1) These Regulations shall apply to the regulation, management, use and development of water resources.

(2) These Regulations shall apply to all water resources whether perennial or seasonal and including water resources of the territorial sea.

PART II – PRESCRIPTION OF WATER USE ACTIVITIES

4. Schedule of activities

Without prejudice to the generality of section 2 of the Act, the activities set out in Part 1 of the First Schedule carried out on or in relation to a water resource shall be regarded as water use activities requiring a water use permit.

5. Requirement for a permit for water use activities

The activities listed in Part 2 of the First Schedule are water use activities in respect of which an application for variation of permit shall be required.

6. Categorization of water resource use applications

(1) Water use activities shall be categorised into four categories on the basis of the criteria stipulated in Part 3 of the First Schedule.

(2) In the categorisation of water resources under subregulation (1), the views of the Basin Water Resources Committee and the Association shall be taken into account, and, where there is no registered Association, the views of the local representative associations whose objectives are natural resource use or natural resource use conflict resolution shall be considered.

(3) In determining the category into which a water use activity falls, account shall be taken of and effect given to the differences associated with the characteristics of the catchment or basin in which the water resources is located and the particular circumstances of each water resource as stipulated by the Authority in water allocation guidelines.

(4) A person aggrieved by the decision of the Authority on the category into which a water use falls may appeal to the Water Tribunal.

PART III – APPLICATION FOR A PERMIT OR OTHER AUTHORITY FOR WATER USE

7. Application for a permit

(1) A person who intends to undertake an activity involving the use of water from a water resource shall apply to the Authority for a permit before commencing the activity.

(2) A person who fails to obtain a permit as provided under subregulation (1) commits an offence.

8. Permit for temporary use

Where the activity for which the water is intended to be used is temporary in nature, the application shall be for a permit for a period of one year or such longer period, not exceeding two years, as may be determined by Authority.

9. Water use to be appurtenant to land

(1) An application for a water use permit shall be made by the owner of the land on which the water use is to take place and, where the applicant is not the landowner, the consent of the owner of the land shall be endorsed on the application.

(2) An application for a permit under subregulation (1) shall be accompanied with evidence of ownership of the land which shall be—

- (a) the registered document of title, where the land is registered; or
- (b) where the land is not registered, other documentary evidence satisfactory to the Authority that the applicant is the lawful landowner or has the authority of the lawful landowner to make the application.

10. Easements, wayleaves, etc.

(1) A permit holder seeking to use water on land other than the land on which the water use activity is to occur shall obtain an easement, wayleaves or other legal right of access.

(2) An application for an easement or other right of access under subregulation (1) shall be made in the Form WRA 002 set out in the Thirteenth Schedule and accompanied by the fee set out in the Second Schedule.

(3) The easement or right of access referred to in this regulation may be in existence at the time of the application or to be granted upon the issue of the water use permit.

(4) A person intending to enter upon land belonging to other persons for survey or investigative purposes of water resource management or development shall submit to the Authority an application in Form WRA 015 set out in the Thirteenth Schedule and accompanied by the fee set out in the Second Schedule.

(5) The Authority shall be indemnified against all claims by landowners for damage or losses arising from works developed by a permit holder or a person authorised to construct works for the use of water.

11. Consent of owner of works

(1) An applicant intending to use works owned by another person shall, at the time of the application and on every renewal thereafter, produce to the Authority satisfactory evidence of the consent or agreement of the owner of the works to the intention to use the works.

(2) Where in the opinion of the Authority monitoring and control of the water use activity would be best achieved by the issuance of separate permits to applicants intending to share common works, the Authority may issue separate water permits or a supplementary permit in the Form WRA 021 set out in the Thirteenth Schedule.

12. Use of existing works in the public interest

(1) Where, in the opinion of the Authority, public interest would best be served by the use of existing works, the Authority may, after giving the owner of the works an opportunity to make representations, order the owner of the works to make available the works to any applicant so long as the water use of the owner of the works is not adversely affected.

(2) The owner of the works whose works are, pursuant to an order of the Authority, to be used by another applicant for a water use activity, shall be entitled to prompt and fair compensation for use of the works.

13. Category A applications

(1) An application for a permit for a proposed water use activity falling within category A activity specified in the First Schedule shall be—

- (a) made prior to constructing or installing of the works;

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- (b) made to the Authority in Form WRA 001 set out in the Thirteenth Schedule;
- (c) accompanied by the fee specified in the Second Schedule;
- (d) accompanied by evidence of consultations undertaken with respective Associations and, where there is no registered Association, the local representative associations whose objectives are natural resource use or natural resource use conflict resolution and their views.

(2) Upon receipt of the application under subregulation (1), the Authority shall verify the evidence provided including seeking confirmation of the officials of the consulted Association or local representative association and upon confirmation, the regional office shall process the application.

(3) If satisfied that the proposed water use activity poses a low risk of impact on the water resource and taking account of the comments of the Association or the respective local representative associations, the Authority shall approve the application by endorsing approval on the application.

(4) Upon endorsement by the Authority under subregulation (3), the applicant may commence the water use activity described in the application subject to conditions applicable to Category A water users.

(5) The Authority may at any time require any Category A water user to be re-classified after an assessment of the water resource or for other reasonable cause.

(6) Where there is a material change in any aspect of the water use—

- (a) the water user shall notify the Authority within twenty-one days of the change; and
- (b) the Authority shall assess whether, in light of the change, a re-application or a variation of the conditions imposed on the water use is necessary.

(7) Where a permit holder—

- (a) fails to notify the Authority of a material change to the water use;
- (b) uses water in breach of the conditions applicable to the water use;
- (c) withholds relevant information from the Authority or gives information which is misleading in any material particular, commits an offence and the Authority may, in addition to any other penalties, cause the cancellation of the Category A water use permit.

14. Category B, C and D Applications

(1) An application for a permit for a proposed water use activity falling within Category B, C or D as specified in Part III of in the First Schedule shall—

- (a) be made to the Authority in the Form WRA 001 set out in the Thirteenth Schedule;
- (b) state the intended purpose of water use;
- (c) be accompanied by a site assessment report, a hydrological assessment report or hydrogeological survey report and an environmental impact assessment study report which is compliant with the requirements in the Third Schedule; and
- (d) be accompanied by the fee specified in the Second Schedule.

(2) A separate application for water resource use as specified in the Second Schedule shall be required for each water use activity including for—

- (a) each abstraction point, whether from surface or groundwater;
- (b) each effluent discharge point unless covered under another application;
- (c) each point of storage unless covered under another application; and
- (d) separate water use activities other than those covered in paragraphs (a), (b) and (c).

(3) The applicant shall pay the application fees for each complete application before the application is processed by the Authority.

15. Maps to accompany applications

(1) Every water use applicant shall submit to the Authority a map showing the water body, the location of the works, supply area, location of all authorizations or permits currently held by the applicant which are relevant to the application and any other relevant details as may be required by the Authority.

(2) All significant points on the map shall be geo-referenced showing Universal Transverse Mercator (UTM) coordinates and zone with respect to the Arc 1960 datum.

16. Technical report

(1) Without prejudice to the provisions of regulation 14, each application for a water use activity under Category C or D shall be accompanied by a technical report prepared in accordance with the Fourth Schedule:

Provided that following a review of the application, the Authority may, require a category B applicant to submit a technical report.

(2) A site assessment report or a technical report shall be prepared by a qualified and licensed water sector professional.

(3) Where it is sufficiently demonstrated that an applicant is unable to use the services of a consultant in the preparation of a technical report as required under subregulation (2), the Authority may, at the request of the applicant, undertake the report preparation.

(4) A person seeking the services of the Authority in the preparation of the any technical report, shall—

- (a) make a written request to the Authority; and
- (b) pay prescribed fees for the Authority's services of preparing the report.

(5) Where the Authority is satisfied that it is in the interest of the public and the applicant that the Authority undertakes the preparation of any technical report, the Authority shall prepare the report in accordance with these Regulations:

Provided that any water sector professional officer of the Authority who prepares the report shall not be involved in the evaluation of the same report following its submission to the Authority in support of the application for a permit.

(6) Where a water sector professional officer of the Authority undertakes duties of preparing a site assessment report or any other technical report, he or she shall be deemed to be a qualified water sector professional for the purpose of preparing the site assessment report or any other technical report.

17. Recommendations by Associations on applications

(1) An water use applicant shall submit with each application evidence of consultations undertaken with the relevant Association and, where there is no registered Association operating in the area of the proposed water use, with the main local representative associations whose objectives are natural resource use or natural resource use conflict resolution and their views on the proposed water use.

(2) Upon receipt of an application for a water use activity under a category B, C and D, the regional office of the Authority shall provide a copy of the application to the Association and the Basin Water Resource Committee for comments and where there is no registered Association operating in the area of the proposed water use, to the key local representative associations whose objectives are natural resource use or natural resource use conflict resolution named by the applicant as having been consulted.

(3) The Association or local representative associations shall submit their comments to the Authority in the Form WRA 003 set out in the Thirteenth Schedule and copied to the applicant within thirty days of receipt of the application by the Association or associations as the case may be and the Authority shall make its decision within fourteen days of receipt of the comments.

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(4) Where the Association or local representative association does not submit comments within the period specified under subregulation (3), the Authority may proceed to determine the application after the expiry of thirty days.

18. Public notification

(1) Applicants for Category C and D permits shall cause the permit application to be published in a national newspaper of wide circulation and in the Kenya *Gazette*.

(2) At the end of each month, the Authority shall display all permit applications received, within the region, on the Authority's website, its regional and sub-regional offices and at the offices of the county commissioner, deputy county commissioner, assistant county commissioner, chief and assistant chief.

(3) A public notification issued under this regulation shall specify—

- (a) the name of the applicant;
- (b) the water resource in respect to which the application has been made;
- (c) the quantity of water applied for;
- (d) the purpose of water use for which the application has been made;
- (e) the land registration number;
- (f) the location or other local administrative unit within which the water use is to be undertaken; and
- (g) any other details relevant to the public with respect to the permit application.

19. Objection to permit application.

(1) Any person may object in writing to any permit application by stating grounds for the objection.

(2) The objection shall be lodged with the Authority within thirty calendar days of the public notification issued under regulation 18.

(3) The Authority shall consider all objections received within the prescribed period for submitting objections before determining the application and in its decision state how it has addressed the objections.

20. Guidelines and procedures for permits of temporary nature

The Authority shall administratively make guidelines and procedures for the application for permits for a temporary period.

21. Open meeting

(1) If, based on the objections or representations received in response to a category C and D applications or other considerations, the Authority considers it necessary to hold an open meeting with relevant stakeholders and the public, the Authority shall convene such meeting at or near the site of the proposed water use to hear views on objections, representations and other considerations before determining the application.

(2) The Authority shall give not less than fourteen days written notice of the intention to hold an open meeting on a stated day, time and venue to all the persons whose written objections were received on time and post the notice on the Authority's website, at the site of the proposed meeting and at the Authority's regional and sub-regional office.

(3) The meeting under subregulation (1) shall be open to the public and, if appropriate, may be conducted using a virtual platform.

22. Rejection of application

(1) Where the Authority rejects an application for a permit, it shall within thirty days of its decision, notify the applicant, and any objector to the application, of its decision in writing.

(2) Where the applicant is aggrieved by the decision of the Authority under subregulation (1), the applicant may within fourteen days of receiving the Authority's decision appeal against the decision of the Authority to the Water Tribunal.

23. Authorisation to construct works

(1) Where the Authority approves an application for a water use permit, it shall issue an Authorisation to Construct Works in Form WRA 004 set out in the Thirteenth Schedule.

(2) The Authorization issued under this regulation shall specify the period of time for completion of the works which may only be extended with the written permission of the Authority for good cause.

(3) Failure to complete works within the stipulated time or to comply with the stipulated conditions may result in the cancellation of the Authorization.

24. Limitation on authorization

An Authorization to Construct Works does not authorise an applicant to commence abstraction or the proposed use of the water before the conditions governing the authorisation are certified as having been met.

25. Extension of Authorization

(1) Where the works are not completed within the time specified by the Authorization—

- (a) a Progress Report shall be submitted to the Authority in lieu of a Completion Certificate; and
- (b) the applicant may apply for an extension of time in Form WRA 005 set out in the Thirteenth Schedule accompanied by the Progress Report and an Explanatory Report for the failure to complete the Works within the time stipulated.

(2) The Authority shall consider the Progress report and explanatory statement and may grant an extension for six months or such longer period as appears necessary to complete the works through Form WRA 006 set out in the Thirteenth Schedule:

Provided that an extension shall not be granted for a period longer than the period initially stipulated for constructing the works.

(3) If, despite the extension under this regulation, the construction of the Works is still not complete within the extended time, the Authorisation shall lapse and the Applicant shall, within a time stipulated by the Authority, submit to the Authority a plan for restoration of the site to, as near as is practicable, its original condition.

26. Register of authorizations and permits

(1) The Authority shall maintain a Register of authorisations and a Register of permits in the form shown in the Thirteenth Schedule for each particular resource.

(2) Any person may obtain a copy of the Register of authorisations or Register of permits on payment of the fee specified in the Second Schedule.

27. Completion certificates

(1) Upon completion of the works, the applicant shall submit a completion certificate to the Authority in Form WRA 007 set out in the Thirteenth Schedule.

(2) Upon receipt of the completion certificate, and on payment by the applicant of inspection fees specified in the Second Schedule, the Authority shall inspect the works to ascertain that all the conditions stated on the Authorisation have been complied with to its satisfaction.

(3) An inspector or a person authorised by the Authority shall inspect the works to ensure compliance to the Act and these Regulations using Form WRA 008 set out in the Thirteenth Schedule.

(4) Where the inspector is not satisfied with the completion status of the works, then he or she shall issue an Order within fourteen days detailing steps that shall be taken to bring the works to a satisfactory condition.

(5) Where the inspector is satisfied that the works are complete, and that the conditions have been complied with, the Authority shall, following receipt of a water use permit

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application, issue a permit on the Form WRA 011 in the Thirteenth Schedule within thirty one days of receipt of a complete application.

28. Application for water use permit for surface and groundwater

Within thirty days of the date of the completion of the works, the applicant shall apply to the Authority for a water use permit in relation to surface water and ground water.

29. Water use permit validity

A water use permit granted under regulation 28 shall be issued for a period of five years but may be renewed or extended for a similar or shorter period following an application by the permit holder.

30. Water resource user identification number

A water use permit shall bear a unique water resource user identification number or security code which shall whenever practicable identify the basin or sub-basin area in which the water use occurs.

31. Permit fees

(1) The permit holder shall pay the applicable fees as prescribed in the Second Schedule.

(2) Failure to pay the prescribed permit fees may be a basis for revocation of the permit, disconnection of intakes, variation of the permit conditions, recovery proceedings through a civil suit or other enforcement action deemed appropriate by the Authority.

(3) Where the permit holder, without due cause, delays in the payment of the water use fees to the Authority, interest at two per cent per month shall accrue on a daily basis until the water use fees are fully paid.

32. Conditions of Permit

(1) The Authority shall state on the permit, conditions to which the permit is subject to after considering the characteristics of the water resource or body of water, the water use proposed, the technical report, the representations received and any other relevant considerations.

(2) A permit issued by the Authority shall be subject to such terms, restrictions and limitations as the Authority may deem proper to impose and to any, or all of the following minimum conditions—

- (a) a permit shall not limit in any way the exercise of existing lawful water use rights of any other person nor imply any guarantee that the quantity of water referred to is or will become available;
- (b) the water used under a permit if it is to be returned to any water resource shall not be polluted with any matter to such an extent as to be capable of causing injury or damage whether directly or indirectly to any person, public health or to livestock, animals fish, or crops or to any undertaking in respect of which such water is used;
- (c) the permit holder shall take all reasonable precautions to the satisfaction of the Authority to prevent accumulation in any watercourse of silt, sand, gravel, stones, sawdust, refuse, sewerage, waste or any other substance which may be injurious to the water resource;
- (d) in every permit issued by the Authority for mining, industrial purposes or hydropower the following conditions are implied—
 - (i) the water used shall be returned, if reasonably practicable, to the water resource from which it was taken or to such other water resource as the Authority may direct; and

- (ii) the water used shall, in so far as the use to which it is to be put allows, be returned substantially undiminished in quantity or quality to the water resource from which it was taken.

(3) The permit holder is responsible for fulfilling and meeting the cost of fulfilling all the conditions attached to the permit.

(4) Failure to comply with the conditions attached to the permit may be used by the Authority as a basis for suspension or cancellation of the permit.

(5) A permit holder shall maintain a record of all water abstracted, diverted, stored or discharged, giving the date, time, quality and quantity and methods of such abstraction, diversion, storage or discharge and the purpose or purposes for which such water was used and such record shall be furnished to the Authority annually or at such more frequent periods as the Authority may specify.

33. Transfer of permit by permit holder

A permit holder may apply to the Authority for the transfer of the permit to another person in the Form WRA 014 set out in the Thirteenth Schedule.

34. Variation of permit by permit holder

(1) A permit holder may apply to the Authority for variation of the permit in Form W RA 013 set out in the Thirteenth Schedule and accompanied by the assessment fees set out in the Second Schedule.

(2) Where the variation does not result in a change in the category of water user or materially change the permitted water use, the Authority may, after taking into account any representations received, grant the application.

(3) Before granting a variation application, the Authority shall give public notice of the application by posting for a period of thirty days on its web-site and at the regional and relevant sub-regional office particulars of the application and a brief summary of the nature and effect of the proposed variation and inviting persons with comments on the application to provide such comments within the thirty days.

(4) Where the variation results in a change in the category of water use, the permit holder shall be required to apply for a new permit.

(5) The permit as varied shall be made available in the register of permits maintained by the Authority.

(6) A person who contravenes this regulation commits an offence and is liable, on conviction, to the penalties prescribed by these Regulations.

35. Variation or cancellation of permit by the Authority

(1) The Authority may, on its own motion, vary or cancel a water permit after giving the permit holder thirty days' notice to show cause why the permit should not be varied or cancelled and considering any representations made by the permit holder following receipt of the notice.

(2) The Authority may undertake the following measures for enforcement

- (a) suspension;
- (b) cancellation; or
- (c) variation of a permit; or
- (d) confiscation of any equipment or plant, or removal of works.

(3) Any cost incurred by the Authority in effecting a measure under this regulation shall be a cost recoverable from the permit holder.

(4) The Authority shall post on its website and at the regional and sub-regional office, particulars of any permit variations or cancellations within thirty days of the variation or cancellation.

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36. Renewal of permits

(1) Three months before the expiry of a permit, a permit holder shall apply for its renewal by

- (a) making an application in Form WRA 012 in the Thirteenth Schedule; and
- (b) paying the fees for renewal, any water use charge arrears and works inspection fees as prescribed in the Second Schedule.

(2) A late submission of the application for the renewal of a permit will attract a penalty of twenty-five thousand shillings for each month of delay.

(3) The Authority shall inspect the works before processing the application for renewal.

(4) The Authority may require submission of the technical reports under regulation 16 indicating the condition of the water resources at the time of the application for renewal before processing an application for renewal or impose new conditions or alter existing permit conditions as necessary in response to causes as stipulated in section 46(1) of the Act.

(5) If the permit holder does not apply for the renewal of the permit on expiry of the permit, the permit will automatically lapse and the Authority shall initiate the cancellation process in accordance with section 49 of the Act.

37. Register of approved water users, water uses and permits

(1) The Authority shall maintain a Register of approved water users, water uses and permits as required by section 54 of the Act and post an electronic copy of the Register on its website.

(2) A person may obtain a copy of the Register of approved water users, water uses and permits certified by the Authority on payment of the applicable fees set out in the Second Schedule.

38. Permit of authorisation not a defence

The issue by the Authority of an authorisation or permit shall not be a defence to any civil action or to a criminal prosecution.

39. Public notification of authorisations and permits

(1) The Authority shall cause to be displayed on the notice board, at its offices and at the offices of the chief, a list of notifications on authorisations, permits and cancellations.

(2) The list shall include a summary of the information pertaining to the water use activity.

(3) Any person wishing to obtain full details of a particular permit shall apply using form WRA 020 as set out in the Thirteenth Schedule and pay the required fee as specified in the Second Schedule.

40. Compliance with other laws

The right of a permit holder shall, notwithstanding anything contained in his or her authorisation or permit, be subject to and conditional to his or her compliance with the provisions of the Act and any other applicable laws.

PART IV – SURFACE WATER

41. Surface water allocation plan and guidelines

(1) For purposes of the exercise of its water allocation functions under the Act, the Authority shall from time to time and in consultation with the Cabinet Secretary, formulate surface water allocation plans and guidelines which shall comply with the standards in the Sixth Schedule.

(2) Without prejudice to subregulation (1), for purposes of the allocation of surface water resources—

- (a) "flood flow" means any flow that exceeds the Q80 flow value;
- (b) "normal flow" means any flow that is less than the Q80 flow value;

- (c) "Q80 flow value" means the flow value that is equalled or exceeded eighty percent of the time; and
- (d) the Q80 flow value shall be derived from a naturalised flow duration curve, preferably derived from daily flows.

42. Declaring of a water course

(1) The Authority may, after public consultation, declare a natural watercourse not to be a watercourse or a constructed channel to be a watercourse for the purposes of water resources management and regulation.

(2) Where a body of water has changed into a new course, the Authority shall recognise the new course to be a watercourse and shall require the original course to be retained as a flood channel.

43. Boundary of properties defined by a watercourse

If, owing to any natural events or authorised or unauthorised works being constructed on a water body, a body of water which constitutes the boundary of two or more properties ceases to flow between or to separate such properties or has changed into a new course, the boundaries of such properties shall, unless readjusted by mutual agreement between the parties concerned, remain as before.

44. Wetlands

(1) Any portion of land in excess of one hectare which is naturally subject to seasonal or permanent flooding and has the ecological characteristics of a swamp or marsh shall be considered to be a wetland under these Regulations.

(2) The Authority may by notice in the *Gazette* and for good cause, declare any portion of land which is less than one hectare as a wetland for purposes of water resources management and regulation.

(3) The land owner or legally authorised representative of the landowner of the land on which a wetland is situated shall apply to the Authority for approval for any proposed or ongoing activities including drainage, discharge into the wetland or construction that would affect the wetland.

(4) Whenever any proposal for the drainage and reclamation of a swamp involves the subsequent use by the applicant of all or any of the water conserved by the drainage or reclamation of such swamp, the applicant shall submit an application for a permit for the diversion, abstraction, storage or use of such water with a Hydrological Assessment Report, Hydrogeological Survey Report and Environment Impact Assessment Report and licence.

(5) No works involving the drainage of a swamp shall deprive any lawful water user of reasonable access to water except by agreement or on payment of compensation, or on supplying water from other sources or by other means, and the applicant concerned shall submit to the Authority all plans and documents showing the proposals to provide such water user with access to water, and any agreements to this effect, and he shall, if the proposals include any works for supplying such water user with water, submit an application for a permit.

45. Land reclamation

(1) The Authority may in accordance with this regulation, authorise the reclamation of land for infrastructure development over and upon the sea-bed, lake or river irrespective of the ownership of land bordering on any land borders of such sea-bed, lake or river.

(2) Notification of the proposed land reclamation shall be published

- (a) in the *Gazette* by the Cabinet Secretary;
- (b) on the Authority's website; and
- (c) in two national newspapers of wide circulation in Kenya.

(3) A notification under subregulation (2) shall—

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- (a) describe the proposed land reclamation and give the approximate area to be occupied in connection therewith; and
- (b) call upon all persons having objections to the reclamation or any claims of private right in respect thereof to submit to the Authority before the expiration of such period being not less than thirty days or as may be specified in such notification, such objections or claims in writing specifying the nature thereof and giving an estimate of any loss which it is alleged would be incurred by reason of the extinguishment of any private right.

(4) Whenever claims or objections are submitted pursuant to subregulation (3)(b) and the Authority considers it expedient so to do, it may establish a Panel to hold a public inquiry on such matters as set out in the terms of reference.

(5) Such Panel shall keep or cause to be kept a record of any evidence taken at the public inquiry and shall transmit the same together with a report of its findings to the Authority.

(6) The Authority may, after considering the proposed land reclamation together with all objections and claims submitted and, where a public inquiry has been held, the evidence taken by, and the report of the Panel holding the inquiry, authorise such land reclamation with or without modifications or refuse to authorise the land reclamation.

(7) A notification of an authorisation together with a description of the proposed reclamation shall be published in the *Gazette*.

(8) Upon the publication of the authorisation of a proposed reclamation, all public and private rights of navigation or fishing and rights ancillary thereto, all public and private rights of access or user, and all other public or private rights in, upon or over the sea-bed, lake or river occupied by the proposed reclamation or by the infrastructure development shall be extinguished and cease to exist.

46. Requirement to obtain permit after land reclamation

(1) Any person intending to or currently undertaking a water use activity in relation to a water resource on reclaimed land shall apply to the Authority for a water use permit.

(2) Where the proposed water use is in relation to a lake or river, the application shall be accompanied by a letter of no objection of the Basin Water Resources Committee, the water resource users associations or local representative associations.

(3) A permit holder is responsible for complying with these Regulations in relation to any activities on reclaimed land.

47. Allocation of water for irrigation

(1) In allocating water for irrigation, the Authority shall—

- (a) give priority to irrigation for subsistence purposes;
- (b) be guided by crop water requirements in the area and the efficiency of water use;
- (c) limit the permit holder to abstract, impound or divert only flood flow for purposes of irrigation; and
- (d) require the applicant, to the extent practicable, to make provision for not less ninety days' storage of flood flow for use during the dry season unless the abstraction of water is to be from a regulated watercourse or river.

(2) In considering aggregate water demand for subsistence irrigation, the Authority may declare by public notification for each catchment area or part thereof an upper limit for the allocation of water either in aggregate or for any one permit where the allocation is shared among more than one household.

48. Hydro Power

(1) Every permit to develop an amount of power less than the full hydro power potential of the site may be subject to special conditions if the Authority considers that the full power development of the site at a later date may be required.

(2) If an existing permit holder is unable, or unwilling, to enlarge the works to develop the full hydropower potential of the site, and it is considered by the Authority, following consultation with the regulatory agency responsible for matters relating to electricity generation, to be in the public interest to do so, the Authority may cancel the authorization or permit and authorize the works to be carried out by another person provided that the incoming operator shall pay compensation to the person whose permit has been cancelled.

(3) For the purpose of ascertaining the hydropower potential under any authorization or permit, the Authority shall have access to reports, plans and records of the permit holder and may request for any other information or data it may require.

(4) A permit issued for hydro power purpose, shall at all times be subject to any law affecting the construction and operation of works for the supply of power.

49. Works associated with fish movement for protection and control of fish

(1) Where, in the opinion of the Authority, after consultation with the government department responsible for fisheries it is necessary for the free movement of fish upstream or downstream of any dam or weir on any body of water, the Authority may require a person applying for a permit or a permit holder to provide at his or her cost in such dam or weir a fish pass, fish ladder or other structure, approved by the Authority, to enable fish to move freely up or down such a body of water:

(2) Notwithstanding anything contained in these Regulations, the Authority may, on the application of any person, authorize the construction or erection in a body of water of—

- (a) works of a temporary nature which are designed solely for the purpose of improving the conditions of fish life or the facilities for fishing, in such body of water provided such works will not have the effect of raising the normal level of the body of water more than one metre
- (b) fish ladders or other means of ingress and egress for fish provided such works do not cause any obstruction in the flow of such body of water.

(3) An application under this regulation shall be on Form WRA 001 as set out in the Thirteenth Schedule and shall be submitted to the Authority together with the comments of the department responsible for fisheries.

50. Water resources data

(1) The Authority shall put in place and maintain measures, arrangements and systems for data gathering, analysis and management including data collection centres, rain gauging stations, laboratories and similar systems.

(2) On the basis of information gathered by or submitted to it, the Authority shall maintain a surface water database from which data shall be accessible during normal office hours by any person on the payment of the prescribed fees listed in the Second Schedule

PART V – GROUNDWATER

51. Authorisation of groundwater development

(1) A person intending to abstract ground water shall apply for approval of the activity by Authority in Form WRA 001 set out in the Thirteenth Schedule:

(2) Upon receipt of an application under subregulation (1), the Authority shall determine the category of the activity in the manner specified in regulation 6.

(3) Where the Authority determines that the application made under this regulation is for an activity that falls under a Category A water use activity and the method of abstraction does not include motorised pumping, the Authority shall determine the application in accordance with the procedure specified for determining Category A applications.

(4) Where any borehole or well is to be equipped with a motorised pump, the application shall be accompanied by a Hydrogeological Survey Report prepared in the form set out in the Fourth Schedule.

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(5) Where the Authority determines that the application under this regulation is for an activity that falls under Categories B, C, or D water use activity, the application shall be determined in accordance with the procedure specified for approval of Categories B, C and D applications.

(6) Before any well or borehole is replaced, deepened or widened, the owner of the well or borehole, or his duly authorized representative, shall file with the Authority an application for authorisation to carry out such replacement, deepening or widening of an existing well or borehole, for any water use category.

(7) Where, in the course of drilling, the owner of a well or borehole encounters down hole problems, the owner shall drill a replacement borehole on a site not more than fifteen metres from the previously approved site.

(8) Before any well or borehole encountering down hole problems is moved to a new site in accordance with subregulation (7), the owner of the borehole or well, or his or her duly authorized representative, shall seek the approval of the Authority to move to the new site.

(9) For purposes of subregulation (7), "down hole problems" means the collapse, loss of tools, or other associated drilling problems excluding a dry borehole,

(10) A person who contravenes this regulation commits an offence and is liable on conviction to the penalty prescribed in these Regulations.

52. Regulation of groundwater development

(1) Where any borehole or well is being constructed within five hundred metres of an existing borehole or well, the Authority may by notice require the person constructing the borehole or well to undertake tests, specified in the notice, on the existing well and to supply to the Authority the particulars of the results of such tests including the rate of pumping and rest levels of water.

(2) Without prejudice to subregulation (1), the Authority shall determine in the allocation plan for a given aquifer or part thereof, the spacing of boreholes or well to be equipped with motorized pump and in doing so shall be guided by—

- (a) existing borehole or well spacing;
- (b) individual aquifer characteristics, including water quality;
- (c) existing aquifer use;
- (d) existing bodies of surface water; and
- (e) any other relevant considerations.

(3) The allocation plan shall be available and accessible to the public, during normal working hours, on the Authority's website and from any of the Authority offices.

53. Borehole and well test pumping

(1) A borehole and well that is to be equipped with a motorised pump shall be subjected to test pumping.

(2) Test pumping shall comprise a continuous and constant rate pumping test of not less than twenty-four hours duration and recovery duration of not less than twenty hours, or as otherwise stipulated by the Authority.

54. Supervision of works

A borehole and well that is to be equipped with a motorized pump shall be constructed under the supervision of a qualified and licensed water sector professional.

55. Borehole or well completion record

(1) On the completion of construction of the borehole or well specified in regulation 53, the applicant shall, within twenty-eight days of completion of works, submit to the Authority, a borehole, or well completion record in WRA Form 009 for a borehole or 010 for a well respectively set out in the Thirteenth Schedule, together with the completion certificate.

(2) A person who contravenes subregulation (1) commits an offence and is liable on conviction to the prescribed penalties.

56. Issue of permit or approval

(1) Approval to abstract groundwater under Category A for a well, shall be issued by the Authority following the procedure stipulated in regulation 7.

(2) Where the Authority determines that verification on site is necessary, the Authority shall undertake the verification within twenty eight days upon payment by the applicant of the prescribed site verification fees.

(3) An approval to abstract groundwater from a borehole, in Category A, shall not be issued until the Authority has analysed the data provided in the Borehole Completion Record Form WRA 009.

(4) A permit to abstract groundwater from boreholes, or wells intended to be equipped with motorised pumps in Categories B, C, or D as defined in the First Schedule shall not be issued until after the Authority has analysed the data provided in the Borehole or Well Completion Record Form WRA 009 or 010, respectively.

57. Groundwater conservation

(1) Every borehole owner shall ensure that a wellhead protection area within a radius of ten meters is reserved where any activity including land use activities, are likely to negatively impact groundwater resources.

(2) Where in its assessment the Authority determines that a proposed borehole is within a radius of ten meters of any activity likely to negatively impact the quality of groundwater resources, it shall not issue an authorization or permit for the drilling of the borehole or well.

(3) Within twelve months of the coming into effect of these Regulations, all borehole water abstractors shall ensure that—

- (a) boreholes are fitted with dipper tubes;
- (b) water is not abstracted without passing through a meter; and
- (c) the water meter is periodically inspected to ensure that it is not defective.

58. Artificial ground water recharge

(1) No person shall undertake construction works for the purposes of conducting the artificial groundwater recharge of an aquifer, whether or not in a groundwater conservation area, unless such a person has been duly authorised by the Authority.

(2) An application for authorization under subregulation (1) shall be accompanied by a technical report and a Hydrogeological Assessment Report prepared in the form set out in the Fourth Schedule—

- (a) defining the aquifer parameters and the water quality evolution after recharge;
- (b) specifying the impacts on the recharged water,
- (c) specifying the contents of the injection and the proposed geotechnical mechanisms with analysis on its positive and negative impacts on groundwater resources.

(3) Any person applying for the necessary authorisation under subregulation (1), shall give such particulars relative to his or her application as the Authority may require and such authorisation may, after consideration of the application be granted upon such conditions as the Authority may deem necessary or refuse the application.

(4) A person who contravenes this regulation commits an offence and is liable on conviction to the prescribed penalties under the Act.

59. Groundwater data

The Authority may, from time to time and in carrying out its responsibilities in respect to groundwater resources protection and regulation, require any person or entity, permit holder or operator, to provide the Authority with abstraction, water levels, water quality or

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any other specified information within a reasonable time or on a regular basis as it may specify including the requirement to observe protection measures as shall be prescribed by the Authority.

60. Groundwater allocation Guidelines

(1) The Authority shall from time to time formulate groundwater allocation guidelines on the basis of which it will exercise its groundwater allocation functions under this Part.

(2) The groundwater allocation guidelines shall be accessible on the Authority's website and during normal office hours to any person.

(3) The Authority may, on the payment of the prescribed fees listed in the Second Schedule, provide an extract of data from its records to any person.

PART VI – WATER QUALITY MONITORING AND WASTE DISPOSAL

61. Control of water pollution

(1) No person shall discharge or apply any poisonous, toxic, noxious or obstructing matter, radioactive waste or other pollutants or permit any person to dump or discharge such matter into a water resource unless the discharge of such poisonous, toxic, noxious or obstructing matter, radioactive waste or pollutant is authorised by the Authority and treated to permissible standards.

(2) A person intending to discharge waste, effluent or other pollutant into a water resource shall apply to the Authority for waste disposal permit.

(3) The category of effluent discharge disposal permit shall be determined on the basis of the effluent discharge load, the concentration of pollutants, the capacity of the receiving water body and the applicable resource quality objectives.

(4) A person who discharges waste, effluents or other pollutants into a water resource at the commencement of these Regulations without a waste disposal permit issued by the Authority shall apply for a waste disposal permit within six months of the commencement of these Regulations.

(5) The right of a permit holder to discharge waste shall be exercised in accordance with the conditions in the effluent discharge permit and shall be limited to the quantity and quality of pollutants stipulated in the permit.

(6) An effluent discharge permit shall be issued in the Form WRA 001G set out in the Thirteenth Schedule and shall be subject the payment of the water user charges specified in the Second Schedule.

(7) Any person who contravenes this regulation commits an offence and is liable on conviction to the penalties prescribed in the Act.

62. Waste disposal control plan

(1) A person in charge of an undertaking or establishment shall formulate and put in place and implement a waste disposal control plan approved by the Authority to prevent and or control the discharge into a water resource of waste, effluent or other pollutants from run-off or point and non-point sources in, on or adjoining the establishment or undertaking.

(2) A waste disposal control plan shall be prepared by a licensed and registered water sector professional and be substantially in the form stipulated in the Fourth Schedule.

(3) Any person who contravenes this regulation commits an offence and is liable on conviction to the penalties prescribed in the Act.

63. Water quality requirements

In determining the water quality standards for a waste disposal permit, the Authority shall be guided by the following criteria—

- (a) the capacity of the receiving water resource to assimilate the effluent without violating the water resource quality objectives for that water resource;
- (b) the toxicity and persistence of the pollutant; and

- (c) any other criteria as determined from time to time by the Authority.

64. Liquid Waste Disposal Records

(1) A person who disposes liquid waste shall maintain monthly records of the liquid waste discharged in terms of quantity and quality in accordance with the Waste Disposal Control Plan approved by the Authority.

(2) The waste disposal records shall be submitted to the Authority and verified by the Authority on a quarterly basis.

(3) The waste disposal records shall be maintained and shall be available for inspection by the Authority.

(4) Any person who falsifies information about the waste disposed into a water resource, in the records submitted to the Authority commits an offence and is liable, on conviction, to the penalties specified in the Act.

(5) The falsification of information in the waste disposed into a water resource may be used by the Authority as a basis for the cancellation of the waste disposal permit.

65. Consideration of category waste disposal applications

(1) The Authority shall consider an application for a waste disposal permit falling into Category A using the specified procedure for consideration of Category A applications.

(2) The Authority shall process Category B, C and D applications for waste disposal permits using the procedures provided for consideration of applications for category B, C and D.

(3) Where the Authority is satisfied that the waste discharge to a water resource meets the limits stipulated by the Authority, the Authority may issue an authorisation and append the necessary conditions including volume and waste discharge requirements.

66. Issuance of waste disposal permits

(1) Upon inspection and approval of the authorised waste discharge works, the Authority shall issue a waste disposal permit and shall append the necessary conditions including limits to and monitoring frequency for volume and quality of effluent discharge.

(2) A water service provider shall provide effluent quality and quantity data to the Authority on a quarterly basis for the facilities supplied with water including those connected and discharging into a sewer line.

67. Spillage

(1) No person shall wilfully and deliberately allow any substance to spill out into any water resource or onto land where such spillage may contaminate a body of surface or groundwater.

(2) In the event of accidental spillage where such spillage may contaminate a body of surface or groundwater, the person in charge of the spilt substance shall immediately, and in any case within twenty four hours, inform the Authority of the accident, urgently take measures to prevent spread of the spillage and take remedial measures as may be required by the Authority to mitigate against likely adverse effects to water resources.

(3) The Authority shall upon receiving information of a spillage, take measures to notify the public of the spillage and cause appropriate action to be taken to address likely adverse effects of the spillage on water resources.

(4) The costs incurred by the Authority in regard to notifying the public and addressing the spillage shall be recovered from the person in charge of the spilt substance as a debt.

(5) Any owner of a spilt substance who fails to inform the Authority immediately after spillage or fails to take immediate action to prevent spread of the spillage and its likely adverse effects to water resources commits an offence and is liable on conviction to the penalty specified under these Regulations or the Act.

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(6) The Authority shall undertake periodic assessment of pollution impacts to various water resources and as necessary issue precautionary public notices in line with the precautionary principles.

(7) The Authority may require, in a format prescribed by the Authority, information and reports of the annual state of any infrastructure that may cause spillage or compromise a water resource.

68. Water quality monitoring

(1) The Authority may inspect any premises and sample any sources of water pollution for water quality monitoring without the need to give prior notice of the inspection.

(2) A person, who obstructs, constrains or prevents an inspector who has identified himself or herself from undertaking a pollution control inspection commits an offence and is liable, on conviction to the prescribed penalties under these Regulations.

69. Water quality, liquid waste disposal and effluent discharge data

(1) The Authority shall maintain a water quality database that will include effluent discharge data.

(2) The Authority's shall maintain data on it's website and at the Authority's offices during normal office hours and any person may obtain a copy of such data from the Authority on the payment of the fees specified in the Second Schedule.

70. Water quality sample procedure

(1) In the event that an inspector intends to take a water quality sample for purposes of prosecution, the procedure stipulated in the Eleventh Schedule shall apply.

(2) The Authority may, notwithstanding the procedures prescribed in the Eleventh Schedule, install automatic water quality monitoring and sampling equipment for any purpose.

71. Pollution control enforcement

The Authority may, with good cause, order any person or entity being the landholder or occupier or having charge over a piece of land to put in place adequate measures for the safe disposal of, solid or other wastes including agricultural chemicals present on the land which may present a risk to the water resource quality.

PART VII – WORKS

72. Inspection of works prior to, during and post construction

The Authority may undertake an inspection or series of inspections of the site associated with a proposed, ongoing, existing or abandoned water works.

73. Temporary works

(1) Where it is necessary for purposes of a construction activity to divert, abstract, impound, obstruct, store or use water temporarily, an application shall be made to the Authority for a permit for temporary waterworks.

(2) A permit for temporary waterworks shall authorise the diversion, abstraction, impoundment, obstruction, storage or use of water temporarily to such extent only as may be necessary for such construction, and at such times and in such manner as to interfere as little as possible with the works of other operators and cause as little damage as possible to property.

(3) The holder of a temporary waterworks permit shall be liable for any interference or damage resulting from the temporary works.

(4) All temporary works shall be removed by the temporary works permit holder within a period of three months, or such other period as the Authority may specify, from the date of completion of the works which made it necessary to acquire the temporary waterworks permit or from the date of expiry of the authorization, whichever is earlier:

Provided that any quarries, burrow-pits, excavations, cuttings, tunnels or other temporary works which cannot be economically rehabilitated or removed shall instead be rendered safe in the interest of the health and safety of person and property by fencing or such other measure as the Authority may consider necessary.

(5) In the event that any temporary works are not removed, rehabilitated or rendered safe within the prescribed period, the Authority shall issue an order for the removal, rehabilitation or rendering safe of the works.

(6) A person who fails to comply with an order issued by the Authority under this regulation commits an offence and is liable on conviction to the penalties prescribed in these Regulations or the Act.

74. Abandoned Works

(1) Despite, the abandonment or cancellation of an authorization or permit or any part thereof, the owner or permit holder, is liable for any damage resulting from any works constructed, operated or maintained by the permit holder, or for any defect or insufficiency in the works.

(2) The Authority may, within six months of the cancellation or expiry of an authorization or permit, serve upon the permit holder or former permit holder whose authorization or permit has been cancelled or expired, an order for the disposal of all or any portion of the works previously used under the authorization or permit.

(3) A person who fails to comply with the order on abandoned works commits an offence.

PART VIII – CONDITIONS OF AUTHORISATION, PERMITS AND APPROVED WATER USES

75. Compliance with the Environmental Management and Coordination Act

The Authority shall require an applicant as a condition to the grant of a water resource use permit to—

- (a) provide evidence of compliance with the provisions of the Environmental Management and Coordination Act (No. 8 of 1999) regarding integrated environmental assessments, and any other provisions as the Authority may deem necessary; and
- (b) if not already a member, join and maintain membership of a water resource users association.

76. Inspection

(1) The Authority may place on any authorisation or permit, a schedule of inspection by an inspector which may be at specified intervals or at the completion of specified milestones during the construction of any works.

(2) Any person who undertakes any activity that damages or hinders the proper functioning of the water resource monitoring network shall be given the opportunity of meeting the cost of repair, within a period of time determined by the Authority.

(3) Any person under subregulation (2) who fails to make good the damage or cover the costs of repair, commits an offence and is liable on conviction to the penalties prescribed under these Regulations and the Act.

77. Controlling and measuring devices

(1) Within two years of the coming into effect of these Regulations, every Category B, C or D water user, whether for water abstraction or effluent discharge, shall install an automated measuring meter or smart meter for the accurate measurement of water abstracted, obstructed or diverted and the effluent discharged.

(2) A Category B, C or D water user shall inspect, or cause to be inspected, at such intervals as may be necessary, any automated measuring meter or "smart" meter prescribed in the permit in order to ensure that the quantity of water abstracted, diverted or stored, or effluent discharged is accurately measured.

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(3) A permit holder shall ensure that every adjustable device or controlling device, including any sluice gate, valve or other works, where such device or work is used to control the quantity of water diverted, abstracted or stored, or effluent discharged, has a means of locking it sufficiently to prevent any unauthorized person from interfering with such adjustable device or controlling device.

(4) The keys of such locking device or works shall be immediately availed to an officer of the Authority when required provided that the locking device may be designed in such way that two people shall be required to operate it during opening and locking.

(5) Any measuring device used for the purpose of measuring abstraction or effluent discharge shall be calibrated and such calibration results shall be made available to the Authority upon request.

(6) The calibration of the flow measuring device may be verified by the Authority or an agent of the Authority.

(7) In case of doubt over the accuracy of a flow measuring device the Authority may require the accuracy of the device to be verified and where required, the device shall be recalibrated at the cost of the permit holder.

(8) A measuring device shall be automated and be in the form of a calibrated meter for piped or pumped systems and a calibrated weir or flume for open channel abstraction or discharge systems, or other appropriate device approved by the Authority.

(9) The controlling device shall be located at the point where the water is abstracted or diverted or the liquid waste discharged or at a point approved by the Authority while a measuring device shall be located at a point approved by the Authority.

(10) Where a water user fails or neglects to comply with any order given under this regulation, the Authority may take such steps as it may consider necessary to execute the order, and any expenses incurred in taking such steps shall be recoverable as a civil debt from the water user or person upon whom such order is made.

(11) The automated meters and measuring devices installed under these Regulations shall be sealed by the Authority with an approved seal bearing the Authority's distinguishing brand or mark impressed thereon.

(12) Where any seal affixed is broken without the approval of the Authority, the water user upon whose premises the seal was placed commits an offence and is liable on conviction to the penalties prescribed under the Act:

Provided that, where it can be proved that the offence was committed by some person other than the water user, that person shall be punishable as if he were the water user upon whose premises the breach occurred.

78. Limitation of flow or quantity

(1) Notwithstanding the quantity of water granted by the permit, a permit holder shall not abstract or divert more water from a body or bodies of water than can, for the time being, be beneficially used by him or her in accordance with the terms of his or her permit.

(2) Having due regard to the priority of the purpose for which the water is granted, a permit holder shall, on being so directed by the Authority—

- (a) abstract, impound, or divert the quantity of water which may be necessary for his or her purpose at such times and in accordance with a schedule of abstraction that encompasses all other permit holders using the same body of water, or other body of water, as may, in the opinion of the Authority, secure the most equitable use of water; and
- (b) discharge the quantity of water in accordance with a schedule of releases that encompasses all other permit holders using the same body of water, or other body of water, as may, in the opinion of the Authority, secure the most equitable use of water.

79. Collection and submission of abstraction, water quality and effluent discharge data

(1) Each Category B, C or D permit holder is required to maintain a record of the daily abstraction or effluent discharge, in cubic metres per day, made by him or her.

(2) The record shall state the permit number, date and volume of abstraction or discharge.

(3) The records for abstraction or discharge for the preceding twenty-four months shall be available for inspection by the Authority.

(4) The Authority may require an applicant for water use, or applicant for permit renewal to take water quality samples and cause the samples to be analysed at the permit holder's cost in a water quality laboratory approved by the Authority.

(5) Where the water analysis results show that the water is not fit for human consumption, the water use permit shall be conditional on the requirement that appropriate treatment is undertaken and evidence provided to the Authority before the water may be used for human consumption.

80. Airline

(1) Every permit holder, shall install an airline in his or her boreholes, such that the measurement of water levels is possible by the Authority or any authorised person.

(2) A permit holder who fails to install an airline commits an offence and is liable on conviction to the penalties prescribed under the Act and these Regulations.

81. Water resources inspector

(1) The Authority may, in writing, authorize any person employed in the public service, or any servant, agent or contractor of such person, to perform any of the powers, duties or obligations vested in it by these Regulations.

(2) The following persons shall perform the duties and have the powers of a water resources inspector—

- (a) any person appointed to a post that is equal to or more senior than that of a water resources officer or water rights officer in the Authority;
- (b) persons other than officers of the Authority, appointed by the Authority by notice in the *Gazette*, as water resources inspectors, which persons may receive such payment in respect of their services as the Authority may determine;

(3) Every person appointed to perform the duties of a water resources inspector shall carry a document of identification and shall produce the document when required in the performance of his or her duties.

82. Water resources data

(1) The Authority shall, on the basis of data gathered by or submitted to it maintain a database for purposes of water resource management.

(2) The database shall contain data on climate, surface water, groundwater, water quality, catchment conditions, abstractions, permits, water use and any other data relevant to the management of the water resources.

(3) Any person requiring water resource data from the Authority shall apply for such data in writing and pay for the data according to the fees prescribed in the Second Schedule, except where the Authority is satisfied that the data is to be used for research or non-commercial purposes.

(4) In responding to a request for data the Authority shall be guided by Article 35 of the Constitution of Kenya.

(5) A person who sells any data obtained from the Authority or transfers such data to a third party commits an offence.

(6) The Authority shall not be held liable for any errors or omissions in its data.

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(7) A person who uses the citation for a publication that derives data from the Authority shall submit to the Authority such citation with a brief summary of the publication within thirty days of the date of publication.

83. Register of water Bodies

(1) To the extent practicable, the Authority shall maintain a register and map of all water bodies which shall contain the official name and class (if any) of each water body.

(2) The official name of the Register shall be determined by the Authority after consultation with other government departments and other stakeholders.

PART IX – WATER USE CHARGES

84. Water use charges

(1) A person in possession of a valid water use permit or who is required to have a valid permit for water use, shall pay to the Authority water use charges on the basis of the water abstracted, diverted, obstructed or used including energy derived from a water resource at the appropriate rate as set out in the Second Schedule.

(2) A person in possession of a valid water use permit or who is required to have a valid permit for water use shall pay in addition to the water use charge, a levy amounting to 5 percent of the monthly water use charge as a water conservation levy.

(3) Water use charges payable to the Authority under subregulation (1) shall be used by the Authority to meet the costs of discharging the regulatory functions pursuant to section 12 of the Act together with reasonable overhead and incidental costs incurred in exercising its mandate.

(4) The monies collected by the Authority as a water conservation levy shall be segregated from the water use charges and reported on separately and, on the basis of agreements entered into between the Authority and county government entities and water resource users associations used to finance part of the costs of the implementation by water resources associations and county government entities of catchment or sub-catchment soil and water conservation plans.

(5) Payment of water use charges and conservation levies shall be made to the Authority by the 15th day of every month for water used in the preceding calendar month.

(6) With the approval of the Authority, payment of the water use charge and conservation levies may be remitted to the Authority in instalments exceeding monthly instalments.

85. Annual adjustment of water use charges

The Authority shall adjust the water use charges annually in order to give effect to indexation by reference to the officially published annual inflation index.

86. Review of water use charges

The Authority may at any time, following public consultation, review and gazette new water use charges on the basis of—

- (a) a significant increase in the cost of regulating the water resources;
- (b) the desire that water use charges facilitate water resources demand management; and
- (c) any other criterion that the Authority may consider appropriate.

87. Automated measuring device

(1) A permit holder or any person who is required to have a valid permit shall ensure that there is an automated measuring device for the assessment of the quantity of water used with respect to each permit.

(2) The permit holder shall take readings from the measuring device and submit the readings to the Authority in the Form WRA 015 set out in the Thirteenth Schedule.

(3) In the event that the permit holder does not submit readings of the quantity of water used, the Authority shall take readings of the quantity of water used provided that if the Authority reasonably believes that the meter readings are inaccurate, the Authority shall make a fair estimate of the quantity of water used.

(4) In making the assessment, the Authority shall be guided by the allocation in the permit and by observations and evidence of water use activities.

(5) In the event that the assessed quantity of water used, as determined by the Authority, is 25 percent more or less than the permitted allocation, taking into account seasonal variations, the Authority may re-evaluate and vary the permitted allocation.

(6) Where the permit holder and the Authority cannot agree on the assessment of the quantity of water used, then the opinion of the Authority shall prevail and the permit holder shall pay the amount assessed by the Authority.

(7) The permit holder may lodge a complaint under these Regulations notwithstanding having made the payment under subregulation (6).

(8) Without prejudice to the provisions of subregulation (6), the Authority shall be at liberty to adopt alternative methods in assessment of water use charges including reference to crop production, resources extracted and similar methods.

88. Time limitation on arrears

(1) Where the Authority discovers that a permit holder, or a person who is required to have a water permit, has not paid water use charges, the Authority may charge arrears.

(2) Where the Authority discovers that a permit holder has tampered with or has caused such meter to be tampered with and under declared his or her water use, the Authority shall be entitled to charge for the under declared water use in arrears.

89. Groundwater conservation charge

An additional 10 percent shall be added to the water use charges payable for any water use within a groundwater conservation area or protected area gazetted under the Act to cover for the cost of enhanced regulation required in such areas.

90. Penalty for over-abstraction

In the event that the water abstracted exceeds the permitted amounts by over 5 percent, the excess shall be charged at a penalty rate of ten shillings per cubic metre.

91. Waiver of premium payable

(1) A water user in possession of a valid permit who has installed and used water from its own flood water storage facilities shall be entitled to a waiver of the premium payable under applicable Regulations on use of water from a regulated watercourse.

(2) The waiver shall only apply in the case of storage that equals or exceeds ninety days water demand otherwise the premium payable shall be calculated on a pro rata basis.

92. Penalty for failure to use automated measuring device

If the assessment of the water used is not based on continuous measurement by means of an automated and appropriately sealed flow measuring device, a penalty of 10 per cent shall be charged on the full amount of water used.

93. Revenue collection agents

The Authority may appoint revenue collection agents and shall pay for the cost of the services rendered.

94. Modes of payment

Water use charges shall be paid directly to the Authority or where applicable to a revenue collection agent.

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95. Interest for late payment

Late payment of water use charges shall attract a simple interest charge of 2 percent per month until the whole amount is paid in full.

96. Failure to pay water use charges

(1) Failure to pay the appropriate water use charges is a breach of the conditions of a permit and may be a basis for the revocation or suspension of the permit.

(2) The Authority may within fourteen days, following notice given to the permit holder, suspend, initiate the cancellation process or vary in whole or in part the permit if the permit holder fails to pay in full the water use charges for any one payment period for a period of four months after the due date.

(3) Any permit holder whose permit has been suspended, cancelled or varied due to non-payment may not apply for a lifting of the suspension or a new permit or amendment until the outstanding amount and any associated cost is paid in full.

(4) Any application for a new permit or amendment of an existing permit shall not be considered if the permit holder has arrears.

(5) A person who reconnects abstraction facilities without permission from the Authority, after the Authority disconnects or dismantles an intake or abstraction equipment or facility, due to nonpayment of water use charges, commits an offence.

PART X – WATER RESOURCE USERS ASSOCIATIONS

97. Registration and Operation of associations

(1) A water resource user association shall register with the Authority by submitting Form WRA 018 in the Thirteenth Schedule.

(2) For a water resource users association to qualify for registration by the Authority, it shall—

- (a) be registered under the Societies Act (Cap. 108) as an Association:

Provided that prior to the registration, the association shall seek a letter of no objection from the Authority;

- (b) have a constitution conducive to collaborative management of the water resources of a particular sub-catchment and which promotes public participation, conflict mitigation and resolution, gender main-streaming and environmental sustainability;
- (c) have a delineated boundary map of its coverage area;
- (d) submit minutes of the meeting of elections of its officials and a list of members.

(3) The Authority shall respond in writing within thirty days of the receipt of the application for registration of a water resource users' association.

(4) If after thirty days there are no objections or if any objections received have been satisfactorily addressed, the Authority shall issue the association with a certificate of registration in Form WRA 019 set out in the Thirteenth Schedule and enter its name in the Register of water resource users associations.

(5) A Water resource user association's operations shall be guided by the following—

- (a) its Plans shall be facilitated by the Authority and any review sanctioned by the Authority;
- (b) it shall receive and utilize funds with approval from the Authority in related water resource management activities;
- (c) it must adhere to its Constitution and shall not develop by laws that contradict the Constitution;
- (d) it shall submit an annual report to the Authority and as when required;
- (e) it shall make annual returns to the Registrar General and share the same information with the Authority; and

(f) it shall not engage in any political activity.

(6) Without prejudice to subregulation (5), the Authority shall develop standards, guidelines and manuals of water resource users associations that shall contain the following—

- (a) training manuals for association;
- (b) association's institutional framework;
- (c) operations guidelines;
- (d) financing framework;
- (e) reporting guidelines; and
- (f) guidelines on preparation of Sub Catchment Management Plans.

(7) For a water resource users association to qualify to enter into a tripartite water resource management Memorandum of Understanding with the Authority and the respective county government, it shall—

- (a) be registered under the Societies Act (Cap. 108);
- (b) have a constitution that promotes collaborative management of a water resource or resources, active membership open to all water users in the area and public participation, conflict mitigation and resolution, gender mainstreaming and environmental sustainability;
- (c) have a sub-catchment management plan developed in line with the basin area water resources management strategy in accordance with section 29 (3) of the Act;
- (d) have a functioning and duly functioning management committee;
- (e) have requisite technical, administrative and organizational capacity to perform the functions specified in the Memorandum of Understanding; and
- (f) have a record of compliance with financial procedures and obligations, including the remittance of statutory deductions, income tax and other applicable taxes.

(8) Where a water resource users' association traverses more than one County, the Memorandum of Understanding shall be between the Authority, the water resource users associations and all the counties traversed by the water resource users associations.

(9) The conditions for entering into the Memorandum of Understanding shall be as provided under the requirements in subregulation (7).

(10) The Authority, county government and the water resource users associations shall before entering into a water resource management Memorandum of Understanding—

- (a) identify the sub-basin and water resource proposed to be subject of the agreement including on a map; and
- (b) assess and agree on a proposed mechanism for collaborative management of the water resource.

(11) The Authority shall maintain a Register of water resource users associations in the Form R001 set out in the Thirteenth Schedule.

(12) The Authority shall publish on its website annually, details of

- (a) registered water resource users associations;
- (b) water resource users associations under suspension;
- (c) deregistered water resource users associations

(13) A person may make a written application to the Authority for certified copies of the information in subregulation (12) upon payment of the prescribed costs.

(14) Whenever the particular details of the water resource users' associations change in Form WRA 018 in the Thirteenth Schedule should be re-submitted to the Authority.

(15) The Memorandum of Understanding shall identify modalities for administrative technical or financial support to the water resource users associations by the Authority

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and county government in respect of activities related to collaborative water resource management.

(16) Without prejudice to financial support mechanisms referred to in subregulation (12), the Authority shall equitably allocate financing to water resource users associations for conservation and management of water resources.

(17) The Authority may with good cause suspend a water resource user association from its register of water resource users associations in the following circumstances—

- (a) if the association fails to adhere to its own Constitution;
- (b) if the association becomes deregistered under the Societies Act (Cap. 108);
- (c) if the association breaches any conditions under these Regulations or fails to honour the tripartite Memorandum of Understanding with the Authority and the county government; or
- (d) any other justifiable cause which in the view of the Authority undermines the objectives of association.

(18) Where the Authority intends to remove a water resource users associations from its Register of water resource users associations, it shall give the water resource user association thirty days' notice in writing to show cause why it should not be suspended and during this period, the associations shall be suspended.

(19) During the period a water resource user association is suspended, it shall not be engaged in any activities related to any Memorandum of Understanding entered into with the Authority and county government, without the approval of the Authority.

(20) The Authority may lift the suspension upon being satisfied that the water resource users' association has taken corrective measures on the issues that led to the suspension.

(21) Failure to take corrective measures, within a specified time, the Authority shall remove the water resource user association from its register and the association shall cease to be engaged in any water resource management activity covered under any Memorandum entered into with the Authority and county government.

(22) The registration of a water resource user association with the Authority does not confer any legal standing on the association, but serves only to affirm the entity considered by the Authority to be a water resource users associations for a particular water resource.

(23) The officials of any water resource user association under suspension that violates the conditions of the suspension, or of any water resource user association that has been removed from the register that engages in water resources management activities covered in the Memorandum of Understanding entered into with the Authority commits an offence.

PART XI – BASIN WATER RESOURCES COMMITTEES

98. Consideration of Category B, C and D applications

(1) Following the establishment of the basin water resources committees, all Category C and D water use applications shall be submitted by the regional office of the Authority for consideration and advice before the Authority makes a decision on the application.

(2) The Authority shall take into account the advice of the basin water resources committee in making its decision and where the decision differs from the advice in any material particulars the Authority shall before implementing provide to the members of the committee the reasons for departing from the advice of the committee.

(3) Where an applicant for a water use permit appeals against the decision of the Authority the reasons for the decision of the Authority, the advice of the basin water resources committee and the explanation provided to the committee for departing from its advice will be disclosed to the Tribunal and to the appellant.

99. Quorum of basin water resource committee

(1) Notwithstanding the First Schedule of the Act, provisions of Basin Area Management Strategies developed under section 28 of the Act in respect to soil and water conservation for implementation by County Governments or the operations of a water resources users

association in implementing sub-catchment management plans in the sub-basin is to be discussed, the committee shall only be quorate if at least one-third of the county governments participate in the meeting at which that item is to be discussed.

(2) Subregulation (1) shall not limit or in any way constrain the basin water resources committee in discussing and determining an application for a water use permit or its cancellation or suspension or the recommendation for the taking of other enforcement action by the Authority against a permit holder.

100. Regional offices

(1) The regional office of the Authority shall facilitate the work and activities of the committee through the provision of technical, administrative, financial, logistical and other support.

(2) The regional officer of the Authority in charge of the basin area shall provide secretariat services to the basin water resources committee.

(3) The Authority shall make requests in accordance with the provisions of the Public Finance Management Act (Cap. 412A) for budgetary allocation to be utilized for the payment of salaries, allowances and other expenses of the basin water resources committees as determined under section 26(7) of the Act.

101. Publication of committee reports

(1) A basin water resources committee shall publish each year, a report of its activities for the government financial year.

(2) A copy of the report shall be submitted by the Authority to each county government within the area of the basin and where appropriate the Authority shall convene a meeting of the county

governments in the basin to discuss the report and identify priorities for action in the following year.

PART XII – PROTECTED AREAS AND GROUNDWATER CONSERVATION AREAS

102. Identification of protected or designated groundwater conservation areas

(1) Pursuant to sections 22 and 23 of the Act, the Authority may identify a catchment area, part of a catchment area or water resource to be identified as areas to be protected or designated as groundwater conservation areas if the Authority is satisfied that doing so is necessary for the protection of the water resource and its multiple uses.

(2) In identifying a protected area or groundwater conservation area, the Authority shall be guided by the criteria shown in the Seventh Schedule and any other relevant considerations.

(3) The Authority shall in conjunction with relevant institutions and stakeholders, describe the boundaries of the proposed protected area or ground water conservation area for gazettelement.

103. Management Regulations

(1) The Authority shall, in conjunction with relevant institutions and stakeholders, establish management regulations or plans that shall apply to each protected area or groundwater conservation area.

(2) The management regulations or plans shall contain the items listed in the Seventh Schedule.

(3) A person who fails to comply with the gazetted management regulations or plans commits an offence.

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104. Public Consultation

The Authority shall undertake public consultation with respect to the establishment of areas to be protected or designated as groundwater conservation areas and the management regulations or plans that shall apply with respect to these areas.

PART XIII – THE RESERVE

105. Composition of the Reserve

The Reserve in all instances shall comprise of one element related to the quantity of the resource and the respective probability associated with that quantity and a second element related to the quality of the resource.

106. Reserve Quantity

(1) In all instances where water resource records are available, the Authority shall establish the Reserve.

(2) The Reserve Quantity for—

- (a) streams and rivers, shall not be less than the flow value that is exceeded ninety-five per cent of the time as measured by a naturalised flow duration curve at any point along the water course;
- (b) lakes and naturally occurring stagnant waters, shall not be less than the water volume that is exceeded ninety-five per cent of the time as measured by a naturalised volume duration curve or, failing bathymetric data, a naturalized level duration curve;
- (c) aquifers shall be the Annual Potential Recharge minus the Groundwater Potential as determined by the Authority; and
- (d) aquifers whose recharge rate has not been determined by the Authority, for each point of abstraction shall be seventy-five per cent of the tested yield expressed in cubic metres per day as determined by test pumping analysis.

(3) In all instances where water resource records are not available or where there are significant ambiguities, the Authority shall establish the Reserve and shall be guided by—

- (a) ecological vulnerability;
- (b) vulnerability of local populations dependant on that water resource;
- (c) local observations with respect to the naturalised flows or water levels of minimum values observed during periods of prolonged droughts;
- (d) in all instances where water flow is known to be normally perennial, then the Reserve Quantity shall be sufficient to ensure perennial flow;
- (e) consultations with the water resources users associations if such exist.

107. Information on and protection of the Reserve Quantity

(1) The Authority shall make the Reserve information on water resources accessible to the public.

(2) Any person may make a verbal or written report or complaint to any office of the Authority within the relevant catchment or to the Chief Executive Officer if—

- (a) he or she is unable to obtain sufficient water from the water resource for basic human needs as a result of the Reserve being violated;
- (b) as a result of his or her observations, she or he considers that the ecology is threatened as a result of the Reserve being violated.

(3) Each complaint or report registered with the Authority in regard to a violation of the reserve quantity or quality, shall be given a Complaint Number by the Authority which shall be used for purposes of monitoring the response to the complaint or report.

(4) In any instance where a complaint or report has been registered with the Authority in regard to a violation of the Reserve Quantity or Quality, the Authority shall take measures

within forty-eight hours to respond to the complaint or report including activities listed in the Eighth Schedule.

(5) Within thirty days after each report of a Reserve violation, the Authority shall prepare a report detailing the nature of the reserve violation and the measures taken to restore the Reserve.

(6) If the Authority considers that the Reserve Quantity or Quality is threatened, it shall cause to be placed in or near the water resource or in a public place frequented by the water users of a particular resource a legible signboard displaying the current condition of the resource and action required by the water users to safeguard the Reserve.

PART XIV – REGISTRATION OF WATER SECTOR PROFESSIONALS

108. Categories of qualified water sector professionals

The categories of qualified water sector professionals shall be as shown in the Ninth Schedule.

109. Licensing of qualified water sector professional or qualified contractor

(1) No person or entity shall carry out the work of a qualified water sector professional or qualified contractor under these Regulations unless that person has been licensed as a water sector professional by the Cabinet Secretary.

(2) The Cabinet Secretary shall constitute and maintain a Technical Advisory Committee at all times to advise him on the registration, and all other matters regarding the conduct, of qualified water sector professionals and qualified contractors under these Regulations.

(3) The Technical Advisory Committee shall comprise of not more than eight members excluding the Chairperson all of whom shall be appointed by the Cabinet Secretary.

(4) Membership to the Technical Advisory Committee shall comprise of a representative from the Authority, Water Services Regulatory Board, National Water Harvesting and Storage Authority, representatives of regulatory bodies of relevant professions and representatives of professional associations.

(5) The Cabinet Secretary shall develop administrative guidelines to govern the conduct of business of the Technical Advisory Committee and such guidelines may be revised from time to time as need arises.

(6) No final decision on the application for licensing or conduct of a qualified contractor or qualified water sector professional under these Regulations shall be made except on the basis of a recommendation of the Technical Advisory Committee.

(7) A final decision on the application for a licence or conduct of a qualified contractor or qualified water sector professional under these Regulations shall be communicated to the concerned party within fourteen days from the date of the decision.

(8) Any qualified contractor or qualified water sector professional aggrieved by the final decision of the Cabinet Secretary may appeal to the Water Tribunal.

110. Persons qualifying

The following persons shall be entitled to apply for a qualified water sector professional licence—

- (a) a person who has graduated with a degree from any recognized university and who has had at least five years practical experience in a profession or discipline relevant to the management water resources or provision of water and sewerage services; and
- (b) a person who is registered member of the respective professional body where the relevant profession is governed by a professional body.

111. Professionals holding non-Kenyan qualifications

(1) The Cabinet Secretary, may register and issue a licence to a professional holding non- Kenyan qualifications to practice as a qualified water sector professional or qualified

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contractor for the purpose of any specified task or in regard to a task which the person so applying for registration and licencing has been engaged to undertake under a contract with an entity established or operating under the laws of Kenya.

(2) Every water sector professional or foreign contractor licenced under subregulation (1) during and for the purposes of completing a task shall be deemed to be a qualified water sector professional or qualified contractor.

(3) No water sector professional or contractor holding non-Kenyan qualifications shall be entitled to carry out works until he has been licenced by the Cabinet Secretary and has paid the prescribed fee.

(4) Where a complaint is made in respect of a water sector professional or contractor holding non-Kenyan qualifications, the Cabinet Secretary may immediately suspend the licence of such water sector professional or contractor from performing any tasks in Kenya pending the making of a final determination.

112. Application for a licence

Any individual who provides or is proposing to provide professional services related to water resources or the provision of water or sewerage services shall apply for a licence as a qualified water sector professional under the appropriate area of specialisation to the Cabinet Secretary in Form WRP 001 as prescribed in the Thirteenth Schedule.

113. Professional interview

The Cabinet Secretary, after receiving an application for a qualified water sector professional licence, may require the attendance of the applicant before the Technical Advisory Committee, and the Committee may examine or question him or her on any matter relevant to the application.

114. Qualified water sector professional licence

(1) If, on the basis of the recommendations of the Technical Advisory Committee, the Cabinet Secretary is satisfied that the applicant is qualified to be licensed, the Cabinet Secretary shall issue a licence in Form WRP 002 in the Thirteenth Schedule for such period and on such conditions, as it may deem desirable.

(2) A qualified water sector professional is required to pay an annual licence fee as set out in the Second Schedule.

(3) Payments of the licence fees shall be made to the Cabinet Secretary no later than the end of the third month each year.

(4) Failure to renew the licence fee is a breach of the conditions of the licence and shall result in the licence being suspended in which case the person may not practise as a qualified water sector professional.

(5) A suspended licence may be reinstated after payment of all outstanding fees.

(6) Failure to renew the licence for a consecutive period of three years shall result in the licence being revoked.

115. Codes of Practice for qualified water sector professionals

(1) The Cabinet Secretary shall in consultation with the relevant professional bodies develop and publish Codes of Practice to regulate the various professions.

(2) All qualified water sector professionals shall comply with the applicable Codes of Practice.

116. Register of qualified water sector professionals

(1) The Cabinet Secretary shall keep a Register in accordance with the Thirteenth Schedule of all qualified water sector professional licences issued under these Regulations providing for different classes of approved water sector professionals.

(2) The Cabinet Secretary shall, once in every year and not later than the 30th April, publish in the *Gazette* a list containing—

- (a) the names and addresses of all licensed qualified water sector professionals; and
- (b) the names and addresses of qualified water sector professionals deleted from the Register.

(3) A qualified water sector professional shall inform the Cabinet Secretary in writing of any change in the particulars of his or her licence within twenty-eight days of such change.

(4) A qualified water sector professional who fails to notify the Cabinet Secretary of any changes in the licence may face disciplinary action, including suspension of the licence.

117. Complaints

(1) A complaint may be made to the Cabinet Secretary against any person licensed as a qualified water sector professional under these Regulations if the professional—

- (a) is incapable of carrying out the work of a qualified water resource professional;
- (b) is unfit, on account of any reason, to practise as a qualified water resource professional;
- (c) has failed to comply with or is in breach of the conditions of his or her licence or any provisions of the Act or of these Regulations; or
- (d) is guilty of professional malpractice or negligence in the performance of his duties.

(2) The Cabinet Secretary shall refer all complaints received against water sector professionals to the Technical Advisory Committee which shall hold an inquiry within thirty days of the complaint being lodged, and if after such inquiry the Technical Advisory Committee is satisfied that the complaint is justified, the Committee shall provisionally suspend the licence of the professional and immediately thereafter submit its findings to the Cabinet Secretary with a recommendation of the appropriate action.

(3) A water sector professional found culpable of professional misconduct shall be subject to the cancellation or suspension of his or her licence, the removal of his name from the register and notification of the suspension or cancellation of the licence in the *Gazette* and websites of the relevant regulatory authorities.

(4) Pending the decision of the Cabinet Secretary on the recommendation of the Technical Advisory Committee, the water sector professional shall, on the basis of the provisional suspension of the licence, cease to undertake any professional assignments in the water sector.

(5) The person against whom a complaint has been made shall be entitled to appear and be heard at such inquiry, before his or her case is determined.

(6) Any person whose licence has been suspended or cancelled or whose name has been deleted from the register of qualified water sector professional under subregulation (3) may, within thirty days of the date of notification of such cancellation and deletion, appeal to the Water Tribunal.

118. Validity of certificates, documents or plans

(1) No certificate, document or plan required by the Act or these Regulations to be signed by a qualified water sector professional shall be valid unless it is signed by a person whose name is in the register referred to in these Regulations and who is not at the time of signing under a suspension.

(2) Despite subregulation (1), an officer of the Ministry, if he or she is so authorized to sign by the Cabinet Secretary, shall be deemed to be a person whose name is in the said register.

119. Misrepresentation as licensed qualified water sector professional

Any person who wilfully and falsely takes or uses any name, title or addition implying that he or she is a qualified water sector professional licensed under these Regulations commits an offence and is liable on conviction to the penalties prescribed under section 147 of the Act.

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PART XV – LICENSING OF CONTRACTORS

120. Categories of qualified contractors

The categories of qualified contractors shall be as shown in the Ninth Schedule.

121. Criteria for qualified contractors

(1) The Cabinet Secretary shall develop detailed criteria for different categories of qualified contractors.

(2) The detailed criteria, which shall be provided to any person upon request, shall be based on the following

- (a) plant and equipment;
- (b) qualifications and experience of professional staff;
- (c) past experience and performance;
- (d) any other criteria that the Authority considers to be relevant.

122. Application to register as qualified contractor

(1) Any individual, corporate entity, non-governmental or charitable organisation, or public body that constructs or is proposing to construct, modify, rehabilitate or service water works shall apply for registration under the appropriate category as a qualified contractor to the Cabinet Secretary, in the Form WRC 001 in the Thirteenth Schedule.

(2) No contractor shall be licensed or continue to hold a valid licence as a qualified contractor unless he is in possession of a valid certificate issued by the National Construction Authority for the category of works he proposes to undertake.

123. Qualified contractor licence

(1) The Cabinet Secretary shall verify the details of the application by visiting the premises and reviewing the state of the equipment and the experience and qualifications of the applicant and his, her or its staff.

(2) If the Cabinet Secretary is satisfied, on the basis of recommendations of the National Construction Authority, Regulatory Board or Storage Authority as appropriate, that the applicant is qualified to be licensed, the Cabinet Secretary shall issue a licence in the Form WRC 002 in the Thirteenth Schedule for such period and on such conditions as he or she may deem suitable.

(3) A qualified contractor shall pay the annual licence fee set out in the Second Schedule and payments shall be made to the Cabinet Secretary no later than the end of the third month in each calendar year.

(4) A qualified contractor who fails to renew the licence fee is in breach of the conditions of the licence and the Cabinet Secretary may suspend the licence.

(5) A suspended licence may be reinstated after payment of all outstanding fees.

(6) Failure to renew the licence for a consecutive period of three years shall result in the licence being revoked.

124. Verification of necessary and valid authorisation

(1) A contractor engaged to undertake any works shall verify that all necessary and valid authorisations have been obtained by the client in regard to the proposed works prior to commencement of the works.

(2) Commencement of works by the contractor without having verified the availability of the required authorisations may be used as a basis by the Cabinet Secretary to take disciplinary action, which may include the de-registration of the contractor.

125. Code of Practice for qualified contractors

(1) The Cabinet Secretary shall in consultation with the relevant professional bodies develop and publish a Code of Practice to regulate contractors.

(2) All qualified contractors shall comply with the Code of Practice.

126. Complaints

(1) A complaint may be made to the Cabinet Secretary against any person licensed as a qualified contractor under these Regulations if such contractor—

- (a) is incapable of carrying out the work of a qualified contractor;
- (b) becomes unfit, through any reason, to practise as a qualified contractor;
- (c) fails to comply with the conditions of his or her licence or any provisions of the Act, or of these Regulations; or
- (d) is guilty of malpractice or negligence.

(2) The Cabinet Secretary shall hold an inquiry within thirty days of the complaint being lodged and if after such inquiry the Cabinet Secretary is satisfied that the complaint has been justified, the Cabinet Secretary shall take disciplinary action which may include suspension or cancellation of the licence of the contractor and if the licence is cancelled the name of the contractor shall be deleted from the register of qualified contractors.

(3) The contractor against whom a complaint has been made shall be entitled to appear and be heard at such inquiry, before the case is determined.

(4) A contractor whose licence has been suspended or cancelled and whose name has been deleted from the register of qualified contractors under subregulation (2) may, within thirty days of the date of notification of such suspension or cancellation and deletion, appeal to the Water Tribunal.

127. Register of qualified contractors

(1) The Cabinet Secretary shall keep a register as set out in the Thirteenth Schedule of licences for qualified contractors issued under these Regulations.

(2) The Cabinet Secretary shall, once in every year and not later than the 30th April, publish in the *Gazette* a list containing

- (a) the names and addresses of all licensed qualified contractors; and
- (b) the names and addresses of qualified contractors deleted from the Register.

(3) A qualified contractor shall inform the Cabinet Secretary in writing of any change in the particulars of his or her licence within twenty-eight days of such change.

(4) A qualified contractor who fails to notify the Cabinet Secretary of any changes in the licence may face disciplinary action, including suspension of the licence.

128. Misrepresentation as qualified contractor

Any individual, corporate entity, non-governmental or charitable organisation, or public body who wilfully and falsely takes or uses any name, title or addition implying that he, she or it is a qualified contractor licensed under these Regulations commits an offence.

PART XVI – MISCELLANEOUS

129. Recognized water quality laboratories

A water quality laboratory which is registered, accredited or gazetted by the National Environment Management Authority shall be recognised by the Authority.

130. Orders

(1) The Authority may issue an Order to any person to desist from any activity, or for the carrying out of corrective measures to improve compliance to these Regulations or conditions for better water resource quality and or catchment conditions.

(2) The Order shall be in Form WRA 015 in the Thirteenth Schedule and shall specify what measures are required to be taken, the period of time for compliance with the Order and any other conditions pertaining to compliance with the Order.

[Subsidiary]

(3) A person who has been served with an Order by the Authority and fails to comply within the stated period of time shall be considered to be in breach of these Regulations and guilty of an offence punishable under these Regulations.

(4) Failure to comply with an Order by the Authority may be a reason for suspension, cancellation or variation of a permit in addition to any other prescribed penalties.

(5) Any person who objects to any part of an Order served on him or her by the Authority shall respond in writing to the Authority within fourteen days, giving justification for the basis of his or her objection.

(6) In the event of an objection to an Order, the Authority shall, within seven days of receiving the objection, notify the person served with the Order of changes to the conditions of the Order, if any.

(7) In the event that an Order is not complied with within the timeframe stated on the Order, the Authority may take any appropriate measures to prevent the activity mentioned in the Order including the confiscation of equipment, plant or works, and any costs incurred by the Authority in effecting these measures is a cost recoverable from the recipient of the Order.

(8) If the complainant is dissatisfied, he or she may follow the complaints mechanism as specified in these Regulations.

(9) In the event that the Authority determines that an activity may cause deterioration of the resource quality, the Authority shall take immediate corrective measures as an emergency without reference to the person who caused it, and any costs incurred by the Authority in effecting these measures may be recovered from the person responsible.

131. Emergency Order

(1) In the event of unusual climatic, accidental or hydrological events, the Cabinet Secretary may impose by public notification an Emergency Order in the interests of maintaining the Reserve and domestic water supplies.

(2) The Emergency Order shall comprise of the details listed in the Twelfth Schedule.

(3) An Emergency Order will be lifted or varied by public notification.

(4) Any person who fails to comply with an Emergency Order commits an offence.

132. Complaints mechanism

(1) A person with a complaint related to any matter under these Regulations shall submit his or her complaint to the relevant department of the Authority by providing the particulars set out in the Tenth Schedule.

(2) The Authority shall reply to the complainant, copied to all other relevant parties, within twenty-one days of receiving the complaint stating what action is being taken, the position of the Authority on the matter and any recommendation to the complainant.

(3) If the complainant is dissatisfied with the decision made in subregulation (2), he or she may forward the matter to the Chief Executive Officer of the Authority.

(4) The Chief Executive Officer shall reply to the complainant, copied to all other relevant parties, within twenty-one days of receiving the complaint stating the final decision of the Authority including whether the Chief Executive Officer upholds or annuls the decision as the case may be, and give reasons for his decision, and any recommendation to the complainant.

(5) If the complainant is dissatisfied with the final decision of the Authority, he or she may appeal this decision at the Water Tribunal.

(6) Each complaint shall be given a complaint number by the Authority which shall be used for purposes of monitoring any remedial action taken and the response to the complainant.

133. Penalties

(1) Penalties for offences committed under these Regulations are as set out in the Fifth Schedule.

(2) A person who commits an offence under these Regulations shall, if no other penalty is prescribed in respect of the offence, be liable to the penalty prescribed under section 147 of the Act.

134. Revocation of LN No 171 of 2007

The Water Resources Management Rules, are hereby revoked.

FIRST SCHEDULE

[r. 4, 5, 6, 13(1), 14(1), 56(4), 99(1)]

WATER USE ACTIVITIES AND PERMIT DETAILS**WATER USE ACTIVITIES THAT REQUIRE APPROVAL BY AUTHORITY:**

<i>Item</i>	<i>Water Use Activity</i>
1.	Temporary abstraction for construction
2.	Diversion of water from a water course;
3.	Abstraction from surface water;
4.	Diversion of a water course
5.	Abstraction from groundwater, either by a borehole or a shallow well;
6.	Groundwater recharge augmentation;
7.	Water storage in dams and pans;
8.	Liquid waste including the effluent discharged, disposed or emitted into the environment likely to adversely impact on a water resource;
9.	Swamp, marsh or wetland drainage;
10.	Obstruction of water;
11.	In-streamworks;
12.	Mixing of waters from different water resources;
13.	Hydropower generation;
14.	Exploiting and using sea water for salt production;
15.	Dredging of the bed of a watercourse, lake, territorial sea or other water bodies;
16.	Construction of boundary walls adjoining a water body, retaining walls, dykes and similar structures;
17.	Dumping of debris or waste materials into a water resource;
18.	Reclamation of land either on account of the recession of a water body or the seabed or for other reason;
19.	Non-consumptive utilisation involving recreational activities including training exercises if routinely carried out by a group of persons either formally or informally organised;
20.	The extraction of salt or other non-living natural resources from the waters of the territorial sea or other water bodies;
21.	The extraction of geothermal resources;
22.	Drilling, tunnelling, the use of explosives, excavation, quarrying and other extractive activities into or in close proximity to a water resource;
23.	Sand harvesting.

[Subsidiary]

PART 2 - ACTIVITIES FOR WHICH APPLICATION FOR VARIATION OF PERMIT SHALL BE MADE:

<i>Item</i>	<i>Activity</i>
(a)	Modifications at the point of diversion or abstraction;
(b)	Varying the water use;
(c)	Changing the point of use;
(d)	Mixing water covered under different permits;
(e)	Replacement, deepening, widening or any other modification to an existing borehole, shallow well or any water works requiring approval by the Authority;
(f)	Abandonment of an existing waterworks that would normally require approval by the Authority;
(g)	Artificial recharge of groundwater;
(h)	Any other type of water use activity that may, from time to time, be determined by the Authority

PART 3 - CATEGORY OF WATER RESOURCE USE ACTIVITIES:

<i>Category</i>	<i>Description</i>
A	Water use activity deemed by virtue of its scale to have a low risk of impacting the water resource. Applications in this category will be determined by Regional Office.
B	Water use activity deemed by virtue of its scale to have the potential to make a significant impact on the water resource. Permit applications in this category will be determined by Regional Office following consultation with the WRUA or equivalent local representative association whose objective is natural

- C resources management and conflict resolution. Water use activity deemed by virtue of its scale to have a significant impact on the water resource. Permit applications in this category will be determined by regional offices on the basis of advice of the basin water resource committee and following consultation with the concerned WRUAS local representative association(s) whose objective is natural resources management and conflict resolution.
- D Water use activity which involves either two different catchment areas, or is of a large scale or complexity and which is deemed by virtue of its scale to have a large impact on the water resource. Permit applications in this category will be determined by the Authority headquarters on the basis of the advice of the concerned basin water resource committees.

SECOND SCHEDULE

[r. 10(2), 10(4), 13(1)(c), 14(1)(d), 14(2), 26(2), 27(2), 31(1), 34(1), 36(1) (b), 37(2), 39(3), 50(2), 60(3), 61(6), 69(2), 82(3), 84(1), 114(2), 123(3)]

FEES AND WATER USE CHARGES

PART A - FEES

1 GENERAL FEES

<i>Relevant Form (if applicable)</i>	<i>Description of Activity</i>	<i>Fees KSh.</i>
WRA 001A, 001B, 001C, 001D, 001E, 001F, 001G	Application for Water Permit	See second schedule, Part 2
WRA 002	Application for Easement	4000
WRA 005	Application for Extension of Time of Authorisation	4000

Water

[Subsidiary]

WRA 006	Extension of Authorisation 2000 to Construct Works	
WRA 011	Water Permit	See second schedule, Part 2
WRA 012	Application for Renewal of Water Permit	See second schedule, Part 2
WRA 013	Application for Variation of Water Permit	4000
WRA 014	Application for Transfer of Water Permit	4000
WRA 017	Application for Authority to Enter Land	4000
WRA 020	Application of Search of Water Permit	2000
WRA 021	Supplement to Authorisation/ Supplementary Permit	6000
WRP 001	Application for registration as Qualified Water Sector Professional	6000
WRP 002	License as Qualified Water Sector Professional	6000
WRC 001	Application for registration as Qualified Contractor	10000
WRC 002	License as Qualified Contractor	10000
	Annual License Fee for Qualified Water Sector Professional	4000
	Annual License Fee for Qualified Contractor	4000
	For re-issue of or alteration to Authorizations, Permits, and Licences	4000

**FEES FOR ASSESSMENT AND ISSUANCE
OF WATER USE PERMITS BY CATEGORY**

<i>Applications</i>	<i>Assessment of Application (Kshs)</i>	<i>Issue of Initial Permit (Kshs) (for 5 years)</i>	<i>Assessment for renewal and/or variation of Permit</i>
Water Use Category A	2,000	1,000	1,000
Water Use Category B	20,000	25,000	45,000
Water Use Category C	40,000	50,000	90,000
Water Use Category D	80,000	100,000	180,000

NOTE:

- (a) Application fees in respect of Ground Water Permits shall be accompanied with payment for physical chemical analysis.
- (b) For permits issued for less than 1 year, the cost of the permit will be charged on a pro rata basis.
- (c) The fees for Assessment for renewal and/or variation of Permit is inclusive of issuance of the Permit (renewal).

2. FEES FOR DATA, INVESTIGATIONS, LABORATORY ANALYSIS AND RELATED SERVICES

<i>Item</i>	<i>Type</i>	<i>Unit</i>	<i>Rate (Kshs)</i>
Groundwater Data	Basic data (WSL, WRL, Yield, Depth) up to a maximum of 10 boreholes	Per request	5,000
	Borehole or Well Completion Record (Form 008A or 008B) including test pumping	Per borehole	5,000
Hydro— meteorological Data	Rainfall (daily, monthly, or annual)	Per station record	5,000
	Climatic parameter	Per station record	5,000
	Water level and rating equations	Per station record	5,000
	discharge	Per station record	5,000
	lake/ reservoir level	Per station record	5,000
	sediment load	Per station record	5,000
Water Apportionment	Copy of Authorisation or Permit	Per copy	1,000
Water Quality Data	All parameters (up to a Maximum of 20 data sets)	Per request	5,000
INVESTIGATIONS			
Groundwater	Hydrogeological Assessment or surveys including borehole siting	Per site	40,000/- plus staff days based on contracted consultancy day rate and AA rates for mileage exclusive of lab analysis costs
Surface water	Hydrological Assessment or surveys	Per request	Ditto
WQ and pollution Control	Water Quality Assessment or surveys	Per request	Ditto

[Subsidiary]

Surface water	Flow measurement	Per site	20,000/- plus staff days based on contracted consultancy day rate and AA rates for Mileage
Thematic maps and blue prints		Per copy	2,000
Reports	coloured prints	Per A 1 copy	5,000
		Per AO copy	5,000
	coloured prints	Per A4 copy	1,000
		Per A3 copy	1,000
	Digital Maps	Per Theme	20,000
	Reports	Per page	50
Equipment Hire		Per day	As per prevailing schedule of rates issued by WRA from time to time
Copy of Register of WRUAs		Per region	5000
Copy of Register of Water Bodies		Per region	5,000
Copy of Register of Authorisations or Permits		Per 100 or part thereof	5,000
Copy of Register of Qualified Water Sector Professionals or Qualified Contractors		Per copy	5,000
Recommendations by WRUA on Application for Permit	Permit	Per Permit	2,000
<i>Note</i>			
<i>recommendation by WRUA does not confer or imply a Permit for water abstraction by the Applicant</i>			
Certified Copy of Register of WRUAs		Per Sub region	1,000

WRUA	4,000
Development Cycle	

**PART B - WATER USE CHARGES RATES FOR WATER USE
CHARGES FOR PERMIT CATEGORIES A, B, C AND D.**

Type of Water Use	Criteria	Rate
Domestic, Public, Livestock	Domestic, public, and livestock purposes	5 Kes/m ³
Hydropower Generation	Amount of energy generated	No charge
	First 1 MW	
	Over 1 MW	2 Kes per kWh
Irrigation	First 300 m ³ /day	2 Kes/m ³
	Over 300 m ³ /day	2.5 Kes/m ³
Fish Farming	Amount supplied	1 Kes/m ³
Commercial / Industrial	First 300 m ³ /day	5 Kes/m ³
	Over 300 m ³ /day	6 Kes/m ³
Effluent Discharge		As per the Amendments.
Salt Extraction		
Desalination		
Suspended Buildings On Lakes And Ocean		
Temporary Permit For Temporary Diversion Of Rivers/Sea/Water Courses		
During Construction Of Bridges		
Permit For Dredging And Training Of Rivers/Water Courses For Construction Of Roads		
Lab Analysis Charges		
Change Of Use (WR Infrastructure)		
Searches	Riparian WRUAs Wetlands Dams Swamp List of Professionals	
Data Sets	WR Maps	
Registration Of Professionals	Registration	5,000
	Renewal	5,000
Registration Of Contractors		1,000

NOTE:

- (a) All water use under category A, B, C and D attract water use charges.
- (b) Water use charges apply to water abstracted, diverted, stored and or used for hydropower generation.

PART C - LABORATORY WATER QUALITY TESTING CHARGES

<i>Parameter</i>	<i>CHARGES (KSh.)</i>	<i>Individual Parameters</i>	<i>Charges (KSh.)</i>
Physical Chemical Analysis	5000	22. Total Hardness	600

Water

[Subsidiary]

Biological Analysis	3500	23. Sulphides	350
Partial Effluent Analysis	5000	24. Dissolved Oxygen	300
Full Effluent Analysis	8000	25. Temperature	200
<i>Individual Parameters</i>		26. Salinity	300
1. pH	200	27. Chemical Oxygen Demand	1000
2. Colour	200	28. Biochemical Oxygen Demand	1000
3. Turbidity	300	29. Chlorine Demand	1000
4. Conductivity	300	30. 4Hr. Permaganate Value	500
5. Magnesium	400	31. Oil & Grease	1000
6. Total Alkalinity	350	32. Total Suspended Solids	500
7. Free Carbon Dioxide	200	33. Pesticides (each)	8000*
8. Orthophosphate	500	34. Detergents	2000
9. Total Phosphorus	700	35. Residue Chlorine	300
10. Chloride	300	36. Total Nitrogen	1000
11. Iron	700	37. Phenols	500*
12. Nitrate	500	38. Heavy metals (each)	1000
13. Nitrite	500	39. Coliforms & <i>E. Coli</i>	3500
14. Total Dissolved solids	300	40. Legionella	5000
15. Sulphate	400	41. Jar Test	5000
16. Fluoride	400	42. Water Treatment Chemical Analysis	5000
17. Calcium	400	43. Arsenic	1000
18. Manganese	700	44. Water quality Data for all parameters (up to Max. 20 datasets)	2000
19. Potassium	350		
20. Sodium	350		
21. Ammonia	500		

THIRD SCHEDULE

[r. 14(1)(c)]

REGULATION OF DAMS

Table 1: Classification of Storage Dams

Class of Dam	Maximum Depth of	Maximum Depth of	Catchment Area
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Water

[Subsidiary]

	Water at NWL (m)	Water at NWL (m ³)	(km ²)
SD1	0 —4.99	< 100,000	< 100
SD2	5.00— 14.99	100,000 to 1,000,000	100 to 1,000
SD3	> 15.00	> 1,000,000	> 1,000

NWL = Normal Water Level

Table 2: Risk Factors of Storage Dams and other waterworks

Classification	Populationat Risk	Incremental	Consequences of Failure	
		Loss of Life	Environmental and cultural values	Infrastructure, economics and other property
SD 1 (Low Risk)	Temporary/ Permanent	Minimal numbers	(a) Limited presence of: (b) important Fisheries (c) important wildlife (d) habitats (e) rare or endangered species, or (f) unique landscapes (g) sites of cultural significance and additionally used Restoration or compensation in kind for losses and damage is possible.	Low economic losses affecting limited infrastructure and residential buildings, public transportation or services or commercial facilities; alternatively, limited destruction or damage to locations occasionally and irregularly for temporary purposes.
SD 2 (Medium Risk)	Permanent	Significant numbers	Significant presence: (a) critical fisheries; (b) critical wildlife habitats; (c) rare or endangered species, or (d) unique landscapes (e) sites of cultural significance andor additionally	Moderate economic losses affecting important infrastructure, public transportation or services or commercial facilities, or moderate destruction andor severe damage to

[Subsidiary]

			Restoration or compensation in kind for losses and damage difficult.	residential areas.
SD 3 (High Risk)	Permanent	Large numbers	Presence of: (a) critical fisheries; (b) critical wildlife habitats; (c) rare or endangered species, or (d) unique landscapes (e) sites of cultural significance and additionally Restoration or compensation in kind for losses and damages is impossible or impracticable.	High economic losses affecting critical infrastructure, public transportation or services or commercial facilities, or significant destruction or damage to residential areas.

Table 3: Minimum Return Period for Spillway Design

Class of Dam	Minimum Period for Design of Spillway
SD1	1 in 50 years
SD2	1 in 100 years
SD3	1 in 500 years

Table 4: Dam Safety Inspection Schedule

Class of Dam	Frequency of inspection	Inspection by
SD1	Once in 5 years	Panel I C 1, Panel I C 2, Panel II C
SD2	Once in 3 years	Panel I C 2, Panel I C 1
SD3	Once every 2 years	Panel I C 2

FOURTH SCHEDULE

[r. 16(1), 51(4), 58(2), 62(2)]

CONTENT AND FORMAT OF TECHNICAL REPORTS

The following are guidelines for Technical Reports and compilers are expected to exercise their professional judgement in including other appropriate items in the Technical Report.

FORMAT OF REPORTS

All reports shall be submitted to the Authority in the following format:

- | <i>Item</i> | <i>Format</i> |
|-------------|--|
| 1. | One original paper hardcopy of all documents, duly signed, and adequately bound together; |
| 2. | Two paper copies of all documents; |
| 3. | A digital Portable Document Format (PDF) format of the document and drawings submitted on a Compact Disk or any other appropriate electronic medium. |

FORMAT OF DRAWINGS

All technical drawings submitted to the Authority shall comply with the following format:

- | <i>Item</i> | <i>Format</i> |
|-------------|--|
| 1. | One original paper hardcopy of all drawings, duly signed, and adequately bound together; |
| 2. | Two paper copies of all drawings; |
| 3. | A digital DXF (Digital Exchange Format) format of the technical drawings submitted on a Compact Disk (CD) or other electronic medium as appropriate; |

Every plan shall be signed and dated by the person making it, and, if it is made by any person other than the applicant to whom it relates, the application or his or her lawfully authorized agents shall also approve, sign and date it.

Every plan prepared by a qualified professional shall have endorsed thereon a certificate in the following form:—

CERTIFICATE

I/We of

hereby certify that this plan was made by me/us [or under my/our direction] and that it correctly represents the places, lands, areas and works shown thereon.

.....
Qualified Professional(s)

All reduced levels or elevations shown on any plan, or set of plans, longitudinal sections cross sections of any work or works shall be to the same datum, and reference shall be made on a least one sheet of any set of plans, longitudinal sections or cross sections indicating the datum used, and also the positions of all bench marks, which shall be properly located and described on the general map (and which benchmarks one shall be in the immediate vicinity of the point of diversion, abstraction or storage), from which the datum may be gained.

The location of the datum shall be described by the Grid Reference in UTM Coordinates based on the Arc 1960 datum. The elevation shall be referenced to mean sealevel. The nature of the datum shall be adequately described.

FORMAT OF MAPS AND DRAWINGS

All technical drawings and maps submitted to the Authority shall comply with the following format:

- | <i>Item</i> | <i>Format</i> |
|-------------|--|
| 1. | A digital Tagged Image File Format (TIFF) format of the maps submitted on a CD, or other appropriate media |

SITE ASSESSMENT REPORT

A Site Assessment Report shall substantially provide the following details:

- | <i>Item</i> | <i>Format</i> |
|-------------|----------------------------------|
| 1. | Name and details of Applicant; |
| 2. | Description of Proposed Activity |
| 3. | Confirmation of Site details; |

[Subsidiary]

4. Relevant hydrological features;
5. Relevant catchment features;
6. Recommendations

TECHNICAL REPORTS

The following technical reports shall substantially provide the details required.

DAM DESIGN REPORT (FOR CLASS SD1, SD2 AND SD3 DAMS)

<i>Item</i>	<i>Format</i>
1.	Details of location
2.	Details of hydrological assessment
3.	Details of design flood and return period
4.	Details of embankment
5.	Details of reservoir
6.	Details of draw-off and compensation works
7.	Details of spillway(s)
8.	Details of ancillary structures
9.	Details of construction materials
10.	Details of construction schedule
11.	Details of operational regulations
12.	Procedures to notify and protect downstream inhabitants, infrastructure and environments
13.	Schedule of inspection and maintenance
14.	Assessment of impacts and risks

TECHNICAL DESIGN REPORT

<i>Item</i>	<i>Format</i>
1.	Name and details of Applicant;
2.	Description of Proposed Activity;
3.	Analysis of Deman;
4.	Details of Hydrological Assessment
5.	Details of Structures to be built;
6.	Details of Equipment to be installed;
7.	Details of Controlling Device;
8.	Details of Measuring Device;
9.	Details of operating procedures;
10.	Details of safety devices

PROGRESS REPORT

<i>Item</i>	<i>Detail</i>
1.	Name and details of applicant;
2.	Description of proposed Activity;
3.	Details of Authorisation including the time frame;
4.	Cause of delay;
5.	Revised timeframe for completion;

DAM INSPECTION REPORT

<i>Item</i>	<i>Detail</i>
1.	Current condition of dam with respect to approved design and "as-constructed" condition
2.	Any action required to restore the functional and structural integrity of the dam to the required state
3.	Any changes with regard to the risk of or impact in the event of dam failure

-
4. Review appropriateness of the action plan in event of dam failure
 5. Revised timeframe for completion;

DAM DAMAGE OR FAILURE REPORT

- | | |
|-------------|--|
| <i>Item</i> | <i>Detail</i> |
| 1. | Details of location |
| 2. | Date and time of dam failure or damage |
| 3. | Preceding climate |
| 4. | Preceding hydrology |
| 5. | Cause of dam failure or damage |
| 6. | Steps taken to notify downstream inhabitants |
| 7. | Nature and extent of damage caused to the dam or caused by the dam failure |

HYDROLOGICAL ASSESSMENT REPORT

- | | |
|-------------|--|
| <i>Item</i> | <i>Details</i> |
| 1. | Name and details of Applicant; |
| 2. | Location and Description of Proposed Activity; |
| 3. | Details of Climate; |
| 4. | Details of river or water body (name, nearest Regular Gauging Station, Sub-catchment); |
| 5. | Details of catchment (area, slopes, soils); |
| 6. | Details of vegetation and land use; |
| 7. | Details of Registered and Non registered Abstraction on the resource; |
| 8. | Details of all other permits related to this application; |
| 9. | Hydrological characteristic sand analysis (annual, monthly, extreme events, flow duration or probability of events occurring); |
| 10. | Hydrochemistry; |
| 11. | Analysis of the Reserve; |
| 12. | Assessment of availability of flow; |
| 13. | Impact of proposed activity on flow regime, water quality, other abstractors; |
| 14. | Recommendations on Proposed Activity; |

HYDROGEOLOGICAL SURVEY REPORT

- | | |
|-------------|---|
| <i>Item</i> | <i>Details</i> |
| 1. | Name and details of applicant |
| 2. | Location and description of proposed Activity |
| 3. | Details of climate |
| 4. | Details of geology and hydrogeology |
| 5. | Details of neighbouring boreholes, and neighbouring proposed valid authorizations, including location, distance from proposed borehole or boreholes, number and construction details, age, current status and use, current abstraction and use. |
| 6. | Description and details (including raw and processed data) of prospecting methods adopted, e.g. remote sensing, geophysics, geological and or hydrogeological cross sections Hydro-geological |

[Subsidiary]

characteristics and analysis, to include but not necessarily be limited to, the following:

- (a) Aquifer transmissivity;
- (b) Borehole specific capacities;
- (c) Storage coefficient and or specific yield;
- (d) Hydraulic conductivity;
- (e) Groundwater flux;
- (f) Estimated mean annual recharge, and sensitivity to external factors.

7. Assessment of water quality and potential infringement of National standards
8. Assessment of availability of groundwater;
9. Analysis of the reserve
10. Impact of proposed activity on aquifer, water quality, other abstractors, including likelihood of coalescing cones of depression and implications for other groundwater users in any potentially impacted areas.
11. Recommendations for borehole development, to include but not limited to, the following:
 - (a) Locations of recommended borehole(s) expressed as a coordinate(s) and indicated on a sketch map
 - (b) Recommendations regarding borehole or well density and minimum spacing in the project area
 - (c) Recommended depth and maximum diameter
 - (d) Recommended construction characteristics, e.g. wire-wound screen, grouting depth
 - (e) Anticipated yield
12. Any other relevant information (e.g. need to monitor neighbouring boreholes during tests)

WASTE DISPOSAL CONTROL PLAN

Item

Details

1. Name and details of applicant
2. Quantity and quality of in flow water and waste
3. Type and source of waste
4. Design of waste treatment plant
5. Location and description (frequency, quantity, quality and nature) of effluent
6. Description of treatment and operations, if any
7. Hydrology, hydrogeology and hydrochemistry of receiving water body
8. Impacts on receiving water body in terms of quantity and quality
9. Proposed water quality requirements for the permit and the timeframe for achieving compliance
10. Monitoring programme, (measuring device, controlling device, sampling, records, reporting procedures)
11. Emergency plan for accidental discharges and their risks.

WATER QUALITY AND POLLUTION CONTROL ASSESSMENT REPORT

<i>Item</i>	<i>Details</i>
1.	Name and details of applicant
2.	Location and description of activity or proposed activity;
3.	Details of river or water body (name, nearest Regular Gauging Station, Sub-catchment);
4.	Details of flow regime and hydrochemistry;
5.	Nature and characteristics of waste disposed;
6.	Impact of waste upon water resource and other water users;
7.	Other sources of pollution in the project area:
8.	Conclusions and recommendations.

SOIL AND WATER CONSERVATION PLAN

<i>Item</i>	<i>Details</i>
1.	Existing soil and water conservation structures and practises;
2.	Potential sources of sediment and other pollutants to the water course;
3.	Slope of land;
4.	Land use;
5.	Condition of the riparian land;
6.	Proposed measures and targets for improved soil and water conservation;
7.	Targets and timeframe for adoption and implementation of proposed soil and water conservation structures and practices;
8.	Schedule of inspection of the Soil and Water Conservation Plan;
9.	Site sketch showing— (a) Demarcation of boundaries of land covered under the Soil and Water Conservation Plan; (b) Identification of significant features.

BASIN AREA WATER RESOURCES MANAGEMENT STRATEGY

<i>Item</i>	<i>Details</i>
1.	A description of the institutional framework for water resource management detailing institutional roles and responsibilities;
2.	A strategy for the conservation of the catchment areas;
3.	Slope of land;
4.	A stakeholder participation strategy that will include mechanisms for encouraging the formation and establishment of Water Resource Users Associations and strengthening them once established;
5.	A communication strategy that will capture the communication needs and mechanisms for the catchment;
6.	A water resource monitoring strategy that will capture the resource monitoring network and flow prediction targets;

[Subsidiary]

7. A compliance strategy that will detail the time frame, approaches and requirements to bring water users into compliance with water management regulations;
8. A water demand management strategy that will capture approaches and targets for improving water allocation and use efficiencies;
9. A water allocation plan detailing:
- (a) A description of the class of resources and their resource quality objectives;
 - (b) An analysis of current and future water demands;
 - (c) Allocation of the resource to the Reserve and to different types of uses;
 - (d) Measures to be taken to ensure that water use approvals remain true to the allocations;
 - (e) Measures to be taken when resource availability is limited;
 - (f) A compliance plan;
 - (g) An enforcement plan;
 - (h) Mechanisms for reviewing the allocation plan from time to time as the need arises.

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PENALTIES FOR SPECIFIED OFFENCES

<i>Relevant Regulations</i>	<i>Offence</i>	<i>Minimum Penalty</i>	<i>Maximum Penalty</i>
130(3)	Failure to comply with An Order	Ksh 20,000/- or 6 months imprisonment and compliance with the order at his or her cost	Penalty prescribed in section 147 of the Act.
77(12)	Damage to Water Resources monitoring network	Ksh 20,000/- or 6 months imprisonment and repair damage at his or her cost	Penalty prescribed in section 147 of the Act and repair damage at his or her cost
7(2)	Failure to Apply for Water Use Permit	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
34(6)	Failure to apply for Variation of Permit	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
86(3)	Failure to Follow Notification Procedure with respect Dam releases	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.

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87(2)	Failure to submit damp damage or failure report	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
55(2)	Failure to submit a Borehole or Well Completion Record	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
58(4)	Failure to apply for approval to undertake artificial groundwater recharge	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
61(7)	Unapproved Effluent Discharge	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
67(5)	Failure to Inform with Respect to spillage	Ksh 20,000/- or 2 months imprisonment	Penalty prescribed in section 147 of the Act.
70(2)	Obstructing a Water Resources Inspector	Ksh20,000/- or 6 Months imprisonment	Penalty prescribed in section 147 of the Act.
74(3) 73(6)	Failure to remove or make safe Temporary or Abandoned Works	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
115(9)	Failure to comply with Soil and Water Conservation Plan	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
103(3)	Failure to comply with Management Regulations for Protected Area or Groundwater Conservation Area	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
119,128	Misrepresentation as Qualified Water Sector Professional or Qualified Contractor	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.
131(4)	Failure to Comply with an Emergency Order	Ksh. 20,000/- or 6 months imprisonment	Penalty prescribed in section 147 of the Act.

THE WATER SERVICES REGULATIONS

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COMPLAINTS HANDLING

THE WATER SERVICES REGULATIONS

[Legal Notice 168 of 2021]

PART I – PRELIMINARY**1. Citation**

These Regulations may be cited as the Water Services Regulations.

2. Interpretation

In these Regulations, unless the context otherwise requires—

"Act" means the Water Act (Cap. 372);

"Authority" means the Water Resources Authority established under section 11 of the Act;

"basic water services" refers to water services from an improved source that is within thirty minutes round trip collection time;

"bulk water" means supply of water in bulk by a licensee or a private entity to an agent or other licensees for purposes of resale or distribution to customers;

"Cabinet Secretary" means the Cabinet Secretary responsible for matters relating to water;

"contractor" means any person holding a water service installation licence issued under these Regulations to carry out any water service installation work either individually or as a body corporate or incorporated for voluntary, business, training or teaching purposes in the field either for gain or reward, or at no charge at all;

"county directorate" means the county directorate of water and sewerage services at the respective county government department;

"county government" means a county government established under the Constitution;

"county executive committee member" means the county executive committee member responsible for matters relating to water;

"cure notice" means a notice issued by the Regulatory Board, to a licensee or agent to correct or repair a breach, irregularity or illegality;

"customer" means a person who is the buyer or recipient and end user of water services;

"Director" means the Director of Water Services in the Ministry responsible for matters relating to water services;

"easement" has the meaning assigned to it under the Act;

"Fund" means the Water Sector Trust Fund established under section 113 of the Act;

"inspector" means any water service inspector appointed in accordance with regulation 99;

"licence" means a licence issued under the Act;

"licensee" means a water service provider licensed by the Regulatory Board under the Act;

"price indexation" means a methodology where the price charged for a service is allowed to change by the rate of inflation over the initial price with an adjustment factor (X) based on factors such as technological changes, need to finance development of infrastructure and need to adopt efficient working systems;

"Regulatory Board" means the Water Services Regulatory Board established under section 70 of the Act;

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"sewerage services" means the development and management of infrastructure for transport, storage, treatment of waste water originating from centralized and decentralized systems but shall not include on-site sanitation facilities;

"tariff" means the fee that a water services provider may charge for its services;

"trade effluent" means any liquid, whether with or without suspended particles produced as a by-product in the course of any trade or industrial activity undertaken in premises other than domestic premises;

"variation" means any authorized amendment made to a valid licence issued under these Regulations;

"water action group" means a local community-based organization made up of citizens who have volunteered to address issues which affect consumers of water services;

"water services" means any services of or incidental to the supply or storage of water and disposal of waste water including by way of sewerage systems and systems and facilities for the treatment and or disposal of faecal sludge but does not include the provision of on-site sanitation;

"water services infrastructure" means networks, facilities, equipment, applications and assets for water production, transmission, distribution and waste water and faecal sludge disposal facilities, and in these Regulations the terms are used interchangeably;

"water service installation" means the pipes, machinery, apparatus, appliances, devices, material and equipment used or intended for use, by a customer for receipt, distribution or use of water supply, consumption or sewerage and fecal sludge disposal systems;

"water service installation licence" means any document or instrument in writing granted under these Regulations to any person authorizing the carrying out of water service installation work;

"water service installation work" means the installation, alteration, or repair, wholly or partially, of a water service installation, but excludes work upon the system of a public water service supplier or other licensee carried out by such public water service supplier or servant of such public water service supplier acting on his behalf;

"water services provider" means an entity established in accordance with section 77 of the Act;

"Water Strategy" means the Integrated National Water Services Strategy formulated by the Cabinet Secretary in section 64 of the Act;

"Water Tribunal" means the Water Tribunal established under section 119 of the Act;

"waterworks development agencies" means agencies established under section 65 of the Act.

3. Application of the Regulations

These Regulations shall apply to the National Government, national government entities, county governments, county government entities and any other person providing water services in Kenya.

PART II – COUNTY GOVERNMENT FRAMEWORK FOR WATER SERVICES PROVISION

4. Powers and duties of county executive committee member

(1) Subject to the provisions of the Constitution and the Act, the county executive committee member shall be responsible for the development and provision of water and sewerage services within the county.

(2) Without prejudice to the generality of the foregoing, the county executive committee member shall—

- (a) formulate and periodically review county policies, strategies and plans for the development and provision of water services;
- (b) on behalf of the county government put in place and maintain measures and arrangements to implement and give effect to the Constitution, national law and national standards on the provision of water and sewerage services;
- (c) coordinate and oversee the development and provision within the county of water and sewerage services;
- (d) mobilise financial and other resources for the development of county public waterworks for provision of water and sewerage services;
- (e) put in place measures to secure the achievement of universal access to basic water and sanitation services within the county within a defined timeframe; and
- (f) on a quarterly basis and from time to time as may be necessary, prepare and submit to the county assembly, a report on the state of water and sewerage services in the county.

(3) In the performance of his functions and duties under the Act, the county executive committee member shall—

- (a) consult and coordinate with departments, agencies and entities of the National Government and county government whose functions affect the development and provision of water and sewerage services of the county;
- (b) consult with relevant stakeholders including non-governmental organisations, the private sector and consumer groups; and
- (c) be assisted by a director of water and sanitation services who shall be a technical officer in the county public service.

5. County water and sewerage services strategy

(1) In every five year period, and following public consultation the county executive committee member shall formulate a county water and sewerage services strategy.

(2) The county water and sewerage services strategy shall be formulated in compliance with Article 10 of the Constitution and its objective shall be to fulfill the fundamental human right to clean and safe water in adequate quantities and the right to reasonable standards of sanitation.

(3) The county water and sewerage services strategy shall provide—

- (a) information on areas within the county where access to basic water and sewerage services is inadequate;
- (b) plans and measures for the development and continuous improvement of water and sewerage services within the county;
- (c) an investment programme and a timeframe for the development, expansion and improvement of water and sewerage services in the county;
- (d) pursuant to paragraph (c), the water and sewerage services penetration targets for the county, including the sub-counties, and propose specific measures through which to enhance realization of the targets;
- (e) institutional and financial arrangements and measures for the improvement of access to basic water services within the rural areas and underserved urban areas;
- (f) measures to facilitate the provision of water services in the entire county on a commercially viable and sustainable basis;
- (g) criteria and procedures for the provision by the county government of financial, technical and other assistance to county owned water service providers and community water service providers;
- (h) a plan and targets to reduce and manage levels of nonrevenue water by county water service providers;

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- (i) an investment programme and a timeframe to increase and sustain availability, supply and storage of bulk water; and
- (j) the community water service providers within the county, and a strategy for monitoring the quality of water services provision.

(4) In addition to the requirements set out in subregulation (3), each county water and sewerage services strategy shall—

- (a) provide details of the number and location of persons not having access to a basic water supply and sewerage or sanitation, including details of the plan for intervention to rectify this; and
- (b) identify a programme for development of water sources, including cross-county bulk water sources to secure availability for adequate water service provision, including an investment programme; and
- (c) identify needs and set out an investment programme for the development and expansion of sewerage infrastructure.

(5) The strategy shall be published in the *Gazette* after approval by the county executive committee.

(6) The county water services strategy shall be reviewed periodically and in any case not later than every five years.

(7) Every county public officer and every county organ shall give effect to the gazetted county water and sewerage services strategy in the discharge of duties under this Regulation.

(8) Every water services provider, including private water services providers and community water services providers operating in the county shall take account of the county water services strategy when executing plans and programmes.

6. County director of water and sanitation

The county director of water and sanitation shall—

- (a) provide technical support and advice to the county executive committee member in the discharge of his or her functions;
- (b) implement and give effect to the county water and sewerage services strategy;
- (c) register water services providers operating within the county;
- (d) subject to national legislation, formulate rules, standards and guidelines for the provision of water services within the county which are compliant with standards provided by the Regulatory Board;
- (e) on the basis of a collaborative framework established between the county government and the Regulatory Board, enforce rules, guidelines and standards for the provision of water services within the county;
- (f) gather and analyse information and disseminate data on water and sewerage services in the county;
- (g) maintain an inventory of the county public waterworks comprising assets, facilities and other infrastructure for the provision of water and sewerage services;
- (h) provide operational, technical, financial and other support to community water service providers operating within the county; and
- (i) on the basis of a collaborative framework established between the county government and the Regulatory Board, receive and address complaints regarding the provision of water services within the county.

7. Annual Monitoring and Evaluation by County Executive

(1) The county executive committee member shall, on an annual basis, with the technical assistance of the county director and in consultation with the Regulatory Board, undertake

monitoring and evaluation of the performance of each water services provider to ascertain the extent of compliance with the county water services strategy and performance targets.

(2) The county executive committee member shall, on the basis of recommendations of the monitoring and evaluation report, take appropriate remedial measures to ensure the continuous improvement of the standard and quality of water and sewerage services provided by water services providers operating in the county.

PART III – ESTABLISHMENT, OPERATION AND
FINANCING OF WATER SERVICES PROVIDERS

8. Establishment of County Water and Sewerage Service Provider

(1) The county government may, pursuant to section 77 of the Act and by notice in the *Gazette*, or through incorporation of a limited liability company, establish one or more county entities as a water and sanitation services provider or providers as the case may be.

(2) A county water services provider established under this regulation shall be a body corporate with perpetual succession and a common seal and shall, in its corporate name, be capable of—

- (a) suing and being sued;
- (b) taking, purchasing or otherwise acquiring, holding, charging or disposing of moveable and immovable property;
- (c) borrowing money;
- (d) entering into contracts; and
- (e) doing or performing all other things or acts necessary for the proper discharge of its functions under this Act which may lawfully be done or performed by a body corporate.

(3) The county executive committee member shall, in consultation with the Regulatory Board, assign to each county water services provider established under this regulation a water supply area which covers the whole or a portion of the area of geographical jurisdiction of the county government.

(4) In determining the area of supply of a county water services provider, the county executive committee member shall take account of and give effect to the operation within the whole or part of the proposed supply area of community or private water services providers.

(5) In accordance with the transfer plan published by the Cabinet Secretary pursuant to section 152(4) of the Act, the county water services provider shall succeed to and assume the functions, assets, contracts, liabilities and staff of the water services board used for the provision of water services within the area of supply of the county water services provider and such transfer shall be completed not later than twelve months following the establishment of the county water services provider or such longer period as the Cabinet Secretary, in consultation with the county government, may approve.

(6) Where the assets for the provision of water services in part of the supply area of the county water services provider belong to a community water services provider, the county water services provider shall, in accordance with the guidelines issued by the Regulatory Board on provision of water services in rural and underserved areas, enter into an agreement with the community water services provider, the terms of which may provide—

- (a) for the county water services provider to take over responsibility for the provision of water services in the area of supply of the community water services provider and use or acquire the assets and facilities of the community water services provider on terms which may include the payment of lease fees or compensation for the assets;
- (b) that the community water services provider continues to provide water services as an agent or a sub-contractor of the county water services provider;
- (c) that the community water services provider may purchase water in bulk from the county water services provider;

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- (d) for the provision of technical and capacity building support to the community water services provider by the county water services provider; and
- (e) other terms necessary to secure the efficient and cost effective provision of water services, consumer protection and accountability within the area supplied by the community water services provider.

9. Functions of the County Water Services Provider

(1) A county water and sewerage services provider established pursuant to section 77 of the Act shall be responsible for the provision of water and sewerage services, and for development and management of the related infrastructure and facilities, within its area of supply and for this purpose shall hold on behalf of the county government, county public waterworks.

(2) A county water and sewerage services provider established under section 77 of the Act shall—

- (a) be a legal person and a corporate entity managed and accounted for as an independent or separate business enterprise;
- (b) have the exclusive right to provide water services within its area of supply;
- (c) provide or put in place arrangements to provide water services to all consumers in its area of supply who desire a water service and are willing to comply with conditions for the supply of water;
- (d) apply for, secure and maintain a licence issued by the Regulatory Board in order to undertake the provision of water services within its area of supply;
- (e) with the approval of the county executive committee member and the Regulatory Board, put in place measures, where necessary for purposes of the better performance of its functions, to contract out aspects of its functions to a private water or sanitation services provider, a community water services provider or another county entity which has the requisite capacity to provide water services.

10. Governance of Water Service Providers

(1) Each county water services provider shall have a board of directors comprising between seven and nine members which shall guide and direct the performance of its functions.

(2) The rules and procedures governing the appointment, composition and qualifications of members of the board of directors of a county water services provider shall give effect to standards and guidelines set by the Regulatory Board but shall in any case not derogate from the following minimum standards—

- (a) the members of the board of directors shall have the minimum educational qualifications, professional experience and skills mix compliant with guidelines set by the Regulatory Board from time to time;
- (b) the board of directors shall have among its members, persons who represent different categories of consumer groups and other stakeholders in the area of supply of the water services provider;
- (c) the board of directors shall not have among its members a person who, at the time of nomination for appointment, is serving as an elected member of a county government, holds office in a political party or is a serving member of Parliament or of the county assembly;
- (d) the county government shall be represented on the board of directors by not more than two officials of the county government; and
- (e) the members of the board of directors other than public officers representing the county government on the board, shall be appointed following a process of open competition but the appointing authority shall ensure that not more than two thirds of the members are of the same gender.

(3) The term of the members of the board of the county water and sewerage services provider shall be three years renewable once which term shall not be affected by the expiry of the term of office of the county government.

(4) The business and affairs of the boards shall be conducted in accordance with the First Schedule.

11. Staff of county water service providers

(1) A county water services provider shall employ a chief executive officer and other staff necessary for performing its functions as a licenced water services provider on terms and conditions of employment approved by its board of directors which terms and conditions shall comply with the water sector benchmark on personnel remuneration as set by the Regulatory Board in line with the guidelines issued by the Salaries and Remuneration Commission.

(2) A person employed by a county water services provider shall be a public officer and subject to the laws governing the conduct of public officers.

(3) Without prejudice to subregulation (1), a chief executive officer of a water services provider shall serve for a term of three years which may be renewed twice subject to satisfactory performance.

12. Finances of county water service providers

The funds and assets of a county water services provider shall consist of—

- (a) such monies as may be appropriated by the county assembly for the purposes of the county water services provider;
- (b) any monies or property which may in any manner accrue or vest in the county water services provider in the course of the exercise of its functions;
- (c) such monies as may become payable to the county water services provider by way of tariffs, fees and other charges in respect of services rendered by or through it; and
- (d) all monies from any other sources whatsoever donated, lent or granted to the county water services provider.

13. County government financial support to the water services provider

(1) Pursuant to regulation 12(1)(a), the county government may in appropriate cases provide financial assistance to enable a water services provider which satisfies the criteria stipulated in the county water services strategy meet a portion of its operation and maintenance costs.

(2) The county government may additionally set up a Dedicated Fund into which the county government and others may place funds for supporting the provision of water services to underserved areas.

(3) The Dedicated Fund may be available to a community water service provider that meets the criteria in rule 18.

(4) The rules governing the operation of the Dedicated Fund shall be prescribed by the County Executive Committee in consultation with the Regulatory Board.

14. Ring fencing of water revenues.

(1) All funds of a county water services provider and all revenues arising from provision of water services by a county water services provider shall not form part of the general revenues of the county government but shall be retained by the water services provider for its purposes.

(2) Any excess of revenue over expenditure at the end of the financial year shall not be paid over to the county government but shall be retained by the county water services provider to be used for the improvement of water services within the area of supply of the county water services provider.

(3) Every water services provider shall establish and maintain a contingency fund into which it shall pay a portion of its revenues to be used to pay for emergency repairs and

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meet the costs arising from unforeseen occurrences which can disrupt the provision of water services.

(4) A water service provider shall not make payments out of its revenues to the county government or otherwise provide other financial support that is inconsistent with its core mandate of water services provision unless as provided in these Regulations.

15. Annual estimates of revenues and expenditures.

(1) Not less than six months before commencement of each financial year, the board of a county water services provider shall cause to be prepared estimates of the revenue and expenditure for that year in line with the approved tariff.

(2) The annual estimates shall make provision for all the estimated capital and recurrent expenditure of a county water services provider for the financial year concerned.

(3) The annual estimates shall also make provision for such amounts as are required to pay any portion of the principal or interest of loans or advances if any secured by or on behalf of the water services provider to finance the capital costs of developing and or rehabilitating infrastructure or facilities and or acquiring equipment and other assets for the provision of water services.

(4) The board shall submit the estimates to the county executive committee member for approval and inclusion in the annual budget of the county government.

(5) No expenditure shall be incurred for the purposes of a county water services provider except in accordance with the annual estimates approved as provided under these Regulations.

16. Accounts and audits

(1) The board of a county water services provider shall keep proper books of account of its income, expenditure, assets and liabilities.

(2) Within three months after the end of each financial year the board of each county water services provider shall submit to the Auditor-General the accounts in respect of that year, together with—

- (a) a statement of the income and expenditure during that year; and
- (b) a statement of the assets and liabilities as at the last day of that financial year.

(3) The annual accounts of a county water services provider shall be prepared, audited and reported upon in accordance with Article 226 and 229 of the Constitution and applicable national and county government legislation.

17. Private sector participation

(1) Subject to compliance with the requirements of applicable national law a county water services provider may, in an appropriate case, engage in a public private partnership or other appropriate contractual arrangement for the development and operation of water services infrastructure or the provision of water, wastewater and fecal sludge disposal services.

(2) Any assets, facilities and infrastructure developed under a public private partnership to be used for the provision of water or sewerage services shall be deemed to be public property and upon their expiry or other termination of the public private partnership agreement, shall be vested in and be owned by the county government or county water services provider.

18. Information on water service providers

(1) For purposes of the register of water service providers maintained by the county directorate, each water services provider shall within twelve months of the coming into effect of these Regulations or in respect to water service providers established after the coming into effect of the Regulations, within twelve months of its establishment or such longer period as the executive committee member may allow, submit to the county directorate and to the Regulatory Board information on—

- (a) the area it supplies water services;

- (b) the number and location of customers served;
- (c) an inventory of the facilities and infrastructure available for the provision of water services;
- (d) the particulars of its board of directors or management committee and staff including the technical qualifications of its staff;
- (e) the tariff and other fees it charges;
- (f) particulars of its liabilities;
- (g) the status of its application for a licence and, if licenced, a copy of the licence;
- (h) plans and programmes for the improvement of water services it provides; and
- (i) such other information as the Executive Committee member or the Regulatory Board may reasonably require.

(2) The water services provider shall by the end of June of each calendar year, notify the county director of water and sanitation services and the Regulatory Board of material changes to the information provided in the previous year and the county director and the Regulatory Board shall as soon as practicable thereafter, update the register.

(3) The register shall be posted on the website of the county and the Regulatory Board, and, additionally be open to inspection by members of the public at the offices of the county government and the Regulatory Board during normal working hours.

19. Operation of community water projects

(1) The county executive committee member shall facilitate the development and operation of community or private water service providers in rural areas within which the county water service providers do not provide adequate water services.

(2) Where following viability studies, it is recommended that community water service providers should form associations in order to achieve their objectives, the county executive committee member shall put in place the appropriate measures to facilitate such associations.

(3) For purposes of enhancing the efficiency and cost effectiveness of the water services provided by community water services, the county executive committee member may put in place measures to encourage community water service providers to consolidate and outsource to a common services provider, services including billing services, pump maintenance services and other similar services or engage the services of a contractor to provide professional management services.

(4) A community water services provider which takes steps to enhance efficiency and cost effectiveness through clustering,

outsourcing of services or engagement of professional management services among other measures shall be eligible to financial, technical and other support from the county government prior to achieving financial viability.

PART IV – APPLICATION FOR LICENCE

20. Application for a licence

(1) Within twelve months of the coming into force of these Regulations or such extended period as the Regulatory Board may allow, a person providing or intending to provide water services shall apply to the Regulatory Board for the issuance of a licence in accordance with section 74 of the Act.

(2) A complete water services provision licence application shall comprise of—

- (a) a duly completed application form in the format developed by the Regulatory Board ;
- (b) a map of the proposed service area;
- (c) documents of incorporation of the water services provider including evidence that the board complies with sections 79 and 80 of the Act and these Regulations ;

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- (d) a statement evidencing the applicant's administrative, technical and financial capacity to provide the services and perform the functions authorized by the licence;
- (e) a plan for the provision of efficient, affordable and sustainable water services including as appropriate details of planned infrastructure improvements;
- (f) the proposed tariff structure which may differentiate between different classes of consumers and different categories of water use, whether domestic, industrial, commercial, institutional, agricultural and others including a proposed tariff for the disposal of domestic wastewater and trade effluent;
- (g) a letter of support from the county government within whose area of jurisdiction the water services are to be provided;
- (h) required permits and authorisations including a business licence, water use permits, an environmental impact assessment licence where required, and county government planning permission for planned infrastructure projects where practicable;
- (i) evidence of stakeholder consultation; and
- (j) any other information as may be required by the Regulatory Board.

21. Public consultation

(1) The Regulatory Board in accordance with section 74 of the Act, shall invite the applicable county government to provide written submissions prior to making a determination on an application.

(2) The Regulatory Board or the county government may convene a meeting to discuss the views of the county government before or after the written submissions in subregulation (1) are made.

(3) Where the Regulatory Board does not receive a written response from a county government, the Regulatory Board shall consequently request the county government to submit its views, make two reminders within three months and thereafter the Regulatory Board shall proceed to make a determination on the application.

(4) For purposes of subregulation (3), any written communication to a county government shall be addressed to the county executive member with a copy to the county secretary and shall be delivered physically and a return on delivery received by the person making the delivery.

22. Application fee

The Regulatory Board shall charge an application fee for the issuance of a licence in accordance with section 89 of the Act.

23. Determination of an application.

(1) The Regulatory Board shall make a determination on an application for a licence within six months after the water service provider lodges a complete application.

(2) The Regulatory Board shall prior to making a determination undertake public consultations with residents and stakeholders of the geographical area to be served by the applicant including at least one public meeting for oral submissions of views and invitation of written submissions.

(3) The Regulatory Board shall issue public notices for the public consultation and ensure that the notices are widely disseminated to residents and stakeholders through newspapers, radio, websites and other means of public dissemination.

(4) The Regulatory Board shall take into consideration any written submissions by any person objecting to the application.

(5) Upon conclusion of a public consultation exercise, and before making a determination on the application, the Regulatory Board shall provide feedback on how the

submissions by the public, residents, stakeholders, county government, objectors and any other persons were taken into account in determining the application.

(6) Where the Regulatory Board does not determine the application within six months of receipt of the application, any fee charged by the Regulatory Board under section 86(3) of the Act shall be refunded to the applicant.

(7) Any applicant or person who objected to the application may, if aggrieved by the decision of the Regulatory Board, appeal to the Tribunal within thirty days of formal notification of the decision by the Regulatory Board.

24. Objections to grant of a licence

(1) Any person opposed to the grant of a licence may object in writing to the Regulatory Board.

(2) The Regulatory Board shall notify the water service provider and the objector of its decision, and in the event of rejection of an application or objection, of the reasons for the decision.

25. Appeals to the Water Tribunal

A water service provider or objector may, if aggrieved by the decision of the Regulatory Board under regulation 24, appeal to the Water Tribunal within thirty days of the date of notification of the decision.

26. Issuance of a licence

The Regulatory Board may, upon consideration of an application for a licence, issue to the water service provider a licence in

accordance with the Act.

27. Licence

(1) A licence issued by the Regulatory Board shall be valid for such period as set by the Regulatory Board not exceeding ten years.

(2) The Regulatory Board may issue a licence to an applicant if it is satisfied that the applicant has—

- (a) a demarcated service area;
- (b) appropriate skills and capacities to provide the licenced services;
- (c) commitment from the county government and other financiers to support the costs of infrastructure development and network expansion as outlined in the licensee's business plan and, to the extent necessary, recurrent expenditure to attain sustainability;
- (d) possession of water permits from identified sources from the Authority and sewage discharge permits from the Authority and, as applicable, the National Environment Management Authority;
- (e) possession of infrastructure, networks and facilities for water production, treatment, transmission, storage and distribution and infrastructure for waste water and fecal sludge collection, storage, treatment and disposal or reuse;
- (f) an initial, draft three year business plan showing resources of water, capital outlays, estimates of water to be sold and revenue projections to attain sustainability;
- (g) a tariff structure including a structure for the receipt into its system and disposal of waste water and domestic effluent which is compliant with standards set by the Regulatory Board;
- (h) a framework for engagement with community and other water service providers providing water services in the licensee's service area; and

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- (i) the population to be served and growth projections as well as a strategy and a timeframe for achieving universal access to a sustainable water supply and sanitation service; and
- (j) met the commercial viability criteria set out by the Regulatory Board.

28. Mid-term review of a licence

The Regulatory Board shall undertake a mid-term review of the licence and evaluate performance on all the conditions of the licence and the targets set and shall issue any orders and impose any conditions and targets to ensure efficient and economical supply of water in the licensee's area of supply.

29. Renewal of licence

A licence may be renewed upon expiry provided that the licensee shall have made a complete application for renewal of the licence at least six months before its expiry.

30. Consequences of default for application for renewal

Where a water service provider, without due cause, fails to submit a complete application for renewal of a licence on time, the Regulatory Board may place the licenced water services provider under a special regulatory regime.

31. Scope of a licence

(1) A licence issued by the Regulatory Board to a water service provider shall empower the licensee to—

- (a) develop and maintain infrastructure and networks for the provision of water within its area;
- (b) develop and maintain infrastructure and networks for the safe reuse, recycling or disposal of waste water or fecal sludge within its area;
- (c) promote the use of recycled or treated wastewater for landscaping, construction and industrial use;
- (d) purchase, lease or acquire, premises, plant, equipment and facilities for provision of water services within its area of water service provision in the county;
- (e) purchase, lease or otherwise acquire land or request for its compulsory acquisition in accordance with section 110 of the Act and the Land Act;
- (f) collect from consumers the tariff approved by the Regulatory Board;
- (g) impose a charge for accepting into its sewerage system and treating wastewater from industrial and other trade premises within its supply area and where it provides desludging and or exhauster services, impose a charge for treating the fecal sludge and or wastewater.
- (h) enter into agreements with any person, whether in the form of a public private partnership, sub-contract, agency or otherwise for the provision of the licenced services or a part of the services;
- (i) undertake works which are necessary or required for the protection of or collection, conveyance or treatment of the water resources which the water service provider is authorised to abstract, impound or divert for the purposes of providing the licenced services;
- (j) with the approval of the Regulatory Board, prohibit or restrict with respect to the whole or any part of the licensee's area of supply, the use of potable water for such purposes as the licensee may specify where, and during periods which, in the licensee's opinion there is a serious deficiency or threat of deficiency of water available for distribution and supply;
- (k) approve, authorise, restrict or prohibit acts or omissions which pose a risk of damaging, destroying or compromising the integrity of the infrastructure,

works or facilities used by the licensee for the provision of the licenced water or sewerage services;

- (l) take appropriate enforcement action against persons who damage, destroy or compromise the integrity of infrastructure, works or facilities used by the licensee for the provision of the licenced water or sewerage services; and
- (m) provide services which are necessary and incidental to the provision of the licenced water services.

(2) The restrictions in paragraph (j) may include such uses of potable water as the Regulatory Board may approve including construction of buildings, road construction, commercial and industrial activities, landscaping or similar non-domestic uses.

(3) A licence issued by the Regulatory Board to a water service provider shall not—

- (a) confer any rights of proprietorship over water services infrastructure; or
- (b) be capable of being sold, leased, mortgaged, transferred, attached, assigned, demised or encumbered without the approval in writing of the Regulatory Board and the county government.

32. Deposit of guarantee or security

The Regulatory Board may require a water service provider to deposit a guarantee or other acceptable security for the purpose of securing payment of any expenses recoverable from the licensee, for or towards the costs incurred in discharging the functions of the licensee in case of default.

33. Register of all water service providers

(1) The Regulatory Board shall establish a comprehensive register of all the water service providers indicating—

- (a) the location and address of each water service provider;
- (b) in the case of a registered association, or public benefit organization, the nature of the association or organization and the particulars of its registration;
- (c) the conditions if any attached to the licence;
- (d) the daily yield of the source used by each water service provider;
- (e) the volume of water sold by each water service provider;
- (f) the quality of water sold by each water service provider;
- (g) the quality and quantity of effluent and or fecal sludge treated and or disposed of; and
- (h) the tariff charged by the water service provider.

(2) The register shall be a public document accessible for inspection at no charge and shall be publicized or posted on the website of the Regulatory Board and placed at such places as the Regulatory Board shall determine.

34. Maps

(1) On the basis of information provided by the water services provider, the Regulatory Board shall maintain and update on a biannual basis the following maps of each licensee's licence area—

- (a) the service area map showing the licensee's network of the water and sewerage facilities;
- (b) a map showing the areas in which the licensee provides services through an agreement or other arrangement with a community or other water services provider; and
- (c) an un-serviced area map showing unserved areas.

(2) The maps shall be stored in digital and hard copy format and shall be available on the website of the Regulatory Board.

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PART V – SYSTEMS AND STANDARDS FOR OPERATION OF WATER SERVICES

35. Operation of water services

A water services provider shall be managed on a commercial basis and in accordance with sound business principles.

36. Implementation of standards and system

(1) A licenced water services provider shall implement—

- (a) a tariff which—
 - (i) in an urban area enables the water services provider to meet the capital and operation and maintenance costs of providing the licenced water services without recourse to public funds; and
 - (ii) in a rural, low income urban or peri-urban area enables the water services provider to meet the operation and maintenance costs of providing the licenced water services without recourse to public funds.
- (b) a non-revenue water management system which is compliant with standards established by the Regulatory Board;
- (c) financial, commercial, management and administrative systems to enable it operate an efficient and cost effective water service;
- (d) a workplace occupational health and safety systems compliant with legal standards;
- (e) consumer satisfaction monitoring and customer complaints handling procedures and systems; and
- (f) legal compliance and compliance monitoring systems.

(2) Without prejudice to sub paragraphs (i) and (ii), a county government and the national government may provide financial support to ensure continuity of service provision in urban, peri-urban and rural areas.

37. Schedule of water supply

(1) A water services provider shall establish, publicise and implement a schedule of water supply according to which it supplies water services.

(2) Where there is a planned interruption to the schedule, a water services provider shall notify customers who are likely to be affected by the interruption not less than twenty hours prior to the planned interruption and shall indicate the expected duration of the interruption.

(3) Where an unplanned interruption to water services occurs, the water services provider shall notify customers as soon as is reasonably practicable and not less than twelve hours after the discovery of the interruption and appraise customers on the progress made to address the cause of the interruption and the expected time or day of resumption of normal service.

(4) Where an interruption in services extends for a period longer than seven days, the water services provider shall take remedial measures to the extent practicable to provide consumers with a basic supply of water through bowlers and other mobile means.

(5) Where such interruptions arise from damage to pipes or other infrastructure by a contractor carrying out works, the contractor shall repair the damaged pipes or infrastructure within such time as the water service provider stipulates and pending the restoration of the water supply, the contractor shall meet the costs of providing an alternative water supply to the affected consumers.

38. Execution of works

A water service provider may, on any land belonging to it or on land over which it has acquired any easement or right, construct and maintain drains, sewers and other works for intercepting, treating or disposing of any foul water arising or flowing upon such land or

otherwise preventing water belonging to the water service provider or which it is for the time being authorised to abstract, from being polluted.

39. Consent for execution of works

Prior to construction of any such works, the water services provider shall obtain consent of the Authority if the proposed work will affect or is likely to affect any water resource.

40. Approvals from state authorities

A water services provider, may, with the consent of the road authority or other state organ concerned and subject to such conditions as may be imposed by such authority or state organ, carry the drain, sewer or other work under, across or along any road or road reserve or public place, whether within or outside the area of water service of the licensee.

41. Sampling programme

(1) A licensee shall include a suitable programme as prescribed by the Regulatory Board for sampling the quality of potable water provided by it to its customers in its business plan.

(2) The water quality sampling programme shall specify the points at which potable water provided to customers will be sampled, the frequency of sampling and for which substances and determinants the water will be tested.

(3) A licensee shall compare the results obtained from the testing of the samples with standards as established or approved from time to time by the Kenya Bureau of Standards.

(4) Should the comparison of the results indicate that the water supplied poses a health risk the licensee shall inform the Regulatory Board and the local officer in charge of public health and it shall also take steps to inform customers—

- (a) that the quality of water it supplies poses a health risk;
- (b) of the reasons of the health risk;
- (c) of any precautions to be taken by customers; and
- (d) of the time frame, if any, within which it may be expected that water of a safe quality will be provided; and
- (e) that sampling records shall be kept for a period of not less than three years and the same shall be available on request by any customer.

(5) A licensee who does not comply with this rule commits an offence and is liable on conviction to such penalties as are prescribed in these Regulations.

PART VI – EFFLUENT AND WASTEWATER DISPOSAL

42. Effluent and wastewater disposal systems

A licenced water services provider shall provide, operate and maintain in each urban area, township, market or trading centre or other locality with a concentration of population exceeding such numbers as the Regulatory Board may from time to time determine, following consultation with the county government, determine systems of effluent, wastewater and faecal sludge management, treatment and disposal which are compliant with standards set by the Regulatory Board.

43. Effluent and wastewater disposal plan

(1) A licenced water service provider shall, within two years of the issue of its licence, or such extended period as the Regulatory Board may approve, formulate and submit to the Regulatory Board and the county government a plan for the progressive improvement of infrastructure and systems for effluent, faecal sludge and wastewater treatment and disposal in its area of service.

(2) The plan shall propose a time frame for the development of the infrastructure, a budget and a resource mobilisation plan.

(3) The plan shall also provide measures and procedures for private persons or community groups to establish, operate and charge a fee for the use of effluent or faecal

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sludge treatment plants established as a private or community enterprise under a contract with the licensee.

44. Control of trade effluent

(1) A person, other than a person discharging wastewater from premises used solely for residential purposes, who intends to discharge effluent or other wastewater from commercial, industrial, institutional or other premises shall obtain consent from the licenced water services provider to discharge any trade effluent into the sewers of the licensee.

(2) An application for consent under sub-rule (1) shall state—

- (a) the nature and composition of the trade effluent;
- (b) the maximum quantity of the effluent which it proposes to discharge on any one day;
- (c) the highest rate at which it is proposed to discharge the effluent; and
- (d) any other information required by the licensee.

(3) The consent of the licenced water services provider to discharge trade effluent into its wastewater management system shall be subject to conditions including—

- (a) a condition requiring the applicant to subject the effluent to pre-treatment in accordance with standards imposed by the Regulatory Board before discharge;
- (b) the payment to the water services provider of an effluent discharge fee based on the tariff structure approved by the Regulatory Board;
- (c) a requirement that any tap or point of access through which effluent or non-potable water can be accessed shall be clearly marked with a durable notice and signs indicating that effluent or the non-potable water is a public health risk; and
- (d) any other requirements to be met to protect the integrity and sound operation of the wastewater management system.

(4) A licensee shall only be obliged to accept the quality and quantity of trade effluent of any other substance into a sewerage system that the sewerage treatment plant of that system is capable of purifying or treating to ensure that any discharge to the ambient environment complies with any standards prescribed by the Authority and or the National Environmental Management Authority as the case may be.

(5) For purposes of exercising its mandate to receive effluent into its sewerage system, a licensee may inspect pre-treatment facilities handling trade effluents.

(6) Any person who contravenes the provisions of this regulation commits an offence and shall be subject to penalties under the Act.

(7) A person aggrieved by the decision of the licensee on an application under this regulation, may within thirty days of the decision appeal to the Water Tribunal.

PART VII – TARIFFS

45. Implementation of tariffs by water service provider

(1) A licenced water service provider shall implement the tariff approved and gazetted by the Regulatory Board for the prescribed period.

(2) A licenced water service provider shall be required to lodge a tariff review application not less than six months prior to expiry of the current tariff.

(3) The Regulatory Board shall send written notification to each licenced water service provider, not less than nine months prior to expiry of the current tariff including a copy to the respective County Executive Committee member.

46. Application for regular tariff review.

(1) Not less than six months before the expiry of the regular tariff, the water services provider shall make an application to the Regulatory Board for a regular tariff review.

(2) The application shall follow the format stipulated by the Regulatory Board and shall attach the water services provider's—

- (a) status report of the water services using the reporting format provided by the Regulatory Board;
- (b) three year business plan detailing the applicant's customer base, growth projections and infrastructure development programme;
- (c) proposed tariff supported by the findings of a tariff study whose report shall also be attached;
- (d) report of stakeholder consultations undertaken on the proposed tariff; and any other information it considers relevant to the application.

(3) The Regulatory Board shall consider the application and take into account—

- (a) the cost effectiveness of the water service;
- (b) the optimality of the water service by reference to relevant national and international benchmarks;
- (c) affordability of the proposed tariff, including proposals on cushioning consumers who, on account of poverty, cannot afford the proposed tariff;
- (d) willingness to pay by consumers;
- (e) the views of the county government;
- (f) the feedback from stakeholder consultations; and
- (g) any other relevant considerations.

(4) Before determining the application, the Regulatory Board shall, undertake consultations with the respective county government, the public and the residents and stakeholders within the area within which the licensee operates.

(5) The Regulatory Board may approve the proposed tariff either as proposed or with amendments or conditions and upon approval, shall issue a notice in the *Gazette* setting a date from which the new tariff will apply.

(6) The Regulatory Board shall undertake tariff implementation reviews during the life of a tariff.

47. Extraordinary tariff review

(1) At any time before the regular tariff review, a water services provider may, for good cause shown to the Regulatory Board, apply for an extraordinary tariff review.

(2) An application for an extraordinary tariff review shall, in addition to meeting the requirements for a regular tariff review, satisfy the Regulatory Board that, due to a change in circumstances which could not have been foreseen during the last regular tariff review or for some other justifiable reason, a tariff review is necessary to ensure a sustainable water service.

(3) An extraordinary tariff review, shall if approved by the Regulatory Board, be gazetted and apply only until the end of the regular tariff period.

48. Tariff adjustment

(1) The Regulatory Board may, at the request of the water services provider as part of the regular tariff review, and for good cause shown, permit the water services provider to implement price indexation by reference to the officially published annual inflation index.

(2) Permission to implement price indexation may only be granted if has been subjected to stakeholder consultation and, if granted, shall be gazetted and apply only until the end of the tariff period.

(3) The Regulatory Board's decision on a tariff application may be appealed to the Water Tribunal by the water services provider, a consumer within the area of the water services provider or any other person likely to be affected by the decision.

PART VIII – CLUSTERING

49. Clustering of water service providers

(1) The Regulatory Board may, for purposes of securing a commercially viable water service, require two or more water service providers to cluster for purposes of provision of the licenced water services.

(2) Clustering shall be undertaken in accordance with the requirements of these Regulations and shall additionally comply with clustering guidelines issued from time to time by the Regulatory Board.

50. Proposal for clustering water services providers

A proposal for clustering may be initiated by a water service provider or two or more water service providers acting jointly, the county government, the Regulatory Board, a consumer group or consumer groups acting jointly, or a stakeholder group within the area of supply of the water services to be clustered through a letter to the County Government within whose area of jurisdiction at least one of the water services providers to be clustered operates.

51. Feasibility study and report

As soon as practicable following receipt of the proposal to undertake clustering the county executive committee member shall, following public consultation, prepare a feasibility study on the proposal which shall address—

- (a) the financial, technical, operational, socio-economic, environmental, legal and other relevant implications of the proposed clustering;
- (b) the type of clustering that is appropriate in the circumstances;
- (c) the financial support if any required of the county government to bridge funding gaps if any of the clustering;
- (d) the clustering process including milestones and benchmarks;
- (e) an awareness programme;
- (f) the governance arrangements under the new clustered service provider;
- (g) transitional arrangements; and
- (h) other relevant considerations.

52. Operationalization of clustering.

(1) If, on the basis of the recommendations of the report of the feasibility study, the proposal to undertake clustering is approved by the county executive committee and the Regulatory Board, the clustering process shall be overseen by a joint committee comprising members of the board of directors of the water service providers participating in the clustering and three other persons appointed by the county executive committee member on the basis of their knowledge and experience of the water sector.

(2) The joint committee shall continue as a transitional mechanism and upon conclusion of the clustering process and appointment of the new Board of Directors, shall stand dissolved.

(3) Where the clustering involves a merger or a takeover of a licenced water services provider which is a corporate entity, upon conclusion of the clustering exercise, the water services provider ceasing to exist shall be dissolved by a resolution of an annual general meeting or extraordinary general meeting and compliance with the requirements under the Companies Act (Cap. 486) and other applicable laws.

53. Application for a new service provision area licence and new tariff.

(1) A water services provider providing water services as a clustered service shall, within one year of the conclusion of the clustering exercise, apply for a new service provision area licence and a new tariff in accordance with the procedure for applying for a licence and tariff review under regulation 20 and 45.

(2) If satisfied that the applicant meets the licensing requirements under section 86 of the Act and regulation 20 the Regulatory Board may issue the licence:

Provided that where the applicant has not met the licensing requirements under section 86 of the Act and regulation 20, the Regulatory Board may issue the applicant with a provisional licence conditional on the applicant satisfying any outstanding requirements within a defined timeframe not exceeding two years.

54. Clustering and commercial viability

(1) In this Part "clustering" means a formal arrangement between two or more licenced water service providers involving the—

- (a) merger of two or more water service providers;
- (b) a takeover of one water service provider of another water service provider;
- (c) the joint provision of water services;
- (d) the transfer of the whole or part a water service from one licensee to another;
- (e) a variation in the area of supply of two or more licensees;
- (f) provision by a water services provider of water services in the whole or part of the area of supply of another;
- (g) an extension by a county water services provider of its services to rural or underserved areas of the county;
- (h) or other similar arrangement.

(2) Where clustering involves the provision of water services in more than one county by a water services provider, the proposal to undertake clustering shall require the approval of the county executive committees of both or all counties within whose area of jurisdiction the water services are to be provided.

(3) "Commercial viability" means, in respect to an urban water service, the ability to meet capital and operation and maintenance costs out of the water revenue and, in respect to a rural water service or a water service serving a low income urban area, the ability to meet operation and maintenance costs out of the water revenue year on year taking account of the input costs of providing the licenced service, the extent of non-revenue water, the consumer base, the efficiency of the service, applicable national and international benchmarks for sustainable water service and other relevant considerations.

PART IX – BULK WATER SUPPLY

55. Bulk water supply services by waterworks development agencies

(1) Bulk water supply services which are primarily intended to supply water in bulk to a water services provider in a county or counties other than the county in which the bulk water abstraction works are located shall be undertaken by waterworks development agencies established under section 65 of the Act.

(2) In accordance with the transfer plan published by the Cabinet Secretary pursuant to section 152(4) of the Act, waterworks development agencies shall succeed to and assume the functions, assets, contracts, liabilities and staff of the water services board used for the provision of cross-county bulk water supply within the area of jurisdiction of the waterworks development agency and such transfer shall be completed not later than twelve months following the establishment of the waterworks development agency or such longer period as the Cabinet Secretary, in consultation with the county governments within whose area of jurisdiction the cross- county bulk water services are to be provided, may approve.

56. Establishment of works for bulk water supply

A licenced water services provider may establish works for bulk water supply where the works originate and terminate in the county in which the bulk water is to be supplied or the capital costs of developing a cross-county bulk water supply infrastructure and facilities are provided entirely out of the budget of the county government or of the water services provider developing the bulk water supply infrastructure.

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57. Application for bulk water supply licence

(1) A person desiring to supply water in bulk or operating an existing bulk water supply system shall make an application to the Regulatory Board for a bulk water supply licence.

(2) A separate application shall be made for each bulk water supply system.

(3) A complete bulk water supply application shall be accompanied by, in respect to the proposed bulk water supply—

- (a) a feasibility study;
- (b) a business plan;
- (c) a proposed framework for the collaborative management of the bulk water works comprising a committee of representatives of the county governments within whose area of jurisdiction the bulk water works are to be located and, where appropriate, the national government;
- (d) where the county governments concerned have by a resolution of the county assemblies, agreed to assume responsibility for the payment of the liabilities associated with the bulk waterworks, an extract of the resolution duly certified by the clerk to the county assembly and a draft agreement for the handover of the ownership of the bulk water works to a joint authority established or to be established by the county governments within whose area of jurisdiction the bulk water works are to be located;
- (e) required permits and authorisations including a water use abstraction permit, an environmental impact assessment licence, physical planning permission and other applicable authorisations;
- (f) a proposed bulk water supply tariff;
- (g) a draft bulk water supply agreement with the water services providers to be supplied in bulk drawn on the basis that the capital and operational costs of the bulk water supply shall be met out of the revenues of the bulk water service without resort to public funds;
- (h) where resort to public funds is necessary in order to provide the bulk water service, evidence of the commitment of the county or national government as appropriate to offset part or the whole of the capital and or operational costs out of public funds;
- (i) evidence of stakeholder consultations including the feedback of the county governments within whose area of jurisdiction the bulk water works are to be developed; and
- (j) any other information relevant to the application.

58. Public consultation on application for bulk water supply licence

(1) Following the receipt of the application under regulation 57, the Regulatory Board shall undertake public consultation in respect to the application.

(2) In determining the application, the Regulatory Board shall provide feedback indicating how it has taken account of and addressed the representations made by stakeholders during the public consultations.

59. Determination of application for bulk water supply licence

(1) Within six months of receiving a complete application for a bulk water supply licence, the Regulatory Board shall determine the application and may approve, approve with conditions or reject the application.

(2) The licence shall specify the bulk tariff which shall be subject to indexation, regular review and extraordinary review according to a schedule and on terms and conditions stipulated by the Regulatory Board.

60. Application by Joint Authority or Joint Committee

The application for a licence under this Part may also be made by a Joint Authority or Joint Committee established within the scope and meaning of Article 189 of the Constitution.

61. Appeal to the Water Tribunal

The decision of the Regulatory Board on a bulk water supply application shall be subject to appeal to the Water Tribunal.

PART X – FEES AND LEVIES

62. Annual regulatory fee.

(1) A licensee shall pay to the Regulatory Board, as the case may be, on issue of the licence and at prescribed intervals thereafter, such licence fees as the Regulatory Board may, following consultation with the Cabinet Secretary, determine.

(2) The licence fee shall be determined by reference to a schedule of fees published in the *Gazette* from time to time by the Regulatory Board.

63. Sewerage services levy.

(1) Pursuant to section 109 of the Act, the Regulatory Board may impose a sewerage services levy on all water services within the area of a licensee at a rate to be determined and gazetted from time to time following approval of tariffs.

(2) The sewerage services levy shall be used to cover part of the capital costs of developing waste water and faecal sludge management, treatment and disposal infrastructure within the area of supply of the water services provider.

(3) The water service provider shall maintain a separate account for funds collected from the sewerage services levy which shall be administered in accordance with Fund Administration Rules issued from time to time by the Regulatory Board.

64. Water consumption levy

(1) Pursuant to section 117(2) of the Act, the Cabinet Secretary shall impose a levy of 3% of the monthly water consumption bill of each consumer as a water consumption levy to come into effect on a date to be notified by the Cabinet Secretary in the *Gazette* and which shall be payable into a Fund maintained by the Water Sector Trust Fund.

(2) The proceeds of the water consumption levy shall be used in accordance with the objects of the Fund under section 114 of the Act and on the basis of funding principles and criteria formulated by the Water Sector Trust Fund in consultation with the Cabinet Secretary and county governments.

(3) The Cabinet Secretary may, from time to time, following public consultation, review the water consumption levy in subregulation (1) and notify any change through a notice published in the *Gazette*.

65. Levies bank account

(1) The levy imposed under section 117(2) of the Act shall be collected by licenced water service providers and maintained in a separate bank account established for the purpose.

(2) A licenced water service provider shall keep books of account and other books and records in relation to its water consumption levy bank account and submit an annual audit of such books and records to the Regulatory Board.

66. Inspection of sales records

The Regulatory Board shall have the right to inspect the records of the sales of water services by a licenced water services provider to verify that the account in regulation 65(2) is operated in accordance with the requirements of these Regulations and guidelines issued by the Regulatory Board from time to time.

[Subsidiary]

67. Operation of levies bank account

Rules and guidelines for operating the water consumption levy bank account shall require that within fifteen days of the end of each month, a water services provider shall remit to the Water Sector Trust all of the monies collected as a water services consumption levy.

68. Administration fee

A licenced water services provider shall charge an administration fee of not more than 0.1% of the proceeds of the water consumption levy to cover the costs of collecting and administering the levy.

69. Failure to remit levies

(1) Notwithstanding regulation 65, the Regulatory Board may, taking account of a licenced water services provider's cash flow situation, from time to time grant to a licenced water services provider leeway to make payment on different instalment terms, provided that this shall not result in the water services provider defaulting on its payment within a financial year.

(2) Where, despite the leeway provided by the Regulatory Board under subregulation (1), the water services provider fails to remit the water consumption levy, the Regulatory Board shall submit the noncompliance as a grievance to the Water Tribunal for determination.

PART XI – ADMINISTRATION OF CERTAIN WATER SUPPLY AND INFRASTRUCTURE SERVICES

70. Availability and development of water sources

(1) A licenced water services provider shall ensure the availability and development of sources of water for abstraction as necessary to enable it supply adequate quantities and quality of water to consumers.

(2) A licenced water services provider shall apply for and secure an abstraction permit from the Water Resources Authority, access rights, easements and source development agreements as may be necessary to enable it obtain such raw water as it requires for the performance of its functions.

(3) A licenced water services provider that has been issued an abstraction permit by the Authority shall pay such water use charges to the Authority as required under the applicable Water Resources Regulations.

(4) Where the water services provider does not have access to adequate sources of raw water for supply to consumers within its area of supply it shall, with the approval of the Regulatory Board, make arrangements for the purchase of water in bulk.

71. Easements, access rights, property rights etc.

(1) A water services provider desiring access for purposes of performing the licenced functions may acquire easements in accordance with the Third Schedule of the Act.

(2) A water services provider which acquires easements, access rights or property rights over land on or over which its facilities and infrastructure is constructed shall ensure that it has obtained and registered the property or access rights in its name and have in its custody the relevant title documents.

(3) A water services provider shall take steps to obtain and maintain in its records "as built" drawings of its facilities and infrastructure, geo-referenced maps and plans and other relevant documents which show the location and layout of the water infrastructure.

(4) Where the access rights to point water sources are enjoyed by community members on traditional or other non-statutory basis, the water services provider shall take steps to document the nature and extent of the access rights.

72. Borehole construction within supply area

(1) A water services provider within whose area of supply a borehole is to be drilled shall be entitled to be consulted on the permit application and to issue a "no-objection."

(2) In considering its "no-objection", a water services provider shall take account its ability to provide the water services in respect to which the application for the borehole has been made and, if it reasonably believes that it can provide the required water services within a period not exceeding one year, shall decline the request for a "no-objection."

(3) A water services provider shall maintain an inventory of small scale service providers including boreholes constructed within its exclusive area of supply and if within a period of one year of construction of a borehole the water service provider is able to provide water services to the owner of the borehole it shall require the owner of the borehole to discontinue the use of the borehole, with a notice period of one year, and to take supply of water from the water services provider.

(4) Where a water services provider wishes to take water from the borehole for supply to its customers, it shall enter into a contract with the owner of the borehole for the purchase of water from the owner of the borehole.

(5) Any dispute between the owner of the borehole and the water services provider over a "no-objection" or the use of the borehole by the water services provider for the provision of water to the water service provider's customers shall in the first instance be submitted to the county director of water and sanitation for an amicable resolution and, if not resolved, be submitted to the Water Tribunal for determination.

(6) For purposes of exercising its mandate to supply water services within its area of supply, within three months of the coming into effect of these Regulations, owners or operators of boreholes in the supply area of each water service provider, whether private or public persons, shall submit to the Authority, the county government and the county water service provider, a copy of the permit or other authorization of the borehole, information on the use to which the water of the borehole is put and the number of households or establishments served by the borehole.

73. Regulation of water vending

(1) A licenced water services provider, following consultation with the county government and stakeholders, shall formulate rules compliant with water vending guidelines issued by the Regulatory Board, for regulating, within the area of supply of the water services provider, water vending through kiosks or mobile means including water tankers.

(2) Rules made by the water services provider shall require water vendors, among other things, to—

- (a) acquire a permit from the water services provider;
- (b) source water for vending only from approved sources;
- (c) charge rates approved by the water services provider which are compliant with guidelines issued by the Regulatory Board;
- (d) operate vending kiosks or water tankers at approved locations; and
- (e) file annual reports according to a reporting format approved by the water services provider

(3) A water services provider shall put in place measures to ensure that its staff members do not operate water vending businesses within its area of supply.

74. Closure of unsafe supplies of water

(1) Where there exists within the area of supply of water service provider a source of supply of water other than that supplied by the water services provider which, in the opinion of the water for drinking and domestic purposes, the licensee may, in collaboration with the Authority and the public health officer, order such source of supply to be closed and shall by order, compel user such water to take a supply from the water services provides.

[Subsidiary]

(2) A person who disobeys an order of the water services provider given under this regulation commits an offence and is liable to prescribed penalties and the water services provider shall be entitled to close the source of supply either temporarily or permanently until remedial measures are implemented.

75. Water quality and service standards for rural and underserved areas

(1) A water services provider shall ensure that water services in rural areas and underserved areas which are supplied by community water service providers or private water service providers under an arrangement with the county water services provider meet water quality and service quality standards set by the Regulatory Board for rural and underserved areas.

(2) Where a community service provider or small scale private water services provider is unable to meet the set water quality or service standards and such failure poses a public health risk, the water services provider with the approval of the Regulatory Board and the County Executive Committee member may require the community water services provider or private water services provider as the case may be to cease further supply and the licenced water services provider shall henceforth assume responsibility for the provision of water services in the area.

76. Septic tank sludge management

(1) As soon as is reasonably practicable after being licensed, a licenced water services provider shall make rules governing the receipt of septic tank sludge into the sewerage system or faecal sludge treatment and disposal facility operated by or under a contract with the water services provider.

(2) Rules made by water services providers shall—

- (a) require that persons providing exhauster services within the area of supply of a water services provider register with the water services provider using a form of registration to be provided by the water services provider;
- (b) require that the water services provider maintain a database of exhauster services within its area of supply including information on the persons providing exhauster services including their names or the names of their businesses, contact details and physical locations, particulars of the motor vehicles and other facilities used to provide the exhauster services and the areas of operation of the exhauster services;
- (c) impose fees for the use of the sewerage system or faecal sludge treatment and disposal facility of the water services provider to dispose of septic tank sludge;
- (d) require persons operating exhauster services to comply with standards set by the water services provider for the acceptance of septic tank sludge into its sewerage or faecal sludge treatment and disposal system.

(3) In order to facilitate the operation of exhauster services, a licenced water services provider shall provide and maintain discharge points for exhausters which meet standards set by the Regulatory Board.

(4) Where it is of the opinion that there is inadequate provision in its area of supply for the management and exhaustion of septic tank sludge a county water service provider may, with the consent of the Regulatory Board and the county executive committee member establish and operate an exhauster service in its area of supply.

PART XII – APPROVALS AND CONSTRUCTION OF WORKS AFFECTING INFRASTRUCTURE, ETC

77. Requirement to obtain water sector professional or contractor licence.

(1) No person shall be qualified to plan, design and operate water services infrastructure unless he holds, or works under a person who holds, a valid licence issued by the Cabinet Secretary as a qualified water sector professional and is in good standing from the Engineers Board of Kenya.

(2) No person shall be eligible to work as a contractor unless he is licenced by the Cabinet Secretary in the appropriate category of contractor for the works to be undertaken.

(3) No person shall be eligible to provide services as a water sector professional unless he holds a valid licence as a qualified water sector professional issued by the Cabinet Secretary and he possesses the requisite skills to work as a water sector professional.

(4) Any person who lays, fits or connects any pipes, trunks, mains, fittings, equipment, appliances or other connections to the water reticulation or sewerage system belonging to a licensee without the requisite authorization issued under these Regulations commits an offence and is liable on conviction to the penalties prescribed in section 147 of the Act.

(5) Any person whether an owner or occupier of premises or otherwise, who permits an unlicensed person to lay, fit or connect any pipe, trunk, mains or other connections to the existing water reticulation or sewerage system belonging to a licensee commits an offence and is liable on conviction to the penalties prescribed in section 147 of the Act.

78. Issuance, variation, suspension or cancellation of water sector professional or contractor licence.

The Cabinet Secretary, on the recommendation of the Technical Advisory Committee established under the applicable water resources regulations and the Regulatory Board, may—

- (a) issue, vary, suspend or cancel licences of water sector professionals or contractors in the water services sector in accordance with the applicable regulations;
- (b) inquire into and resolve complaints made against licenced water sector professionals and contractors.

79. Approval of construction works

(1) A person who intends to undertake construction works which may affect water and sewerage infrastructure operated by a water services provider, shall apply for the approval of the water services provider on terms and conditions set by the water services provider, which may include the payment of a fee.

(2) A person who undertakes works under this regulation without the approval of the water services provider commits an offence and is liable on conviction to the penalties prescribed under section 147 of the Act.

(3) Where damage is caused to infrastructure belonging to or used by the water services provider through construction works, the person responsible for the construction works shall, in addition to any other prescribed penalties, be liable to a surcharge of the full cost of repairs or replacement and it shall not be a defence to any action taken against the person responsible, whether civil or criminal, that the water services provider had approved the works.

(4) The provisions of this regulation shall apply equally to public entities undertaking construction works as they do to private contractors undertaking works for private persons or under a contract with public bodies.

80. Certification of property development works connecting to water mains

(1) Where a developer of property intends to undertake plumbing, sewerage and related works for connection of private property to the mains operated by a water services provider—

- (a) the developer shall present the plans for such plumbing and sewerage works to the water services provider for inspection and approval, prior to commencement of construction; and
- (b) upon completion of the works, the water services provider shall inspect the works and if the works comply with the approved plans, certify the works as approved for connection to the mains.

(2) A developer who fails to comply with this regulation commits an offence and is liable on conviction to the penalties prescribed under section 147 of the Act.

[Subsidiary]

81. Allowing of new water or sanitation fitting

(1) No person shall cause a water fitting or sanitation fitting to communicate with any pipe, cistern or other receptacle or works used, or capable of being used, for the conveyance or reception of water or effluent other than water supplied by a licensee or its agents.

(2) No newly laid pipe or other water fitting shall, in the course of installation or alteration by any person other than a licensee, be covered until such pipe or water fitting has been examined and approved by the water services provider or other person authorized by him.

(3) No pipe or other water fitting shall be connected with a main, and no additional water fittings, except taps replacing old taps, shall be connected with existing water fittings, until they have been inspected by the water services provider or his agent and a certificate of approval given by him.

(4) The licensee shall ensure and enforce the regulations of installation work in the licenced area as a condition of the licence.

PART XIII – INSPECTION, EVALUATION AND MONITORING

82. Inspectorate service

(1) A licenced water services provider shall establish and maintain an inspectorate service with adequate resources and staff.

(2) An inspector employed by the water services provider may enter any premises to which it provides water or sewerage services in order to inspect and monitor—

- (a) the distribution system;
- (b) the water metre;
- (c) water storage systems;
- (d) the sewerage system;
- (e) such other elements of the water and sewerage services as it may deem appropriate.

(3) An inspection may only be undertaken between the hours of 8 am and 6 pm except in an emergency.

(4) A water services provider shall communicate to its customers the recommended methods and procedures of verifying the identity of inspectors seeking entry into premises and maintain at all times a customer help line to which customers may telephone to verify any information provided to them by the inspector.

(5) Where the water and sewerage services provider has knowledge of, or suspects the illegal or unauthorized access to, and use of its water or sewerage services in any premises, it shall apply to the appropriate court for a warrant to enter and search the premises.

(6) Nothing in this sub-rule shall prevent a water services provider from disconnecting and terminating the water services from a point outside the premises in question.

(7) Notwithstanding subregulation (1), a county water service provider may utilize inspectorate services operated by the respective county government provided that suitable arrangements are made to dedicate and train inspectors on matters relevant to water services, and this arrangement is approved by the Regulatory Board as being satisfactory.

83. Reporting by licenced water service providers

(1) A licenced water services provider shall, at such intervals as the Regulatory Board may require, submit reports to the Regulatory Board using such reporting formats as the Regulatory Board may stipulate, on the nature and condition of its waterworks, facilities, installations and systems to enable the Regulatory Board ascertain the extent of compliance with prescribed standards.

(2) The Regulatory Board shall additionally put in place arrangements for collaboration with county governments and other regulatory agencies with a statutory mandate to inspect, approve and or certify constructions, works and buildings.

(3) An inspection of, or approval or certificate issued to, a licenced water services provider by a county government or regulatory body pursuant to a collaborative arrangement with the Regulatory Board shall be sufficient evidence of compliance by the licenced water services provider with the standards prescribed by the Regulatory Board unless the Regulatory Board, for good cause, determines otherwise.

PART XIV – REPORTING AND RECORD KEEPING

84. Annual Reports by the Regulatory Board

(1) The Regulatory Board shall prepare an annual report of its work and activities within three months after the end of the each financial year.

(2) The Regulatory Board shall publish and publicise the annual report in subregulation (1).

85. National database and georeferenced information system

(1) The Regulatory Board shall maintain a national database and geo-referenced information system on water services.

(2) For purposes of subregulation (1), each water services provider shall maintain equipment, accurate records and accounts relating to all aspects of its operations as shall be prescribed in licence.

86. Annual reports by water service provider

(1) Each water services provider shall, using a format provided by the Regulatory Board, submit to the Regulatory Board annual reports showing the status of—

- (a) the water service;
- (b) network expansion and rehabilitation;
- (c) commercial and business growth;
- (d) progress towards financial sustainability and viability; and
- (e) any other information specified by the Regulatory Board in its format of reporting.

(2) If required by the Regulatory Board, licenced water service providers shall additionally submit to the Regulatory Board quarterly reports on the status of its compliance with the terms and conditions of the licence using a format provided by the Regulatory Board.

(3) Each licensee shall submit to the Regulatory Board an audited financial report within six months of the end of the financial year.

87. Public reporting and transparency

Each licensee shall provide information to the public on its plans and operations in the form, substance and frequency determined by the Regulatory Board.

88. Obtaining water service data

(1) Any person requiring water service data maintained in the national monitoring and georeferenced information system on water services maintained by the Regulatory Board shall make an application in a standard form as may be prescribed.

(2) The applicant shall pay a prescribed fee to be published in the *Gazette* for the data, unless the Regulatory Board is satisfied that the data is to be used for research or non-commercial purposes.

(3) Data provided by the Regulatory Board to an applicant shall not be transferred to a third party and the Regulatory Board shall not be liable for any errors or omission in the data.

PART XV – COMPLAINTS

89. Complaints mechanism

(1) Each water services provider shall establish a mechanism for handling complaints which meets guidelines stipulated by the Regulatory Board.

[Subsidiary]

(2) For the purposes of subregulation (1), the water services provider shall—

- (a) provide easy access to information and where applicable contact details of the local water action groups;
- (b) maintain a customer service centre with qualified staff for the purpose of addressing and resolving consumer applications, consumer service requests and complaints.

(3) A water action group, customer or other member of the public may lodge complaints concerning the licenced water services through the consumer complaints mechanism established by the water services provider.

(4) Notwithstanding the generality of subregulation (1), the procedures for lodging complaints shall provide for—

- (a) notification to customers of the right to complain;
- (b) availability of a complaint form or any other written method for raising complaints; and
- (c) maintenance of a log of customer complaints.

(5) Each licensee shall file its complaint handling procedures with the Regulatory Board, within sixty days after the issue of the licence.

90. Complaints to the Regulatory Board

(1) A person who is not satisfied with the handling of his or her complaint by the water services provider may submit a written complaint by providing the information set out in the Second Schedule to the appropriate office of the Regulatory Board.

(2) The officer of the Regulatory Board shall reply to the complainant, copying all other relevant parties, within twenty one days of receiving the complaint, stating what action is being taken, the decision of the Regulatory Board on the matter and any recommendation to the water services provider for resolving the matter.

(3) If a party is dissatisfied with the decision of the officer of the Regulatory Board, he or she may forward the matter to the Chief Executive Officer of the Regulatory Board.

(4) The Chief Executive Officer shall within twenty one days of receiving the complaint respond to the complainant, copying all relevant parties, stating the final decision of the Authority including whether the Chief Executive Officer upholds or annuls as the case may be, the decision of the officer in subregulation (2) and give reasons for his decision, and any recommendations to the complainant;

(5) If the complainant is dissatisfied with the final decision of the Regulatory Board, he or she may appeal the decision at the Water Tribunal.

(6) Each complaint lodged at the Regulatory Board shall be given a complaint number which shall be used for purposes of monitoring actions taken to remedy a complaint and the response to the complainant.

(7) The Chief Executive Officer of the Regulatory Board shall on an annual basis provide to the Cabinet Secretary a summary of the complaints received and action taken to address the complaints.

PART XVI – CONSUMER ENGAGEMENT

91. Water action groups

(1) Water services providers and the Regulatory Board shall adopt a mechanism of engagement with consumer groups that are registered as community based organizations involved in water issues within the counties.

(2) Consumer groups who have entered into a recognition agreement with the water services provider shall be referred to as water action groups.

(3) The modalities of engagement with water action groups shall be set out in guidelines issued from time to time by the Regulatory Board.

92. Information by water action groups.

The water action groups shall be responsible for the provision of information to consumers and shall act as a liaison between the water services provider and consumers.

93. Consumer complaints and follow-up

Water action groups shall follow up on resolution of consumer complaints by water services providers and submit unresolved complaints to the Regulatory Board as part of the water action group's operational reports, detailing the complaints and feedback on water services providers.

94. Supervision and oversight of consumer complaints mechanism

The Regulatory Board shall supervise and oversee the operation of the mechanism relating to consumer engagement and the protection of consumer interests.

PART XVII – COMPLIANCE AND ENFORCEMENT

95. Enforcement action against licenced water service providers

(1) The Regulatory Board may take enforcement action against a licenced water services provider for any of the following reasons—

- (a) serious or repeated breach of the licence conditions;
- (b) discovery of intentional misrepresentation by the licensee in its application for the licence;
- (c) operating in breach of legal requirements;
- (d) cessation of the licensee to meet the requirements to hold such licence;
- (e) failure to pay the prescribed fees for licensee or other obligation to the Regulatory Board; or
- (f) other sufficient cause.

(2) Where the Regulatory Board intends to take enforcement action against a licensee, the Regulatory Board shall issue a notice to show cause specifying the breach, a time frame for the required response and the consequences of failure to provide a response.

(3) After due consideration of such representations, the Regulatory Board may—

- (a) make a finding on the offending act or conduct and prescribe the time during which the licensee may remedy the offending act or conduct; or
- (b) require the payment of a penalty or fee as specified in the Act or these Regulations; and
- (c) recommend to the county government—
 - (i) the dissolution of the board of directors of the water services provider and its replacement with another board;
 - (ii) the variation of the licenced area;
 - (iii) any other action which it deems appropriate given the circumstances.

(4) A person aggrieved by the decision of the Regulatory Board under this regulation may within fifteen days from the date on which the decision is received, appeal to the Water Tribunal.

96. Cure Notice

(1) Where despite a recommendation to the county government to take action against a licensee which is in default, the county government is unable, has failed or neglected to take action or take action effectively against the water services provider and it appears to the Regulatory Board that a licensee or an agent has persisted in its—

- (a) failure to adhere to a compliance programme agreed to without there being mitigating circumstances for that failure;

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- (b) failure to adhere to agreed standards of improved services in the water quality, service delivery, facilities maintenance and capital works expansion and rehabilitation failure to adhere to the approved tariff without any mitigating circumstances;
- (c) neglect of sound business principles and good governance as stipulated in its licence;
- (d) failure to deal with the bank account into which levies are deposited as required in guidelines issued by the Regulatory Board;
- (e) intention to sell, lease, mortgage, transfer, attach, assign, demise or encumber a licence, or assets used for the provision of water services without authority; or
- (f) commission of a serious breach of the terms and conditions of its licence, the Regulatory Board shall give an order for the licensee or agent to remedy that breach, specifying the action required to remedy the breach and a timeframe.

(2) The Regulatory Board may place the licensee under a "special regulatory regime" and direct—

- (a) a member of staff of the Regulatory Board or any agent of the Regulatory Board, or a licensee, as the case may be, to sit in the licensee's or agent's board or committee meeting to monitor the implementation of the order and the decisions being made in the licensee or the agent, as the case may be;
- (b) the licensee or the agent to transmit weekly reports of billings received and expenditures on operations and transactions to the Regulatory Board or the licensee as the case may be, and bank certificates for all its accounts;
- (c) an official from the Regulatory Board or an agent appointed for that purpose be placed in the concerned licensee or agent to monitor the day to day operations of the licensee or agent and to provide direction and technical assistance to the staff and board of directors of the licensee or agent for any length of time, that is deemed necessary to effect the cure.

(3) The Regulatory Board shall conduct regular inspections to ensure that the licensee complies with the terms of the licence and the cure notice is implemented by the concerned licensee or agent as the case may be.

(4) The costs of the "special regulatory measures" under this regulation shall be to the account of the licensee or agent as the case may be.

(5) If after six months of the special regulatory measures being undertaken or other extended period as determined by the Regulatory Board it still appears to the Regulatory Board that a licensee or agent is still unable or unwilling to meet obligations or continues to be in breach of obligations, the Regulatory Board may in addition to the measures in subregulation (1) and (2)—

- (a) mandate that an agent of the Regulatory Board appointed to enhance financial discipline shall become a mandatory signatory to the accounts of the concerned licensee or agent;
- (b) direct the commencement of disciplinary or other punitive process against key office staff responsible for network expansion and maintenance, billing, meter reading and disconnection or financial matters, subject to their right to be heard, and take steps to integrate the billing system with the financial management system at the cost of the concerned licensee or agent;
- (c) direct the concerned licensee or agent, as the case may be, to take measures to review and rationalize its staff complement to ensure efficiency ratios if the staff size and capacity is contributing to the breach and implement a time plan to execute it;
- (d) direct or recommend to the relevant board or appointing authority the suspension of chief officers of the concerned licensee or agent, as the case

may be, on tangible grounds identified, and subject to the concerned chief officers' right to be heard;

- (e) recommend to the County Government the taking of measures against the board of directors of the concerned licensee, or take remedial or punitive measures against the board of directors or management committee of the concerned agent, subject to their right to be heard; and
- (f) implement all other recommendations that have emerged from the regular inspections conducted.

97. Special Regulatory Regime

(1) The special regulatory measures provided for in the Regulations shall be—

- (a) for a particular duration, not exceeding six months in the first instance, and subject to extension by a further period not exceeding six months;
- (b) intended to achieve improved results in the licensee and the agent;
- (c) funded from the operations of the concerned licensee and or agent performance guarantee which shall have been issued;
- (d) an integral part of the licence and the service provision agreement.

(2) Where the special regulatory regime fails, the Regulatory Board shall by order effect the transfer of the licensee's functions as envisaged in section 103 of the Act.

98. Delegation by Regulatory Board

(1) The Regulatory Board may delegate to any person the exercise of any of the powers or performance of its function under these Regulations.

(2) The person to whom power is delegated under subregulation (1) shall have the power to carry out inspection and enforcement functions of the Regulatory Board, and all other functions except licensing and prosecutorial functions.

99. Water services inspector

(1) The Regulatory Board may, from time to time, by notice in the *Gazette*, appoint any person or class of persons to be water services inspectors for the purposes of these Regulations.

(2) An inspector shall have power of entry, inspection and apprehension, during normal working days and hours, for any offence under the Act.

(3) A person who obstructs or hinders or knowingly makes false or misleading statements to an inspector who is carrying out duties under subregulation (2), commits an offence and is liable on conviction to the penalties prescribed in the Act.

PART XVIII – GENERAL OFFENCES

100. Offences by employees

(1) An employee of a licenced water services provider shall have immunity from liability and prosecution for any losses arising from action taken in good faith in execution of lawful duties.

(2) Notwithstanding subregulation (1), any actions of an employee of a licenced water services provider involving solicitation and receiving of bribes and corrupt practices shall be punishable, as appropriate, under the Public Officer Ethics Act (Cap. 185B), Penal Code (Cap. 63), the Anti-Corruption and Economic Crimes Act (Cap. 65) or any other applicable law.

(3) An employee of a water services provider who—

- (a) wilfully fails to read a metre when it is his or her duty to do so;
- (b) wilfully fails to disconnect water services to a customer who has defaulted in making payment contrary to rules set by the water services provider;
- (c) wilfully fails to notify the water services provider of an illegal or unauthorized access and utilization of the water or sewerage services; or

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- (d) colludes with other persons to allow or assist such persons illegally to access and use water services contrary to rules set by the water services provider commits an offence and is liable upon conviction to not more than six months imprisonment or a fine of not more than twenty thousand shillings or both such fine and imprisonment.

(4) For purposes of this regulation, an employee of a water services provider includes a person engaged on casual terms of service, as well as a contractor when performing duties falling within the scope of this regulation.

101. Impersonation of staff of water service provider

Any person who impersonates an employee of a water services provider commits an offence and is liable upon conviction to a sentence of six months imprisonment, or a fine not more than twenty thousand shillings, or both such fine and imprisonment.

102. Vandalism of water and sewerage services infrastructure

(1) Any person who wilfully vandalizes, damages or destroys infrastructure or a facility of a water and sewerage services provider commits an offence and is liable on conviction, to the penalties prescribed in section 147 of the Act.

(2) Upon conviction for a second or subsequent offence involving the wilful destruction or vandalism of infrastructure or facilities belonging to a water services provider, the offender shall be liable in addition to any other prescribed penalty to a surcharge of an amount equivalent to the value of the vandalized infrastructure which surcharge shall be recoverable as a civil debt through a suit in a court of competent jurisdiction.

103. Illegal connection to water services

(1) Any person who illegally connects to, diverts and utilizes for any purpose, water or sewerage services provided by a water services provider commits an offence and is liable upon conviction to the penalties prescribed in section 147 of the Act.

(2) Upon conviction the offender shall additionally be liable to a surcharge of the full value of the water services illegally utilized, with interest computed at the rate of 12% per annum until paid in full, which surcharge shall be recoverable as a debt owed to the water services provider.

104. Contamination of water and supply to domestic premises

(1) Any person who wilfully contaminates or pollutes water which is used or intended to be used for domestic supply by discharging contaminants into it, throws waste or other contaminating matter into or otherwise handles such water in such a manner as to contaminate it, commits an offence and is liable upon conviction to the penalties prescribed under section 147 of the Act.

(2) Any person who supplies water to domestic premises which he knows or ought to know is not fit for domestic consumption without issuing a warning to persons who are likely to consume it to the effect that the water is not fit for consumption and should be treated prior to being consumed, commits an offence and is liable on conviction to the penalties prescribed under section 147 of the Act.

105. Further offences

Any person who—

- (a) undertakes or carries out any water service or sanitation infrastructure services or works without being the holder of a licence appropriate for the category of services or works undertaken or carried out or without being under the direction of a suitably licenced qualified water sector professional or contractor;
- (b) contravenes or fails to comply with any of the terms and conditions of any water service licence granted under these Regulations or wilfully gives false or misleading information in relation to water service works or services;

- (c) submits or causes to be submitted to a public water service provider or to the Regulatory Board a completion certificate which he knows or has reason to believe is false in any material particular;
- (d) being a water service or sanitation service contractor, undertakes or carries out by himself, his servant, or agent any water service installation work at any time whilst his business or any branch thereof is not registered or while the registration of such business or branch is suspended or cancelled;
- (e) being a water service or sanitation service contractor, undertakes or carries out, by himself, his servant or agent any water service installation work except under the direction of a licenced water sector professional holding a licence of a type appropriate to such work or installs a pump on a service line, or
- (f) being an owner or occupier of any premises or any developer or main contractor of any premises under construction, causes or permits to be carried out upon the premises any water service installation work in contravention of these Regulations,

commits an offence and is liable on conviction to the penalties prescribed in section 147 of the Act.

106. Penalties

A person who commits an offence under these regulations for which no express penalty is provided shall on conviction be liable to the penalties prescribed under section 147 of the Act.

107. Revocation

The Water (Services Regulatory) (L.N. 137/2012) are hereby revoked.

FIRST SCHEDULE

[r. 10(4)]

PROVISIONS AS TO THE CONDUCT OF BUSINESS AND AFFAIRS OF BOARDS OF COUNTY WATER SERVICES PROVIDERS

1. Meetings

The Board shall meet for the dispatch of business at such times and places as it shall appoint, or failing any such appointment, as the Chairperson shall appoint:

Provided that the Board shall meet not less than four times in any financial year.

2. Special meetings

The Chairperson or any three directors may, by not less than twenty-four hours' written notice to all other directors, summon a special meeting of the Board at the headquarters of the Corporation at any time.

3. Notice of meetings

Except where a shorter period is appointed notice of the date, time and place of each meeting shall be given in writing at least five clear days beforehand to every director at such address in Kenya as the director shall have notified to the Corporation [company] from time to time:

Provided that the failure of any director to receive such notice shall not invalidate any proceedings.

4. Quorum

The quorum necessary for the transaction of business by the Board shall be not less than two thirds of the members of the Board.

[Subsidiary]

5. Chairperson

The Chairperson shall preside at meetings of the Board:

Provided that if he is not present at the start or at any time during a meeting, the Vice Chairperson shall chair, and if both are absent, the directors present, if a quorum, may choose one of their number to act as chairperson during the Chairperson's absence from that meeting.

6. Voting

Questions arising at meetings shall be decided by a majority of the votes of the directors present and voting:

Provided that in the case of any equality of votes, the Chairperson of the meeting shall have a second or casting vote.

7. Minutes

The Board shall cause minutes to be kept of all resolutions and proceedings at each meeting and of the directors present thereat.

8. Other procedures

Subject to the provisions of this Schedule, the Board may determine its own procedure, and the procedure for any committee of the Board and for the attendance of other persons at its meetings, and may make standing orders in respect thereof.

9. Disclosure of interest

(1) If a director is directly or indirectly interested in any contract, proposed contract, or other matter and is present at a meeting of the Board at which the contract, proposed contract or other matter is the subject of consideration, he shall, at the meeting and as soon as practicable after the commencement thereof, disclose the fact, and shall not take part in the consideration or discussion of, or vote on, any question with respect to the contract or other matter, or be counted in the quorum of the meeting during the consideration of the matter.

(2) A disclosure of interest made under this paragraph shall be recorded in the minutes of the meeting at which it is made.

10. The common seal

The affixing of the common seal of the Corporation [company] shall be authenticated by the signatures of the Chairperson or some other director authorized generally or specially by the Board to act for the purpose, and of an employee of the Corporation [company] authorized generally or specially by the Board to act for the purpose.

11. Contracts and instruments

Any contract or instrument which, if entered into or executed by a person not being a body corporate, would not require to be under seal, may be entered into or executed on behalf of the Corporation [company] by any person generally or specially authorized by it for that purpose.

12. Proof of documents

Any document purporting to be a document duly executed or issued under the seal of the Corporation [company] or on behalf of the Corporation [company] shall be received in evidence and be deemed to be a document so executed or issued without further proof unless the contrary is shown.

SECOND SCHEDULE

[r. 90(1)]

COMPLAINTS HANDLING

INFORMATION TO BE GIVEN BY COMPLAINANT UNDER THESE REGULATIONS

Item	Information
(a)	Name of Complainant
(b)	Contact address, telephone number, email address (if any) of Complainant
(c)	Nature and location of the problem
(d)	Date that problem occurred
(e)	Name and, if available, the contact details of all parties to the dispute or complaint
(f)	Any other relevant details
(g)	Signature of the Complainant

**THE AMU SAND-DUNES GROUNDWATER
CONSERVATION AREA ORDER**

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Application of Order
4. Declaration of Conservation Area
5. Management Guidelines
6. Public Notices
7. Offences

SCHEDULES

FIRST SCHEDULE —

AMU SAND-DUNES GROUNDWATER
CONSERVATION AREA

SECOND SCHEDULE —

AMU GROUNDWATER (CONSERVATION
AREA) MANAGEMENT GUIDELINES

**THE AMU SAND-DUNES GROUNDWATER
CONSERVATION AREA ORDER**

[Legal Notice 210 of 2021]

1. Citation

This Order may be referred to as the Amu Sand-dunes Groundwater Conservation Area Order.

2. Interpretation

In this Order, unless the context otherwise requires—

"Act" means the Water Act (Cap. 372);

"Authority" means Water Resources Authority established under section 11 of the Water Act (Cap. 372);

"Amu Sand-dunes Groundwater Conservation Area" means the area demarcated as hydrogeological system controlling groundwater flow within and around the Amu sand dunes as illustrated with blue thick line in the First Schedule;

"Amu Sand-dunes Groundwater Conservation Riparian Area" means all that land and water enclosed within 30 metres from the highest recorded tide or sea level of the Amu Sand-dunes Groundwater Conservation Area; and

"Amu Sand-dunes Groundwater Conservation Protection Guidelines" means the management and conservation guidelines developed by the Authority in respect of Amu Sand-dunes Groundwater Conservation Area and contained in the Second Schedule.

3. Application of Order

This Order shall apply to the use of water and land of the Amu Sand-dunes Groundwater Conservation Area.

4. Declaration of Conservation Area

The Amu Sand-dunes Groundwater Conservation Area is hereby declared to be a Groundwater Conservation Area for the purposes of the Act.

5. Management Guidelines

The Amu Sand dunes aquifer Management Guidelines shall come into effect immediately upon publication of this Order and shall be the basis for conservation of the groundwater resources within the Amu Sand-dunes Groundwater Conservation Area.

6. Public Notices

(1) The Authority shall place signboards and beacons in or near the Amu Sand-dunes Groundwater Conservation Area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Amu Sand-dunes Groundwater Conservation Area.

(2) The public notices shall contain information regarding the action required of water or land users to conserve and protect the water resources of the Amu Sand-dunes Groundwater Conservation Area.

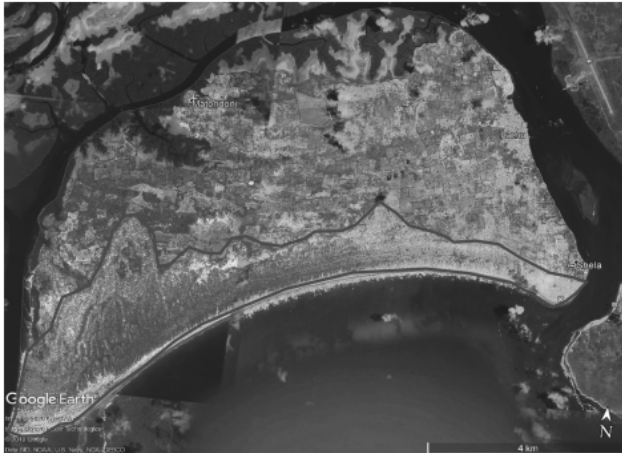
7. Offences

Any person who contravenes this Order and the provisions of the Amu Sand-dunes Management Guidelines commits an offence and is liable upon conviction to a fine of one hundred thousand shillings or imprisonment for a term not exceeding one year, or both such fine and imprisonment.

[Subsidiary]

FIRST SCHEDULE

AMU SAND-DUNES GROUNDWATER CONSERVATION AREA



SECOND SCHEDULE

AMU GROUNDWATER (CONSERVATION AREA) MANAGEMENT GUIDELINES

MINISTRY OF WATER AND
SANITATION

This document was prepared through a consultative process involving area Water Resource Users Associations (WRUA), the County Government of Lamu and other stakeholders spearheaded by WRA

List of Abbreviations

GCA	Ground Water Conservation Area
LAWASCO	Lamu Water and Sewerage Company
NEMA	National Environmental Management Authority

NLC	National Land Commission
KEBS	Kenya Bureau of Standards
KFS	Kenya Forestry Services
KMA	Kenya Marine Agency
KMD	Kenya Meteorological Department
KNBS	Kenya National Bureau of Statistics
KPA	Kenya Ports Authority
KTB	Kenya Tourism Board
KTDC	Kenya Tea Development Corporation
KWS	Kenya Wildlife Services
NMK	National Museums of Kenya
SCMP	Sub Catchment Management Plan
WA	Water Act
WRA	Water Resources Authority
WRM	Water Resources Management
WRUA	Water Resources Users' Association
WWF	World Wide Fund

AMU SAND DUNES AQUIFER GROUNDWATER CONSERVATION AREA MANAGEMENT GUIDELINES

PREAMBLE

These management guidelines were prepared by the Water Resources Authority after extensive stakeholder consultations for the proposed Amu Sand Dunes Aquifer Groundwater Conservation Area (GCA). The stakeholders include; National Government departments (National Museums of Kenya(NMK), Ministry of Interior and Coordination National Government, National Environmental Management Authority (NEMA), Kenya Forest Services (KFS), Kenya Wildlife Services (KWS), County Government of Lamu, AMU Water Resource Users Association (WRUA), Public, Amu Council of Elders and other institutions. The GCA is established in accordance with Fourth Schedule of the Water Act (Cap. 372) and the Water Resources Management Rules, 2007 and subsequent legislations.

The Water Resources Management Rules, 2007 outline the process of identifying areas to be designated as groundwater protection and conservation areas.

Section 23 of the Water Act (Cap. 372), provides that where the Authority is satisfied that in any area special measures for the conservation of groundwater are necessary in the public interest, it may by order published in the *Gazette*, declare the area to be a groundwater conservation area. The Authority is also mandated to impose such requirements or prohibit such conduct or activities in relation to a groundwater conservation area as it may consider necessary for the conservation of the groundwater.

Accordingly, these Guidelines will come into operation upon publication in the *Gazette* or such other time as the publication shall prescribe.

[Subsidiary]

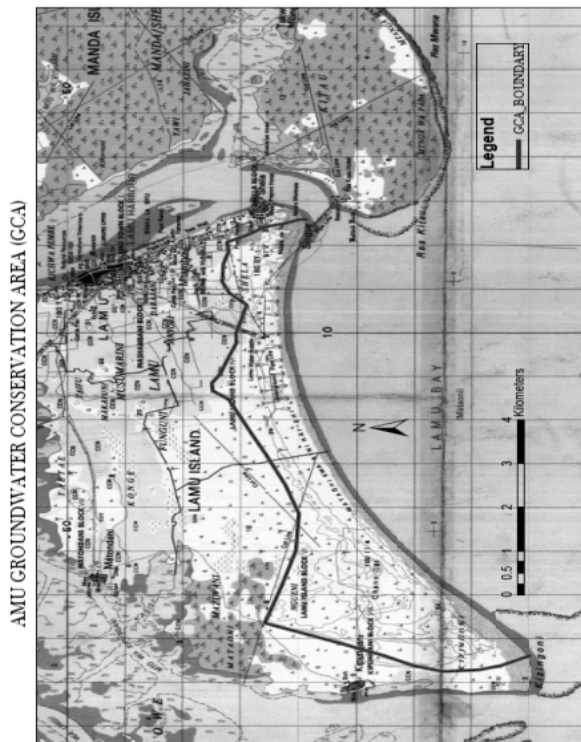
Section 124 and Part D of the Sixth Schedule of the Water Resources Management Rules 2007, sets out the contents of management rules or plans related to a protected area or groundwater conservation area and may include:

1. Procedures to be applied for the management of the Protected Area or Groundwater Conservation Area;
 2. Prohibited activities;
 3. Any measures required to be undertaken for water resource conservation and protection;
 4. The timeframe for implementation of required measures;
 5. Any other conditions that the Authority may consider relevant
- This document presents the proposed management procedures and prohibited activities in the Amu Sand Dunes Aquifer GCA.

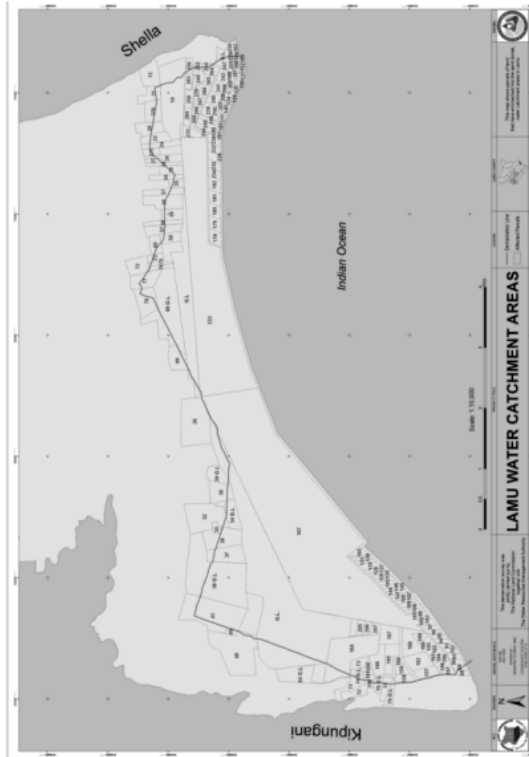
Extent of the Amu GCA

The Amu GCA lies approximately 2 kilometres south of Lamu town and stretches from Kizingoni area at the south western tip of the Island and terminates at Singue area that marks the south eastern edge of the Island near the Shella Village.

The area covered by the proposed GCA is approximately 19.72 square Kilometres (Map 1a & 1b below)



Map 1(a). Proposed Groundwater Conservation Area (GCA) for the Amu Sand Dunes Aquifer



Map 1(b). Proposed Groundwater Conservation Area (GCA) for the Amu Sand Dunes Aquifer

1. OBJECTIVE

Groundwater is and will continue to be a major source of water for the Amu Island, Lamu Archipelago as well as the Lamu mainland. However, it has been established through Lamu Island sand dunes aquifer mapping study that, more groundwater is being used than is being replenished through natural means. The study inferred that sea water intrusion, over abstraction, loss of vegetal cover and encroachment has created a threat to groundwater availability both in terms of quality and quantity.

To address this problem, the Water Act (Cap. 372) has provided a way for groundwater resources to be managed and protected through establishment of Ground Water Conservation Areas (GCAs) as provided for in Section 23 of the Act.

The objective of the GCA guidelines is to provide a framework under which ground water catchment areas and water resources use will be managed in a manner such that will ensure the groundwater resources is protected and conserved sustainably.

The desired future condition is derived from the current status of Amu sand dunes aquifer. According to Lamu Sand dunes water catchment Mapping Report (2008) and recent data from LAWASCO in 2017 the aquifer has been experiencing stress. It was found that several wells had turned saline and some had dried. This situation attests to the fact that more groundwater is being extracted at a higher rate than it is replenished.

The desired future condition must provide a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging and prevention of waste of groundwater in the Conservation area.

Consequently, the desired future condition of the GCA is summed as follows:

[Subsidiary]

1. Groundwater quality remains potable by Kenyan Standards (KEBS: KS 05-459: Part 1: 1996);
2. Annual renewable groundwater recharge is sustained at or over the year 2017 level;
3. Mitigation measures are put in place to cope with climate change effects;
4. Annual groundwater abstraction does not exceed 70% of the total aquifer recharge;
5. Fresh water levels are sustained to wade of sea water intrusion and possibly reverse current intrusion;
6. Conjunctive water use is considered to cope with pressure emanating from population rise and other emerging developments;
7. Other groundwater dependent ecosystems, here identified as flora and fauna , are protected;

To achieve these targets, guidelines on the following aspects of groundwater use, protection and conservation are required:

1. Abstraction limits;
 2. Water use prioritization and efficiency;
 3. Borehole construction guidelines;
 4. Groundwater recharge;
 5. Groundwater monitoring;
 6. Water allocation guidelines;
 7. Conjunctive water use;
 8. Pollution control;
 9. Enforcement of AMU GCA guidelines and Water Act (Cap. 372);
 10. Catchment and Groundwater conservation;
- 2.1. Abstraction Limits
- 2.1.1 Maximum allowable production To minimize as far as practicable the
1. Water levels decline does (not to go beyond 30% of the initial water column in the well),
 2. Sea water intrusion into the freshwater zone ,
 3. Deterioration of water quality within KEBS drinking water standard
 4. potential loss of opportunity to construct a new well because of spacing requirements and over abstraction of ground water and
 5. Groundwater resources waste

The following guidelines shall apply in the GCA to regulate the production of groundwater.

1. Availability goal

The Water Allocation Guidelines provide for 25% of the tested yield over a 24 hr period, or 60% of the tested yield over a 10-hour period as the maximum allowable production as a general WRM rule. This shall continue to apply in the GCA as it does in all groundwater systems.

2. Permitting goal

Right to access clean and safe water equitably is a constitutional requirement (COK 2010 article 43d) administered through permitting ensuring reserve is not violated.

The goal is to ensure available water resources are allocated in a manner that reserve is addressed and water use is prioritized for current and future domestic purposes.

To minimize wastage and to address the potential loss of opportunity to access groundwater, the permitting goal will also endeavour to match the permitted amount with the applied use. Therefore permitted amounts will be based on the per capita water requirements set out in the Design Manual as reproduced in the Water Allocation Guidelines.

WRA shall therefore make reasonable effort not to grant permit applications for more water production than is actually needed for beneficial use as will be defined within the Amu Sand dunes Water allocation Plan. The Water Allocation Plan shall be developed and will define distances between wells/ boreholes and abstraction limits.

Further in Amu GCA no well shall be operated without obtaining necessary permits from Water Resources Authority in consultation with AMU WRUA as set out in the WRM Rules 2007 and Water Act (Cap. 372).

Permitted use of groundwater will however be reviewed to ensure safe yield is sustainably maintained. Therefore, changes in abstraction and use of groundwater under a current use operating permit may not be made without prior approval of WRA.

3. Water use charges

Water use charges shall apply to all water abstractors as required by Water Act (Cap. 372).

In the case of Amu GCA, abstractors will be subject to specific conditions and penalties that apply to all Groundwater Conservation Areas as specified in the WRM Rules 2007 section 108 and/or any other relevant subsequent legislations.

Exclusions and exemptions

Current use

Existing legal groundwater use in the GCA before the effective date of the GCA management guidelines shall be preserved, to the maximum extent practicable, consistent with WRM Rules 2007 and/or any other relevant subsequent Legislation. Evidence of current use must be presented to WRA before such use may be preserved. Whenever preserved, such use will be regularized by WRA in line with the GCA guidelines.

2.2. Well/Borehole Siting in GCA

Siting of wells/boreholes in the GCA shall be subject to all provisions of the WRM Rules 2007 (section 27) and Codes of Practice for Borehole Siting.

The siting shall be done by a licensed geologist/hydro-geologist. He/she shall compile a hydrogeological assessment report in conformity with WRM Rules Second Schedule including water balance before and after the proposed development.

Further to this, particular emphasis shall be laid to investigation methods which shall include an exhaustive inventory of existing data, including all existing groundwater abstraction in the neighbourhood of the current application without exception. Other Conditions for the Authority to grant an authorisation for drilling the borehole, including limits to abstraction, mandatory borehole design considerations; etc shall be stated by the siting geologist/hydrogeologist in his/her recommendations.

He/she shall demonstrate in the report that investigation has been exhaustively done for WRA to consider granting the authorization to drill.

For Amu GCA

1. An application for major development within the GCA shall be accompanied by an environmental impact study that demonstrates that the quality and quantity of groundwater in the GCA and the recharge function of the area will be protected, conserved, improved or restored.

[Subsidiary]

2. Groundwater use applications that promote storm water management and infiltration will be given priority in granting of authorisations to drill within the GCA. Such plans shall be subject to approval so that they do not pose groundwater contamination risk.

2.3 Borehole Construction

These guidelines are subject to the Codes of Practice for Construction of Boreholes and should be applied in conjunction with the following documents:

1. The Water Resources Management Rules, 2007 and subsequent legislations
2. The Code of Practice for the Siting of Boreholes
3. The Code of Practice for the Supervision of Construction of Boreholes
4. The Code of Practice for the Test Pumping of Boreholes
5. The Water Allocation Guidelines (2010)

2.3.1 Spacing requirements

To minimize as far as practicable the

a) Drawdown of the water table and the reduction of artesian pressure, to prevent interference between boreholes and to

b) Prevent degradation of water quality the Water Resources Authority will enforce spacing requirements on all new boreholes in the GCA. These will be in accordance with the spacing guidelines outlined in the (4).4 of the Water Allocation Guidelines (2010).

c) In the case of a public supply well field, WRA may waive the spacing requirements on the well field if the applicant submits adequate evidence showing that the increased cone of depression caused by the well field will not increase the impact on nearby existing wells.

This calls for, *inter alia*, appropriately designed pumping tests and well field layout design.

2.3.2 Sanitary seal

The boreholes and wells in the GCA shall be lined to such a depth that will provide a reasonable seal to contaminated or polluted surface water. The area is a high-recharge area that is unconfined thereby highly susceptible to high risk of groundwater contamination

2.3.3 Defective/Unsuccessful wells/boreholes

Abandoning of defective/unsuccessful wells/boreholes shall be subject to sections 8, 9 and 10 of the Fourth Schedule of the Water Act (Cap. 372) and in accordance with the Codes of Practice for Borehole Construction.

The defective well arising from salty water shall be plugged or sealed off securely by the owner of the well to prevent intrusion into the fresh water aquifer thereby rendering the entire aquifer saline.

In addition to backfilling, an abandoned borehole in the GCA shall be sealed in the top 6 metres to ground level with bentonite.

2.4. Pollution Control

These guidelines shall be applied in conjunction with Water Act (Cap. 372) and Part V of the WRM Rules 2007. Due to the need to prevent pollution in the GCA, upon inspection, WRA may provide notice to affected parties and issue orders to prevent pollution. If WRA determines that an emergency situation exists, a temporary order to prohibit pollution and protect public health, safety and welfare shall be issued without notice. The order shall continue in effect for the lesser of fifteen (15) days or until tests are done. If the factual basis for the order is disputed, the affected parties may lodge a complaint with the Water Tribunal. The order shall however stay in place until the Tribunal determines the appeal.

2.5 Groundwater Recharge, Monitoring and Conservation

The recharge mechanism within the sand dune catchment area is through direct precipitation where rain water infiltrates/percolates within the highly permeable wind-blown sands to augment groundwater storage.

Beneficial land and water management practices that maximize aquifer recharge with good water quality and high quantity will be promoted. Gazettement of the GCA, rain water storage, biodiversity improvement and prohibition of degrading activities such as sand harvesting, deforestation through harvesting of mukoma for traditional liquor are among the proposed best practices.

Aquifer performance will be monitored to provide updated information. Therefore hydromet monitoring networks comprised of telemetric boreholes, full weather stations and a data centre will be established.

3. EXEMPT AND PROHIBITED ACTIVITIES

3.1 Prohibited Activities The prohibited activities will be as per WRM Rules 2007

Sixth Schedule to the following activities that are considered high-impact uses due to the probability and/or potential magnitude of their adverse effects on groundwater and shall be prohibited in the GCA:

1. Tillage or cultivation on the sand dunes;
2. Clearing of indigenous trees/vegetation on the sand dunes;
3. Building of permanent structures;
4. Disposal of any form of waste within the sand dune: large capacity septic, untreated waste disposal wells, open defecation cemetery, untreated sewage waste disposal wells, cesspools, industrial waste, pit latrines;
5. Excavation of soil or development of quarries;
6. Planting of exotic species that may have adverse effect to water resources;
7. Landfills;
8. Construction of permanent residential structures;
9. Sand harvesting;
10. Activities that would significantly reduce the recharge to aquifers obstruction of dune formation;
11. Radioactive waste disposal sites;
12. Charcoal burning, grazing, harvesting of Mukoma tree for traditional brew;
13. Or any other activity that in the opinion of the Authority and other relevant stakeholders may degrade the water resource.

3.3 Enforcement

The enforcement of management guidelines and prohibitions shall be in accordance with provisions of the Water Act (Cap. 372), Water Resources Management Rules 2007 and other subsequent legislations.

These shall include, inter alia, PART VIII - Water Use Charges, entails and additional five per cent to the water use charges. The itemized prohibited activities shall be enforced and complied with to all respective Authorities and the public through the gazette notice.

GROUNDWATER CONSERVATION MEASURES

4.1 Conservation activities

The following activities will be undertaken to roll out the conservation plan post-gazettelement:-

1. Public awareness campaigns following Gazettement of the GCA.

[Subsidiary]

2. Reconciliation of the water permit database for the GCA with the actual abstraction points to ensure all existing groundwater abstractions are authorized.

3. Reconciliation of water use with the permit database to capture the actual abstraction against the permitted abstraction.

4. Review of permits to equitably match water needs with the permitted abstraction. A moratorium shall be declared for those found to be over- abstracting and their permits regularized to reflect the actual abstraction conditions, as long as the reviewed water use limit has been assessed positively and the permit revised accordingly.

5. Review of the Second Schedule (Technical Reports) contents of Hydrogeological Assessment Report for borehole siting in the GCA to include specific requirements for conservation areas. The revised rules will give reporting guidance to include definitions of the recharge/discharge conditions, identify groundwater/surface water interactions, characterize vulnerability to contamination, and provide a pre-to-post project water balance analysis and recommendation of appropriate mitigation measures.

6. Coordination with the Lamu County Government physical planning, agriculture, water, sanitation departments and NEMA to highlight GCA management guidelines and technical advice on County by-laws where required.

7. Installation of dedicated monitoring wells for the various aquifer levels in the GCA.

8. Enforcement of WRM Rules and GCA management guidelines.

9. Implementation of WRUA SCMP incorporating ecotourism activities The Management Plan for the Amu GCA will comprise of the Water use plan, aquifer protection plan, conservation and recharge enhancement plan, aquifer protection plan education plan and ecotourism plan. The management plan will be reviewed every so often as to match the conservation needs and issues.

WATER USE PLAN

The objective of this water use plan is to protect the long term water storage and supply capacity of the aquifer by controlling average annual abstractions with respect to recharge.

<i>Water use plan Activity</i>	<i>Timeframe</i>	<i>//Cost (Kenya Shillings)//</i>	<i>Responsibility</i>
Establish the water balance	2019	5,000,000	WRUA, Lamu County Government, WRA, LAWASCO, NMK
Develop water allocation plan for the Amu GCA	2019	55,000,000	WRUA, Lamu County Government, WRA, LAWASCO, NMK
Enhance Water use efficiency (introduction of technologies)	Continuous	10,000,000	WRA, NMK, WRUA, LAWASCO, Lamu County Government
TOTAL		70,000,000	

AQUIFER PROTECTION PLAN The objective of the aquifer protection plan is to protect it by encouraging activities that enhance water quality and by discouraging activities that degrade it.

<i>Aquifer Protection Plan Activity</i>	<i>Timeframe</i>	<i>Cost</i>	<i>Responsibility</i>
Gazettement of GCA	Up to 2020	87,000,000	WRA, MWS

Water

[Subsidiary]

Enforcement of Amu GCA guidelines and other legislations	Continuous	15,000,000	WRA, National Govt
Total		102,000,000	
CONSERVATION AND RECHARGE ENHANCEMENT PLAN The objective of the conservation and recharge enhancement plan is to maximize aquifer recharge with good water quality and quantity by promoting beneficial land and water management practices.			
<i>Activity</i>	<i>Timeframe</i>	<i>Cost</i>	<i>Responsibility</i>
Study of ground water potential and bio-diversity (Identifying endemic/ invasive/ endangered species for both flora and fauna)	2019	6,400,000	WRA, ICRAF, KFS, WWF, NEMA, KFS, KEFRI
Re-vegetation of the catchment area	Continuous	38,100,000	WRUA, WRA, KFS
Rain water storage enhancement.	Continuous	68,000,000	WRA, CSWB Lamu County Government and WRUA
Restricting activities that may lead to pollution and destruction of the eco system	Continuous	14,400,000	WRA, Lamu County Government, NMK, KFS, WRUA, NEMA
Alternative livelihood activities	Continuous	50,000,000	WRA, NMK, WRUA, ASDP, Agriculture, fishing and livestock, KFS, Trade, KWS
Regulation of development of wells/ boreholes within GCA	Continuous	7,000,000	WRA, LAWASCO, Lamu County Government, CSWSB
<i>Water use plan Activity</i>	<i>Timeframe</i>	<i>Cost (Kenya Shillings)</i>	<i>Responsibility</i>
Regulation of abstraction limits	Continuous	3,800,000	WRA, WRUA, County Commissioner
Controlling encroachment and review of grants	Ongoing	65,000,000	NLC, WRA, Lamu County Government
Sub Catchment Management Plans Implementation	Ongoing	20,000,000	WRUA, WRA, NMK, Lamu County Government, NEMA, WSTF

Water

[Subsidiary]

Establish WRA satellite centre for Lamu	2019 –2022	15,000,000	WRA, NMK, NEMA, Lamu County Government
Total		287,700,000	

MONITORING PLAN

The objective of the monitoring plan is to collect water resources data and maintain a comprehensive scientific database on the Amu aquifer that provides information on water levels, electrical conductivity, well performance, aquifer response to pumping, general water quality (salinity) and hydrometrological parameters.

<i>Action</i>	<i>Time frame</i>	<i>Costs</i>	<i>Responsible</i>
Establish and maintain Groundwater monitoring networks	2018	60,000,000	WRA
Establish and maintain hydromet networks	2019	50,000,000	WRA
Ground water sampling and analysis	Continuous	30,000,000	WRA
Establish a water resources database for ground water quality and ground water levels	2019	30,000,000	WRA
Groundwater assessment and modeling of the Amu aquifer	2019	10,000,000	WRA, Consultant
Aquifer assessments in Lamu other areas	2019-2022	20,000,000	WRA, Lamu County Government
Capacity Building	Continuous	1,000,000	Stakeholders and WRA
Total		201,000,000	

EDUCATION PLAN

The objectives of this education plan is to publish and disseminate information on the Amu GCA Management for sustenance of fresh water aquifer in the sand dunes.

<i>Activity</i>	<i>Timeframe</i>	<i>Costs</i>	<i>Responsible</i>
Establish an Amu GCA management working group comprising of key stakeholders	3 months after Gazettement	5,000,000	WRA/Lamu County Government, NMK
Publish and disseminate the best practices and prohibited activities within the sand dune aquifer.	Continuous	10,000,000	WRA, Lamu County Government, NMK ,NEMA,WRUA

Water

[Subsidiary]

Promote best programs on Water Sanitation and Health	Continuous	2,100,000	WRA, Lamu County Government, Public health office/WRUA
Disseminate information on Amu aquifer and its recommended management guidelines	July 2017 - June 2022	29,000,000	WRA, Lamu County Government, WRUA
Total		46,100,000	

ECOTOURISM PLAN

The objective of the ecotourism plan seeks to enhance sustainable conservation of the sand dunes by promoting nature-based experiences of the local communities while ensuring ecological, economic and social needs.

<i>Action</i>	<i>Timeframe</i>	<i>Cost</i>	<i>Responsibility</i>
Conceptualize the ecotourism in Amu sand dunes {walkway Nature trails (bio-diversity), Hiking, Camping, filming, tour guides Bird watching, Viewpoints (highest peaks), Dig a day (Archeological sites especially in the low lying areas)}	Jan 2019 - July 2019	16, 500,000	WRA, NMK, KTB, KTDC, NEMA, WWF, KWS, Lamu County Government
Establish walkways around and within Amu GCA and other related infrastructures	Nov 2019 – Nov 2020	57,000,000	WRA, NMK, NEMA, KWS, KTB, KWS, Lamu County Government, Amu WRUA
Total		57,000,000	

**THE KIKUYU SPRINGS AQUIFER GROUNDWATER
CONSERVATION AREA MANAGEMENT ORDER**

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Declaration of Protected Area
4. Management Guidelines
5. Public Notices
6. Offences

SCHEDULES

BOUNDARY FOR THE KIKUYU SPRINGS GROUNDWATER CONSERVATION
AREA BOUNDARY

MANAGEMENT GUIDELINES FOR KIKUYU SPRINGS AQUIFER
GROUNDWATER CONSERVATION AREA

**THE KIKUYU SPRINGS AQUIFER GROUNDWATER
CONSERVATION AREA MANAGEMENT ORDER**

[Legal Notice 208 of 2021]

1. Citation

This Order may be cited as the Kikuyu Springs Aquifer Groundwater Conservation Area Management Order.

2. Interpretation

In this Order, unless the context otherwise requires—

"Act" means the Water Act (Cap. 372);

"Authority" means the Water Resources Authority established under section 11 of the Act;

"aquifer" means an underground geological formation able to store and yield water; and

"Kikuyu Springs Aquifer Groundwater Conservation Area Management Guidelines" means the protection and conservation guidelines as published by the Authority in respect of Kikuyu Springs Aquifer Groundwater Conservation Area.

3. Declaration of Protected Area

(1) The Kikuyu Springs Aquifer Groundwater Conservation Area is declared to be a protected area for the purposes of the Act.

(2) The boundary for the Kikuyu Springs Aquifer Groundwater Conservation Area is as set out in the First Schedule.

4. Management Guidelines

The Kikuyu Springs Aquifer Groundwater Conservation Area Management Guidelines under the Second Schedule shall come into effect upon publication of this Order and shall be the basis for conservation of the water resources within the Kikuyu Springs Aquifer Groundwater Conservation Area.

5. Public Notices

(1) The Authority shall place signboards and beacons in or near the water resource or in appropriate public places frequented by water users and at the Authority's offices to display up-to-date information about the condition of the water resources of the Kikuyu Springs Aquifer Groundwater Conservation Area.

(2) The public notices shall contain information regarding the action required of water users to conserve and protect the water resources of the protected area.

6. Offences

Any person who contravenes this Order commits an offence and is liable upon conviction to a fine of one hundred thousand shillings or imprisonment for a term not exceeding one year, or both such fine and imprisonment.

[Subsidiary]

FIRST SCHEDULE

[p. 3(2)]

BOUNDARY FOR THE KIKUYU SPRINGS
GROUNDWATER CONSERVATION AREA BOUNDARY

BOUNDARY	SPECIFIC POSITION OF THE BOUNDARY	UTM X	UTM Y
NORTHERN	NORTH TOP SIDE	237300	9888500
NORTHERN	NORTH EASTERN	237000	9888400
WESTERN	NORTH WEST(UPPER SIDE) Western Boundary	235500	9886700
WESTERN	Middle West	235600	9882700
WESTERN	Middle West(Near Bibirioni)	235500	9881000
WESTERN	On E430 Road(WesternBoundary	234600	9879300
WESTERN	On A104 Road (200m afterNgenia Road and A 104 Junction	234700	9879300
SOUTHERN	A104 (Southern Boundary)	236500	9874700
SOUTHERN	D 407 Tunnel(Eastern Boundary)	238000	9874800
EASTERN	Headwaters of Ithanji River Half kilometer from Limuru Town-Headwaters of Tigoni River	238200	9877000
EASTERN		238500	9879200
EASTERN		238700	9881500
EASTERN		239300	9883200
EASTERN	UPLANDS TOWN IS ON THE WEST	239150	9884700
EASTERN		239100	9886800
EASTERN		239400	9887000

SECOND SCHEDULE

[p. 4]

MANAGEMENT GUIDELINES FOR KIKUYU SPRINGS
AQUIFER GROUNDWATER CONSERVATION AREA

MINISTRY OF WATER AND SANITATION



WATER RESOURCES AUTHORITY

This document was prepared through a consultative process involving area Water Resource Users Associations (WRUA), Members of Parliament, the County Government of Kiambu and other stakeholders, spearheaded by WRA under the stewardship of Dan Odero, Consulting Hydrogeologist

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[Subsidiary]

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4.2 Conservation plan

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LIST OF ACRONYMS Abbreviation/Acronym Meaning

GCA Groundwater Conservation Area

WRA Water Resources Authority

WRMA Water Resources Management Authority

WRM Rules, 2007 Water Resources Management Rules, 2007

NEMA National Environment Management Authority

**KIKUYU SPRINGS AQUIFER GROUNDWATER
CONSERVATION AREA MANAGEMENT GUIDELINES****PREAMBLE**

The Water Resources Management Authority (WRMA) was established under the Water Act, 2002 (Repealed) as a State Corporation under the Ministry of Water and Irrigation. WRMA has been in existence since 2005 following its establishment. In order to harmonize functions and mandates as contemplated under the Constitution of Kenya, 2010, the Water Act (Cap. 372), was established and operationalized.

Water Resources Authority (WRA) is established under Section 11 of the Water Act (Cap. 372). Pursuant to Section 6 of the Act, the Authority is an agent of the National Government responsible for regulating the management and use of water resources. WRA was operationalized on 21st of April, 2017 vide *Gazette* Notice No. 59.

These management guidelines were prepared by the Water Resources Authority after extensive stakeholder consultations from the Groundwater Conservation Area (GCA), including water users, area Members of Parliament, Members of County Assembly and other institutions. The GCA is established in accordance with the Water Act (Cap. 372) Section 23(2) and the Water Resources Management Rules, 2007 (with amendments in 2012).

The Water Resources Management Rules, 2007 outline the process of identifying areas to be designated as groundwater protection and conservation areas. Part XI Rule 123(1) states that:

Pursuant to Sections 23(1) and (2) of the Water Act (Cap. 372), where the Authority is satisfied that in any area special measures for the conservation of groundwater are necessary in the public interest it may declare the area to be a groundwater conservation area. The Authority may also impose such requirements or prohibit such conduct or activities in relation to a groundwater conservation area as it may consider necessary for the conservation of the groundwater.

Part D of the Sixth Schedule of the Water Resources Management Rules 2007 sets out the contents of management rules or plans related to a protected area or groundwater conservation area and may include:

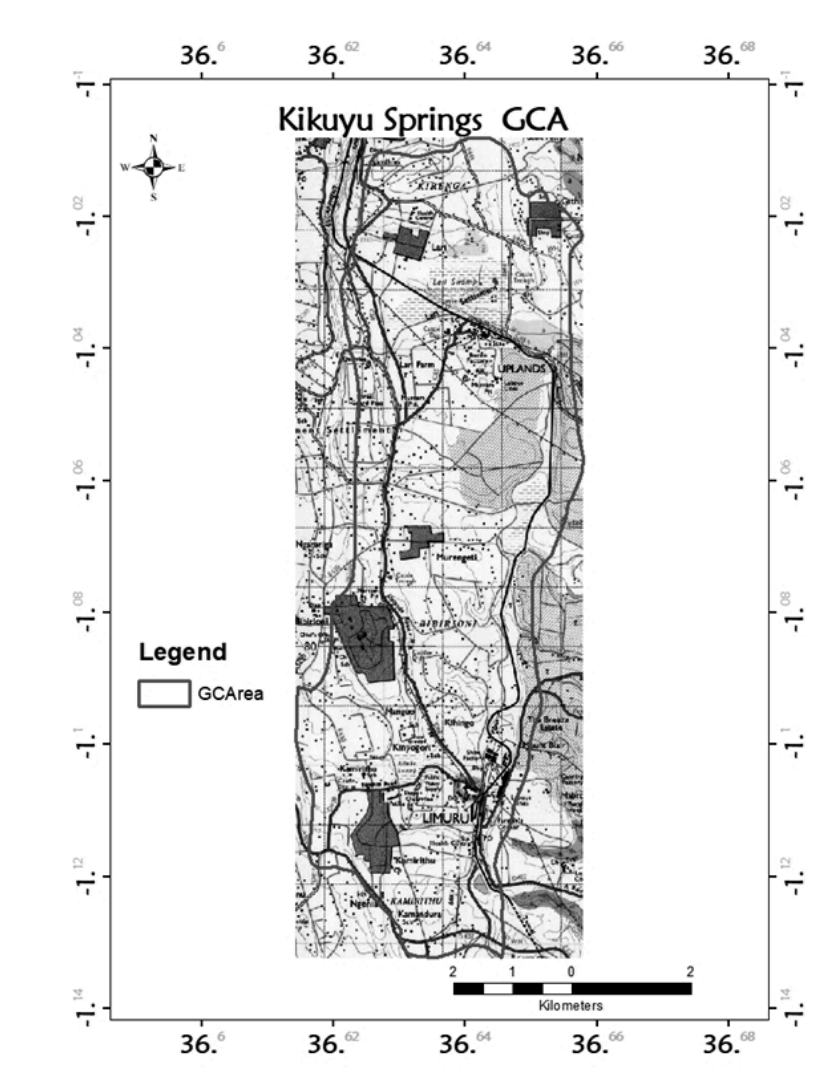
- (a) Procedures to be applied for the management of the Protected Area or Groundwater Conservation Area;
- (b) Prohibited activities;
- (c) Any measures required to be undertaken for water resource conservation and protection;
- (d) The timeframe for implementation of required measures;
- (e) Any other conditions that the Authority may consider relevant

This document presents the management procedures and prohibited activities in the Kikuyu Springs Aquifer GCA.

Extent of the Groundwater Conservation Area

For ease of identification of boundaries, the southern edge of the GCA is to run west from the railway tunnel south of Limuru along the road D407 and then join road A104 near Kamandura Primary School, leave road A104 to join D409 (Ngenia Road) then cross to E430 before Kamirithu. It then leaves E430 and turns north along the top of the escarpment east of Ngarariga Primary School. At Kirenga the boundary turns east along the road heading to Bathi River.

The boundary then turns southwards along the watershed to Githirioni where it runs on the escarpment along the railway line past Uplands all the way down through Limuru and joins back on Road D407 at the end of the railway tunnel (Map 1).



Map 1. Groundwater Conservation Area (GCA) for the Kikuyu Springs Aquifer

OBJECTIVE

The objective of the GCA guidelines is to provide a framework under which groundwater use within the conservation area will be undertaken in a manner such that the desired future condition of the resource is fulfilled.

[Subsidiary]

The desired future condition is derived from the current status. According to the Kikuyu Springs Aquifer Study Report, as of 2012 up to 68% of the annual catchment recharge was abstracted annually. This is more than the 25% tested yield from each borehole into the aquifer in the Water Allocation Guidelines published by WRA for safe yield and way over the 10% of mean annual recharge sustainable groundwater yield adopted for the National Water Master Plan 2030. Fortunately, subsurface inflow from outside the catchment provides an estimated 4.1 - 5.6 MCM, which, if added to the annual recharge reduces the proportion of abstraction to between 48 and 52% of the total aquifer recharge.

These data make it clear that the aquifer is on the verge of overexploitation and certainly under pressure. This rate of abstraction and its increase is not sustainable in the long run. The effect of the increasing abstraction is seen in the deteriorating water quality as exemplified by time series data that show increasing mineralization of groundwater with time, on a linear trend. It is indicated that this state of affairs is not unique to the Kikuyu Springs aquifer: the Nairobi Aquifer Suite as a whole is under threat of overabstraction.

The desired future condition must provide a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging, and prevention of waste of groundwater in the Conservation area.

Consequently, the desired future condition of the GCA is summed as follows:

- Groundwater quality remains potable by Kenyan Standards (KEBS: KS 05-459: Part 1: 1996);
- Annual renewable groundwater recharge is sustained at or over the year 2012 level, subject to climate change effects;
- Annual groundwater abstraction does not exceed 70% of the total aquifer recharge.
- Artesian pressure is maintained at a level that can sustain Ondiri Swamp and Kikuyu Springs.
- Other groundwater dependent ecosystems, here identified as wetlands, are protected.

To achieve these targets, guidelines on the following aspects of groundwater use and conservation are required:

- a). Abstraction limits;
- b). Water use prioritization; c). Borehole construction; d). Groundwater recharge;
- e). Groundwater monitoring;
- f). Water allocation;
- g). Pollution control;
- h). Enforcement.

1. MANAGEMENT GUIDELINES

2.1 Abstraction Limits

2.1.1 Maximum allowable production

To minimize as far as practicable the drawdown of the water table and the reduction of artesian pressure, to prevent interference between boreholes, to prevent degradation of water quality, to address the potential loss of opportunity to drill a new borehole because of spacing requirements, and to prevent waste the following guidelines shall apply in the GCA to regulate the production of groundwater.

(a) Availability goal

The Water Allocation Guidelines provide for 25% of the tested yield over a 24 hr period, or 60% of the tested yield over a 10-hour period as the maximum allowable production as a general WRM rule. This shall continue to apply in the GCA as it does in all groundwater systems.

(b) Permitting goal

To minimize wastage and diversion of water to other uses, and to address the potential loss of opportunity to access groundwater, the permitting goal is to match the permitted amount with the applied use. Therefore permitted amounts will be based on the per capita water requirements set out in the Design Manual as reproduced in the Water Allocation Guidelines.

Based on these standards, the maximum permitted amount for domestic use for example is 1.5 m³/ day for a household of 6. In the typical situation, domestic permits are up to 10 m³/ day which is not utilized in full or is diverted to other uses, thereby denying other users access to their water rights. WRA shall therefore make reasonable effort to not grant permit applications for more water production than is actually needed for beneficial use.

(c) Reconciliation of water use

Water use charges that apply will be reconciled with the production against the permitted limit. Where actual water use consistently falls to 40% or less of permitted amount for one year, WRA is at liberty to review the permitted amount downwards.

Where the abstraction is consistently at least 105% or more of the permitted amount for one year the water user will, along with infringement penalties specified in the WRM Rules, be subject to specific penalties that shall apply to Groundwater Conservation Areas as shall be specified in the WRM Rules.

1.1.2 Exclusions and exemptions

(a) Historic use

Historic or existing groundwater use in the GCA before the effective date of the GCA management guidelines shall be preserved, to the maximum extent practicable, consistent with WRM Rules. Historic use of groundwater may only be preserved for the actual use of the water from the Kikuyu Spring Aquifer, and cannot be transferred to a different use and may not be withdrawn from a different aquifer. Therefore, changes in abstraction and use of groundwater under a historic use operating permit may not be made without prior approval of WRA, and such changes will jeopardize the historic use preservation. Evidence of historic use must be presented to WRA before such use may be preserved. Whenever preserved, such use will be regularized by WRA to reflect the new situation under the GCA guidelines.

1.1.3 Transfer of groundwater out of the GCA (a) Permit required

Groundwater produced from a borehole within the GCA may not be transported outside the GCA boundaries unless the operator has been issued a transfer permit under Rule 48 of WRM rules 2007. This is to ensure that any water in the aquifer should be used within the conservation area.

(b) Applicability

i. A person proposing to transport groundwater out of the GCA must obtain a transfer permit, in addition to an abstraction permit for a new borehole, or a transfer permit for an existing one to transfer groundwater out of the GCA.

ii. A transfer permit for the transportation of water outside the GCA is not required for the transportation of groundwater that is part of a manufactured product, or the groundwater is to be used on property that straddles the GCA boundary line, or the groundwater is used within the existing contiguous service area of an existing retail public utility that straddles the GCA boundary line.

2.2 Borehole Siting in GCA

Siting of boreholes in the GCA shall be subject to all provisions of the Codes of Practice for Borehole Siting, with particular regard to Environmental Considerations (Section 5.2). Further to this, particular emphasis shall be laid to investigation methods (5.4), which shall include an exhaustive inventory of existing data, including all existing groundwater abstraction in the neighborhood of the current application without exception. The investigating geologist/ hydrogeologist shall demonstrate in the report that this has been exhaustively done for the Technical Evaluation Committee to consider granting the authorisation to drill.

[Subsidiary]

Conditions for drilling the borehole, including limits to abstraction and mandatory borehole design considerations shall be stated by the siting geologist/hydrogeologist in his/her recommendations.

In the case of new developments from Kikuyu Springs Groundwater Conservation Area, the geologist/hydrogeologist's report will include water balance before and after the proposed development.

- (a) An application for major development within the GCA shall be accompanied by an environmental impact study that demonstrates that the quality and quantity of groundwater in the GCA and the recharge function of the area will be protected, improved or restored.
- (b) Groundwater use applications that promote storm water management and infiltration will be given priority in granting of authorisations to drill within the GCA. Such plans shall be subject to approval so that they do not pose groundwater contamination risk.

2.3 Borehole Construction

These guidelines are complementary to the Codes of Practice for Construction of Boreholes and should be read in conjunction with the following documents:

- The Water Resources Management Rules, 2007
- The Code of Practice for the Siting of Boreholes
- The Code of Practice for the Supervision of Construction of Boreholes
- The Code of Practice for the Test Pumping of Boreholes
- The Water Allocation Guidelines (2010)

2.3.1 Spacing requirements

- (a) To minimize as far as practicable the drawdown of the water table and the reduction of artesian pressure, to prevent interference between boreholes and to prevent degradation of water quality the Water Resources Management Authority will enforce spacing requirements on all new boreholes in the GCA. These will be in accordance with the spacing guidelines outlined in the Section 4.4 of the Water Allocation Guidelines (2010).
- (b) Spacing requirements in the GCA do not apply to manually-dug large diameter wells abstracted by windlass or such traditional systems.
- (c) In the case of a municipal well field, WRA may waive the spacing requirements on the well field if the applicant submits adequate evidence showing that the increased cone of depression caused by the well field will not increase the impact on nearby existing wells. This calls for, *inter alia*, appropriately designed pumping tests and well field layout design.

2.3.2 Sanitary seal

The minimum depth of the sanitary seal in boreholes in the GCA shall be 6 metres; the area is a high-recharge area that has high linear transmissivity along the numerous fault zones. It also has thick soils that may be subject to piping thereby increasing the risk for groundwater contamination.

2.3.3 Unsuccessful boreholes

Abandoning of unsuccessful boreholes shall be in accordance with the Codes of Practice for Borehole Construction. In addition to backfilling, an abandoned borehole in the GCA shall be sealed in the top 6 metres to ground level with bentonite.

2.4 Pollution Control

These guidelines shall be read in conjunction with the provisions of the Water Act (Cap. 372), WRM Rules, 2007 and such other subsidiary legislations as may be put in place from time to time in respect to Water Quality and Pollution Control.

Due to the need to prevent pollution in the GCA, upon inspection, WRA may provide notice to affected parties and issue orders to prevent pollution. If WRA determines that an

emergency situation exists, a temporary order to prohibit pollution and protect public health, safety and welfare shall be issued without notice. The order shall continue in effect for the lesser of fifteen (15) days or until tests are done.

2. EXEMPT AND PROHIBITED ACTIVITIES

3.1 Exempt Activities

The following activities are exempt from the GCA requirements:

1. All residential uses and activities;
2. Other uses not listed as prohibited;
3. Activities already permitted and regulated by the Water Resources Management Rules (e.g., historic water use).

3.2 Prohibited Activities

The following activities are considered high-impact uses due to the probability and/or potential magnitude of their adverse effects on groundwater and shall be prohibited in the GCA:

- A. Landfills;
- B. Large capacity septic systems (serving multiple dwellings or non-residential establishment of 20 or more persons per day); examples include apartment buildings, schools, religious institutions, office, industrial and commercial buildings, shopping malls, train and bus stations, hotels & restaurants, casinos;
- C. Commercial activities that are not connected to an available sanitary sewer system;
- D. Agricultural drainage wells (receive irrigation tail waters, other field drainage, animal yard, feedlot, or dairy runoff);
- E. Untreated sewage waste disposal wells;
- F. Cesspools (serving multiple dwelling or institutions, or other devices that receive wastes and which must have an open bottom and sometimes have perforated sides); note that many 'septic' tanks are actually cesspools due to design;
- G. Industrial process water and disposal wells;
- H. Motor vehicle waste disposal wells (surface effluent from service stations); I. Surface mining operations.
- J. Activities that would significantly reduce the recharge to aquifers; K. Radioactive waste disposal sites;

3.3 Enforcement

The enforcement of management guidelines and prohibitions shall be in accordance with provisions of the Water Resources Management Rules 2007 as established by the Water Act, 2002 (Repealed).

These shall include, *inter alia*, PART VIII - Water Use Charges, entails and additional five per cent to the water use charges.

The itemized prohibited activities shall be notified to the National Environment Management Authority (NEMA), the physical planning department and the public works department in each county affected by the GCA through the gazette notice.

3. GROUNDWATER CONSERVATION MEASURES

4.1 Conservation activities

The following activities will be undertaken to roll out the conservation plan postgazettement—

1. Public awareness campaigns following Gazettement of the GCA.
2. Reconciliation of the water permit database for the GCA with the actual abstraction points to ensure all existing groundwater abstractions are authorized.

[Subsidiary]

3. Reconciliation of water use with the permit database to capture the actual abstraction against the permitted abstraction.

4. Review of permits to equitably match water needs with the permitted abstraction. A moratorium shall be declared for those found to be over-abstracting and their permits regularized to reflect the actual abstraction conditions, as long as the reviewed water use limit has been assessed positively and the permit revised accordingly.

5. Review of the (Technical Reports) contents of Hydrogeological Assessment Report for borehole siting in the GCA to include specific requirements for conservation areas. The revised rules will give reporting guidance to include definitions of the recharge/discharge conditions, identify groundwater/surface water interactions, characterize vulnerability to contamination, and provide a pre-to-post project water balance analysis and recommendation of appropriate mitigation measures.

6. Coordination with the County physical planning, agriculture, water, sanitation departments and NEMA to highlight GCA management guidelines and technical advice on County by-laws where required.

7. Installation of dedicated monitoring wells for the various aquifer levels in the GCA.

8. Enforcement of WRM Rules and GCA management guidelines.

4.2 Conservation plan

Activity	Tool	Implementer	Stakeholders	Start Date	End Date
Public awareness	Gazette Notice; GCA guidelines both full and abridged version	WRA NairobiSub-Region	WRA HQ, RO, Water Users, County of Kiambu	Upon gazettement	3 months after
Reconciliation of water permit database	PDB, Borehole Database, field inventory (In case of incomplete database)	WRA NairobiSub-Region	WRA HQ, RO	Upon gazettement	3 months after
Reconciliation of water use with permit database	Water use charges; abstraction survey	WRA NairobiSub-Region	WRA HQ, RO, Water Users	3 months after gazettement	9 months after gazettement
Review of existing permits	Abstraction survey data; Updated PDB	WRA NairobiSub-Region	WRA HQ, RO, Water Users	9 months after gazettement	12 months after gazettement
Review of Hydrogeological Report Contents in WRM Rules	GCA Management Guidelines; Legislative Amendment	Ministry of Water and Sanitation	WRA HQ; Consulting Hydrogeologists/ Geological Society of Kenya	Upon gazettement	12 months after gazettement
Coordination with the County physical planning, agriculture,	GCA Management Guidelines, County bylaws	WRA NairobiSub-Region	WRA HQ, RO, County of Kiambu, NEMA	Ongoing process	Ongoing process

water,
sanitation
departments
and NEMA

Installation of dedicated monitoring wells	Aquifer map; construction program	WRA NairobiSub-Region	WRA HQ, RO, Water Users	Upon gazette	24 months after gazette
Enforcement	Water Act (Cap. 372), WRM Rules, 2007, GCA management guidelines, Athi Basin Management	WRA NairobiSub-Region	WRA HQ, RO, Water Users, County of Kiambu	UponGazette	Ongoing process
Activity	Tool Strategy, County bylaws, Environmental Management& Coordination Act 1999; Physical Planning Act	Implementer	Stakeholders	Start Date	End Date

4.3 Funding the Conservation plan

For the groundwater conservation plan to succeed, financial resources are required. WRA HQ has the sole responsibility of raising the resources through budgetary allocation from the Ministry of Water and Sanitation, own revenue and cooperation with stakeholders.

**THE LAKE KENYATTA SUB CATCHMENT
CONSERVATION AREA ORDER**

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation.
2. Interpretation.
3. Application of Order.
4. Declaration of Conservation Area.
5. Management Guidelines.
6. Public Notices.
7. Offences.

SCHEDULES

LAKE KENYATTA SUB CATCHMENT CONSERVATION AREA

LAKE KENYATTA SUB CATCHMENT (CONSERVATION AREA) MANAGEMENT
GUIDELINES

**THE LAKE KENYATTA SUB CATCHMENT
CONSERVATION AREA ORDER**

[Legal Notice 209 of 2021]

1. Citation.

This Order may be referred to as the Lake Kenyatta Sub Catchment Conservation Area Order.

2. Interpretation.

In this Order, unless the context otherwise requires—

“Act” means the Water Act (Cap. 372);

“Authority” means Water Resources Authority established under Section 11 of the Water Act;

“Lake Kenyatta Sub Catchment Conservation Area” means the area demarcated as hydrogeological system controlling water flow within and around Lake Kenyatta as illustrated with blue thick line in the First Schedule;

“Lake Kenyatta Sub Catchment Conservation Riparian Area” means all that land and water enclosed within a minimum of 100 Metres and maximum 200 Metres measured from the highest water mark; and

“Lake Kenyatta Sub Catchment Conservation Protection Guidelines” means the management and conservation guidelines developed by the Authority in respect of Lake Kenyatta Sub Catchment Conservation Area and set out in the Second Schedule.

3. Application of Order.

This Order shall apply to the use of water and land of the Lake Kenyatta Sub Catchment Conservation Area.

4. Declaration of Conservation Area.

The Lake Kenyatta Sub Catchment Conservation Area is hereby declared to be a Catchment Conservation Area for the purposes of the Act.

5. Management Guidelines.

The Lake Kenyatta Sub Catchment Management Guidelines under the Second Schedule shall come into effect immediately upon publication of this Order in the Kenya *Gazette* and shall be the basis for conservation of the water resources within the Lake Kenyatta Sub Catchment Conservation Area.

6. Public Notices.

(1) The Authority shall place signboards and beacons in or near the Lake Kenyatta Sub Catchment Conservation Area or in appropriate public places frequented by land and water users and at the Authority’s offices, displaying up-to-date information about the condition of the water resources of the Lake Kenyatta Sub Catchment Conservation Area.

(2) The public notices shall contain information regarding the action required of water or land users to conserve and protect the water resources of the Lake Kenyatta Sub Catchment Conservation Area.

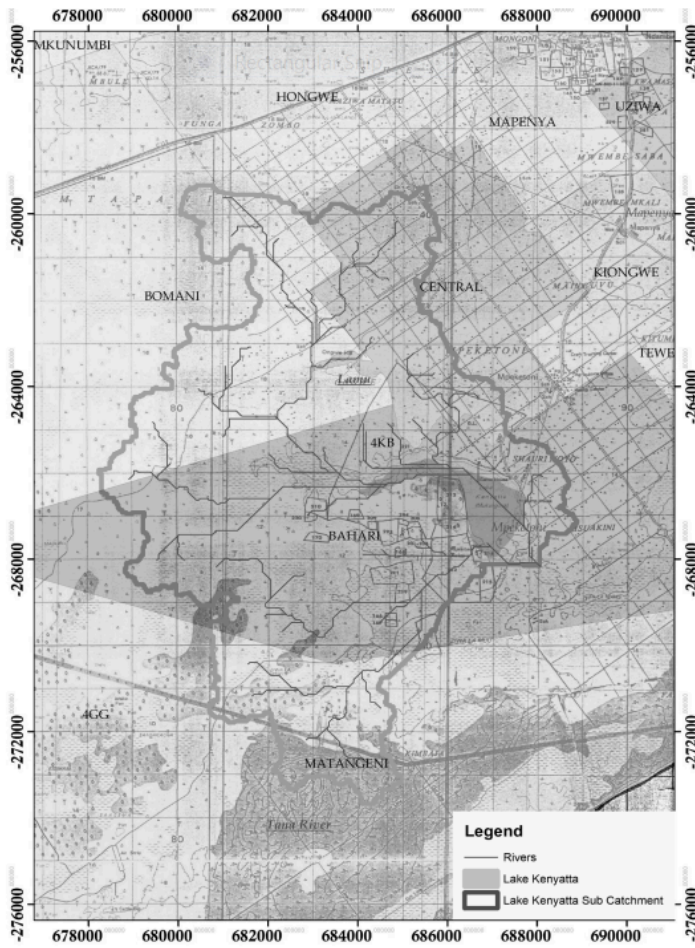
7. Offences.

Any person who contravenes this Order commits an offence and is liable upon conviction to a fine of One hundred thousand shillings or imprisonment for a term not exceeding one year, or both such fine and imprisonment.

FIRST SCHEDULE

[p. 2]

LAKE KENYATTA SUB CATCHMENT CONSERVATION AREA



SECOND SCHEDULE

[p. 5]

LAKE KENYATTA SUB CATCHMENT (CONSERVATION
AREA) MANAGEMENT GUIDELINES

Water Resources Authority
 Tana Catchment Area
 LAKE KENYATTA SUB CATCHMENT (CONSERVATION AREA)
 MANAGEMENT GUIDELINES
Acknowledgement

The Water Resources Authority, Tana Catchment Area (TCA) wishes to acknowledge all the stakeholders who participated in the preparation of this document.

We wish in particular to sincerely thank the Management Committee and the community members within Lake Kenyatta Water Resources Users Association (LaKWRUA) for their invaluable inputs.

We also wish to thank the National Government and County Government Administration in Lamu West Sub County, especially the Deputy County Commissioner, Assistant

County Commissioner and the Chiefs, for their support in sensitizing and mobilizing the area community.

We acknowledge the inputs from other Government Departments and community members, for their self-driven concerns.

Last but not least we wish to sincerely thank the staff of Garissa Sub Region and Tana Catchment Regional Office for their tireless effort in ensuring the successful development of the document.

To all we say thank you.

Regional Manager

Tana Catchment Area - Embu

Acronyms

BMU	Beach Management Unit
CBOs	Community Based Organizations
CEO	County Environmental Officers
CFAs	Community Forest Associations
CSOs	Civil Society Organizations
DRSRS	Department of Resource Surveys and Remote Sensing
EIA	Environmental Impact Assessment

[Subsidiary]

EMCA	Environmental Management and Coordination Act
FD	Fisheries Development
GoK	Government of Kenya
ha	hectares
HWC	Human Wildlife Conflict
IBA	Important Bird Area
IBECA	Indigenous Biodiversity Environmental Conservation Association
ICRAF	World Agroforestry Centre
IGAs	Income Generating Activities
IMP	Integrated Management Plan
KARI	Kenya Agricultural Research Institute
KFS	Kenya Forest Service
M&E	Monitoring and Evaluation
M.C.N	Municipal Council of Mpeketoni
masl	Metres above sea level
mbgl	Metres below ground level
MEAs	Multilateral Environmental Agreements
mg/l	Milligram/litre
MoA	Department of Agriculture
MoCD	Department of Cooperative Development
MoE	Department of Education
MoEMR	Department of Environment and Natural Resources
MoGCSD	Department of Gender, Children and Social Development
MoH	Department of Health
MoL	Department of Labour
WRA	Water Resources Authority
WRUA	Water Resources Users Association

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Acronyms _____

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5 Introduction and Background Information

5.1 Introduction

A catchment area is defined as the land from which water naturally flows into a water course. The status and conditions of a catchment determines the reliability, quantity and quality of its water yields. A catchment area acts like a water storage facility where during the rains, the vegetation cover allows the water ample time to percolate deep down and move as a sub-surface flow to recharge the rivers, springs and ground water storage in both shallow and deep aquifers. This sub-surface flow is slow resulting in rivers from a well maintained catchment having higher base flows even during the dry season as well as good water yield from boreholes in the vicinity. In poorly maintained and degraded catchment, the rainfall results in the rapid surface run-off which is channelled into the river courses, resulting in flash-floods and high volumes of suspended solids. Since there is little storage in such a catchment, the rivers originating from such catchment will not be able to sustain their base flows during the dry season.

Catchment areas are thus a vital component in water resource management and they should be formally delineated, gazetted, protected from encroachment and pollution and managed sustainably to maintain their ecological integrity.

5.1.1 Legal Framework for Catchment Protection:

Because of its nature, environmental management and protection in general and catchment protection and management in particular falls within the mandate of various institutions. Catchment protection is therefore, a cross-cutting issue which is spread over several legislations, which have a bearing on the environment and/or natural resources management. These legislations include:

viii). *Constitution of Kenya, 2010.*

Article 62(3) of the Constitution vests these categories of public land on the National Government in trust for the people of Kenya- all rivers, lakes and other water bodies, the territorial sea, the exclusive economic zone, the sea bed, the continental shelf and any land between the high and low water marks. Article 66(1) further provides that the State may regulate the use of any land, or any interest in or right over any land, in the public interest.

Additionally, Article 69 obligates the State to ensure sustainable exploitation, utilisation, management and conservation of the environment and natural resources and the equitable sharing of the accruing benefits. It is also the duty of every person to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

The Article 43(1) (d) of the Constitution guarantees every person the right to clean and safe water in adequate quantities. In order to ensure orderly delivery of this right, the Constitution has distributed water resources functions to the National Government under the Fourth Schedule. This is resultant from the provisions of Article 186 which classifies the functions assigned to each level of government as exclusive, concurrent or residual.

ix). *Water Act (Cap. 372)*

Section 22 of the Act provides that where the Authority is satisfied that in order to conserve a vulnerable water resources, special measures are necessary to protect a catchment area or part thereof, it may by order published in the Gazette declare such an area to be a protected area.

The Authority is empowered to impose such requirements, and regulate or prohibit such conduct or activities, in or in relation to a protected area that the Authority may consider necessary to impose, regulate or prohibit for the protection of the area and its water resources.

Under Sections 23 of the Act, where the Authority considers it necessary that special measures are necessary for the conservation of ground water are necessary in the public interest, it may by public order published in the Gazette, declare the area to be

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a groundwater conservation area and impose requirements or prohibit certain activities in relation to a groundwater conservation . The Authority, in conjunction with relevant institutions and stakeholders, establish management rules or plans that shall apply to each Protected Area or Groundwater Conservation Area.

x). *Water Resources Management Rules 2007*

Rule 124 and Part D of the Sixth Schedule to the Water Resources Management Rules 2007, sets out the contents of Management Plans related to a protected area to include:

- (i) Procedures to be applied for the management of the Protected Area or Groundwater Conservation Area;
- (ii) Prohibited activities;
- (iii) Any measures required to be undertaken for water resource conservation and protection;
- (iv) The timeframe for implementation of required measures;
- (v) Any other conditions that the Authority may consider

Rules 116 to 120 of the Water Resources Management Rules 2007 provides for the determination of the riparian land, which as defined in Part I of these rules does not imply a change of ownership but imposes management controls on land use for water resource quality as defined in these rules.

This part deals extensively with the management of the riparian land including its management, activities that are allowed or proscribed within the riparian land.

The Authority shall undertake Public Consultation with respect to the establishment of areas to be Protected or designated as Groundwater Conservation Areas and the management rules or plans that shall apply with respect to these Areas.

5.1.2 Background information on *Lake Kenyatta catchment*:

Lake Kenyatta is a fresh water Lake found within Mpeketoni Division of Lamu West Sub County, Lamu County, located 60km to the south west of Lamu Island and 230 km north of Malindi town. The sub catchment covers an area of 496km². The sub catchment is under the management of Lake Kenyatta WRUA.

The sub catchment comprises of natural forest as well as the Lake Kenyatta settlement scheme, a resettlement programme initiated by the Government in the 1970's in an area with high agricultural potential.

Lake Kenyatta is partly fed by rainfall, sub-surface flow and occasionally receives water from Tana River during flood flows. Water is mainly abstracted through shallow wells and boreholes and is used for domestic and agricultural purposes. Further, the Lake is considered a vital ground water recharge area which is important for sustaining the livelihoods of the community in the area.

5.1.3 Rationale for Catchment Protection through Gazettement;

Lake Kenyatta, one of Kenyan's oldest natural fresh water Lakes, began drying up in 2016, threatening human and wildlife populations that have for ages depended on it for water supply. Within a period of one month alone, 15 hippos died and their carcasses were spread on the drying Lake. The lake has run close to dry in recent years, and dried up completely in 1956 (National Environment Secretariat, 1985).

At some point, the Lake was completely dry and dotted with shells of millions of dead snails. The key contributor to the Lake drying up was increased human settlement around the Lake. The water ways which used to feed the Lake have been interfered with by human activity.

A management plan is therefore critical for the conservation and protection of Lake Kenyatta catchment area and the aquifers. This will tackle poor land use practices and restoration of the destroyed catchment area. The management plan will include a catchment investment plan for the sustainable management of the water resources.

TCA's CMS (2014 - 2022) recognised the need to protect the lake and increase its environmental functions. This is anticipated to be achieved through the implementation of the following strategies:

- Sensitization of the local community on the need to protect the wetland to ensure environmental sustainability;
- Development of an action plan to protect the catchment and their rehabilitation;
- Participatory mapping of the protection zones around the Lake with the community;
- Apply the law to protect wetland (enforcement for wetlands/riparian/springs protection);

In addition, Part XI of WRM Rules 2007, Rules 123 - 125 sets out the process and procedure for, the identification of an area as a protected or groundwater conservation area. This is the procedure used in coming up with this Gazettement document for the Lake Kenyatta Sub Catchment.

5.2 Location and size of area to be gazetted

The area identified for Gazettement is found within Mpeketoni division of Lamu West sub county, Lamu County, located 60km to the south west from Lamu Island and 230 km north of Malindi town. The sub catchment covers an area of 41km² and is within the 4KB-sub basin of Tana Basin Area.



Figure 1: Location of Lake Kenyatta (Formally Lake Mukunguya)

1.2.1 Watershed area;

Lake Kenyatta is partly fed by rainfall, sub-surface flow and occasionally receives water from Tana River during flood flows. The area that contributes surface run-off into the Lake has been delineated through the use of a GIS software. The area measures

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413.5 square kilometres out of the 10,962.3 km² catchment area of the whole 4KB sub basin as shown in Fig. 1 below

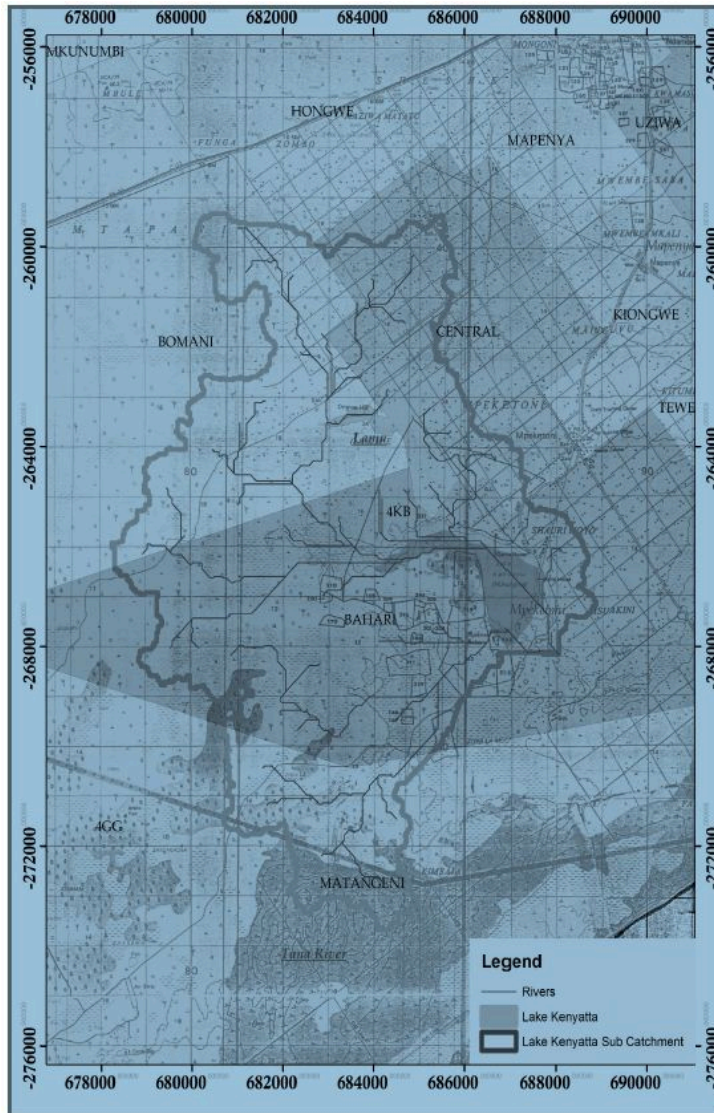


Fig. 2. Location of Lake Kenyatta sub catchment within 4KB sub basin

1.2.2 Physiography, climate and rainfall;

e) Physiography

Mpeketoni area is gently flat from 51ft asl to 5 ft asl towards the shore. Along the shore there is sand dune ranging from 15 meters asl to 45 meters asl. The chat below shows cross sectional topography of Mpeketoni area.



f) *Geology*

The Kenyan coastal environments are set in a passive continental margin, the evolution of which was initiated by the break-up of the mega continent Gondwanaland in the Lower Mesozoic. The initial opening of the Indian Ocean was preceded by doming, extensive faulting and down warping similar to that observed in the modern Great Rift Valley of East Africa. These tectonic movements formed a North-South trending depositional basin. During the Mesozoic, this basin was exposed to numerous marine incursions and by the Jurassic, purely marine conditions are thought to have existed.

Geology of the area reflects predominantly quaternary history of marine influence with numerous transgressions and regressions and associated sedimentary features. It is characterized by lagoonal deposits, Aeolian accumulation and fossil coral reefs, occasionally dissected by alluvial sediments

g) *Hydrogeology*

Groundwater forms the main water supply source of fresh water under the Lake Kenyatta Water Users Association (LAKWUA) for Mpeketoni Town/settlement. The fresh water aquifer is mainly found in the fossil coral reefs which are present under most of the area. The aquifer is recharged by both deep rainwater percolation and inflow from Lake Kenyatta.

The lateral extent of the fresh water body has been found to be at least 10km², including fresh water below the Lake bottom and some below the southern western bank. The depth to the saline/freshwater interface varies between 20 and 40 metres below surface. The average thickness of the fresh water body is 20 metres. The fresh water aquifer is mainly found in the fossil coral reefs which are present under most of the area.

The boreholes depths range between 15-18 m depth. Ground Water Survey (K) LTD (1987, 1992) inferred that the depth to the saline/fresh water interface in Mpeketoni area varies between 20 and 40 metres below the surface. Within Mpeketoni and its surrounding areas, each household has a well. Most of these wells have motorized pumps.

h) *Soils*

The soils are composed of coral limestone overlain by a thin layer of loamy sandy soils.

The Red Loam Soils have the following characteristics:

- Fair organic matter content (humus) in top soil
- Well aerated soils which can hold water for the plants (little leaching)
- Roots do not penetrate so deeply into this soil as in the sandy soils (especially trees)
- Medium fertile soils which respond well to fertilizer applications (can hold nutrients well)
- Due to the high clay content, rain infiltrates the soil slowly (water logging). Heavy shows can cause local run-off
- Best soils for annual crops like cotton, maize, etc.

The humus of the top soil will disappear if no organic matter (plant residues, fallow crop, etc.) is added to the soil. This will lead to a hard, compacted soil surface which is difficult to cultivate when dry. The hard soil crust does not permit light showers to enter the soil and

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the water evaporates quickly on the surface. The soil loses its fertility if no organic matter is added.

The Sandy Soils

These have the following characteristics:

- Well-drained soils, sometimes excessively drained (leaching of nutrients)
- Low fertility, depending on the organic matter content of the top soil
- Soil (top layer) cannot hold water for the plants
- Soil is easy to cultivate

In most of these soils the clay content increases with increasing depth. That is of advantage for deep rooting plants like cotton or tree crops during dry spells or insufficient rain. The moisture is stored in or above the layer with the higher clay content and the deep rooting plants can extract water from there.

i) Hydrology

Lake Kenyatta Sub-Catchment falls under sub basin 4KB which is served by Mukuru River (seasonal), Lakes Kenyatta and Amu and numerous wetlands which include Pangani, Zebra, Majiglass and Witho.

Mukuru streams drains into Lake Kenyatta however, it has no monitoring station.

To estimate the discharge empirical methods can be used to estimate the discharge. The Lake Kenyatta catchment is estimated at 41km² with an estimated annual rainfall of 1000mm (1m).

Therefore, the annual discharge is:

Discharge=area*rainfall per/yr

Taking runoff as 10% of the total precipitation, then

$Q=41\text{km}^2*(1000 * 0.1) \text{ mm} * e$ where e =drainage coefficient

$Q=41*106\text{m}^2*(1 * 0.1)\text{m}$

$Q=4.1\text{m}^3 \text{ per/yr}$

Therefore, Q per month = $4.1\text{m}^3/12= 0.342 \text{ m}^3/\text{Month}$

j) Climate

Lake Kenyatta sub catchment area lies in the hot tropical region where the weather is influenced by the great monsoon winds of the Indian Ocean. Climate and weather systems on the Kenyan coast are dominated by the large scale pressure systems of the western Indian Ocean and the two distinct monsoon periods.

From November/December to early March, the Kenyan weather, particularly at the Coast, is dominated by the Northeast Monsoon (Kazikazi) which is comparatively dry. During March and April, the monsoon winds blow in an east to south-easterly direction (Kusi) with strong incursions of maritime air from the Indian Ocean bringing heavy rains. During the months of May, June, July and August, the South-easterly Monsoon influence gradually sets in and the weather becomes more stable with dull and comparatively cooler temperatures. Between September and November, the Northeast Monsoon gradually re-establishes itself and by December the northern influence is dominant once again.

The area experiences bimodal rainfall pattern. The long rains come between late March and early June decreasing from August. Short rain occurs between October and November but decreases rapidly from December to February. Mean annual total rainfall ranges from 850- 1000 mm. Relative humidity is comparatively high all the year round, reaching its peak during the wet months of April to July. The mean minimum and maximum temperature are

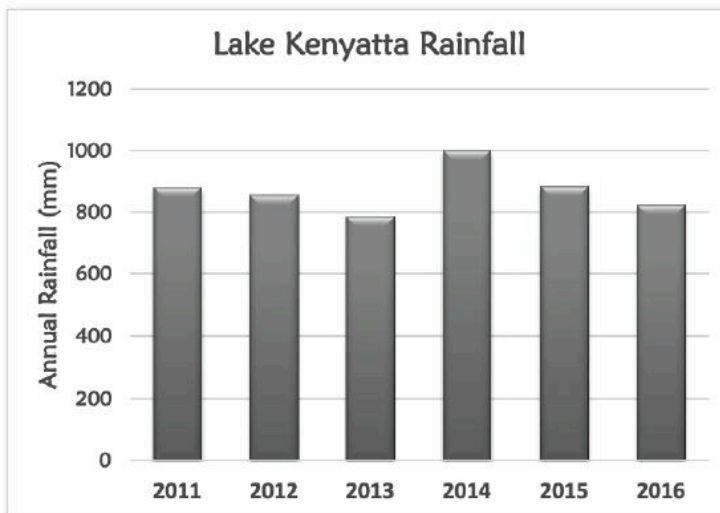
22° and 30°C respectively with potential evaporation ranging between 2200 and 2400 mm/year (any rainfall station with data?)

Annual rainfall data for the station at Mpeketoni Agricultural Training Centre is shown in the figure below. As can be seen the annual rainfall amounts are generally lower than 1000 mm. The annual rainfall amounts generally depicts a declining trend. The year 2014 had slightly higher amounts than the rest of the years analysed.

The climate in the area is characterized by two rainy seasons and are distinct dry season from January to March.

The long rain (March/April-July/August) are followed by occasional coastal showers in August/September which become heavier during October and head to the short rains in November/December.

The average annual rainfall varies within the sub catchment between 1000-1100 mm/year in Mpeketoni area.



k) *Current land use and its adverse impacts,*

The land in the sub catchment is mainly used for farming and settlement purposes.

In addition, agro forestry is in practice.

Subsistence farming include crops like maize, peas, sweet potatoes, cassava, tomatoes and Kales, cashew nuts, cotton, bananas, coconut, bixa, simsim, mangoes.

The forest coverage in the sub catchment is about 3% which is below the set national standard of 10%, composed of tree species.

The sub catchment is also characterized by urban settlement which highly depend on ground water exploitation for water supply for both domestic and irrigation purposes. This water supply is under threat of pollution from Sea water intrusion, tourism byproducts, effluent from pit latrines, car washing as well as domestic washing.

Primary forests (coastal rainforests) covering present day Lamu west Sub County remained virtually intact until the Arabs, Portuguese, Germans and British arrived. Primary forests consist of mangroves along the coast and further inland, valuable indigenous tree species can be found, such as:

- *Azalia quanzensis* (Mbamba kofi)
- *Brachylaena hutchinsii* (Muhugu)
- *Chlorophora excels* (Mvule)

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- *Dalbergia melanoxylon* (Mpingo).

Like other parts of the coast, that time the area was rich with indigeneous trees including fruit trees such as *Zizyphus mauritiana* (Mkunazi) and *Dialium orientale* (Mpepeta).

It is important to preserve the remnants of the indigenous forests and at the same time plant new trees and forests. All relevant departments and concerned institutions have to join forces and collaborate in creating awareness and training of students, local leaders and farmers on subjects such as:

- The dangers and consequences of deforestation
- Environmental conservation and tree planting and
- Protection of valuable indigenous trees and forests

6 *Current Situation Analysis*

6.1 *The vulnerability of the water resource*

Lake Kenyatta is partly fed by rainfall, sub-surface flow and occasionally receives water from Tana River during flood flows. Mukuru seasonal streams drains into Lake Kenyatta however, it has no monitoring station. The Lake is considered a vital ground water recharge area which is important for sustaining the livelihoods of the community in the area. Water is mainly abstracted through shallow wells and boreholes and is used for domestic and agricultural purposes.

There may be grounds for concern about over-abstraction in the Lake Kenyatta coral and sand aquifer, for abstraction of 1,411 m³/d from the aquifers. The aquifer lies close to sea level, and there is a potential risk of saltwater intrusion. The aquifer is typically 20 m thick, and the fresh-saltwater interface occurs at depths of 20 to 40 mbgl; static water levels fluctuate seasonally, but are typically <1 to three mamsl. Properly sited and constructed boreholes are capable of yields of 20 to 30 m³/hr for modest drawdowns (<1 m). Aquifer recharge is largely bank recharge from the seasonal Lake Kenyatta, which has run close to dry in recent years, and dried up completely in 1956 (National Environment Secretariat, 1985).

Lake Kenyatta aquifer is vulnerable to pollution, due to the high transmissivity of the coral limestone aquifer.

6.2. *The water resource quality objectives and the current status of the water resource*

Section 20 of the Water Act (Cap. 372) requires the Authority to prescribe the criteria for classifying water resources for the purposes of determining water resources quality objectives for each class of water resource.

The Tana Basin plan developed by WRA in consultation with various stakeholders, Lake Kenyatta sub-catchment can be classified as of high economic and social importance. The area has predominantly urban settlement and/or Agricultural agglomeration areas. This category targets at ensuring quality of water resources to develop economy and prosperity in urban settlement areas/agricultural centres.

Sustainable water resources management in the sub catchment will focus on cooperation with the all stakeholders, hence the need to have the interests of residents, farmers and business community safeguarded.

6.3. *The class of the water resource*

The Lake Kenyatta sub-catchment can be classified as “Alarm” as the available water is at not of adequate quality to meet the demand. The lake Kenyatta aquifer is at the risk of pollution due encroachment of the catchment area and threat of salt water intrusion.

The table below shows the classification of the aquifer according to the Tana Basin plan.

Name	Geology/ lithology	Area (km ²)	Depth range (m)	Yield potential	Dominant flow type(s)	Typical EC (µS/cm)	Status
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			(m ³ /day)			
Lake Kenyatta	Fossilised 22 coral limestone, with sand lenses and cavities overlaid by recent unconsolidated sands and sandy clays	<20	<86	Inter- granular	<1 000	Alarm

6.4. Land uses and their potential impact on the water resources

The population of Mpeketoni town which is within the catchment area has been growing rapidly over the years. Being a commercial centre, people from other parts of the country have also been settling there in search of livelihood activities.

The potential impacts on the water resources as a result of human acts includes:

a. Encroachment: People have encroached waterways, especially in the upper inlet and catchment along river Mukuru and also along the Lake shore;

b. Overexploitation of available resources: The population in the area has been rapidly growing over the years. This leads to excessive pressure on available water resources and when abstraction from water wells exceed the recharge, sea water intrusion into the fresh water is experienced;

c. Catchment degradation: Due to increased demand for sand as a building material, sand harvesting around the Lake and its catchment has increased. This affects the vegetation and loosens the soil leading to degradation of the Lake ecosystem;

d. Soil Erosion: Following uncontrolled farming and other human activities, soil erosion leads to siltation of the Lake hence affecting its overall depth and water levels;

e. Deforestation: The forest cover around the Lake, the immediate catchment areas as well as the wider catchment has been depleted due human activities. Forests have been cleared to give way for farmlands, settlements as well as charcoal burning and timber.

f. Water Pollution: Due to excessive economic activities around the Lake, the water has been polluted. Fishermen do not have sanitation facilities within the Lake leading to open defecation. The farms in the surrounding area use agro-chemicals which eventually find their way into the Lake and leading to pollution. Other pollutants include solid waste that is washed into the Lake by runoff water during rains. There is evidence of loss of aquatic organisms. Shells of dead fresh water organisms are found all over the dry Lake floor.

7 Measures for Conservation and Rehabilitation of the area

Land within the Lake Kenyatta sub catchment and the feeder Mukuru River is legally owned by Government, local authorities and individuals and this in some instances limits the scope of conservation regimes that can be applied to the whole basin

7.1 Proscribed Activities;

According to the applicable legal framework as discussed in Sub-Section 1.1.1 above, protected areas can be used by the neighbouring community in a sustainable manner. The activities to be undertaken within the protected area are those with zero impact on its ecological status and integrity. The following activities are specifically proscribed in a protected area:

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- xiii). Tillage or cultivation
- xiv). Clearing of indigenous trees or vegetation
- xv). Building of permanent structures (especially boreholes and houses)
- xvi). Disposal of any form of waste
- xvii). Excavation of soil or development of quarries
- xviii). Planting of exotic species that may have adverse effect to the water resource

7.2 Conservation Plan

The objective of the conservation plan is to protect the long term environmental sustainability of the catchment for enhanced water resources yield and maintain its ecological functions in terms of flora and fauna.

In the development of the management programmes, care has been taken to ensure that there are explicit and logical links between the vision statement, management objectives, and the management strategies to achieve the objectives. Each management programme is discussed in further detail in the following sections:

Goals

The overall goals of the management are to:

- a) Ensure sustainable management and use of water resources within the sub catchment while promoting equitable sharing of water resources
- b) Ensure the conservation of the catchment areas to improve on the water quantity and quality

Objectives

- i). To enhance implementation of existing regulations to protect the rights of all users
- ii). To promote water use efficiency that is hydrologically and economically beneficial to domestic, agricultural, and industrial water users and the environment.
- iii). To identify funding sources to implement water conservation programs that help to enhance water resources.

<i>Activity</i>	<i>Sub-activity</i>	<i>Timeframe</i>	<i>Cost</i>	<i>Responsibility</i>
Establish the water balance	Assess demand and availability	2021	1,000,000	WRA, County Government, WRUA, KWS
Develop water allocation plan for the Lake Kenyatta	Develop Water allocation Plan	2021	2,000,000	WRUA, WRA, KWS, County Government
	Implement water allocation plan	continuous	5,000,000	WRA, WRUA, NEMA, County Government
	Enforce permit conditions	continuous	5,000,000	WRA, WRUA,
Enhance Water use efficiency (introduction of technologies)	Sensitization and model water use units – irrigation, domestic	Continuous	8,000,000	WRA, WRUA, County Government

Demonstration
on efficient
water use
technology

21,000,000

7.3 Catchment Protection Plan

The objective of the protection plan is to protect Lake Kenyatta catchment by encouraging activities that enhance both water quality and quantity while discouraging activities that cause the catchment degradation and promoting beneficial land and water management practices.

Actions

- Sensitization on catchment management
- Revegetation of the catchment area
 - o Native Plant Propagation
 - o Exotic species control
- Water storage enhancement to ease pressure on use of springs water
 - o Rain water harvesting tanks
 - o Water pans
- Regulating activities that may lead to pollution and destruction of the ecosystem (Charcoal burning, grazing, cultivation)
 - Controlling abstraction limits and observing of safe yields
 - Controlling encroachment and cancellation of illegal titles

Activity	Sub-activity	Time frame	Cost (Ksh)	Responsibility
Gazettement of Lake Kenyatta Catchment as a protected area	Delineate & survey the lake's catchment area.	2021	200,000	WRA, WRUA, Lamu County Lands & Survey Team
	Develop the Part Development Plan for the lake catchment	2021	500,000	WRA, SoK, County Government of Lamu
	Create awareness on the status of the lake's catchment area.	Continuous	300,000	WRA, KWS, WRUA, NEMA, County Government,
	Develop guidelines and conservation/ protection plan through stakeholders engagement	2021	500,000	WRA with all stakeholders
	Submit gazettement	2021	500,000	WRA

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Enforcement of Lake Kenyatta catchment guidelines and other legislations	instrument to the AG Enforce Lake Kenyatta catchment guidelines, management plan and relevant legislations	continuous	5,000,000	WRA, County, Govt, NEMA, KWS.
Re-vegetation of the catchment area	Establish native Plant Propagation	Continuous	2,000,000	WRUA, WRA, KFS
	Grow live fence on the boundary of the catchment.	Continuous	3,000,000	WRA, KFS, WRUA
	Planting and growing of propagated seedlings (Watering and tending)	Continuous	5,000,000	WRUA
	Exotic species control	Continuous	500,000	WRUA
Rain water storage enhancement.	Installation of 20 10m3 Rain water harvesting tanks in public institutions/ public land	Continuous	4,000,000	WRA, County Government and WRUA
	Construction of 2No. 10,000m3 water pans	Continuous	10,000,000	WRA, County Government and WRUA.
Restricting activities that may lead to pollution and destruction of the catchment.	Public awareness creation	Annually	1,000,000	WRA, County Government, KWS, KFS, WRUA.
	Controls/ restrictions on charcoal burning, grazing, bathing and farming near sensitive areas.	Continuous	300,000	WRA, County Govt, KWS, KFS, WRUA.
	Enforcement	Quarterly	500,000	County Commissioner, KWS, WRA,

Water

[Subsidiary]

Alternative livelihood activities	Promote bee keeping, poultry farming and butterfly keeping.	Continuous	10,000,000	KFS, NEMA, WRUA, WRA, KWS, WRUA, Agriculture and livestock
Controlling encroachment and review of grants	Review legality of titles and resolving	Continuous	5,000,000	NLC, WRA, County Government.
TOTAL			48,300,000	

7.4 Monitoring Plan

The objective of the monitoring plan is to collect water resources data and maintain a comprehensive database on the Ngarelen springs that provides information on water levels and quality of the spring's water.

Actions

- Establish a water quality and pollution control plan.
- Water sampling and analysis
- Establish a water resources database

Action	Sub Activities	Time frame	Costs	Responsible
Water sampling and analysis	Collecting water resources samples.	Continuous	200,000	WRA
	Conduct analysis of biological and physico-chemical parameters	Continuous	500,000	WRA
Capacity Building	Capacity building on data collection and monitoring	Continuous	1,000,000	stakeholders and WRA
Water resources monitoring	Install water level gauges	1 year	400,000	WRA, WRUA
	Total		2,100,000	

7.5 Establishment and operationalization of management structure

The objective of the management structure is to ensure that the Lake Kenyatta catchment protected area is managed in a sustainable manner with the involvement of all stakeholders under the leadership and coordination of WRA - TBA. This will be achieved through:

- Setting up the management structure with defined ToRs and mandates

Activity	Sub-activity	Timeframe	Cost	Responsibility
Setting up the management structure	Appoint 1No. Member from each of the	3 months	250,000	WRA

[Subsidiary]

<p>following stakeholders:</p> <p>14. Kenya Forest Service</p> <p>15. National Environment Mgt Authority</p> <p>16. National Government Administration in Kajiado South Sub County;</p> <p>17. Kenya Wildlife Service;</p> <p>18. Ministry of Agriculture;</p> <p>19. Lake Kenyatta WRUA;</p> <p>Terms of References (ToR) will include but not limited to:</p> <ul style="list-style-type: none"> • To manage the catchment prudently on behalf of other stakeholders • To submit quarterly reports to WRA - ABA on all planned and implemented activities; • To develop by-laws and submit a copy to WRA – ABA for approval before implementation 	Continuous	0	WRA, Nalepo WRUA
<p>Mandate and responsibilities:</p> <ul style="list-style-type: none"> • Promote the conservation and protection of the catchment 	Continuous	0	Lake Kenyatta WRUA, WRA

• Promote equitable distribution of the resources within the catchment			
• Promote socio-economic and environmental sustainability of the catchment			
The sources of funds for the committee may include:	Continuous	5,000,000	WRA
• Bee keeping			
• Tree Nursery;			
• Eco-tourism;			
• Well-wishers/ Donors			
• WRA/WRUA - (WDC)			
Sub Total		5,250,000	

WRA as the agent of the National Government in the regulation of use and management of water resources, will be the Coordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a non-profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

The following are the proposed linkages between various stakeholders. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

7.6 Catchment and Water Resources Monitoring

The objective of the monitoring plan is to collect and analyse Lake Kenyatta catchment and water resources data to provide information on water discharge, water quality and catchment health as a response to human activities within the neighbourhood. This will be achieved through:

The following are the proposed linkages between various stakeholders. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

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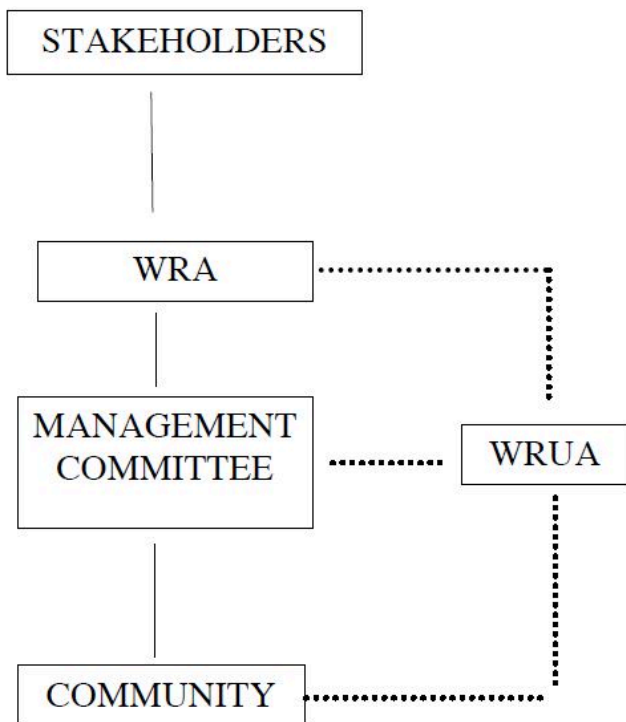


Fig.3. Reporting Linkages for the Management Committee

4. Monitoring and Evaluation Matrix

The following matrix will be used for Monitoring and Evaluation to capture detail of the progress of implementation of the planned activities.

Table.4. Monitoring and Evaluation template

Activities	Implementation	Status	Planned	Total	Source	Output	Comments
	Schedule	(% completion)	Cost	expenditure	of funds		
	start date	End date	(\$)	to date			

**THE NGARELEN SPRINGS CATCHMENT
CONSERVATION AREA ORDER**

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Application of Order
4. Declaration of Catchment Conservation Area
5. Ngaleren Springs Catchment Consent Area management Guidelines
6. Public Notices
7. Offences

SCHEDULES

FIRST SCHEDULE —

NGARELEN SPRINGS CATCHMENT
CONSERVATION AREA

NGARELEN SPRINGS CATCHMENT CONSERVATION PROTECTION
GUIDELINES

**THE NGARELEN SPRINGS CATCHMENT
CONSERVATION AREA ORDER**

[Legal Notice 207 of 2021]

1. Citation

This Order may be referred to as the Ngarelen Springs Catchment Conservation Area Order.

2. Interpretation

In this Order, unless the context otherwise requires—

"Act" means the Water Act (Cap. 372);

"Authority" means Water Resources Authority established under section 11 of the Act;

"Ngarelen Springs Catchment Conservation Area" means the area demarcated as hydrogeological system controlling groundwater flow within and around the Ngarelen Springs as illustrated with blue thick line in the First Schedule;

"Ngarelen Springs Catchment Conservation Protection Guidelines" means the management and conservation guidelines developed by the Authority in respect of Ngarelen Springs Catchment Conservation Area and contained in the Second Schedule.

"Ngarelen springs catchment conservation Riparian Area" means all that land and water enclosed within 6 metres measured from the eye of the spring.

3. Application of Order

This Order shall apply to the use of water and land of the Ngarelen Springs Catchment Conservation Area.

4. Declaration of Catchment Conservation Area

The Ngarelen Springs Catchment Conservation Area is hereby declared to be a Catchment Conservation Area for the purposes of the Act.

5. Ngarelen Springs Catchment Consent Area management Guidelines

The Ngarelen Springs Catchment Management Guidelines shall come into effect immediately upon publication of this Order and shall be the basis for conservation of the water resources within the Ngarelen Springs Catchment Conservation Area.

6. Public Notices

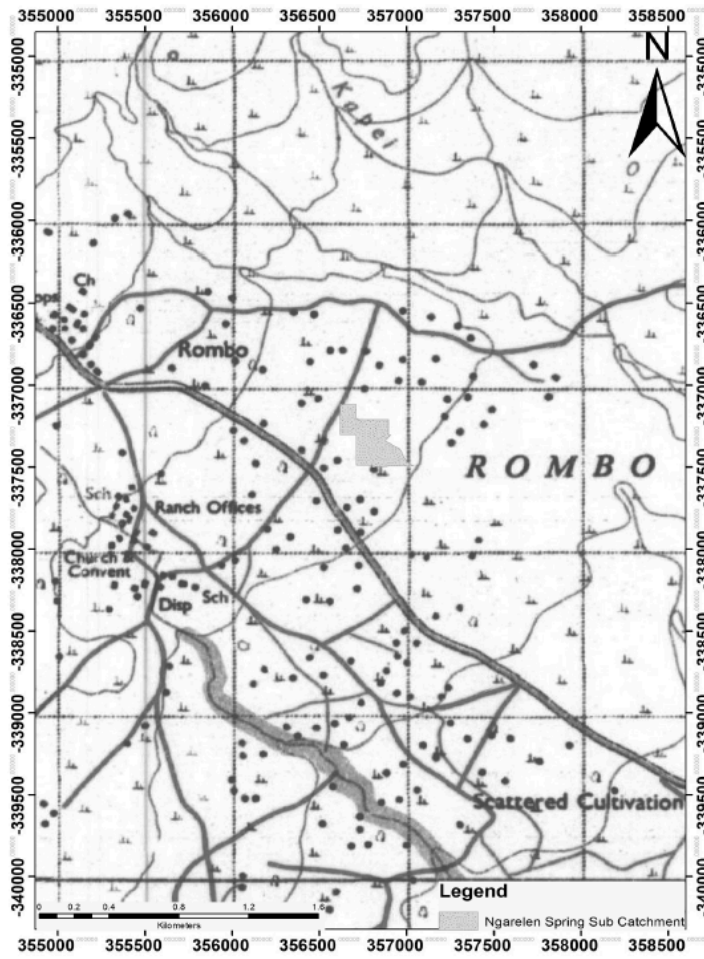
(1) The Authority shall place signboards and beacons in or near the Ngarelen Springs Catchment Conservation Area or in appropriate public places frequented by land and water users and at the Authority's offices displaying up-to-date information about the condition of the water resources of the Ngarelen Springs Catchment Conservation Area.

(2) The public notices shall contain information regarding the action required of water or land users to conserve and protect the water resources of the Ngarelen Springs Catchment Conservation Area.

7. Offences

Any person who contravenes this Order and the provisions of the Ngarelen Springs Catchment Management Guidelines commits an offence and is liable upon conviction to a fine of one hundred thousand shillings or imprisonment for a term not exceeding one year, or both such fine and imprisonment.

FIRST SCHEDULE
NGARELEN SPRINGS CATCHMENT CONSERVATION AREA



SECOND SCHEDULE

[para. 5]

NGARELEN SPRINGS CATCHMENT CONSERVATION PROTECTION GUIDELINES

*Foreword*

Generally, the main problems and concerns relate to accommodating increasing water demands on the springs while maintaining and protecting the ability of the springs to support human and environmental needs in a sustainable manner. The unprotected catchment makes the springs highly vulnerable to contamination from sources such as, but not limited to effluent from solid waste, animal droppings, agro-chemicals used in farming and silt as a result of agricultural activities. Loss of vegetation cover over it may lead to higher evaporation rates compromising the spring's storage.

The Ngarelen Springs Catchment Protection Guidelines as presented encompasses four plans that are further expounded in the document to achieve the goals of sustainability of the Ngarelen springs catchment; Water Use Plan, Monitoring Plan, Springs Protection Plan, Conservation/Protection Plan and Monitoring Plan.

Acronyms

AEZ -	Agro-Ecological Zone
CMS -	Catchment Management Strategy
ACA -	Athi Catchment Area
KFS -	Kenya Forest Service
m.a.s.l -	Meters Above Sea Level
MoA -	Ministry of Agriculture
MoL -	Ministry of Lands
NGAO -	National Government Administration Officers
NLC -	National Land Commission
NEMA -	National Environment Management Authority
RGS -	Regular Gauging Station
SoK -	Survey of Kenya

[Subsidiary]

ToR -	Terms of Reference
WDC -	WRUA Development Cycle
WRM -	Water Resources Management
WRA -	Water Resources Authority
WRUA -	Water Resources Users Association
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1. Introduction and Background Information

1.1. Introduction

A catchment area is defined as the land from which water naturally flows into a watercourse. The status and conditions of a catchment determines the reliability, quantity and quality of its water yields. A catchment area acts like a water storage facility where during the rains, the vegetation cover allows the water ample time to percolate deep down and move as a sub-surface flow to recharge the rivers, springs and ground water storage in both shallow and deep aquifers. This sub-surface flow is slow resulting in rivers from a well-maintained catchment having higher base flows even during the dry season as well as good water yield from boreholes in the vicinity. In poorly maintained and degraded catchment, the rainfall results in the rapid surface run-off, which is channelled into the river courses, resulting in flash floods and high volumes of suspended solids. Since there is little storage in such a catchment, the rivers originating from such catchment will not be able to sustain their base flows during the dry season. Catchment areas are thus a vital component in water resource management and they should be formally delineated, gazetted, protected from encroachment and pollution and managed sustainably to maintain their ecological integrity.

1.2. Legal Background

(i) Constitution of Kenya

Constitution of Kenya recognizes water as a human right and confers to every person the right to clean and safe water in adequate quantities in a clean and healthy environment. Consequently, water resources has drawn national

attention where it has been recognized as being essential in making the country become industrialized in accordance to the Kenya's Vision 2030, a blue print for the national development agenda for Kenya.

Article 66 of the constitution deals with land and provides that the State may regulate the use of any land, or any interest in or right over any land, in the public interest.

Section 69 deals with the environment and natural resources including the sustainable exploitation, utilization, management and conservation and the equitable sharing of the accruing benefits. It is also the duty of every person to co-operate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

(ii) Water Act (Cap. 372)

Section 22(1)

Provides that where the Authority is satisfied that in order to conserve a vulnerable water resource, special measures are necessary for the protection of catchment area or part thereof, it may, by order published in the *Gazette* declare such a catchment area to be a protected area.

Section 22(2)

Provides that the Authority may impose such requirements, or regulate or prohibit such conduct or activities, in or in relation to a protected area as the Authority may consider necessary to impose, regulate or prohibit for the protection of the catchment area and its water resources.

(iii) Water Resources Management Rules 2007

Part X1 section 123-126 provides for protected areas and groundwater conservation areas including management guidelines related to a protected area or a ground water conservation area.

The Authority shall also undertake Public Consultation with respect to the establishment of areas to be Protected and the management rules or plans that shall apply with respect to these Areas.

Relevant Sustainable Development Goals (SDGs)

Target 6b .Support and strengthen the participation of local communities in improving water and sanitation management

Target 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, springs, rivers, aquifers and lakes

SDG 13: Target 13.1 -Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries Target 13.3- Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

Target 6.4 -By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Target 6.1-By 2030, achieve universal and equitable access to safe and affordable drinking water for all

1.3. Location and Size of Area to be gazetted

[Subsidiary]

Rombo is sparsely populated and is entirely considered to be in a rural set up. The Ngarelen Springs mainly serve the residents of Rombo and Njukini sub locations in Rombo Location. The total population in the two sub locations is 10,728 people (KNBS Census Data). The springs are the sole source of water for the residents of the area for domestic use, livestock watering and subsistence and commercial irrigation. Due to livestock grazing and the residents drawing water directly from the springs, there has been degradation on the riparian areas. Currently the springs are tapped via intakes to support irrigation agriculture, which is the main economic mainstay of the community in Rombo. Encroachment of the spring's area for settlement and agricultural activities has led to the general degradation of the catchment area.

This proposal for the gazettement of the Ngarelen Springs catchment area will entail clear delineation of the boundaries of the catchment and preparation of a catchment protection plan among other activities. This will prevent encroachment of the catchment area by the residents. The encroachment of the spring catchment area has paved way for settlement, grazing on the catchment and cutting down trees for charcoal burning. Prevention of further degradation of the springs catchment will guarantee enough and reliable water for both irrigation and domestic use throughout the year. This can be achieved through gazettement of the catchment.

The Ngareleen Springs Catchment Conservation Protection Guidelines Goals are to ensure springs protection and conservation as well as sustainable use of the water resources.

Ngarelen Springs are located within Nalepo WRUA Sub Catchment in Rombo Location, Rombo Division of Loitoktok Sub County in Kajiado County, about five hundred (500) metres from Rombo Township. The spring forms parts of the tributary of Rombo and Tsavo Rivers and is part of the 3G Drainage Area. The spring catchment area of approximately 15 acres (60,703m²) is public land. However the land is not demarcated and there are individuals who have encroached into the land and put up structures and carried out agricultural activities. Livestock also regularly encroaches into the catchment when grazing and in need for water.

The springs are located as shown below.

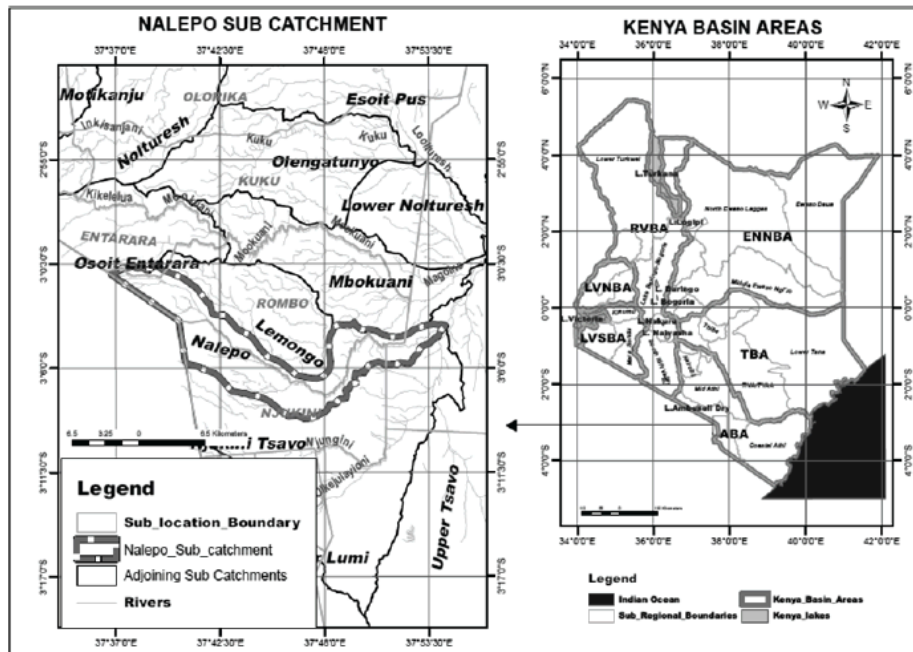


Fig.3. Location Map of Ngarelen Spring within Nalepo sub catchment

Due to degradation of the spring catchment, protection works was carried by Water Resources Authority in 2019. This involved the construction of a masonry wall around the spring eye, placement of gabions on the upstream of the spring and planting of suitable tree seedlings within the spring catchment. This resulted in an increase in the yield of the spring. Pollution of the source by livestock watering from the spring source has also been eliminated. Gazettement of the catchment will lead to further improvements. Prior to this, the average daily gauge height at RGS 3GA02 was 0.12 m. After the construction of the masonry wall, this figure has steadily increased to 0.20m. The final available discharge value available is 0.151 m³/s on 3rd May 2019.

To ensure proper conservation and protection of the Ngarelen Spring Catchment, WRA, community and other key stakeholders recognised the need for Gazettement of the land.

ACA's CMS (2014 - 2022) has recognised the need to protect the catchment areas and increase their environmental functions. This will be achieved through the implementation of the following strategies:

- Sensitization of the local community on the need to protect the catchment areas to ensure environmental sustainability;
- Development of an action plan to protect the catchment and their rehabilitation;
- Participatory mapping of the protection zones around the water catchments with the community;
- Apply the law to protect catchment areas (enforcement for wetlands/riparian/springs protection);

In addition, Part XI of WRM Rules, Rules 123 - 125 sets out the process and procedure for the identification of an area as a protected or groundwater conservation area. This procedure will be used in coming up with the Gazettement documents for the Ngarelen Springs Catchment.

Climate

The area belongs to the sub-tropical semi-arid climatic zone. The average annual temperature is 22.7°C, with the lowest in the months of July – August (20.4°C) and the highest in the month of March (24.9°C). The annual rain distribution shows two pronounced rainy seasons, namely the long rains from March to May and the short rains from November to December. The mean annual rainfall is about 526 mm. The highest mean monthly precipitation occurs in April (122.1 mm) and the lowest is in July (2.7mm).

Geology and Physiography

The soils of the area are primarily developed from undifferentiated volcanic rocks (predominantly pumice) of the Rombo series of the Tertiary age. Physiographically, the area forms part of the general and extensive piedmont plain, which extends from the foot slopes of Mt. Kilimanjaro, to the Pare Mountains in the South East. The area is generally flat (slope 1-2%) but is studded with numerous small parasitic cones (hills) and plugs, which rise above the general level of the plain.

Hydrology

Ngarelen Springs are among a number of springs in the sub catchment that flow into tributaries that form Rombo River and finally flow into Tsavo River.

[Subsidiary]

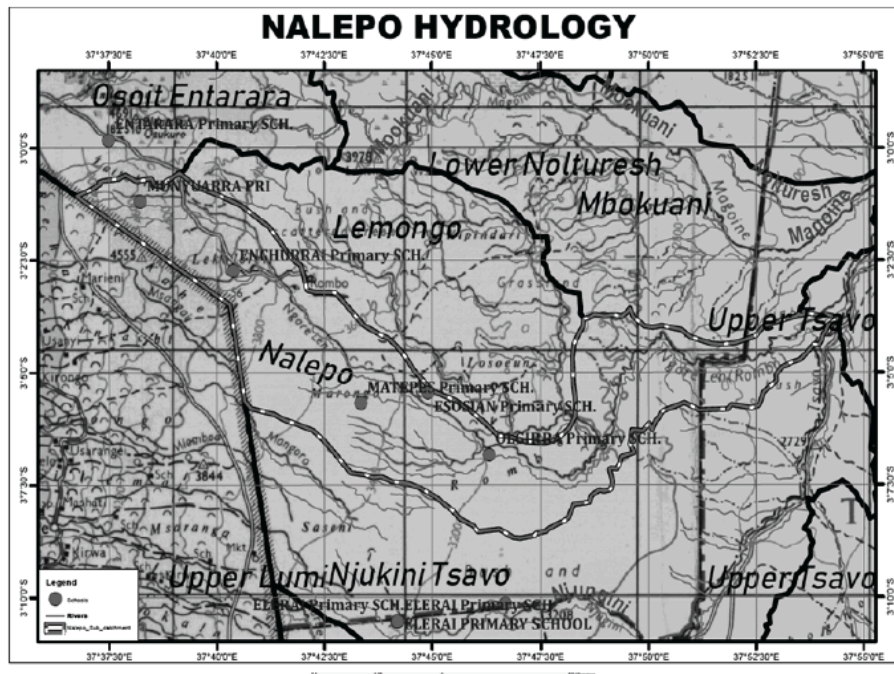


Fig.4. River Network

Vegetation

The natural vegetation of the area is mainly wooded, bushes, grassland with acacia tree bushes and shrubs and tall perennial grasses. However, irrigated agriculture has largely replaced this natural vegetation with smallholder maize, tomatoes, and onions among the crops grown.

Erosion in the catchment

A notable feature in the area is that owing to the relatively flat terrain that is mostly bare and the volcanic soils that are susceptible to erosion, several gullies have developed as the fast flowing water from the vast springs and Mt Kilimanjaro flow past the area. The soils in the sub catchment comprise of deep clay and clay whose depth is unknown. The upper and mid zones of the sub-catchment is dominated by deep clay. The lower section of the sub-catchment is characterized by clay of unknown depths

Indeed, the area upstream of Ngarelen Springs is characterized by a deep gully that was initially transporting loads of silt to the spring's area. For this reason, protective gabions were constructed on the upstream side of the spring with funds from WRA.

Springs water quality

The quality of water from Ngarelen springs can be described as good. According to analysis of water samples from the springs by the WRA Central Water Testing Laboratory in September 2019, the water was considered as chemically fit for domestic use. However, there is danger of contaminating the spring's waters due the human activities currently being undertaken within the catchment area, if intervention measures are not implemented immediately.

Catchment Issues/ Challenges

The main problems and concerns relate to accommodating increasing water demands on the springs while maintaining and protecting the ability of the springs to support human and environmental needs in a sustainable manner. The unprotected catchment makes the springs highly vulnerable to contamination from sources such as, but not limited to effluent

from solid waste, animal droppings and silt as a result of agricultural activities. Loss of vegetation cover over it may lead to higher evaporation rates compromising the spring's storage.

Currently the main concerns affecting abstraction of water from the springs include:

- Depletion of fresh water resources
- Effects on water sources used by the local communities i.e. contamination.
- Effects on natural vegetation (forest cover) and agricultural land use.

Vegetation Clearing

The vegetation clearing causes direct exposure of springs to evaporation impacting on the springs yield. In addition, vegetation slows down the rain drops as they fall to the ground, giving more time for the water to infiltrate into the ground and recharge the springs. At the same time, the vegetation cover reduces the speed and hence impact of the raindrops as they hit the ground, which loosens the soils, causing erosion. The springs need to be re-vegetated and cutting of trees in the catchment area should be stopped forth with.

Climate Change

The vagaries of climate change like everywhere else has meant that there are more depressed rainfall than usual. The catchment area and the surrounding areas experience recurrent droughts leading to frequent water use conflicts among farmers and pastoralists who use water from the Ngarelen springs.

2. Current Situation Analysis

2.1 Vulnerability of the Water Resources

Ngarelen Springs have a Regular Gauging Station 3GA02 located at coordinates. Latitude E 037°41'35.5", Longitude S 03° 03' 07.7" at an elevation of 1157 m.a.s.l and approximately 500m downstream of the spring. The daily water levels is available. The last discharge data available is from May 2019 (0.151m³/s).

In terms of geology the area comprises a series of volcanic layers associated with Mt. Kilimanjaro namely Kijabe-type basalts and dense olivine basalts.

Groundwater occurrence in this area can be described as poor, the dense basalts, Kijabe type basalts and melanocratic basalts are massive and not faulted, this implies porosity is poor and don't support storage of groundwater. However, the areas along River Rombo present good condition for groundwater occurrence, in addition the area east of the sub catchment indicates presence of old land surface contact point between gneiss and basalts which may have productive aquifer

Water Resources Quality Objectives and the Status of the Water Resource

According to the ACA CMS (2014 - 2022) Ngarelen Spring catchment area within the Nalepo sub-catchment can be classified as of medium Commercial importance. The area is predominantly rural. Economic activities include farming, livestock keeping, wildlife, and tourism. This category targets at ensuring quality of water resources to develop economy and prosperity for the residents and all other stakeholders who use the water. Sustainable water resources management in the sub catchment will focus on cooperation with the all stakeholders, hence the need to have the interests of residents, small scale /large-scale farmers, pastoralists and wildlife safeguarded.

2.3 Class of the water resource

The Ngarelen Springs catchment is located within Nalepo sub catchment and can be classified as "Alert" since the available water is at times especially during the dry season of adequate quantity to meet the demands from the various competing uses. The water quality at the source and in the upstream areas is good, however it deteriorates as the stream flows downstream due to contamination from the grazing and agricultural activities.

[Subsidiary]

2.4 Land Uses and their potential impact on water resources

With the influx of farming over the years, there have been significant land use changes. Large areas hitherto used as range lands were opened for farming thereby affecting land cover.

Nalepo sub catchment has witnessed extensive land use change since independence of Kenya in 1963. These changes represent the response of the population to local and exogenous opportunities and constraints. This area has experienced rapid and extensive land use change in response to a variety of economic, cultural, political, institutional and demographic processes. The community within sub catchment is changing from livestock keeping as their main livelihood activity to irrigated agriculture. This has caused severe environmental degradation (deforestation, encroachment of riparian land) leading to pollution of water sources by agro chemicals, liquid and solid wastes.

Poor methods of water use such as open canals and flooding have caused people to shift to new areas hence, more degradation of the sub catchment. The riverine vegetation along the river channels and/or near springs and other water sources has been cleared to give way to farmlands. These changes have intensified as a result of human population growth.

3. Measures for Conservation and Rehabilitation of the area

3.1 Prescribed Activities;

According to the relevant legal framework as discussed above, protected areas can be used by the neighboring community in a sustainable manner. The activities to be undertaken within the protected area are those with zero impact on its ecological status and integrity. The following activities are specifically proscribed in a protected area:

- vii). Tillage or cultivation
- viii). Clearing of indigenous trees or vegetation
- ix). Building of permanent structures (especially boreholes and houses)
- x). Disposal of any form of waste
- xi). Excavation of soil or development of quarries
- xii). Planting of exotic species that may have adverse effect to the water resource

3.2 Water Use Plan

The objective of this water use plan is to protect the long term water storage and supply capacity of the springs by controlling encroachment and degradation of the catchment.

Actions

- Establish the water balance.
- Develop water allocation plan for the Ngarelen springs.
- Improve Water use efficiency (introduction of technologies)

Activity	Sub-activity	Timeframe	Cost	Responsibility
Establish the water balance	Assess demand and availability	2021	1,000,000	WRA, County Government, WRUA, KWS
Develop water allocation plan for the Ngarelen springs.	Develop Water allocation Plan	2021	2,000,000	WRUA, WRA, KWS, County Government, Irrigation Canals.
	Implement	continuous	5,000,000	WRA,

Water

[Subsidiary]

	water allocation plan			WRUA, NEMA, County Government
	Enforce permit conditions	continuous	5,000,000	WRA, WRUA,
Enhance Water use efficiency (introduction of technologies)	Sensitization and model water use units – irrigation, domestic Demonstration on efficient water use technology	Continuous	8,000,000	WRA, WRUA, County Government
			21,000,000	

Springs Protection Plan

The objective of the protection plan is to protect Ngarelen springs by encouraging activities that enhance both water quality and quantity while discouraging activities that cause the spring's catchment to deteriorate.

<i>Activity</i>	<i>Sub-activity</i>	<i>Timeframe</i>	<i>Cost</i>	<i>Responsibility</i>
Gazettement of GCA	Delineate & survey the spring's catchment area.	2021	200,000	WRA, WRUA, Kajiado County Lands & Survey Team
	Develop the Part Development Plan for the spring catchment	2021	500,000	WRA, SoK, County Government of Kajiado
	Create awareness on the status of the spring's catchment area.	Continuous	300,000	WRA, KWS, WRUA, NEMA, County Government, Irrigation Canals.
	Develop guidelines and conservation/ protection plan through stakeholders engagement	2021	500,000	WRA with all stakeholders
	Submit gazettment instrument to the AG	2021	500,000	WRA
Enforcement of Ngarelen springs catchment	Enforce Ngarelen springs catchment	continuous	5,000,000	WRA, County, Govt, NEMA, KWS.

[Subsidiary]

guidelines and other legislations	guidelines, management plan and relevant legislations	
	Total	7,000,000

Conservation/Protection Plan

The objective of the conservation plan is to maximize the yield of Ngarelen springs by promoting beneficial land and water management practices.

Actions

The conservation/protection plan proposes the following activities:

- Sensitization on catchment management
- Revegetation of the catchment area
 - o Native Plant Propagation
 - o Exotic species control
- Water storage enhancement to ease pressure on use of springs water
 - o Rain water harvesting tanks
 - o Water pans
- Regulating activities that may lead to pollution and destruction of the eco- system (Charcoal burning, grazing, cultivation)
 - Controlling abstraction limits and observing of safe yields
 - Controlling encroachment and cancellation of illegal titles

<i>Activity</i>	<i>Sub-activity</i>	<i>Timeframe</i>	<i>Cost</i>	<i>Responsibility</i>
Re-vegetation of the catchment area	Establish native Plant Propagation	Continuous	2,000,000	WRUA, WRA, KFS
	Grow live fence on the boundary of the catchment.	Continuous	3,000,000	WRA, KFS, WRUA
	Planting and growing of propagated seedlings (Watering and tending)	Continuous	5,000,000	WRUA
	Exotic species control	Continuous	500,000	WRUA
Sub-Total			10,500,000	
Rain water storage enhancement.	Installation of 20 10m3 Rain water harvesting tanks in public institutions/ public land	Continuous	4,000,000	WRA, County Government and WRUA

Water

[Subsidiary]

	Construction of 2No. 10,000m ³ water pans	Continuous	10,000,000	WRA, County Government and WRUA.
Sub-Total			14,000,000	
Restricting activities that may lead to pollution and destruction of the catchment.	Public awareness creation	Annually	1,000,000	WRA, County Government, KWS, KFS, WRUA.
	Controls/ restrictions on charcoal burning, grazing, bathing & washing clothes near the springs.	Continuous	300,000	WRA, County Govt, KWS, KFS, WRUA.
	Enforcement	Quarterly	500,000	County Commissioner, KWS, WRA, KFS, NEMA, WRUA.
Alternative livelihood activities	Promote bee keeping, poultry farming and butterfly keeping.	Continuous	10,000,000	WRA, KWS, WRUA, Agriculture and livestock
Sub-Total			11,800,000	
Controlling encroachment and review of grants	Review legality of titles and resolving	Continuous	5,000,000	NLC, WRA, County Government.
Sub-Total			5,000,000	
	TOTAL		31,850,000	

3.5. Monitoring Plan

The objective of the monitoring plan is to collect water resources data and maintain a comprehensive database on the Ngarelen springs that provides information on water levels and quality of the spring's water.

Actions

- Establish a water quality and pollution control plan.
- Water sampling and analysis
- Establish a water resources database

Action	Sub-Activities	Time frame	Costs	Responsible
Water sampling and analysis	Collecting samples and taking to the lab in NRB.	Continuous	200,000	WRA

Water

[Subsidiary]

	Conduct analysis of biological and physico-chemical parameters	Continuous	500,000	WRA
Capacity Building	Capacity building on data collection and monitoring	Continuous	1,000,000	stakeholders and WRA
	Total		5,700,000	

3.6 Establishment and operationalization of management structure

The objective of the management structure is to ensure that the Ngarelen Springs catchment protected area is managed in a sustainable manner with the involvement of all stakeholders under the leadership and coordination of WRA - ACA. This will be achieved through:

- Setting up the management structure with defined ToRs and mandates;

Activity	Sub-Activities	Time frame	Costs	Responsibility
Setting up the management structure	Appoint 1No. Member from each of the following stakeholders: 8. Kenya Forest Service 9. National Environment Mgt Authority 10. National Government Administration in Kajiado South Sub County; 11. Kenya Wildlife Service; 12. Ministry of Agriculture; 13. Nalepo WRUA; Terms of References (ToR) will include but not limited to: • To manage the catchment prudently on behalf of other stakeholders	3 months	250,000	WRA
		Continuous	0	WRA, Nalepo WRUA

<ul style="list-style-type: none"> • To submit quarterly reports to WRA - ACA on all planned and implemented activities; • To develop by-laws and submit a copy to WRA-ACA for approval before implementation 	Continuous	0	Nalepo WRUA, WRA
<p>Mandate and responsibilities:</p> <ul style="list-style-type: none"> • Promote the conservation and protection of the catchment • Promote equitable distribution of the resources within the catchment • Promote socio-economic and environmental sustainability of the catchment 	Continuous	5,000,000	WRA
<p>The sources of funds for the committee may include:</p> <ul style="list-style-type: none"> • Bee keeping • Tree Nursery; • Eco-tourism; • Well-wishers/ Donors 			
WRA/WRUA - (WDC)			

Sub Total 5,250,000

WRA as the agent of the National Government in the regulation of use and management of water resources, will be the Coordinator of the committee. The members Kenya Subsidiary Legislation, 2021 1473 appointed to the Management Committee will serve on honorary basis as this will be a non-profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

[Subsidiary]

The following are the proposed linkages between various stakeholders. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

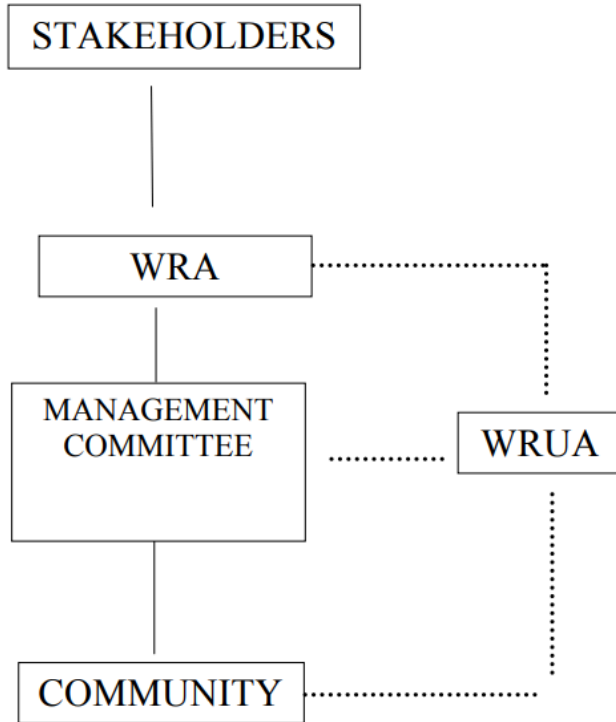


Fig.5.Reporting Linkages for the Management Committee

THE DIK DIK GARDENS WETLAND CONSERVATION AREA ORDER

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Application of Order
4. Declaration of Catchment Conservation Area
5. Management Guidelines
6. Public Notices
7. Offences

SCHEDULES

DIK DIK GARDENS WETLAND CONSERVATION AREA

THE DIK DIK GARDENS WETLAND (CONSERVATION AREA) MANAGEMENT
GUIDELINES

THE DIK DIK GARDENS WETLAND CONSERVATION AREA ORDER

[Legal Notice 206 of 2021]

1. Citation

This Order may be referred to as the Dik Dik Gardens Wetland Conservation Area Order.

2. Interpretation

In this Order, unless the context otherwise requires —

"Act" means the Water Act (Cap. 372);

"Authority" means Water Resources Authority established under section 11 of the Act;

"Dik Dik Gardens Wetland Conservation Area" means the area demarcated as hydrogeological system controlling groundwater flow within and around the Dik Dik Gardens area in Kileleshwa as illustrated with the blue thick line in the First Schedule;

"Dik Dik Gardens Wetland Conservation Riparian Area" means all that land and water enclosed within thirty metres from the highest recorded tide or sea level of the Dik Dik Gardens Wetland Conservation Area; and

"Dik Dik Gardens Wetland (Conservation Area) Management Guidelines" means the management and conservation guidelines developed by the Authority in respect of Dik Dik Gardens Wetland Conservation Area and set out in the Second Schedule.

3. Application of Order

This Order shall apply to the use of water and land of the Dik Dik Gardens Wetland Conservation Area.

4. Declaration of Catchment Conservation Area

The Dik Dik Gardens Wetland Conservation Area is hereby declared to be a Wetland Conservation Area for the purposes of the Act.

5. Management Guidelines

The Dik Dik Gardens Wetland (Conservation Area) Management Guidelines under the Second Schedule shall come into effect upon publication of this Order and shall be the basis for conservation of the groundwater resources within the Dik Dik Gardens Wetland Conservation Area.

6. Public Notices

(1) The Authority shall place signboards and beacons in or near the Dik Dik Gardens Wetland Conservation Area or in appropriate public places frequented by land and water users and at the Authority's offices, displaying up-to-date information about the condition of the water resources of Dik Dik Gardens Wetland Conservation Area.

(2) The public notices shall contain information regarding the action required of water or land users to conserve and protect the water resources of the Dik Dik Gardens Wetland Conservation Area.

7. Offences

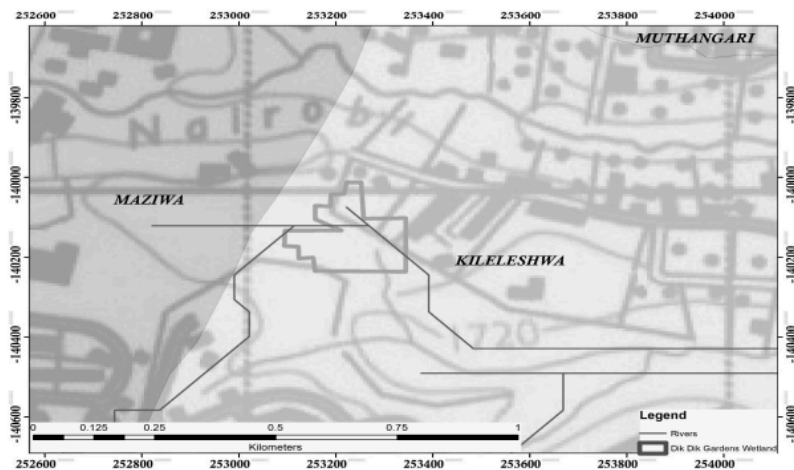
Any person who contravenes this Order commits an offence and is liable upon conviction to a fine of one hundred thousand shillings or imprisonment for a term not exceeding one year, or both such fine and imprisonment.

[Subsidiary]

FIRST SCHEDULE

[para. 2]

DIK DIK GARDENS WETLAND CONSERVATION AREA



SECOND SCHEDULE

[para. 5]

THE DIK DIK GARDENS WETLAND (CONSERVATION AREA) MANAGEMENT GUIDELINES



Water Resources Authority

Athi Basin Area

THE DIK DIK GARDENS WETLAND (CONSERVATION AREA) MANAGEMENT GUIDELINES

Acknowledgement

The Water Resources Authority, Athi Basin Area (ABA) wishes to acknowledge all the stakeholders who participated in the preparation of this document.

We wish in particular to sincerely thank the Management Committee and the community members within Kirichwa Water Resources Users Association (KWRUA) for their invaluable inputs.

We also wish to thank the National Government and County Government Administration in Westlands SubCounty, especially the Deputy County Commissioner, Assistant County Commissioner and the Kilimani location Chief, for their support in sensitizing and mobilizing the area community.

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Last but not least we wish to sincerely thank the staff of Nairobi Sub Region and Athi Basin Regional Office for their tireless effort in ensuring the successful development of the document.

To all we say thank you.

Regional Manager,
Athi Basin Area–
Machakos.

Acronyms

AEZ	Agro-Ecological Zone
CMS	Catchment Management Strategy
ABA	Athi Basin Area
KFS	Kenya Forest Service
KiWRUA	Kirichwa Water Resources Users Association
m.a.s.l	Meters Above Sea Level
MoA	Ministry of Agriculture
MoL	Ministry of Lands
NGAO	National Government Administration Officers
NLC	National Land Commission
NEMA	National Environment Management Authority
RGS	Regular Gauging Station
SoK	Survey of Kenya
ToR	Terms of Reference
WDC	WRUA Development Cycle
WRM	Water Resources Management
WRA	Water Resources Authority
WRUA	Water Resources Users Association

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Acronyms

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1. Introduction and Background Information

1.1 Introduction

A catchment area is defined as the land from which water naturally flows into a water course. The status and conditions of a catchment determines the reliability, quantity and quality of its water yields. A catchment area acts like a water storage facility where during the rains, the vegetation cover allows the water ample time to percolate deep down and move as a sub-surface flow to recharge the rivers, springs and ground water storage in both shallow and deep aquifers. This sub-surface flow is slow resulting in rivers from a well maintained catchment having higher base flows even during the dry season as well as good water yield from boreholes in the vicinity. In poorly maintained and degraded catchment, the rainfall results in the rapid surface run-off which is channelled into the river courses, resulting in flash-floods and high volumes of suspended solids. Since there is little storage in such a catchment, the rivers originating from such catchment will not be able to sustain their base flows during the dry season.

Catchment areas are thus a vital component in water resource management and they should be formally delineated, gazetted, protected from encroachment and pollution and managed sustainably to maintain their ecological integrity.

1.1.1 Legal Framework for Catchment Protection:

Because of its nature, environmental management and protection in general and catchment protection and management in particular falls within the mandate of many institutions. Catchment protection is therefore, a cross-cutting issue which is spread over several laws, which have a bearing on the environment and/or natural resources management. These legislations include:

i) *Constitution of Kenya*

Article 66 deals with land and provides that the State may regulate the use of any land, or any interest in or right over any land, in the public interest.

Article 69 deals with the environment and natural resources including the sustainable exploitation, utilisation, management and conservation and the equitable sharing of the accruing benefits. It is also the duty of every person to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

Article 70 deals with the enforcement of environmental rights by any person.

ii). *Water Act (Cap. 372)*

Section 22 provides that where the Authority is satisfied that special measures are necessary to protect catchment area or part thereof, it may, with the approval of the Cabinet Secretary, by order published in the *Gazette* declare such an area to be a protected area.

The Authority may impose such requirements, and regulate or prohibit such conduct or activities, in or in relation to a protected area that the Authority may think necessary to impose, regulate or prohibit for the protection of the area and its water resources.

Under Sections 23 of the Act, the Authority may identify a catchment area, part of a catchment area or water resource to be identified as areas to be Protected or designated as Groundwater Conservation Areas if the Authority is satisfied that doing so is necessary for the protection of the water resource and its multiple uses. The Authority shall, in conjunction

with relevant institutions and stakeholders, establish management rules or plans that shall apply to each Protected Area or Groundwater Conservation Area.

iii). *Water Resources Management Rules 2007*

Part IX - section 116 - 120 provides for the determination of the riparian land, which as defined in Part I of these rules does not imply a change of ownership but imposes management controls on land use for water resource quality as defined in these rules.

This part deals extensively with the management of the riparian land including its management, activities that are allowed or proscribed within the riparian land.

The Authority shall undertake Public Consultation with respect to the establishment of areas to be Protected or designated as Groundwater Conservation Areas and the management rules or plans that shall apply with respect to these Areas.

iv). *The Agriculture (Basic Land Usage) Rules No 6 of—*

Part – of the rules provide for the protection of water course. Any person who, except with written permission of an authorised officer, cultivates or destroy the soil, or cuts down any vegetation or depastures any livestock, on any land laying within 2 metres of a water course, or, in any case of a water course more than 2 meters wide, within a distance equal to the width of that watercourse to a maximum of 30 metres, shall be guilty of an offence.

v). *The Forest Act 2005*

Section 26 states that upon the recommendation of the board, the Cabinet Secretary may, by order published in gazette, declare any local authority forest or private forest, which in the opinion of the board is mismanaged or neglected, to be a provisional forest.

The declaration envisaged under this section shall only be made where the forest is:

- An important catchment area or a source of water springs;
- Is rich in biodiversity or contains rare, threatened or endangered species;
- Is of cultural or scientific significance; or
- Supports an important industry or is a source of livelihood for the surrounding communities; and
- The owner has failed to undertake specific sivilcultural practices to improve the forest, or is unable to undertake the specified practice as directed by the Director of Kenya Forest Service.

vi). *Survey Act (Survey Regulations)*

Part XII sections 110 – 114 deals with the survey of Government Land. Specifically, section 111 deals with the aspect of riparian land as it relates to the rivers.

On all tidal rivers a reservation of not less than 30 metres in width above high-water mark shall be made for Government purposes. However, the Cabinet Secretary may direct that the width of this reservation shall be less than 30 metres in special cases.

vii). *Relevant Sustainable Development Goals (SDGs)*

The sustainable Development Goals have the following targets, among others—

Target 6b - Support and strengthen the participation of local communities in improving water and sanitation management

Target 6.3 - By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

 [Subsidiary]

1.1.2 Background information on *Dik Dik Gardens Wetland*:

The Dik Dik Catchment (herein after referred to as the "wetland") is located within Kileleshwa sub location of Kilimani location within Nairobi City County. The land under consideration measures approximately 7 acres (2.8 hectares), and had been sub divided into 17 plots and issued with Land Reference Numbers: 209/11609/1, 209/11609/2, 209/11609/3, 209/11609/4, 209/11609/5, 209/11609/6, 209/11609/7, 209/11609/8, 209/11609/9, 209/11609/10, 209/11609/11, 209/11609/12, 209/11609/13, 209/11609/14. The wetland is not spread over all the plots and its boundaries will be surveyed and demarcated.

The area lies within the 3BA sub basin and is part of the Nairobi river sub drainage. The land under question is in the form of a basin-like depression with an outlet to the south-east into Kirichwa Ndogo River. The major parts of three plots have wetland-like features with a very shallow water table and evidence of water coming onto the surface and flowing in a south-easterly direction to drain into the Kirichwa Ndogo River approximately 500 meters downstream of the wetland. An analysis of the drainage system in the neighbourhood confirmed the area is one of the main sources of Kirichwa Ndogo River, a tributary of Nairobi River.

1.1.3 Rationale for Catchment Protection through Gazettement;

Dik Dik Gardens wetland constitutes one of the main sources of water for Kirichwa Ndogo River. The wetland is threatened with destruction after it was surveyed and demarcated into plots whose owners hold Title Deeds for it and intend to develop structures on them. Initially, the area had been set aside for public use as a water catchment but was later alienated as private land. The Dik Dik Gardens community has consistently complained about ongoing destruction resulting in diminishing water flows and environmental degradation. The complaints have been addressed by WRA, Judiciary, Ministry of Tourism and Wildlife, and other stakeholders within the catchment without success mainly because the land owners has title deeds. To ensure proper conservation and protection of the wetland, WRA, community and other key stake-holders recognised the need for Gazettement of the land. In this regard, a stakeholders' meeting was convened on 02/02/2021 to build consensus on the way forward. The Dik Dik Gardens community has expressed their willingness and intentions to have the wetland protected and conserved a top priority in order to assure the riparian community and other stakeholders of adequate and sustainable water resource availability.

ABA's CMS (2014 - 2022) has recognised the need to protect the wetlands and increase their environmental functions. This will be achieved through the implementation of the following strategies:

- Sensitization of the local community on the need to protect the wetland to ensure environmental sustainability;
- Development of an action plan to protect the catchment and their rehabilitation;
- Participatory mapping of the protection zones around the wetlands with the community;
- Apply the law to protect wetland (enforcement for wetlands/riparian/springs protection);

In addition, Part XI of WRM Rules section 123 - 125 sets out the process and procedure for the identification of an area as a protected or groundwater conservation area. This is the procedure used in coming up with this Gazettement document for the Dik Dik Gardens wetland.

1.2. Location and size of area to be gazetted

The area identified for Gazettement is commonly known as Dik Dik Gardens wetland. It is located in Kileleshwa sub location of Kilimani location, Westlands Sub County, Nairobi City County and within the 3BA sub basin of Athi Basin Area. The land area to be protected is approximately 7 acres (2.8 Hectares). The boundaries of the wetland will be demarcated and beacons placed in line with the pegging carried out by Water Resources Authority.

1.2.1 Watershed area;

The area that contributes surface run-off into the wetlands has been delineated through the use of ArcSWAT software. The area measures 0.028 square kilometres (2.8 hectares) out of the 5.3 km² catchment area of the Kirichwa Ndogo River as shown in Fig 1 below:

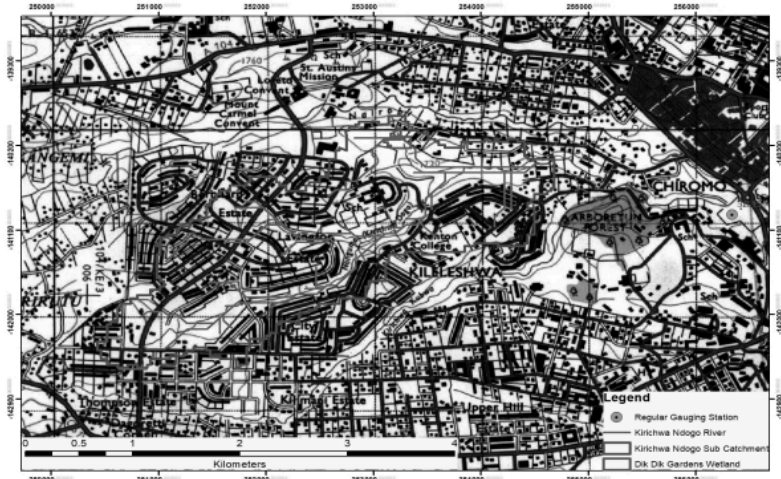


Fig.1. Location of Dik Dik Gardens Wetland catchment within Kirichwa Ndogo river catchment

Physiography, climate and rainfall;

a) *Physiography*

The Kirichwa Ndogo river catchment area elevation ranges from a low of 1714 m.a.s.l near the river’s confluence with Kirichwa Kubwa River to a high of 1807 m.a.s.l to the south west of the catchment. The catchment is leaf shaped and extends upstream in north easterly direction with a length of 4.7 kilometres (see the map above).

The slope ranges between 1.2% to 8% with the steeper slopes found on the upstream part of the catchment. The catchment drains in a north-easterly direction, where it joins with the Kirichwa Kubwa River at the foot of the sub-catchment.

b) *Climate*

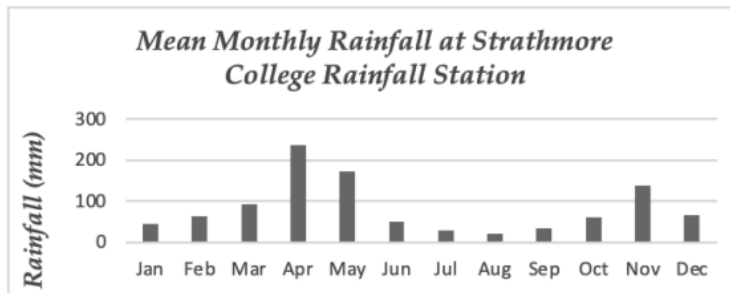
The mean monthly temperatures range between a low of 16.7°C in July to a high of 20.7°C in March.

The Kirichwa Ndogo sub catchment lies within the agro ecological zones (AEZ) IV UM. In general the area is characterized by moderate rainfall with annual rainfall of 1002.3 mm (Strathmore College Rainfall Station No. 9136199). April to June and October to December are wet or rainy seasons with maximas occurring in April and November respectively and with continental rains which are low occurring in between the two maximas. The table and figure below represent the mean monthly rainfall at Strathmore College Rainfall station:

Table.1. Mean Monthly Rainfall at Strathmore College Rainfall Station

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Rainfall (mm)	44.3	64.1	92.5	236.9	171.5	154.8	28.2	20.2	32.2	61.4	137	64.2	1002.3

[Subsidiary]



c) *Vegetation:*

The Kirichwa Ndogo catchment in which the Dik Dik Gardens wetland catchment lies exhibits is within a settled area with changed vegetation.

d) *Current land use and its adverse impacts,*

The Kirichwa Ndogo sub catchment is within the jurisdiction of Nairobi City County in an urban setting. The main land use in the area is low density residential housing area but with upcoming high density commercial cum residential buildings. The construction of buildings and an increase in the impermeable surfaces has resulted in an increased surface run-off which ends up in the wetlands as well as into the rivers channels. The run-off carries pollutants from the surface as well as sediments which are deposited in the wetland thus affecting its functions as well as water quality.

Mushrooming of these structures will impact negatively on the ecosystem health of the wetland which will eventually result into its death and subsequent loss of ecosystem services.

2. *Current Situation Analysis*

2.1 *The vulnerability of the water resource*

Kirichwa Ndogo River has a Regular Gauging Station 3BA41 located at coordinates E036.800000, S01.272778 (37M 0255194.5, 9859215) at an elevation of 1705 m.a.s.l and approximately 2.4 km downstream of the Dik Dik Gardens wetland but the station has no available daily water levels or discharge data.

In terms of geology, the area is covered by the Kerichwa Valley Tuffs which are well exposed in the Kirichwa Ndogo stream that flows through the area (Gregory, 1921p 164) and were designated by Shackleton (1945) to include a group of trachytic tuffs and agglomerates in the Nairobi area younger than the Nairobi Trachyte. These tuffs overlie the Nairobi Trachyte.

The ground water system feeds into the surface drainage system of the Kirichwa Ndogo River through the numerous springs that exist in the area.

The encroachment on the Dik Dik Gardens wetland riparian and catchment land through construction of buildings and the planting of exotic tree species has resulted into reduced recharge into the ground, lowering of the water table and a decrease in the discharge of the Kirichwa Ndogo River.

In order to have a clear understanding of the water resources availability in the Kirichwa Ndogo catchment, the available data has been used and collated with the existing daily discharge data of rated gauging stations within the 3BA sub basin. Kirichwa Ndogo river has a sub catchment area of 5.3 km² compared to the catchment area of the RGS 3BA29 of 56.5 km². The RGS 3BA29 has daily discharge data from 1961 and this has been used to estimate the probable surface water availability for the Kirichwa Ndogo river.

According to the correlation between Kirichwa Ndogo and Nairobi river sub- catchments, the following scenario on surface water availability emerges:

Surface water availability for Kirichwa Ndogo river

Water

[Subsidiary]

Probability of non-exceedance %	Probability of exceedance %	Flow m ³ /s	Flow m ³ /day	Available for allocation m ³ /d	Days nos	Total volume Million m ³	Volume per year Million m ³
99%	1%	2.358	203,770		3.65	0.74	9.5
95%	5%	0.685	59,181		18.25	1.08	8.7
90%	10%	0.324	27,953		36.50	1.02	7.6
85%	15%	0.200	17,247		54.75	0.94	6.6
80%	20%	0.120	10,350		73.00	0.76	5.7
75%	25%	0.084	7,254		91.25	0.66	4.9
70%	30%	0.055	4,725		109.50	0.52	4.3
65%	35%	0.039	3,388		127.75	0.43	3.7
60%	40%	0.030	2,561		146.00	0.37	3.3
55%	45%	0.025	2,196		164.25	0.36	2.9
50%	50%	0.021	1,848	1,037	182.50	0.34	2.6
45%	55%	0.018	1,597		200.75	0.32	2.2
40%	60%	0.016	1,362		219.00	0.30	1.9
35%	65%	0.014	1,248		237.25	0.30	1.6
30%	70%	0.012	1,037		255.50	0.27	1.3
25%	75%	0.011	940		273.75	0.26	1.1
20%	80%	0.009	810	421	292.00	0.24	0.8
15%	85%	0.008	681		310.25	0.21	0.6
10%	90%	0.006	527		328.50	0.17	0.3
5%	95%	0.005	389	0.000	346.75	0.13	0.2
1%	99%	0.001	105		361.35	0.04	0.0

2.2 The water resource quality objectives and the current status of the water resource

According to the ABA CMS (2014 - 2022) Kirichwa Ndogo sub-catchment can be classified as of high Commercial importance. The area has predominantly urban and/or industrial agglomeration areas including their peripheral areas, which could be commercial. This category targets at ensuring quality of water resources to develop economy and prosperity in urban areas/industrial centres.

Sustainable water resources management in the sub catchment will focus on cooperation with the commercial stakeholders, hence the need to have the interests of residents, industrialists and business community safeguarded.

2.3 The class of the water resource

The Kirichwa Ndogo sub-catchment can be classified as "Alert" as the available water is at times not of adequate quality to meet the demand. The water is of relatively good quality in the upper parts of the river but deteriorates as the river flows downstream due to pollution.

2.4 Land uses and their potential impact on the water resources

2.4.1 Human settlement

Kirichwa Ndogo river sub catchment is located within an area with predominantly formal low to medium density human settlement. Due to the development pressure, more high-rise buildings are coming up, replacing the existing single family units. This will put more pressure on the existing infrastructures and utilities, including water and sewerage services. This will have a major adverse impact on the water quality as it has been observed that where the sewerage infrastructure is not developed in pace with other developments, sewer leaks and bursts have resulted from the overwhelmed lines, polluting the water resources.

The development of more buildings will also result in an increase in the paved surfaces which are impermeable. This will generate more surface run-off resulting in

[Subsidiary]

water pollution and flooding as the existing storm water facilities may be inadequate to evacuate the resultant run-off.

2.4.2 Exotic Species of Plants

There exist numerous exotic species of trees which are unsuitable in a water catchment area, especially near wetland, which include the eucalyptus trees.

3. Measures for Conservation and Rehabilitation of the area

3.1 Proscribed Activities;

According to the relevant legal framework as discussed in Sub-Section 1.1.1 above, protected areas can be used by the neighbouring community in a sustainable manner. The activities to be undertaken within the protected area are those with zero impact on its ecological status and integrity. The following activities are specifically proscribed in a protected area:

- i). Tillage or cultivation
- ii). Clearing of indigenous trees or vegetation
- iii). Building of permanent structures (especially boreholes and houses)
- iv). Disposal of any form of waste
- v). Excavation of soil or development of quarries
- vi). Planting of exotic species that may have adverse effect to the water resource

3.2 Conservation Plan

The objective of the conservation plan is to protect the long term environmental sustainability of the catchment for enhanced water resources yield and maintain its ecological functions in terms of flora and fauna. This will be achieved through:

- Demarcate the wetland and its riparian zone and fence it off;
- Gazette the Dik Dik Gardens Wetland as a protected water catchment area;
- Enforce the Dik Dik Gardens wetland guidelines;

Activity	Sub-activity	Time frame	Cost	Responsibility
Demarcate the wetland and its riparian zone	Undertake cadastral survey of the area and place beacons along the boundary	1 Month	750,000	WRA, SoK
	Develop the PDP for the demarcated wetland area	1 month	1,000,000	NCC, MoLS, WRA
	Liaise with NLC for the revocation of any privately held title deeds and acquire a title deed (in trust) for the wetland	3 Months	500,000	WRA, NLC
	Fence off the demarcated area	1 Month	3,000,000	WRA, KiWRUA

Water

[Subsidiary]

	Place signs and notices to warn the public that this is a protected area	Continuous	250,000	WRA, KiWRUA
Gazette the Dik Dik Gardens Wetland as a protected water catchment area	Assess the status of Dik Dik Gardens Wetland	1 month	300,000	WRA
	Create awareness on the status of the wetland	Continuous	500,000	WRA, WRUA
	Develop guidelines and conservation plan through stakeholders engagement	2020	2,500,000	WRA with all stakeholders
	Submit gazette instrument to the Cabinet Secretary in charge of water	2020	200,000	WRA
Enforce the Dik Dik Gardens wetland guidelines	Create awareness to stakeholders the wetland guidelines and conservation plan	2021	500,000	WRA
	Enforce Dik Dik Gardens wetland protected area guidelines, management plan and relevant legislations	Continuous	0	WRA, National Govt
Sub Total			9,500,000	

3.3 Rehabilitation Plan

The objective of the rehabilitation plan is to ensure the wetland achieves its optimal performance level. This will be achieved through:

- Removal of all inappropriate/invasive species of plants;
- Re-vegetation of the wetland with water friendly/native species of trees and vegetation;

Activity	Sub-activity	Time frame	Cost	Responsibility
Removal of all inappropriate/invasive	Identify and remove inappropriate	3 months	300,000	WRA, KFS, NGAO, KiWRUA

[Subsidiary]

species of plants	and invasive tree species from the wetland				
	Exotic species control	Continuous	200,000		WRA, KiWRUA
Re-vegetation of the wetland with water friendly/native species of trees and vegetation	Establish indigenous plants nursery	Continuous	2,000,000		KiWRUA, WRA
	Grow live fence on the boundary of the wetland	Continuous	1,000,000		WRA, KFS, KiWRUA
	Planting and growing of propagated seedlings (Watering and tending)	1 year	540,000		KiWRUA
Sub Total			4,040,000		

3.4 Catchment and Water Resources Monitoring

The objective of the monitoring plan is to collect and analyse Dik Dik Gardens wetland catchment and water resources data to provide information on water discharge, water quality and catchment health as a response to human activities within the neighbourhood. This will be achieved through:

- Re-establish the regular gauging station 3BA41 on Kirichwa Ndogo river to monitor water quantity and quality;
- Establish a full hydro-meteorological station within the Kirichwa Ndogo river sub-catchment to monitor precipitation, evaporation, humidity and temperature;

Activity	Sub-activity	Time frame	Cost	Responsibility
Re-establish RGS3BA41 on Kirichwa Ndogo river	Identify an appropriate site and install station	3 months	200,000	WRA
	Identify, train and engage a gauge reader	Continuous	600,000	WRA, KiWRUA
Establish a full hydro-meteorological station	Identify an appropriate site to install station	Continuous	0	KiWRUA, WRA
	Procure, install and commission the equipment	Continuous	1,000,000	WRA
	Collect and analyse hydromet data	Continuous	0	WRA
Sub Total			1,800,000	

3.5 Establishment and operationalization of management structure

The objective of the management structure is to ensure that the Dik Dik Gardens wetland catchment protected area is managed in a sustainable manner with the involvement of all

stakeholders under the leadership and coordination of WRA - ABA. This will be achieved through:

- *Setting up the management structure with defined ToRs and mandates;*

<i>Activity</i>	<i>Sub-activity</i>	<i>Time frame</i>	<i>Cost</i>	<i>Responsibility</i>
Setting up the management structure	Appoint 1No. Member from each of the following stakeholders: 1. Kenya Forest Service 2. Public Health Department, Nairobi City County; 3. National Government Administration in Nairobi City County; 4. National Environmental Management Authority; 5. Ministry of Agriculture; 6. The Kirichwa WRUA; 7. Dik Dik Gardens Residents Association Terms of References (ToR) will include but not limited to: • To manage the catchment prudently on behalf of other stakeholders • To submit quarterly reports to WRA - ABA on all planned and implemented activities; • To develop by - laws	3 months	300,000	WRA
		Continuous	0	WRA, KiWRUA

[Subsidiary]

and submit a copy to WRA – ABA for approval before implementation Mandate and responsibilities: <ul style="list-style-type: none"> • Promote the conservation and protection of the catchment • Promote equitable distribution of the resources within the catchment • Promote socio-economic and environmental sustainability of the catchment 	Continuous	0	KiWRUA, WRA
The sources of funds for the committee may include: <ul style="list-style-type: none"> • Bee keeping • Tree Nursery; • Eco-tourism; • Well-wishers/ Donors • WRA/WRUA - (WDC) 	Continuous	5,000,000	WRA

Sub Total 5,300,000

WRA as the agent of the National Government in the regulation of use and management of water resources, will be the Coordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a non-profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

The following are the proposed linkages between various stakeholders. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

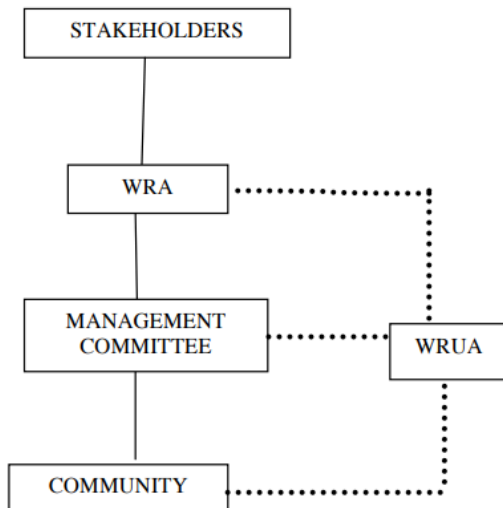


Fig.2.Reporting Linkages for the Management Committee

4. Monitoring and Evaluation Matrix

The following matrix will be used for Monitoring and Evaluation to capture detail of the progress of implementation of the planned activities.

Table 2. Monitoring and Evaluation template

Activities	Implementation Schedule	Status	Planned Cost	Total expenditure to date	Source of funds	Output	Comments
	Start date	End date	(% completion)				

THE WATER - DESIGNATION OF BASIN AREAS

[Legal Notice 235 of 2021]

IN EXERCISE of the powers conferred by section 24 of the Water Act (Cap. 372), the Water Resources Authority in consultation with the Cabinet Secretary designates the following areas to be basin areas for purposes of the Act—

- (a) Lake Victoria North Basin Area;
- (b) Lake Victoria South Basin Area;
- (c) Rift Valley Basin Area;
- (d) Athi River Basin Area;
- (e) Tana Basin Area; and
- (f) Ewaso Ng'iro North Basin Area.

1. Counties

The county governments falling within the designated basin areas are as set out in the First Schedule.

2. Sub-Basins

Pursuant to section 24(2), the Authority designates the basin areas set out in the Second Schedule as sub-basin areas.

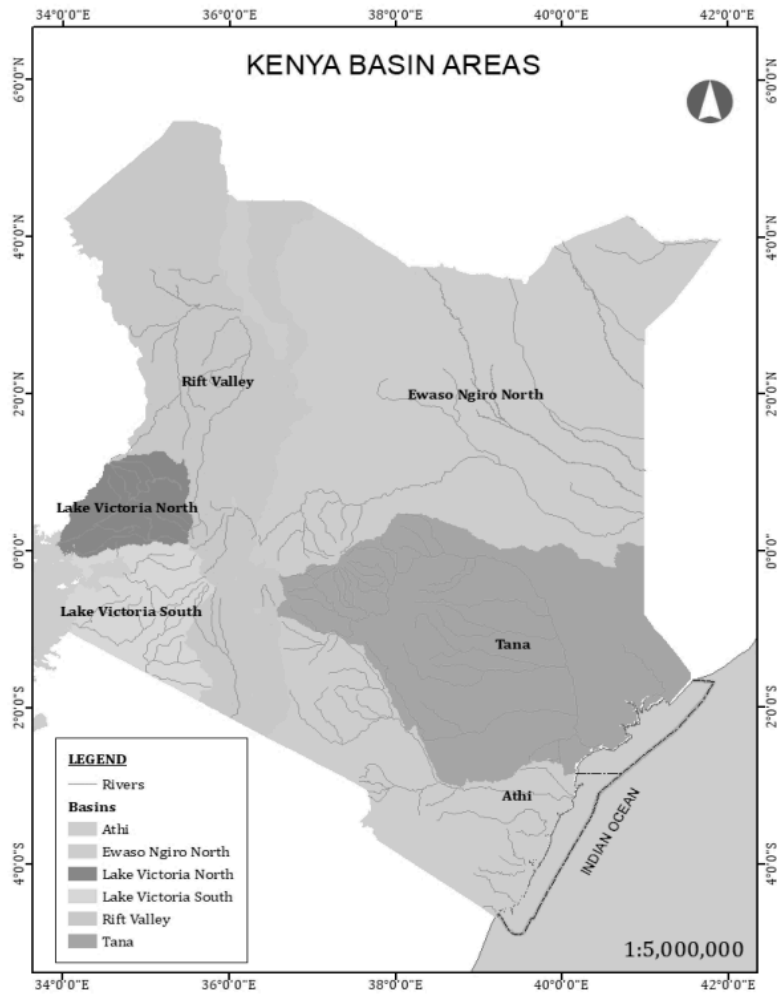
FIRST SCHEDULE**DESIGNATED BASIN AREAS****PART I – COUNTIES WITHIN RESPECTIVE BASIN AREAS**

<i>Name of Basin Area</i>	<i>Counties within respective Basin Areas</i>
Athi Basin Area	<ul style="list-style-type: none"> 1. Kiambu 2. Nairobi 3. Kajiado 4. Machakos 5. Makueni 6. Kilifi 7. Taita Taveta 8. Kwale 9. Mombasa
Tana Basin Area Area	<ul style="list-style-type: none"> 1. Kirinyaga 2. Nyeri 3. Embu 4. Muranga 5. Tharaka Nithi 6. Garissa 7. Kitui 8. Tana River 9. Meru 10. Lamu
Rift Valley Basin Area	<ul style="list-style-type: none"> 1. Nakuru 2. Turkana 3. West Pokot

[Subsidiary]

- | | |
|--------------------------------|--------------------|
| | 4. Baringo |
| | 5. Elgeyo Marakwet |
| | 6. Narok, |
| | 7. Nyandarua |
| Lake Victoria North Basin Area | 1. Trans Nzoia |
| | 2. Kakamega |
| | 3. Bungoma |
| | 4. Siaya |
| | 5. Vihiga |
| | 6. Nandi |
| | 7. Uasin Gishu |
| | 8. Busia |
| Lake Victoria South Basin Area | 1. Kisii |
| | 2. Kisumu |
| | 3. Kericho |
| | 4. Nyamira |
| | 5. Migori |
| | 6. Homa Bay |
| | 7. Bomet |
| Ewaso Ng'iro North Basin Area | 1. Laikipia |
| | 2. Samburu |
| | 3. Isiolo |
| | 4. Mandera |
| | 5. Marsabit |
| | 6. Wajir |

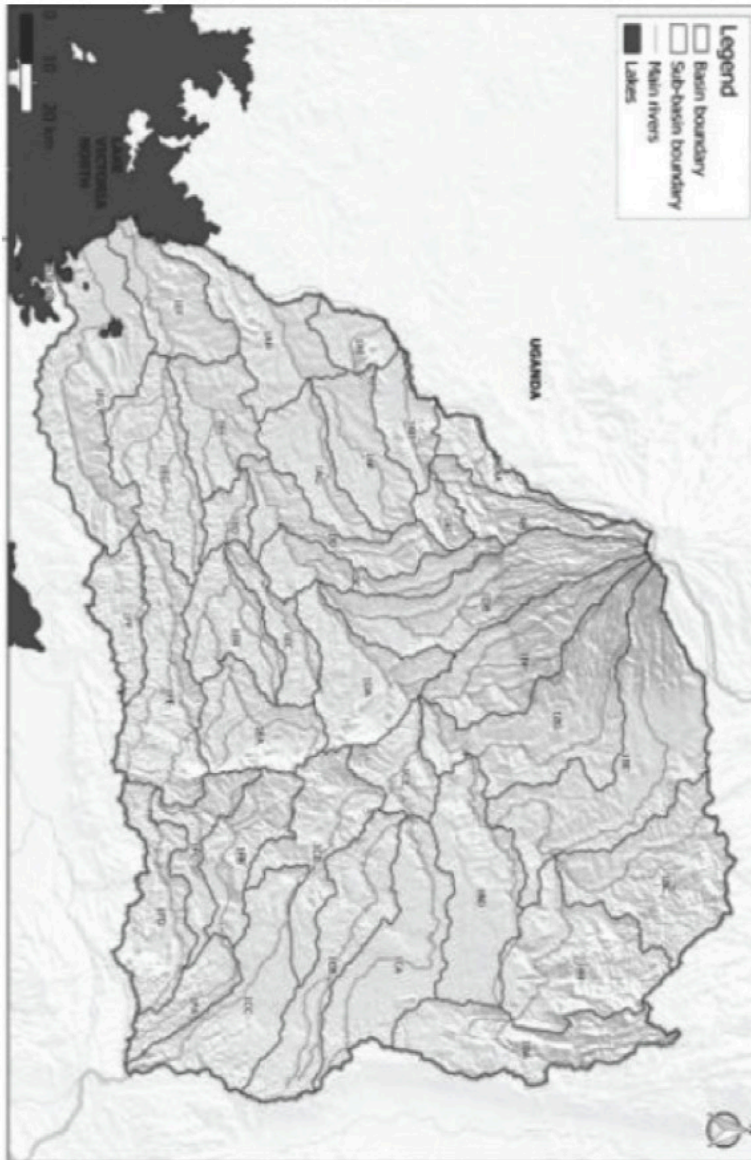
PART II – KENYA BASIN AREAS



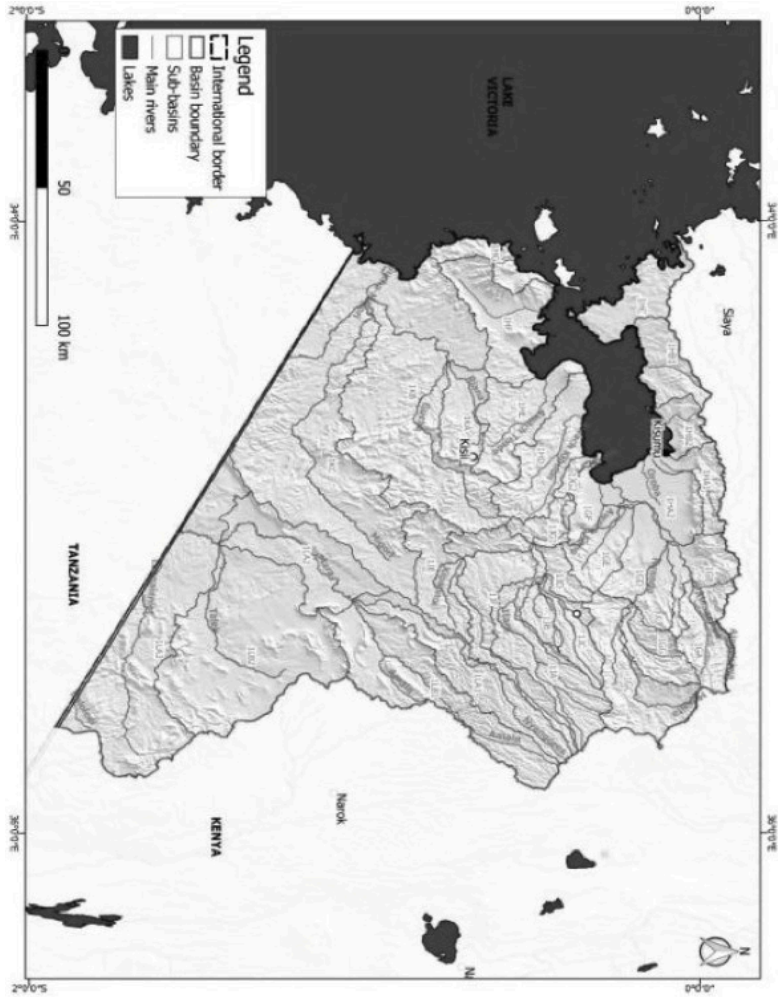
PART IIB – DRAINAGE NETWORKS WITHIN BASIN AREAS

The drainage network and sub-basins of the Lake Victoria North Basin Area

[Subsidiary]

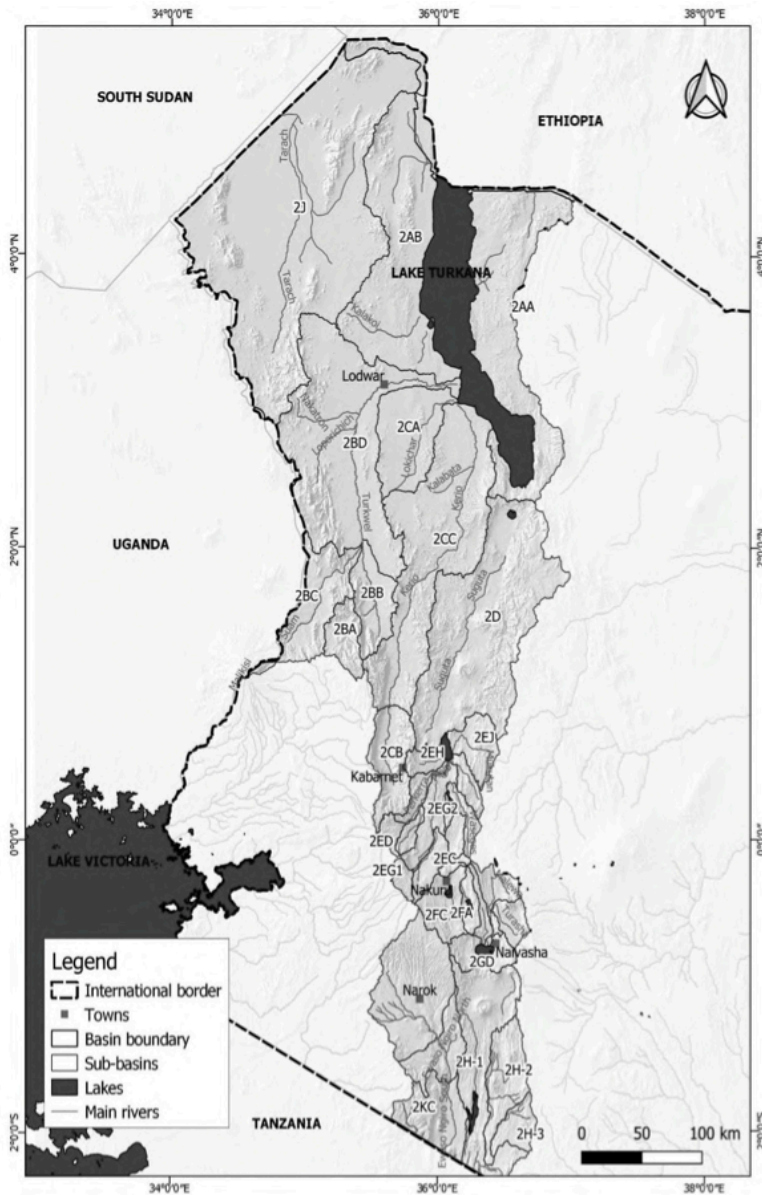


The drainage network and sub-basins of the Lake Victoria South Basin Area

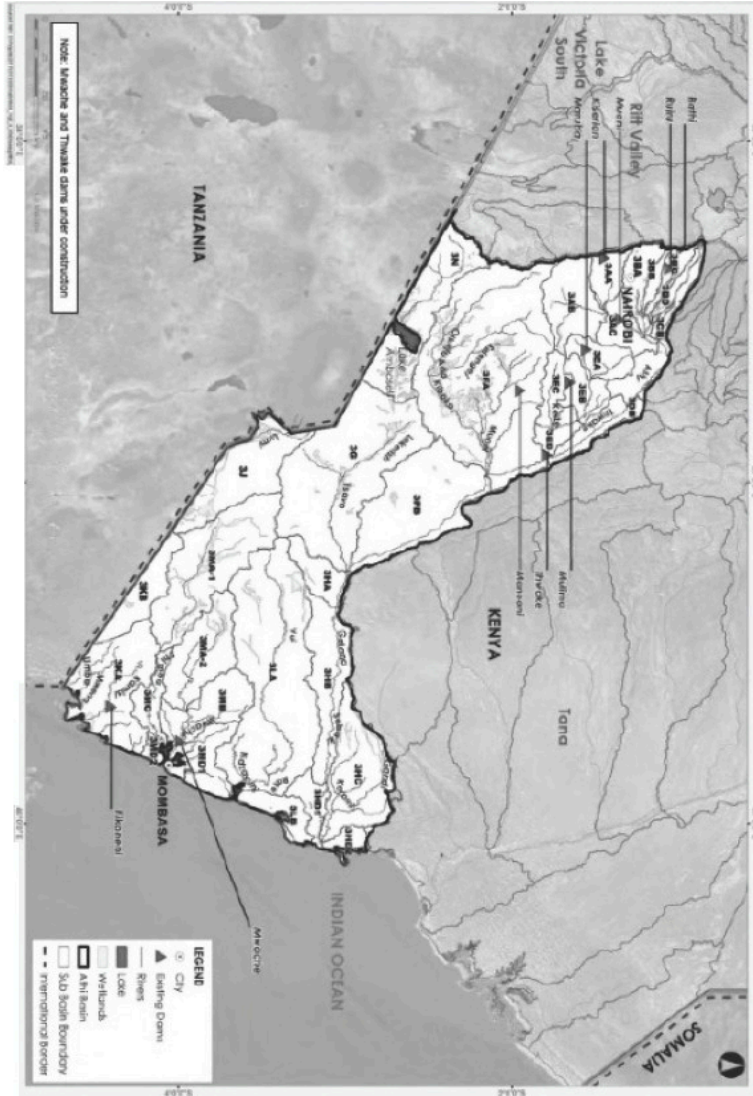


The drainage network and sub-basins of the Rift Valley Basin

[Subsidiary]

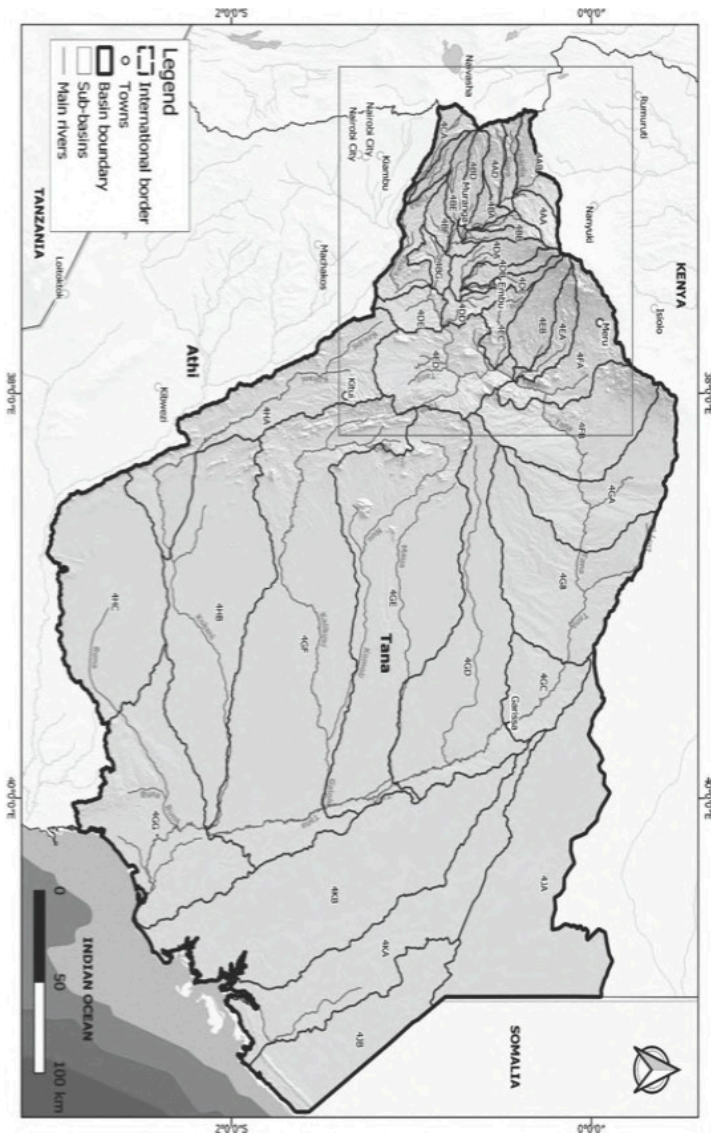


The drainage network and sub-basins of the Athi River Basin Area:

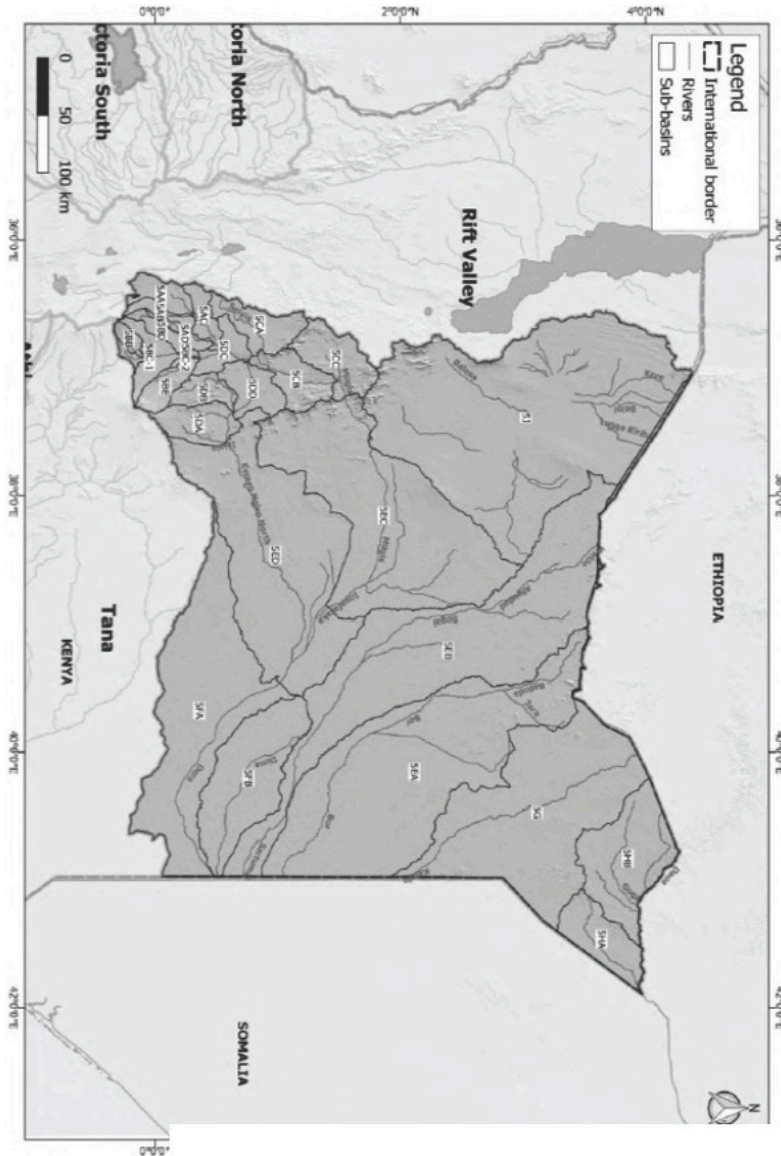


The drainage network and sub-basins of the Tana Basin Area

[Subsidiary]



The drainage network and sub-basins of the Ewaso Ng'iro North Basin Area



SECOND SCHEDULE

[para. 2]

SUB-BASIN AREAS

S/No.	Sub-Basins in Lake Victoria North Basin Area	Sub-Basins in Lake Victoria South Basin Area	Sub-Basins in Rift Valley Basin Area	Sub-Basins in Athi Basin Area	Sub-Basins in Tana Basin Area	Sub-Basins in Ewaso Ng'iro North Basin Area
1.	1AA	1GA	2AA	3AA	4AA	5AA
2.	1AB	1GB	2AB	3AB	4AB	5AB
3.	1AC	1GC	2BA	3AC	4AC	5AC

[Subsidiary]

4.	1AD	1GD	2BB	3BA	4AD	5AD
5.	1AE	1GE	2BC	3BB	4BA	5BA
6.	1AF	1GF	2BD	3BC	4BB	5BB
7.	1AG	1GG	2CA	3BD	4BC	5BC
8.	1AH	1HA	2CB	3CB	4BD	5BD
9.	1BA	1HB	2CC	3DA	4BE	5BE
10.	1BB	1HC	2D	3DB	4BF	5CA
11.	1BC	1HD	2EA	3EA	4BG	5CB
12.	1BD	1HE	2EB	3EB	4CA	5CC
13.	1BE	1HF	2EC	3EC	4CB	5DA
14.	1BF	1HG	2ED	3ED	4CC	5DB
15.	1BG	1JA	2EE	3FA	4DA	5DC
16.	1BH	1JB	2EF	3FB	4DB	5DD
17.	1CA	1JC	2EG1	3G	4DC	5EA
18.	1CB	1JD	2EG2	3HA	4DD	5EB
19.	1CC	1JE	2EH	3HB	4DE	5EC
20.	1CD	1JF	2EJ	3HC	4EA	5ED
21.	1CE	1JG	2EK	3HD1	4EB	5FA
22.	1DA	1KA	2FA	3HD2	4EC	5FB
23.	1DB	1KB	2FB	3J	4ED	5GA
24.	1DC	1KC	2FC	3K	4FA	5GB
25.	1DD	1LA1	2GA	3LA	4FB	5H
26.	1EA	1LA2	2GB	3LB	4GA	5J
27.	1EB	1LA3	2GC	3MA	4GB	
28.	1EC	1LB1	2GD	3MB	4GC	
29.	1ED	1LB2	2H	3MC	4GD	
30.	1EE		2J	3MD1	4GE	
31.	1EF		2KA	3MD2	4GF	
32.	1EG		2KB	3N	4GG	
33.	1FA		2KC		4HA	
34.	1FB				4HB	
35.	1FC				4HC	
36.	1FD				4JA	
37.	1FE				4JB	
38.	1FF				4KA	
39.	1FG				4KB	
40.	1AA					

Notes:

The Sub Basin Code/Identification has the following components:

— First digit represents the Basin i.e. 1 for Lake Victoria (North and South), 2 for Rift Valley, 3 for Athi, 4 for Tana and 5 Ewaso Ngiro North

— The Letters immediately after the digit represent the major sub division of the Basin; and

— The subsequent letter represents the minor sub-division of the Basin (a sub division of the major sub division)

THE KABEERE SPRINGS CATCHMENT PROTECTION AREA ORDER

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Application of the Order
4. Declaration of protected area
5. Kabeere Springs Catchment Management Plan
6. Penalty

SCHEDULES

THE KABEERE SPRINGS CATCHMENT PROTECTION AREA

THE KABEERE SPRINGS CATCHMENT PROTECTION AREA ORDER

[Legal Notice 222 of 2022]

1. Citation

This Order may be cited as the Kabeere Springs Catchment Protection Area Order.

2. Interpretation

In this Order, unless the context otherwise requires—

"Act" means the Water Act (Cap. 372);

"association" means a water resources users association registered by the Authority in accordance with the Act;

"Authority" means the Water Resources Authority established under section 11 of the Act;

"basin area" means the area designated by the Authority as a basin area under section 24 of the Act;

"protected area" means the area declared to be a catchment protected area under paragraph 4 of this Order and is demarcated for protection and conservation within the Kabeere Springs Catchment Management Plan;

"Kabeere Springs Catchment Management Plan" means the management and conservation plan developed by the Authority in respect of the protected area;

"riparian reserve" means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the Protected Area;

"soil and water conservation plan" means soil and water conservation plan as defined in the Water Resources Regulations (sub. leg);

"sub-basin area" means the area designated by the Authority as a basin area under section 24(2) of the Act.

3. Application of the Order

This Order and the Kabeere Springs Catchment Management Plan shall apply to the National Government, national government entities, County Governments, county government entities and any other person being a user of water resources and the riparian reserve of the Protected Area.

4. Declaration of protected area

The Kabeere Springs Catchment Protection Area comprised under Schedule and is demarcated for protection and conservation within the Kabeere Springs Catchment Management Plan is declared to be a protected area for the purposes of the Act.

5. Kabeere Springs Catchment Management Plan

(1) The Kabeere Springs Catchment Management Plan shall come into effect immediately upon publication of this Order in the Gazette and shall, without prejudice to the provisions of the Regulations developed under the Act, be the basis for protection, conservation and use of the water resources within the Groundwater Conservation Area.

(2) The Authority shall place signboards and beacons in or near the Protected Area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Protected Area.

(3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Protected Area.

[Subsidiary]

6. Penalty

Any person who—

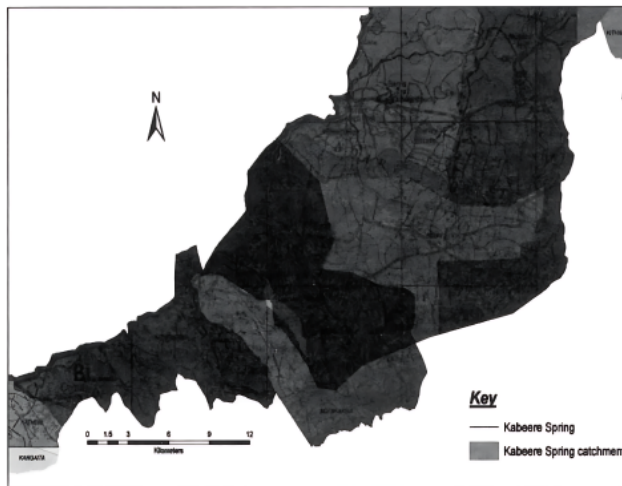
- (a) contravenes this Order; or
- (b) fails to comply with the provisions of the Kabeere Springs Catchment Management Plan,

commits an offence and is liable upon conviction to a fine of twenty thousand shillings or imprisonment for a term not exceeding six months, or to both.

SCHEDULE

[r. 2, 4]

THE KABEERE SPRINGS CATCHMENT PROTECTION AREA



NOTE:

1. The area declared as a protected area is commonly known as Kabeere Springs.
2. It is located in Kabubungi area of Ngusishi location in Timau Division, Buuri district, Meru County within the Upper Ewaso Ngiro Sub Region. The protected area is approximately 5 acres (2.02 Hectares).
3. Its entire watershed area measures 3.89 square kilometres (389 hectares) out of the 31.8 km² of the Ngusishi river catchment area.

THE KAJULU HILLS CATCHMENT PROTECTION AREA ORDER

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Application of this Order
4. Declaration of protected area
5. Kajulu Hills Catchment Management Plan
6. Penalty

SCHEDULES

THE KAJULU HILLS CATCHMENT PROTECTED AREA

THE KAJULU HILLS CATCHMENT PROTECTION AREA ORDER

[Legal Notice 223 of 2022]

1. Citation

This Order may be cited as the Kajulu Hills Catchment Protection Area Order.

2. Interpretation

In this Order, unless the context otherwise requires—

"Act" means the Water Act (Cap. 372);

"association" means a water resources users association registered by the Authority in accordance with the Act;

"Authority" means the Water Resources Authority established under section 11 of the Act;

"basin area" means the area designated by the Authority as a basin area under section 24 of the Act;

"feeder rivers" means the rivers Awach Kajulu (Nyang'ori) and Awach Kibos which feed into Nyamasaria river flowing into Lake Victoria;

"Kajulu Hills Catchment Area" means the water catchment area located within the northern shoreline of Lake Victoria North Basin Area from which the feeder rivers originate and demarcated as hydrological system 1G and 1H;

"protected area" means the area declared to be a catchment protected area under paragraph 4 of this Order and is demarcated for protection and conservation within the Kajulu Hills Catchment Management Plan;

"Kajulu Hills Catchment Management Plan" means the management and conservation plan developed by the Authority in respect of the protected area;

"riparian reserve" means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the Protected Area and the feeder rivers;

"soil and water conservation plan" means soil and water conservation plan as defined in the Water Resources Regulations (sub. leg);

"sub-basin area" means the area designated by the Authority as a basin area under section 24(2) of the Act.

3. Application of this Order

This Order and the Kajulu Hills Catchment Protection Plan shall apply to the National Government, national government entities, County Governments, county government entities and any other person being a user of water resources and the riparian reserve of the Protected Area and feeder rivers.

4. Declaration of protected area

The Kajulu Hills Catchment Area is declared to be a protected area for purposes of the Act.

5. Kajulu Hills Catchment Management Plan

(1) The Kajulu Hills Catchment Management Plan shall come into effect immediately upon publication of this Order in the *Gazette* and shall, without prejudice to the provisions of the Regulations developed under the Act, be the basis for protection, conservation and use of the water resources within the Kajulu Hills Catchment Area.

[Subsidiary]

(2) The Authority shall place signboards and beacons in or near the Kajulu Hills Catchment Protected Area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Protected Area.

(3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Kajulu Hills Catchment Protected Area.

6. Penalty

Any person who—

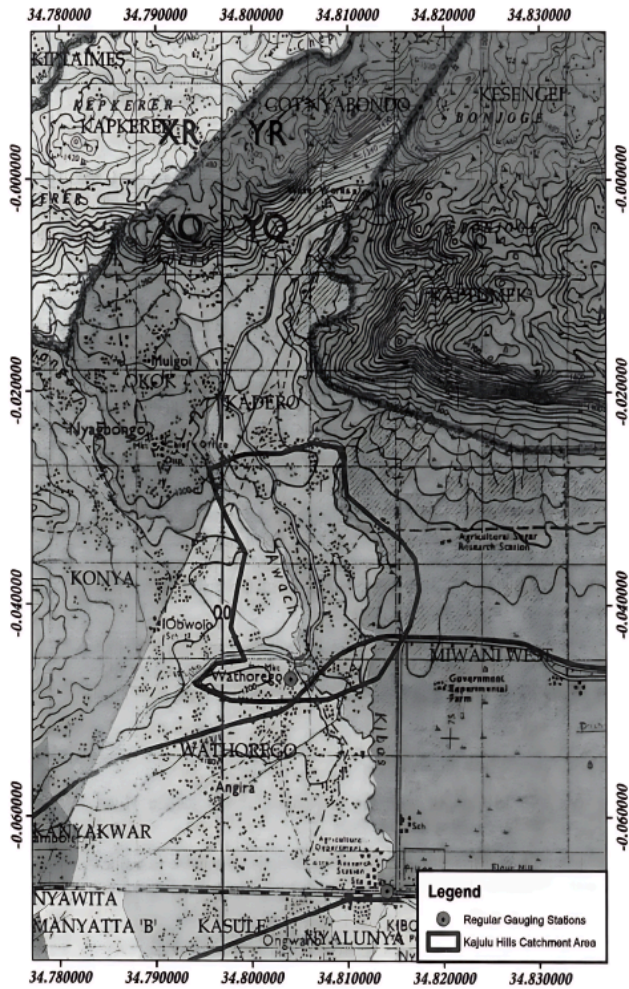
- (a) contravenes this Order; or
- (b) fails to comply with the provisions of the Kajulu Hills Catchment Management Plan,

commits an offence and shall, upon conviction, be liable to a fine of twenty thousand shillings or imprisonment for a term not exceeding six months, or to both.

SCHEDULE

[r. 2, 4]

THE KAJULU HILLS CATCHMENT PROTECTED AREA



Location of Kajulu Hills sub catchment within 1HA sub basin

NOTE: 1. The Protected Area is spread within Wathorego and Kadero sub locations of West Kajulu and East Kajulu locations of Kisumu County. It is located 9 km to the east of Kisumu City. The sub catchment covers an area of 5.5km² and is within the IHA-sub basin of Lake Victoria South Basin Area.

2. The area of the hills that contributes surface run-off into the rivers was delineated using a GIS software. The area measures 5.5 km² out of the 858 km² catchment area of the whole IHA sub basin as shown in the map.

**THE MANGUO SWAMP GROUNDWATER
CONSERVATION AREA ORDER**

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Application of the Order
4. Declaration of groundwater conservation area
5. Manguo Swamp Groundwater Conservation Plan
6. Penalty

SCHEDULES

THE MANGUO SWAMP GROUNDWATER CONSERVATION AREA

THE MANGUO SWAMP GROUNDWATER CONSERVATION AREA ORDER

[Legal Notice 221 of 2022]

1. Citation

This Order may be referred to as the Manguo Swamp Groundwater Conservation Area Order.

2. Interpretation

In this Order, except where the context otherwise requires—

"Act" means the Water Act (Cap. 372);

"association" means a water resources users association registered by the Authority in accordance with the Act;

"Authority" means the Water Resources Authority established under Section 11 of the Act;

"basin area" means the area designated by the Authority as a basin area under Section 24 of the Act;

"groundwater conservation area" means the area declared to be a groundwater conservation area under Paragraph 4 of this Order;

"Manguo Swamp Groundwater Conservation Plan" means the management and conservation plan developed by the Authority in respect of the Manguo Swamp Groundwater Conservation Area set out in the Second Schedule of this Order;

"riparian reserve" means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the groundwater conservation Area;

"soil and water conservation plan" means soil and water conservation plan as defined in the Water Resources Regulations (sub. leg);

"sub-basin area" means the area designated by the Authority as a basin area under Section 24(2) of the Act.

3. Application of the Order

This Order and the Manguo Swamp Groundwater Conservation Plan shall apply to the National Government, national government entities, County Governments, county government entities and any other person being a user of water resources and the riparian reserve of the Manguo Swamp Groundwater Conservation Area.

4. Declaration of groundwater conservation area

The Manguo Swamp Groundwater Conservation Area comprised in the Schedule and is demarcated for protection and conservation within the Manguo Swamp Groundwater Conservation Plan is declared to be a groundwater conservation area for the purposes of the Act.

5. Manguo Swamp Groundwater Conservation Plan

(1) The Manguo Swamp Groundwater Conservation Plan shall come into effect immediately upon publication of this Order in the *Gazette* and shall, without prejudice to the provisions of the Regulations developed under the Act, be the basis for protection, conservation and use of the water resources within the Groundwater Conservation Area.

(2) The Authority shall place signboards and beacons in or near the Groundwater Conservation Area or in appropriate public places frequented by land and water users and

[Subsidiary]

at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Groundwater Conservation Area.

(3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Groundwater Conservation Area.

6. Penalty

Any person who:

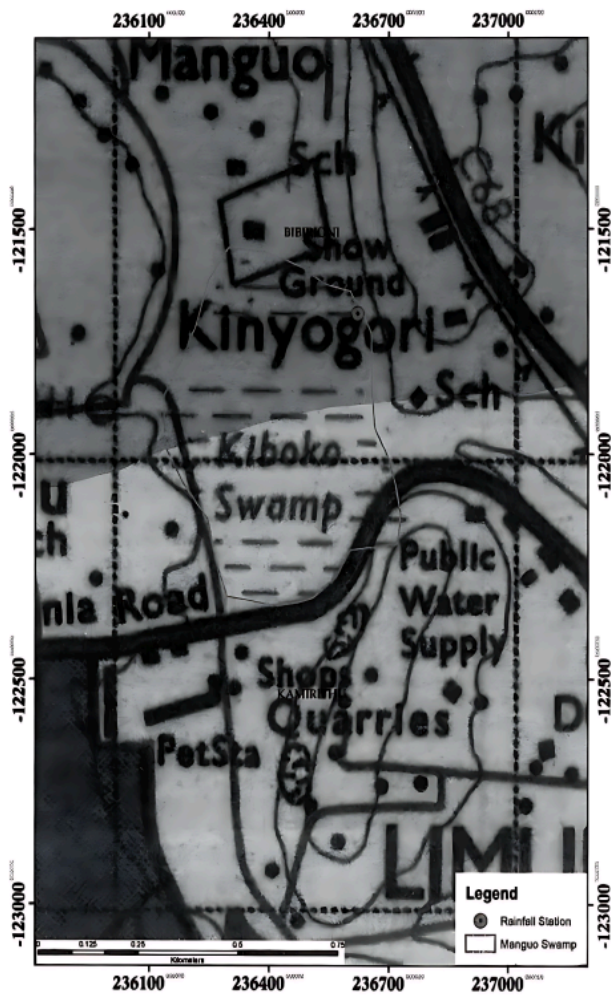
- (a) contravenes this Order; or
- (b) fails to comply with the provisions of the Manguo Swamp Groundwater Conservation Plan,

commits an offence and shall, upon conviction, be liable to a fine of twenty thousand shillings or to imprisonment for a term not exceeding six months, or to both.

FIRST SCHEDULE

[r. 2, 4]

THE MANGUO SWAMP GROUNDWATER CONSERVATION AREA



NOTE: 1. The area declared as a protected area is commonly known as Manguo or Kiboko Swamp.

2. It is located in Kamirithu sub location of Limuru location, Limuru Sub County, Kiambu County and within the 3BA sub basin of Athi Basin Area. The land area to be protected is approximately 0.334 km² (33.4 Hectares).

3. The area lies within the 3BA (L.N. 235 of 2021) sub basin and is the source of the Ithanji river, a tributary of Tironi river. The groundwater conservation area is in the form of a basin-like depression with an outlet to the south-east into Ithanji River.

**THE MARURA (EWASO NAROK) SWAMP
CATCHMENT PROTECTION AREA ORDER**

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Application of this Order
4. Declaration of protected area
5. Marura (Ewaso Narok) Swamp Conservation Plan
6. Penalty

SCHEDULES

THE MARURA (EWASO NAROK) SWAMP CATCHMENT PROTECTED AREA

**THE MARURA (EWASO NAROK) SWAMP
CATCHMENT PROTECTION AREA ORDER**

[Legal Notice 220 of 2022]

1. Citation

This Order may be cited as the Marura (Ewaso Narok) Swamp Catchment Protection Area Order.

2. Interpretation

In this Order, unless the context otherwise requires—

"Act" means the Water Act (Cap. 372);

"association" means a water resources users association registered by the Authority in accordance with the Act;

"authority" means the Water Resources Authority established under section 11 of the Act;

"basin area" means the area designated by the Authority as a basin area under section 24 of the Act;

"protected area" means the area declared to be a protected area under paragraph 4 of this Order and is demarcated for protection and conservation within the Marura (Ewaso Narok) Swamp Catchment Management Plan;

"Marura (Ewaso Narok) Swamp Catchment Management Plan" means the management and conservation plan developed by the Authority in respect of the protected area;

"riparian reserve" means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the protected area;

"soil and water conservation plan" means soil and water Conservation Plan as defined in the Water Resources Regulations (sub. leg);

"sub-basin Area" means the area designated by the Authority as a basin area under section 24(2) of the Act.

3. Application of this Order

This Order and the Marura (Ewaso Narok) Swamp Catchment Management Plan shall apply to the National Government, national government entities, County Governments, county government entities and any other person being a user of water resources and the riparian reserve of the protected area.

4. Declaration of protected area

The Marura (Ewaso Narok) Swamp Catchment Protection Area comprised in the Schedule and demarcated for protection and conservation within the Marura (Ewaso Narok) Swamp Catchment Management Plan is declared to be a protected area for the purposes of the Act.

5. Marura (Ewaso Narok) Swamp Conservation Plan

(1) The Marura (Ewaso Narok) Swamp Catchment Management Plan shall come into effect immediately upon publication of this Order and shall, without prejudice to the provisions of the Regulations developed under the Act, be the basis for protection, conservation and use of the water resources within the protected area.

(2) The Authority shall place signboards and beacons in or near the protected area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the protected area.

[Subsidiary]

(3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Protected Area.

6. Penalty

Any person who:

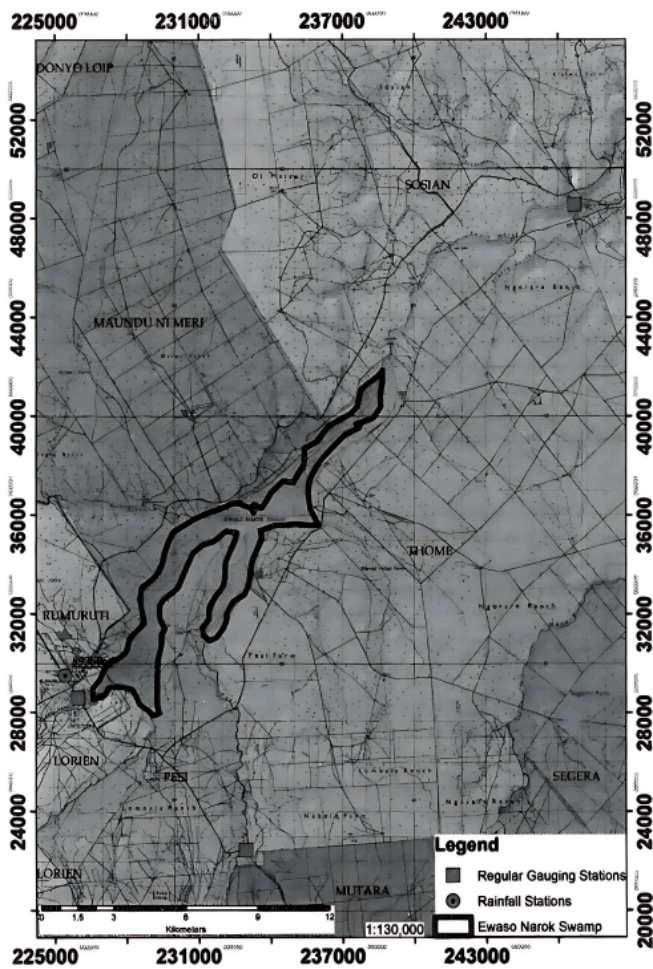
- (a) contravenes this Order; or
- (b) fails to comply with the provisions of the Marura (Ewaso Narok) Swamp Catchment Management Plan,

commits an offence and shall, upon conviction, be liable to a fine of twenty thousand shillings or imprisonment for a term not exceeding six months, or to both.

SCHEDULE

[r. 2, 4]

THE MARURA (EWASO NAROK) SWAMP CATCHMENT PROTECTED AREA



NOTE:

1. The Protected Area is commonly known as Ewaso Narok (Marura) swamp and is partly located in Thome sub location of Mutara location, Maundu Ni Meri and Sosian sub locations of Sosian location all within Rumuruti Division of Laikipia West Sub County, Laikipia County. The swamp is formed at the confluence of Ewaso Narok, Pesi and Aiyim rivers and is partly within the 5AA and 5AC sub basin of Ewaso Ngiro North Basin Area (Rumuruti Sub Basin Area Office). The land area protected is approximately 24 km² (2,400 Hectares).

2. The area that contributes surface run-off into the wetlands has been delineated through the use of Arc SWAT software. The drainage area upstream of the swamp measures 1,717.7 square kilometres and which contributes surface water flows into the swamp. The map shows the area of the swamp and the upstream catchment area that contributes flows into the swamp.

THE KARAI WETLAND CONSERVATION AREA ORDER, 2023

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Application of the Order
4. Declaration of protected area
5. Karai Wetland Conservation Plan
6. Penalty

SCHEDULES

FIRST SCHEDULE —	THE KARAI WETLAND CONSERVATION AREA
SECOND SCHEDULE —	THE KARAI WETLAND CONSERVATION MANAGEMENT PLAN

THE KARAI WETLAND CONSERVATION AREA ORDER, 2023

[Legal Notice 117 of 2023]

1. Citation

This Order may be cited to as the Karai Wetland Conservation Area Order, 2023.

2. Interpretation

In this Order, except where the context otherwise requires –

"Act" means the Water Act, 2016 (No. 43 of 2016);

"association" means a water resources users association registered by the Authority in accordance with the Act;

"Authority" means the Water Resources Authority established under section 11 of the Act;

"basin area" means the area designated by the Authority as a Basin Area under section 24(1) of the Act;

"Protected Area" means the area declared to be a protected area under paragraph 4 and is demarcated for protection and conservation within the Karai Wetland Conservation Management Plan;

"Plan" means the Karai Wetland Conservation Management Plan set out in the Second Schedule;

"riparian reserve" means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the Protected Area;

"soil and water conservation plan" means soil and water Conservation Plan as defined in the Water Resources Regulations, 2021 (L.N. 170 of 2021); and

"sub-basin area" means the area designated by the Authority as a Basin Area under section 24(2) of the Act.

3. Application of the Order

This Order shall apply to the National Government, national government entities, county governments, county government entities and any other person being a user of water resources and the riparian reserve of the Protected Area.

4. Declaration of protected area

(1) The Karai Wetland Conservation Area is declared to be protected area for purposes of the Act.

(2) The area declared in subparagraph (1) shall be as per the extent and description set out in the First Schedule and is demarcated for protection and conservation within the Karai Wetland Conservation Management Plan.

5. Karai Wetland Conservation Plan

(1) The Plan shall, without prejudice to the provisions of the Regulations developed under the Act, be the basis for protection, conservation and use of the water resources within the Protected Area.

(2) The Authority shall place signboards and beacons in or near the Protected Area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Protected Area.

(3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Protected Area.

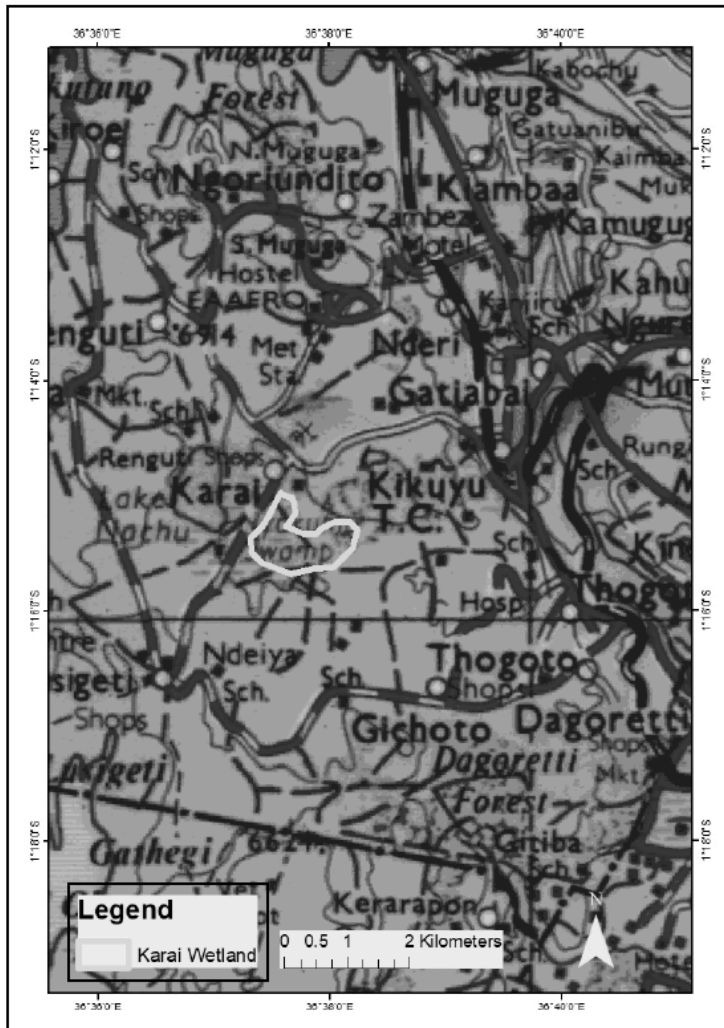
[Subsidiary]

6. Penalty

Any person who contravenes this Order commits an offence and is liable upon conviction to a fine of twenty thousand shillings or imprisonment for a term not exceeding six months or to both such fine and imprisonment.

FIRST SCHEDULE
THE KARAI WETLAND CONSERVATION AREA

[r. 2, 4]



Note:

- (i) The Conservation Area is commonly known as Karai Wetland and is spread within Karai Sub-location of Kikuyu Sub-county, Kiambu County. It is located about 35 km to the west of Kiambu town. The wetland covers an area of approximately 2.4 km² and is within the 3BA-sub-basin of Athi Basin Area.

- (ii) Karai wetland is a significant ground water recharge area which falls within the upper Athi river basin area in sub basin 3BA. It is located west of Kikuyu Town in Kiambu County, Kikuyu Sub-county, Karai Location.

SECOND SCHEDULE

THE KARAI WETLAND CONSERVATION MANAGEMENT PLAN

[r. 2, 4, 5]

PART I – PREAMBLE

1.1 Citation

This Plan may be cited as the Karai Wetland Conservation Management Plan.

1.2 Acronyms

The following acronyms shall have the meanings as assigned below:

AEZ –Agro-Ecological Zone

ABA –Athi Basin Area

KFS –Kenya Forest Service

Km² –Square Kilometer

L.N. –Legal Notice

m.a.s.l. –meters above sea level

M³/d –Cubic meters per day

M³/s –Cubic meters per second

Mm³ –million cubic meters

MoA –Ministry of Agriculture

MoL –Ministry of Lands

NEMA –National Environment Management Authority

NGAO –National Government Administration Officer

NLC –National Land Commission

°C –Degrees Celsius

Q50 –Flow that is equaled or exceeded 50% of the time

Q80 –Flow that is equaled or exceeded 80% of the time

Q95 –Flow that is equaled or exceeded 95% of the time

RGS –Regular Gauging Station

RQOs –Resource Quality Objectives

ToR –Terms of Reference

WDC –WRUA Development Cycle

WRA –Water Resources Authority

WRUA –Water Resources Users Association

WRM –Water Resources Management.

[Subsidiary]

1.3 Application of the Plan

This Plan shall apply in respect to the management and use of the Karai Wetland Conservation Area.

1.4. Objectives

The objectives of this Plan are to—

- (i) enhance implementation of existing regulations to protect the rights of all users;
- (ii) promote water, use efficiency that is hydrologically and economically beneficial to domestic, agricultural, and industrial water users and the environment; and
- (iii) identify funding sources to implement water conservation programs that help to enhance water resources;

1.5 Introduction and Background information

A catchment area is defined as the land from which water naturally flows into a water course. The status and conditions of a catchment determines the reliability, quantity and quality of its water yields. A catchment area acts like a water storage facility where during the rains, the vegetation cover allows the water ample time to percolate deep down and move as a sub-surface flow to recharge the rivers, springs and ground water storage in both shallow and deep aquifers. This sub-surface flow is slow resulting in rivers from a well-maintained catchment having higher base flows even during the dry season as well as good water yield from boreholes in the vicinity. In poorly maintained and degraded catchment, the rainfall results in the rapid surface run-off which is channeled into the river courses, resulting in flashfloods and high volumes of suspended solids. Since there is little storage in such a catchment, the rivers originating from such catchment will not be able to sustain their base flows during the dry season.

1.6 Wetlands are an important component of water balance within catchment areas in that they give rise to different hydrological functions. Wetlands located in flood plains play an effective role in flood mitigation as well as water storage. On the other hand, wetlands located at the foot of slopes or adjacent to rivers tend to contribute to flood peaks. Wetlands are also valuable for water quality improvement and shoreline erosion control as well as provision of habitat for different species of aquatic and terrestrial plants and animals. They also provide natural products, recreation, and aesthetics.

1.7 Catchment areas are thus a vital component in water resource management, and they should be formally delineated, declared as protected areas by being gazetted as such, protected from encroachment and pollution and managed sustainably to maintain their ecological integrity.

1.8 Location and size of the Protected Area

The Karai Wetland Conservation area (hereafter referred to as the "wetland" is spread within Karai Sub-location of Kikuyu Sub- county, Kiambu County. It is located about 35 km to the west of Kiambu town. The wetland covers an area of approximately 2.4 km² and is within the 3BA Sub-basin of Athi Basin Area.

1.9 Karai wetland is a significant ground water recharge area which falls within the upper Athi River Basin area in Sub-basin 3BA. It is located west of Kikuyu Town in Kiambu County, Kikuyu Sub-county, Karai Location.

1.10. Watershed area

The wetland receives water from the surrounding higher grounds, and does not have visible outlet. Therefore, apart from the water that is lost through evaporation the rest is assumed to go into recharging ground water aquifers. The area measures 2.4 km² out of the 858 km² catchment area of the whole 3BA sub basin in Athi Basin.

1.11 Criteria adopted in identifying Karai Wetland for protection

WRA has taken into account of the considerations provided under the Seventh Schedule of the Water Resources Regulations, 2021.

**PART II – PROCEDURES TO BE APPLIED FOR THE
MANAGEMENT OF THE KARAI WETLAND CONSERVATION AREA**

2.1. Physiography

Karai wetland is located within the western part of Kiambu County at an elevation of about 2015masl. The area is enclosed within gentle slopes of less than 10%.

2.2 Climate

The climate around Karai wetland is tropical with varying amount of rainfall during the year. The Maximum temperatures are between 23° and 28°C and the minimum temperatures are between 13° and 18°C. Mean monthly temperatures over 3BA sub basin are presented in Figure 3 below. From the analysis, the months hottest months coincide with the long rain season, March to May (MAM) and October to December (OND) short rain season while the coldest months are June to August.

Annexure 2 of the Second Schedule shows the monthly average temperatures within Karai Wetland.

2.3 Rainfall

Most parts of Karai area are hot and dry except for some parts of Gikambura and Renguti which are fairly wet and cooler. Rainfall varies between 200mm and 850mm per year, decreasing gradually from the eastern side towards the west, long rains are between March and May while the short rains are between November and December. The driest months coincide with the coldest periods (July to August) and the hottest months are January and February Annexure 3 of the Second Schedule shows the mean monthly rainfall and humidity at Karai Wetland.

2.4 Vegetation

The same area is currently characterized by clearing of indigenous vegetation and the planting of exotic tree species which has resulted into reduced recharge into the ground, lowering of the water table and a decrease in the wetland hydrological water balance.

2.5 Vulnerability of the water resource

Karai wetland falls under sub basin 3BA in upper Athi basin area and it is drained by several streams as shown in Figure 1 above.

There is no major river around the wetland, but several emanate downstream of the wetland. Therefore, the surface water monitoring network cannot be used to determine the hydrology of the wetland.

2.6 The encroachment and human activities within the wetland riparian through cultivation, clearing of indigenous vegetation and the planting of exotic tree species has resulted into reduced recharge into the ground, lowering of the water table and a decrease in the wetland hydrological water balance.

2.7 Karai Wetland falls within the headwaters of sub basin 3BA which is the source of many rivers in upper Athi basin. The wetland is not protected and has attracted a lot of human activities that include cultivation, introduction of exotic species as well as human settlement over the years. This unsustainable approach to the wetland use is threatening its survival and potential as a ground water recharge area.

2.8 The water resource quality objectives and the current status of the water resource

Section 20 of the Act requires the Authority to prescribe the criteria for classifying water resources for the purposes of determining water resources quality objectives for each class of water resource.

 [Subsidiary]

The Resource Quality Objectives represent the desired status of the resource, covering all aspects of quantity, quality, timing and aquatic biota. The RQO's are different for different classes of water resource. The objectives generally relate to the extent to which the water body is allowed to be adversely impacted by water use with respect to its natural state. Conceptually the RQO's provide a "target" condition of the resources.

Management decisions should be made such that the condition of the resource is progressively trending towards the RQO. The status of the resource is a measure of how far the condition of the resource is from the RQO. RQOs shall be determined at the nodes where the Reserve flows are being determined.

2.9 The focus for water resources management is the protection of the natural ecological characteristics for ecological, recreational and development of tourism with economic importance. Key water resources issues include:

- (a) Water scarcity.
- (b) Catchment degradation.
- (c) Erosion.
- (d) Encroachment of water bodies and land tenure around the swamp.
- (e) Human activities affect the wetland.
- (f) Social conflicts due to over abstraction.

2.10 Sustainable regional water resources management of these units would require co-operation collaboration and synergy with the Kenya Forest Service, WRUA, the Kenya Wildlife Service, Counties, user communities and other stakeholders.

2.11 The class of the water resource

The present aquifer classification system in Kenya is partly demand-oriented and partly geo-political and entails five classes:

- | | |
|--------|--|
| 2.11.1 | STRATEGIC aquifers: Aquifers used to supply significant amounts/proportions of water to an area where there are no alternatives, or where alternatives would take time and money to develop. |
| 2.11.2 | MAJOR aquifers: High-yielding aquifers with good quality water. |
| 2.11.3 | MINOR aquifers: Moderate-yielding aquifers with variable water quality. |
| 2.11.4 | POOR aquifers: Low-yielding aquifers with poor to reasonable quality water. |
| 2.11.5 | SPECIAL aquifers: Aquifers or parts of aquifers designated special aquifers' by the WRA. |

2.12 Each is further defined in terms of its status, i.e.

- | | |
|--------|---|
| 2.12.1 | Satisfactory: no immediate stress, pressure or threat. |
| 2.12.2 | Alert: Stress, Pressure or threat identified or anticipated. |
| 2.12.3 | Alarm: Water levels declining, water quality declining (stress, pressure or threat identified). |

2.13 The area can be classified as "Alert" as the available water is at times not of adequate quantity and quality to meet the demand.

The water availability is relatively good in terms of quantity and quality in the upper parts of the river but deteriorates as the river flows downstream due to pollution.

2.14 Land uses and their potential impact on the water resources

The area around Karai wetland is predominantly rural settlement with the main land use being cultivation and rearing of livestock.

2.15 The potential impacts on the water resources as a result of human acts includes—

- (a) Encroachment: People have encroached water catchment areas within the wetland.
- (b) Overexploitation of available resources: The population in the area has been rapidly growing over the years. This leads to excessive pressure on available natural resources that includes the wetland leading to potential water use conflicts.
- (c) Soil Erosion: Following uncontrolled farming and other human activities around the wetland, soil erosion leads to loss of top soil cover.
- (d) Deforestation: The wetland vegetation, the immediate catchment areas as well as the wider catchment has been depleted due human activities. Forests have been cleared to give way for farmlands, settlements as well as charcoal burning and timber; and
- (e) Water Pollution: Due to excessive economic activities around the wetland and within the sub-basin lake, the water has been polluted. The farms in the surrounding area use agro-chemicals which eventually find their way into the water bodies and leading to pollution. Other pollutants include solid waste that is washed into the rivers by runoff water during rains.

**PART III – MEASURES FOR PROTECTION, CONSERVATION AND
REHABILITATION OF THE KARAI WETLAND CONSERVATION AREA**

3.1. Proscribed Activities

The activities to be undertaken within the protected area are those with zero impact on its ecological status and integrity.

The following activities are hereby specifically prohibited in the protected area—

- (viii) tillage or cultivation;
- (ix) clearing of indigenous trees or vegetation;
- (x) building of permanent structures (especially boreholes and houses);
- (xi) disposal of any form of waste;
- (xii) excavation of soil or development of quarries;
- (xiii) planting of exotic species that may have adverse effect to the water resource; and
- (xiv) land reclamation.

3.2. Catchment Protection Plan

The objective of the protection plan is to protect Karai Wetland by encouraging activities that enhance both water quality and quantity while discouraging activities that cause the catchment degradation and promoting beneficial land and water management practices. This will be achieved through—

- (a) sensitization on catchment management;
- (b) revegetation of the catchment area by indigenous and water friendly plant propagation and exotic species control;
- (c) water storage enhancement to ease pressure on use of the wetland such as Rain water harvesting tanks;
- (d) regulating activities that may lead to pollution and destruction of the eco-system (Charcoal burning, grazing, cultivation);
- (e) controlling abstraction limits and observing of safe yields; and

[Subsidiary]

- (f) controlling encroachment and cancellation of illegal titles.

This plan is discussed in further detail under Annexure 5 of the Second Schedule.

3.3 Conservation Plan

The objective of the conservation plan is to protect the long-term environmental sustainability of the catchment for enhanced water resources yield and maintain its ecological functions in terms of flora and fauna. This will be achieved through—

- (a) enhancing implementation of existing regulations to protect the rights of all the wetland users; and
- (b) identify funding sources to implement water conservation programs that help to enhance wetland water resources.

The Conservation Plan is contained under Annexure 4 of the Second Schedule.

3.4 Catchment Protection Plan

The objective of the catchment monitoring plan is to collect water resources data and maintain a comprehensive database on the Karai wetland and its catchment that provides information on water levels and quality of the wetland by carrying out the following—

- (a) establishing a water quality and pollution control plan;
- (b) water sampling and analysis; and
- (c) establish a water resources database.

The Catchment Monitoring Plan is contained under Annexure 6 of the Second Schedule.

3.5. Establishment and operationalization of management structure

The objective of the management structure is to ensure that the Karai Wetland Conservation Area is managed in a sustainable manner with the involvement of all stakeholders under the leadership and coordination of WRA - ABA This plan envisages a budget of Kes 5,000,000 to implement it in the medium term (approximately 5 years). The management will need to raise the funds through various activities and events. This will be achieved through—

- (a) setting up the management structure with defined ToRs and mandates; and
- (b) development and implementation of resource mobilization strategies to raise funds for the management and conservation of the protected area.

Operationalization of the management structure shall be as set out under Annexure 7 of the Second Schedule.

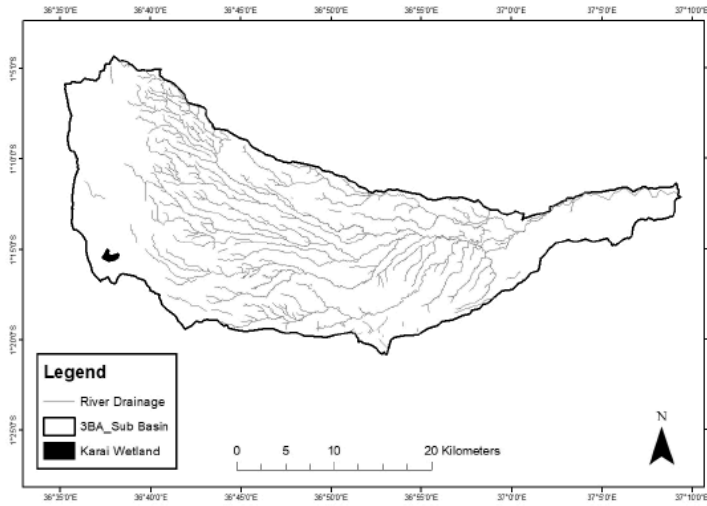
3.6 Monitoring and Evaluation Matrix

WRA as the agent of the National Government in the regulation of use and management of water resources, will be the coordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a not for profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

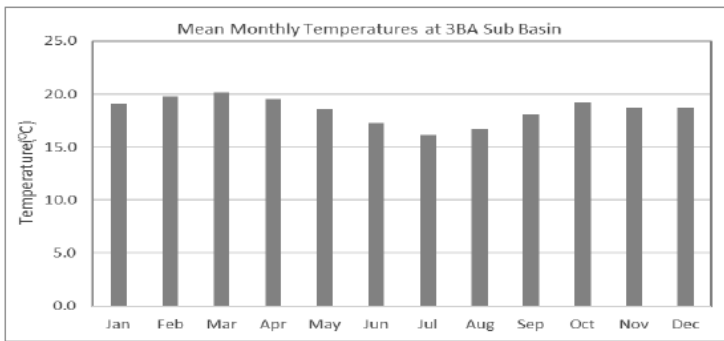
The linkages between various stakeholders are represented under Annexure 8 of the Second Schedule. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

The matrix contained under Annexure 9 shall be adopted for Monitoring and Evaluation to capture detail of the progress of implementation of the planned activities.

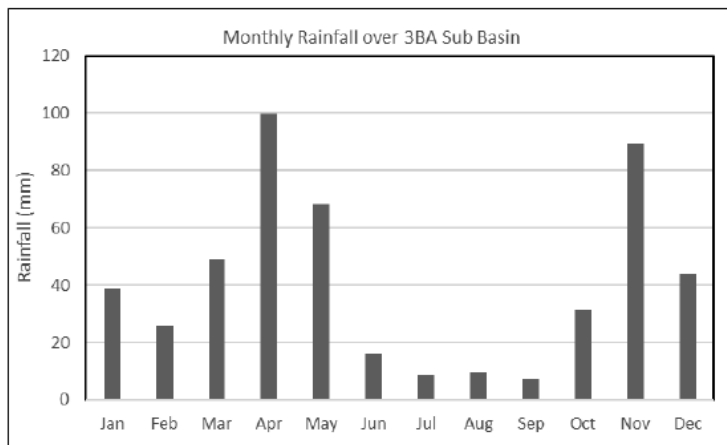
ANNEXURE 1: WATERSHED AREA



ANNEXURE 2: MEAN MONTHLY TEMPERATURES AT 3BA SUB BASIN



ANNEXURE 3: MEAN MONTHLY RAINFALL AT 3BA SUB BASIN



ANNEXURE 4: CONSERVATION PLAN

[Subsidiary]

<i>Activity</i>	<i>Sub-activity</i>	<i>Time Frame</i>	<i>Cost (KSh.)</i>	<i>Responsibility</i>
Establish the wetland and sub basin water balance	Assess demand and availability	2024	1,000,000	WRA, County Government, WRUA, KWS
Enhance Water use efficiency (introduction of technologies)	Sensitization and model water use units – irrigation, domestic Demonstration on efficient water use technology	Continuous	8,000,000	WRA, WRUA, County Government
Re-vegetation of the catchment area	Establish indigenous vegetation Propagation	Continuous	3,000,000	WRUA, WRA, KFS
	Grow live fence on the boundary of the catchment	Continuous	3,000,000	WRA, KFS, WRUA
	Planting and growing of propagated seedlings (Watering and tending)	Continuous	5,000,000	WRUA
	Exotic species control	Continuous	500,000	WRUA
Total			20,500,000	

ANNEXURE 5: CATCHMENT PROTECTION

Activity	Sub-activity	Time Frame	Cost (KSh.)	Responsibility
Gazettement of Karai Wetland as a protected area	Delineate and survey the wetland's catchment area.	2023	800,000	WRA, WRUA, Kiambu County Lands & Survey Team
	Develop the Part Development Plan for the wetland catchment	2023	500,000	WRA, Physical Planning Dept., Kiambu County
	Create awareness on the status of the wetland's catchment area.	Continuous	500,000	WRA, WRUA, NEMA, County Government of Kiambu (CGK),
	Develop guidelines and conservation/protection plan through stakeholders' engagement	2023	5,000,000	WRA with all stakeholders
	Submit gazettement instrument to the AG	2023	100,000	WRA
Enforcement of Karai wetland catchment management guidelines and other legislations	Enforce Karai Wetland Catchment guidelines, management plan and relevant legislations	continuous	5,000,000	WRA, County, Govt, NEMA, KWS.
Restricting activities that may lead to pollution and destruction of the catchment.	Public awareness creation	Annually	1,000,000	WRA, CGK, KFS, WRUA.
	Controls/restrictions on charcoal burning, grazing, bathing and farming near sensitive areas.	Continuous	300,000	WRA, CGK, KFS, WRUA.
	Enforcement	Quarterly	500,000	NGAO, WRA, KFS, NEMA, WRUA.
Alternative livelihood activities	Promote bee keeping, poultry farming and butterfly keeping, eco-tourism.	Continuous	10,000,000	WRA, WRUA, Agriculture and Livestock
TOTAL			23,700,000	

ANNEXURE 6; CATCHMENT MONITORING PLAN

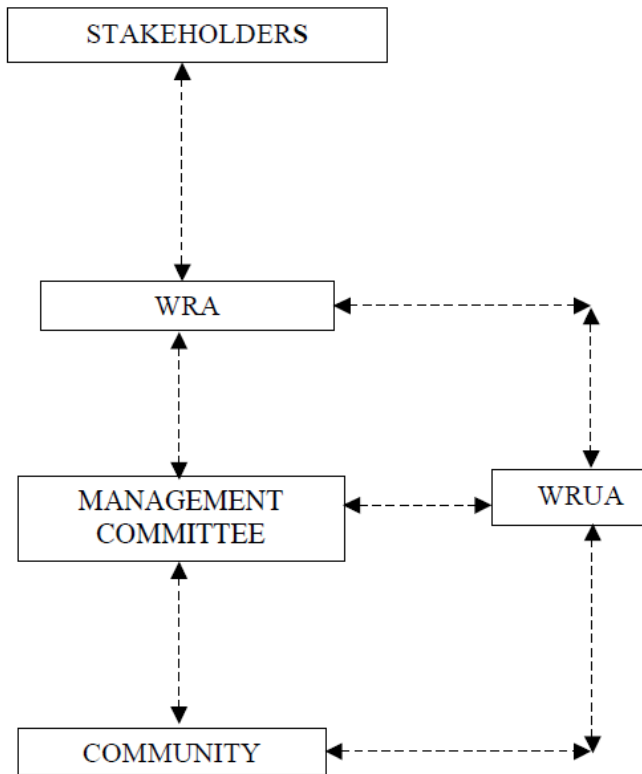
Action	Sub-activities	Time Frame	Cost (KSh.)	Responsible
Water sampling and analysis	Collect water resources samples and conduct analysis for biological and physico-chemical parameters	Quarterly	500,000	WRA
Capacity Building	Capacity building on data collection and monitoring	Continuous	500,000	Stakeholders and WRA
Water resources monitoring	Install water level gauges within the wetland and rehabilitate existing one downstream Undertake water level monitoring for the borehole on the wetland	1 year	2,500,000	WRA, WRUA
Total			3,500,000	

ANNEXURE 7 : MANAGEMENT STRUCTURE

[Subsidiary]

<i>Activity</i>	<i>Sub-activity</i>	<i>Time Frame</i>	<i>Cost</i>	<i>Responsibility</i>
Setting up the management structure	Appoint 1No. Member from each of the following stakeholders: (a) Kenya Forest Service (b) National Environment Management Authority (c) National Government Administration in Kiambu County (d) Kenya Wildlife Service (e) Ministry of Agriculture (f) Onkaru WRUA	3 months	0	WRA
	Terms of References (ToR) will include but not limited to: <input type="checkbox"/> Manage the catchment prudently on behalf of other stakeholders <input type="checkbox"/> Submit quarterly reports to WRA - ABA on all planned and implemented activities; <input type="checkbox"/> Develop by-laws and submit a copy to WRA – ABA for approval before implementation	Continuous	0	WRA, WRUA
Develop and	Mandate and responsibilities:	Continuous	0	Management
implement resources mobilization strategies	<input type="checkbox"/> Promote the conservation and protection of the catchment <input type="checkbox"/> Promote equitable distribution of the resources within the catchment <input type="checkbox"/> Promote socio-economic and environmental sustainability of the catchment			Committee
	The sources of funds for the committee may include: <input type="checkbox"/> Bee keeping <input type="checkbox"/> Tree Nursery; <input type="checkbox"/> Eco-tourism; <input type="checkbox"/> Well-wishers/Donors <input type="checkbox"/> WRA/WRUA - (WDC)	Continuous	5,000,000	WRA
Sub-total			5,000,000	

ANNEXURE 8: REPORTING LINKAGES FOR THE MANAGEMENT COMMITTEE



Note:

- (i) The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa;
- (ii) WRA as the agent of the National Government in the regulation of use and management of water resources, will be the coordinator of the committee.

The members appointed to the Management Committee will serve on honorary basis as this will be a non-profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

ANNEXURE 9: MONITORING AND EVALUATION TEMPLATE

Activities	Implementation Schedule		Status (% Completion)	Planned Cost KSh.	Total Expenditure to Date	Source of funds	Output	Comments
	Start Date	End Date						

**THE LAKE OL BOLOSSAT CATCHMENT
PROTECTION AREA ORDER, 2023**

ARRANGEMENT OF PARAGRAPHS

Paragraph

1. Citation
2. Interpretation
3. Application of the Order
4. Declaration of protected area
5. Lake Ol Bolossat Catchment Management Plan
6. Offence

SCHEDULES

FIRST SCHEDULE —

THE LAKE OL BOLOSSAT CATCHMENT
PROTECTION AREA

**THE LAKE OL BOLOSSAT CATCHMENT
PROTECTION AREA ORDER, 2023**

[Legal Notice 116 of 2023]

1. Citation

This Order may be cited to as the Lake Ol Bolossat Catchment Protection Area Order, 2023.

2. Interpretation

In this Order, except where the context otherwise requires—

"Act" means the Water Act, 2016 (No. 43 of 2016);

"association" means a water resources users association registered by the Authority in accordance with the Act;

"Authority" means the Water Resources Authority established under section 11 of the Act;

"basin area" means the area designated by the Authority as a Basin Area under section 24 of the Act.

"Protected Area" means the area declared to be a Catchment Protected Area under paragraph 4 of this Order and is demarcated for protection and conservation within the Lake Ol Bolossat Catchment Management Plan;

"Plan" means the Lake Ol Bolossat Catchment Management and Conservation Plan as set out in the Second Schedule;

"riparian reserve" means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the Protected Area;

"soil and water conservation plan" means a soil and water conservation plan as defined in the Water Resources Regulations, 2021 (L.N. 170 of 2021); and

"sub-basin area" means the area designated by the Authority as a Basin Area under section 24(2) of the Act.

3. Application of the Order

This Order shall apply to the National Government, national government entities, county governments, county government entities and any other person being a user of water resources and the riparian reserve of the Protected Area.

4. Declaration of protected area

(1) The Lake Ol Bolossat Catchment Protection Area is declared to be a protected area for the purposes of the Act.

(2) The area declared in subparagraph (1) shall be as per the extent and description set out in the First Schedule and is demarcated for protection and conservation within the Lake Ol Bolossat Catchment Management Plan.

5. Lake Ol Bolossat Catchment Management Plan

(1) The Plan shall, without prejudice to the provisions of the Regulations developed under the Act, be the basis for protection, conservation and use of the water resources within the Groundwater Conservation Area.

(2) The Authority shall place signboards and beacons in or near the Protected Area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Protected Area.

[Subsidiary]

(3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Protected Area.

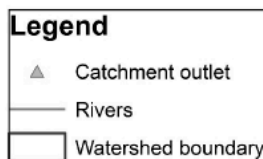
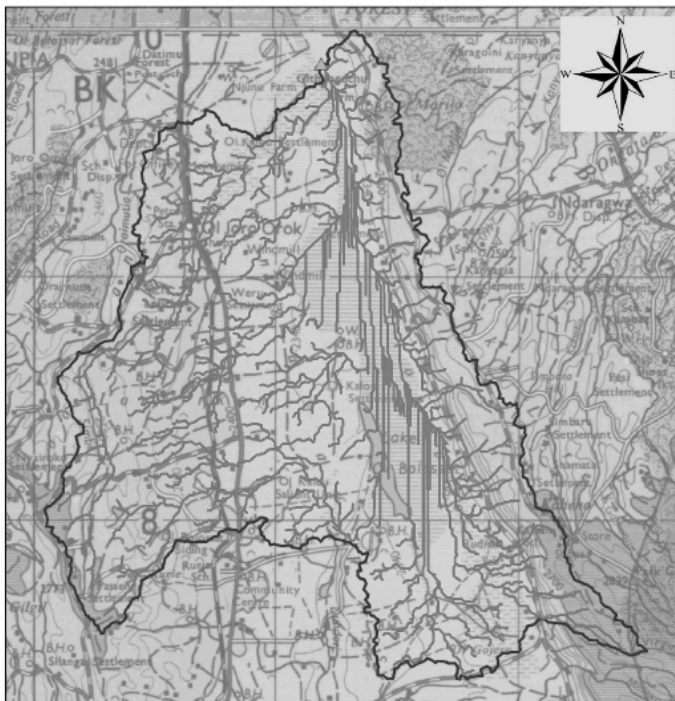
6. Offence

Any person who contravenes this Order commits an offence and is liable upon conviction to a fine of twenty thousand shillings or imprisonment for a term not exceeding six months, or to both such fine and imprisonment.

FIRST SCHEDULE

THE LAKE OL BOLOSSAT CATCHMENT PROTECTION AREA

[r. 2, 4.]



Note:

- (i) The lake Ol Bolossat is located at S01° 7'.33"S and 36° 25'4.60"E at an average altitude of 2,340 masl in Nyandarua County within Engare Narok Melghis Sub-Basin Area in drainage area Number 5AA. Its catchment and lake surface covers an area of approximately 147Km² and is within the Lake Ol Bolossat WRUA sub catchment. Its sources of water are from Aberdares ranges mainly from the Nduthi springs among other several springs. It drains into Engare Narok River at Manguo within Nyahururu Town in Laikipia East Sub-County.

- (ii) Lake Ol Bolossat is partly fed by rainfall, sub-surface flow and springs from the Aberdare ranges to the east of the lake. The area that contributes surface run-off into the Lake has been delineated through the use of a GIS software. The area measures 134 km² out of the 1,357 km² catchment area of the whole 5AA sub basin.

1.1 Citation

This Plan may be cited as the Lake Ol Bolossat Catchment Management Plan.

1.2 Acronyms

The following acronyms shall have the meanings as assigned below:

AEZ – Agro-Ecological Zone

b.g.l – below ground level

ENNCA – Ewaso Ngiro North Catchment Area

KFS – Kenya Forest Service

Km² – Square Kilometer

m.a.s.l –Meters Above Sea Level

m³/d – Cubic Meters per day

MoALF – Ministry of Agriculture

MoL – Ministry of Lands and Physical Planning

NEMA – National Environment Management Authority

NGAO – National Government Administration Officers

NLC – National Land Commission

°C – Degrees Celsius

OND – October- November-December

Q50 – Flow that is equaled or exceeded 50% of the time

Q80 – Flow that is equaled or exceeded 80% of the time

Q95 – Flow that is equaled or exceeded 95% of the time

RGS – Regular Gauging Station

RQOs – Resource Quality Objectives

ToR – Terms of Reference

WDC – WRUA Development Cycle

WRM – Water Resources Management

WRA – Water Resources Authority

WRUA – Water Resources Users Association Acronyms

1.3 Application of the Plan

This Plan shall apply in respect to the management and use of the Protected Area.

1.4 Goals

The overall goals of the Lake Ol Bolossat Catchment Management Plan are to ensure sustainable management and use of water resources within the Protected Area while promoting equitable sharing of water resources.

[Subsidiary]

1.5 Introduction and Background Information

A catchment area is defined as the land from which water naturally flows into a water course. The status and conditions of a catchment determines the reliability, quantity and quality of its water yields. A catchment area acts like a water storage facility where during the rains, the vegetation cover allows the water ample time to percolate deep down and move as a sub-surface flow to recharge the rivers, springs and ground water storage in both shallow and deep aquifers. This sub-surface flow is slow resulting in rivers from a well-maintained catchment having higher base flows even during the dry season as well as good water yield from boreholes in the vicinity. In poorly maintained and degraded catchment, the rainfall results in the rapid surface run-off which is channeled into the river courses, resulting in flashfloods and high volumes of suspended solids. Since there is little storage in such a catchment, the rivers originating from such catchment will not be able to sustain their base flows during the dry season.

Catchment areas are thus a vital component in water resource management and they should be formally delineated, declared as protected areas by being gazetted as such, protected from encroachment and pollution and managed sustainably to maintain their ecological integrity.

1.6 Background information on Lake OI Bolossat

The Lake OI Bolossat is located at $S01^{\circ} 7'.33''S$ and $36^{\circ} 25'.60''E$ at an average altitude of 2,340 masl in Nyandarua County within Engare Narok Melghis Sub Basin Area in drainage area Number 5AA. Its catchment and lake surface covers an area of approximately 147Km² and is within the Lake OI Bolossat WRUA sub catchment. Its sources of water are from Aberdares ranges mainly from the Nduthi springs among other several springs. It drains into Engare Narok River at Manguo within Nyahururu Town in Laikipia East Sub-county.

1.7 The lake serves as the main source of water for the Ewaso Narok River and hence contributes to the flow of Ewaso Ng'iro North River downstream within Laikipia, Samburu, Isiolo and Wajir counties. It is characterized by different physiological features and diverse species of flora and fauna. One of the peculiar features is that the lake has both fresh and saline water, and the water does not mix at any one time.

1.8 Its water resources support the livelihoods in five (5No.) counties namely; Nyandarua, Laikipia, Samburu, Isiolo and Wajir. It also supports tourism-related activities in these counties including among others the scenic 75m Thomson falls, hotels and globally renowned conservancies such OI Pajeta and Lewa.

1.9 Lake OI Bolossat has been identified as a wetland under the National Government and its land was demarcated and issued with a Title Deed (LR Nyandarua/OI Bolossat/482) measuring approximately 14,700 hectares (147 km² or 36,750 acres).

1.10 Location and size of the Protected Area

The protected area is found within Ndaragwa Sub-county (eastern side) and OI Joro Orok and OI Kalau Sub-counties (western side), Nyandarua County, located 21 km to the south of Nyahururu Town, off the Gil Gil – Nyahururu Highway and 131 km north of Nairobi City. The sub catchment covers an area of 147 km² and is within the 5AA-sub basin of the Ewaso Ng'iro North Basin Area.

1.11 Watershed area

Lake OI Bolossat is partly fed by rainfall, sub-surface flow and springs from the Aberdare ranges to the east of the lake. The area that contributes surface run-off into the Lake has been delineated through the use of a GIS software. The area measures 134 km² out of the 1,357 km² catchment area of the whole 5AA sub basin.

1.12 Criteria Adopted in Identifying Lake OI Bolossat for Protection

WRA has taken into account of the considerations provided under the Seventh Schedule of the Water Resources Regulations, 2021.

PART II – PROCEDURES TO BE APPLIED FOR THE MANAGEMENT OF THE LAKE OL BOLOSSAT CATCHMENT PROTECTION AREA

2.1 Physiography

The Lake Ol' Bolossat area has gently sloping areas that form part of the Kinangop and Ol' Kalou/ Ol' Joro Orok plateaus. The gentle slopes and plain-like features encourage the formation of marshlands and swamps. The Ol Bolossat plain was formed through volcanic and faulting activities which gave rise to major land forms; the Great Rift Valley to the west and Aberdare ranges to the east.

2.2 Further to the west, the land surface is broken by faults forming a complex of shallow horst and graben structures. The graben in which Lake Ol' Bolossat lies is bounded by weak faulting on the west, developing increasingly to the south, and on the east by the Satima Escarpment (36 km-long and 2,500 masl. altitude) running south from Thomson's Falls.

2.3 The lake lies at an average altitude of about 2,340 masl. in a wedge-shaped rift valley floor known as Ongata Pusi. In the south- east corner of the area, Mount Kipipiri which is part of the Aberdare (Nyandarua) Mountains is 3,349 masl (Birdlife International, 2017) and 914.4 masl from the Ol' Bolossat plain, is an isolated volcanic eminence separated from the Satima massif by the deep cleft of the Wanjohi Valley (McCall, 1967).

2.4 Climate

The Nyahururu climate is largely semi-humid. Lake Ol Bolossat is located in a high-altitude area bordering the Aberdare ranges. These ranges have a great influence on the climate of the catchment. The area experiences very narrow variations in annual temperatures. The rainfall received on the Lake Ol Bolossat side of the ranges is minimal as it is on the leeward side of the mountain ranges.

2.5 This catchment is within the tropics. Areas within the Tropic of Capricorn and the Tropic of Cancer experiences a bi-modal rainfall regime. This is because of the influence of the Inter-Tropical Convergence Zone (ITCZ). This is a low-pressure belt within the tropics where there is convergence of the northern and southern trade winds. This has an effect on the rainfall and wind patterns within the areas. These zones experience long rains during the months of April and June while short rains are experienced during the months of October and November.

2.6 Rainfall

Rainfall data collected from the AMS Nyahururu rainfall station (ID: 8903068) was used for analysis of the precipitation received in the area. The station is located within Nyahururu Agricultural offices in Nyahururu town. Analysis of rainfall trends is provided in Annexures 2 and 3 of the Second Schedule.

2.7 The rainfall records from the AMS Nyahururu Station indicates that the basin received an average rainfall of 1021 mm over the 17 years record. These rainfall records also indicate that the year 2018 was the wettest year with a total rainfall amount of 1360 mm. 2019 was the driest year within the time series analysed. The data also shows that there has been variation in the amount of rainfall received in the basin but the trends have not been consistent. The past two years have also received rainfall amounts that are below average.

2.8 An analysis of the monthly average rainfall indicated that the month of August has been the wettest over the years. January is the driest month of the year. The data also shows that the first quarter of the year exhibits a trend of steady in the rainfall amounts received. The average rainfall is between 0.6 and 5 mm per month over the past 17 years.

2.9 Land Uses and their potential impact on the protected area

According to Lake Ol' Bolossat Management Plan (2000- 2013), there are several land use practices within and around the lake. These include agriculture, forestry, fishing, wildlife

[Subsidiary]

conservation, mining and infrastructural development and have been described in details in the subsequent sub-sections. The land use practices have impacts on the overall ecosystem integrity.

2.10 The Lake Ol' Bolossat area is a fertile agricultural area classified as Agro-ecological zone UH3IV with agriculture, mainly rain fed, being the main land use in Lake Ol' Bolossat basin and but with several areas under irrigation. Crops grown include maize, beans, wheat, potatoes, pyrethrum and a wide range of vegetables. Increased horticultural activities especially flower farming in the area have contributed to increase in irrigation activities around the lake.

2.11 Indigenous forest cover in the area has declined tremendously due to human settlement, deliberate fires and indiscriminate felling of trees for firewood and other uses. However; farmers practice agro-forestry and farm forestry on a limited scale. Key forests around the lake include Ol' Bolossat Forest, Ndaragwa Forest and Aberdare Forest.

2.12 The lake still does not support commercial fisheries, but there is subsistence fishing particularly in the central and southern parts of the lake.

2.13 The lake and its catchment are important for wildlife conservation with a variety of wildlife species that include hippopotamus, birds, leopard, and small mammals. The encroachment on the riparian reserve has given rise to human – wildlife conflicts.

2.14 There is quarrying sites for the production of building materials mostly on public land and within less than 100 m from the lake boundaries. These activities are very detrimental to the lake integrity as they result in siltation of the lake.

2.15 The area around Lake Ol' Bolossat has witnessed significant land-use changes, which are believed to be the major cause of the dwindling Lake volumes.

2.16 Vulnerability of the water resource

Lake Ol' Bolossat is partly fed by rainfall, sub-surface flow and surface flows from springs and streams.

2.17 Due to land use and land cover change in the catchment area, the lake is facing the threat of reduced inflows while at the same time water demand is increasing. Other human activities around the lake and its catchment area includes—

- (a) quarrying;
- (b) planting of exotic trees (eucalyptus);
- (c) catchment degradation due to intensive land pressure, small plot sizes, and charcoal burning;
- (d) soil erosion due to poor farming methods;
- (e) encroachment on springs' sources;
- (f) pollution of water resources from agro-chemical;
- (g) encroachment on riparian lands and wetlands;
- (h) conflicts between farmers/wildlife/pastoralists; and
- (i) illegal abstraction/poor compliance to water laws.

2.18 The water resource quality objectives

Section 20 of the Act requires the Authority to prescribe the criteria for classifying water resources for the purposes of determining water resources quality objectives for each class of water resource.

The Resource Quality Objectives represent the desired status of the resource, covering all aspects of quantity, quality, timing and aquatic biota. The RQO's are different for different classes of water resource. The objectives generally relate to the extent to which the

water body is allowed to be adversely impacted by water use with respect to its natural state. Conceptually the RQO's provide a "target" condition of the resources. Management decisions should be made such that the condition of the resource is progressively trending towards the RQO. The status of the resource is a measure of how far the condition of the resource is from the RQO.

The Ewaso Ngiro North Basin Plan developed by WRA in consultation with various stakeholders, has classified Lake Ol Bolossat sub-catchment as of high ecological importance. Ecologically important areas have almost natural ecological characteristics. The focus for water resources management is the protection of the natural ecological characteristics for ecological, recreational and development of tourism with economic importance.

Sustainable regional water resources management require co-operation, collaboration and synergy with the Kenya Forest Service, the Kenya Wildlife Service, National and County Governments MDAs, WRUAs and user communities.

2.19 The class of the water resource

The present aquifer classification system in Kenya is partly demand-oriented and partly geo-political and entails five classes:

2.19.1 STRATEGIC aquifers: Aquifers used to supply significant amounts/proportions of water to an area where there are no alternatives, or where alternatives would take time and money to develop.

2.19.2 MAJOR aquifers: High-yielding aquifers with good quality water.

2.19.3 MINOR aquifers: Moderate-yielding aquifers with variable water quality.

2.19.4 POOR aquifers: Low-yielding aquifers with poor to reasonable quality water.

2.19.5 SPECIAL aquifers: Aquifers or parts of aquifers designated 'special aquifers' by the WRA.

2.20 Each is further defined in terms of its status, i.e.:

2.20.1 Satisfactory: No immediate stress, pressure or threat.

2.20.2 Alert: Stress, pressure or threat identified or anticipated.

2.20.3 Alarm: Water levels declining, water quality declining (stress, pressure or threat identified).

2.21 Land uses and their potential impact on the water resources

The Lake Ol Bolossat sub-catchment can be classified as "Alert" as the water availability is trending towards scarcity and is at times not adequate to meet the demand.

2.22 The population around Lake Ol Bolossat which is within the catchment area has been growing rapidly over the years. Several commercial/trading centres are located within close proximity to the lake and this has increased the impacts on the lake.

2.23 The potential impacts on the water resources as a result of human acts includes:

- (a) Encroachment: People have encroached on springs and waterways.
- (b) Overexploitation of available resources: The population in the area has been rapidly growing over the years. This leads to excessive pressure on available land and water resources leading to encroachment of the lake catchment and riparian reserve.
- (c) Soil Erosion: Following uncontrolled farming and other human activities, soil erosion leads to siltation of the Lake hence affecting its overall depth and water levels.
- (d) Deforestation: The forest cover around the Lake, the immediate catchment areas as well as the wider catchment has been depleted due human activities. Forests have been cleared to give way for farmlands, settlements as well as charcoal burning and timber.

[Subsidiary]

(e) Water Pollution: Due to excessive economic activities around the Lake, the water has been polluted. The farms in the surrounding area use pesticides and herbicides which eventually find their way into the Lake and leading to pollution. Other pollutants include solid waste that is washed into the Lake by runoff water during rains.

PART III – MEASURES FOR PROTECTION, CONSERVATION AND REHABILITATION OF THE PROTECTED AREA

3.1 Proscribed Activities

The activities to be undertaken within the Protected Area are those with zero impact on its ecological status and integrity.

The following activities are hereby specifically prohibited in the groundwater conservation area—

- (i) tillage or cultivation;
- (ii) clearing of indigenous trees or vegetation;
- (iii) building of permanent structures (especially boreholes and houses);
- (iv) disposal of any form of waste;
- (v) excavation of soil or development of quarries;
- (vi) planting of exotic species that may have adverse effect to the water resource; and
- (vii) land reclamation.

3.2 Catchment Protection Plan

The catchment protection plan aims at protecting Lake Ol Bolossat catchment by encouraging activities that enhance both water quality and quantity while promoting beneficial land and water management practices and discouraging activities that cause catchment degradation.

The Catchment protection activities planned to be undertaken shall include those contained under Annexure 5 of the Second Schedule.

3.3 Conservation Plan

The objective of the conservation plan is to provide a long- term environmental sustainability of the catchment for enhanced water resources yield and maintain its ecological functions in terms of flora and fauna.

The conservation/protection plan includes the following activities—

- (a) enhancing implementation of existing regulations to protect the rights of all users;
- (b) promoting water use efficiency that is hydrologically and economically beneficial to domestic, agricultural, and industrial water users and the environment; and
- (c) identifying funding sources to implement water conservation programs that help to enhance water resources.

Activities under the conservation Plan are contained under Annexure 4 of the Second Schedule.

3.4 Catchment and Water Resources Monitoring

The objective of the monitoring plan is to collect water resources data and maintain a comprehensive database on the Lake Ol Bolossat catchment that provides information on water levels and quality as well as catchment health.

The particulars of the Catchment and Water Resources Monitoring Plan are contained under Annexure 6 of the Second Schedule.

3.5 Establishment and operationalization of management structure

The objective of the management structure is to ensure that the Lake OI Bolossat catchment protected area is managed in a sustainable manner with the involvement of all stakeholders under the leadership and co-ordination of WRA - TBA. This will be achieved through—

- (a) setting up the management structure with defined ToRs and mandates; and
- (b) operationalization of the management structure as set out under Annexure 7 of the Second Schedule.

WRA as the agent of the National Government in the regulation of use and management of water resources, will be the coordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a not for profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

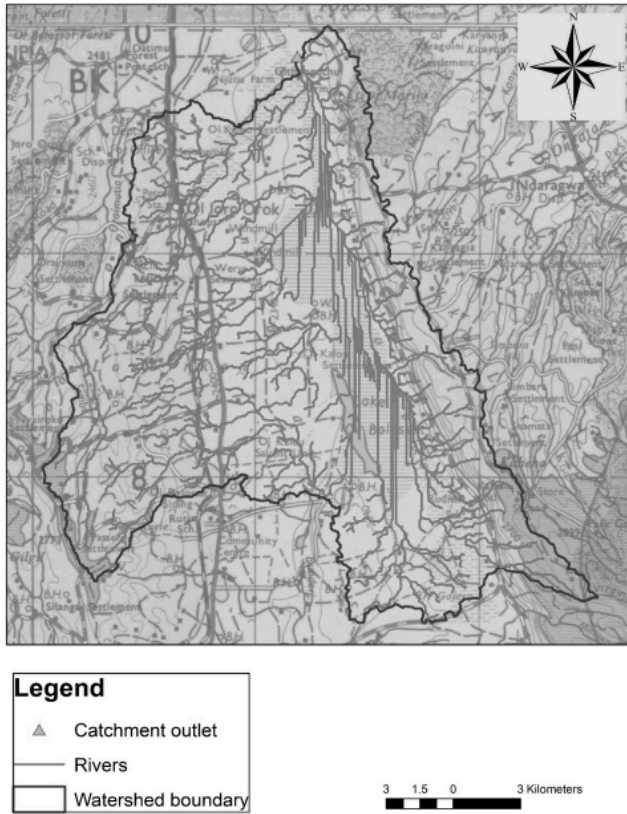
The linkages between various stakeholders are represented under Annexure 8 of the Second Schedule. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

3.6 Monitoring and Evaluation Matrix

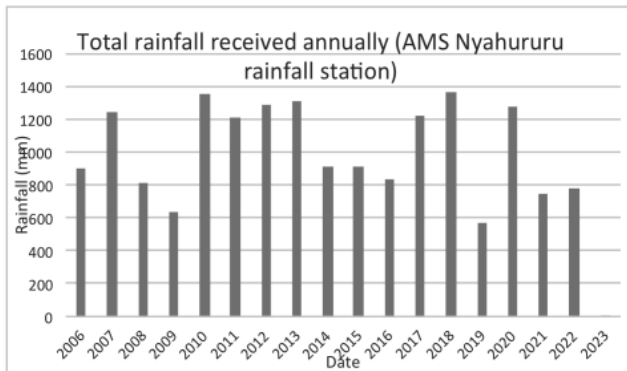
The matrix contained under Annexure 9 of the Second Schedule shall be adopted for Monitoring and Evaluation to capture detail of the progress of implementation of the planned activities.

[Subsidiary]

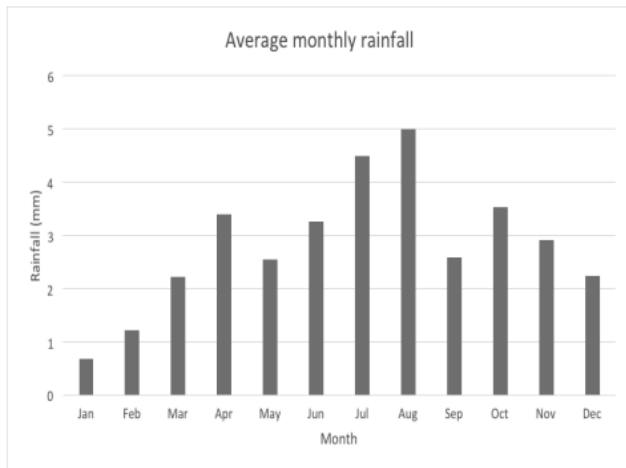
ANNEXURE 1: THE LAKE OL BOLOSSAT CATCHMENT PROTECTION AREA



ANNEXURE 2: ANNUAL RAINFALL AT AMS NYAHURURU RAINFALL STATION



ANNEXURE 3: MEAN MONTHLY RAINFALL AT AMS NYAHURURU RAINFALL STATION



ANNEXURE 4: CONSERVATION PLAN

Activity	Sub-activity	Time Frame	Cost (KSh.)	Responsibility
Establish the water balance	Assess demand and availability	2024	2,000,000	WRA, County Government, WRUA, KWS, KFS
Develop water allocation plan for the Lake Ol Bolossat	Develop Water Allocation Plan	2024	5,000,000	WRUA, WRA, KWS, County Government.
	Implement water allocation plan	continuous	15,000,000	WRA, WRUA.
	Enforce permit conditions	continuous	10,000,000	WRA, WRUA.
Enhance Water use efficiency (introduction of technologies)	Sensitization and model water use units – irrigation, domestic	Continuous	8,000,000	WRA, WRUA, County Government
	Demonstration on efficient water use technology			
Alternative livelihood activities	Promote eco-tourism, bee keeping, poultry farming and butterfly keeping	Continuous	10,000,000	WRA, KWS, WRUA, Agriculture and livestock
Re-vegetation of the catchment area	Establish native Plant Propagation	Continuous	2,000,000	WRUA, WRA, KFS
	Planting and growing of propagated seedlings (Watering and tending)	Continuous	5,000,000	WRUA
	Exotic species control	Continuous	500,000	WRUA
Rain water storage enhancement.	Installation of 20 (litre) Rain water harvesting tanks in public institutions/public land	Continuous	4,000,000	WRA, County Government and WRUA
	Construction of 2No. 10,000m ³ water pans	Continuous	10,000,000	WRA, County Government and WRUA.
	Total		71,500,000	

[Subsidiary]

ANNEXURE 5: CATCHMENT PROTECTION PLAN

Activity	Sub-activity	Time Frame	Cost (KSh.)	Responsibility
Delineation of Lake Ol Bolossat Catchment as a protected area	Delineate and survey the lake's catchment area.	1 Year	2,000,000	WRA, WRUA, Nyandarua County Lands and Survey Team
	Create awareness on the status of the lake's catchment area	Continuous	300,000	WRA, KWS, WRUA, NEMA, County Government
	Develop guidelines and conservation/ protection plan through stakeholders' engagement	2023	1,500,000	WRA with all stakeholders
	Submit gazettement instrument to the AG	2023	500,000	WRA
Enforcement of Lake Ol Bolossat catchment guidelines and other legislations	Enforce Lake Ol Bolossat Management Guidelines and relevant legislations	continuous	5,000,000	County Govt, WRA, KWS, NEMA
	Public awareness creation	Annually	1,000,000	WRA, County Government, KWS, KFS, WRUA
	Controls/restrictions on charcoal burning, grazing, bathing and farming near sensitive areas.	Continuous	300,000	WRA, County Govt, KWS, KFS, WRUA
Restricting activities that may lead to pollution and destruction of the catchment.	Enforcement	Quarterly	500,000	County Commissioner, WRA, KFS, NEMA, WRUA
	Review legality of encroachment titles and resolving of grants	Continuous	5,000,000	NLC, WRA, County Government.
Controlling access to the lake riparian reserve	Fence off the lake and its riparian reserve to control access	3 years	30,000,000	WRA, County Government
	Grow live fence on the boundary of the catchment.	Continuous	3,000,000	WRA, KFS, WRUA
Total			49,100,000	

ANNEXURE 6: CATCHMENT AND WATER RESOURCES MONITORING PLAN

Action	Sub-activities	Time Frame	Cost (KSh.)	Responsible
Water sampling and analysis	Collecting water resources samples.	Continuous	200,000	WRA
	Conduct biological and physico-chemical analysis of water samples	Continuous	500,000	WRA
Capacity Building	Capacity building on data collection and monitoring	Continuous	1,000,000	stakeholders and WRA
Water resources monitoring	Install water level gauging stations at strategic locations in the sub catchment	1 year	1,500,000	WRA, WRUA
Total			3,200,000	

ANNEXURE 7: MANAGEMENT STRUCTURE

Activity	Sub-activity	Time Frame	Cost (KSh.)	Responsibility
The sources of funds for the committee may include:	Bee keeping	Continuous	5,000,000	WRA
	Tree Nursery;			
	Eco-tourism;			
	Well-wishers/Donors			
	WRA/WRUA - (WDC)			
Sub-total			5,250,000	

The sources of funds for the committee may include:	Continuous	5,000,000	WRA
<ul style="list-style-type: none"> ▪ Bee keeping ▪ Tree Nursery; ▪ Eco-tourism; ▪ Well-wishers/Donors ▪ WRA/WRUA - (WDC) 			
Sub-total		5,250,000	

ANNEXURE 8: REPORTING LINKAGES FOR THE MANAGEMENT COMMITTEE



Note:

- (i) The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa;
- (ii) WRA as the agent of the National Government in the regulation of use and management of water resources, will be the co-ordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a non-profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

ANNEXURE 9: MONITORING AND EVALUATION TEMPLATE

Activities	Implementation Schedule		Status (% Completion)	Planned Cost KSh.	Total Expenditure to Date	Source of funds	Output	Comments
	Start Date	End Date						

THE LARI SWAMP CATCHMENT PROTECTION AREA ORDER, 2023

[Legal Notice 119 of 2023]

1. Citation

This Order may be cited as the Lari Swamp Catchment Protection Area Order, 2023.

2. Interpretation

In this Order, except where the context otherwise requires—

"Act" means the Water Act, 2016 (No. 43 of 2016);

"association" means a water resources users association registered by the Authority in accordance with the Act;

"Authority" means the Water Resources Authority established under section 11 of the Act;

"basin area" means the area designated by the Authority as a Basin Area under section 24 of the Act;

"Protected Area" means the area declared to be a Protected Area under paragraph 4 and is demarcated for protection and conservation within the Lari Swamp Catchment Management Plan;

"Plan" means the Lari Swamp Catchment Management Plan set out in the Second Schedule;

"riparian reserve" means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the Protected Area;

"soil and water conservation plan" means a soil and water Conservation Plan as defined in the Water Resources Regulations, 2021 (L.N. 170 of 2021); and

"sub-basin area" means the area designated by the Authority as a Basin Area under section 24(2) of the Act.

3. Application of the Order

This Order shall apply to the National Government, national government entities, county governments, county government entities and any other person being a user of water resources and the riparian reserve of the Protected Area.

4. Declaration of protected area

(1) The Lari Swamp Catchment Protection Area is declared to be a protected area for purposes of the Act.

(2) The area in sub paragraph (1) shall be as per the extent and description set out in the First Schedule and is demarcated for protection and conservation within the Lari Swamp Catchment Management Plan.

5. Lari Swamp Conservation Plan

(1) The Plan shall, without prejudice to the provisions of the Regulations made under the Act, be the basis for protection, conservation and use of the water resources within the Protected Area.

(2) The Authority shall place signboards and beacons in or near the Protected Area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Protected Area.

(3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Protected Area.

[Subsidiary]

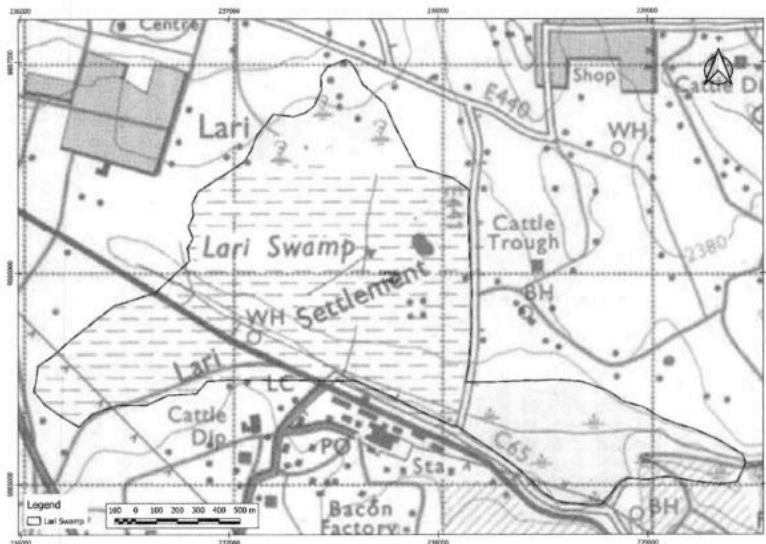
6. Offence

Any person who contravenes this Order commits an offence and is liable upon conviction to a fine of twenty thousand shillings or imprisonment for a term not exceeding six months or to both such fine and imprisonment.

FIRST SCHEDULE

THE LARI SWAMP CATCHMENT PROTECTED AREA

[p. 2, 4]



Note:

- (i) The Protected Area is commonly known as Lari Swamp and it traverses three locations namely Lari, Kirenga and Gituamba of Lari Sub-county in Kiambu County. The swamp can be seen off Nairobi - Nakuru Highway, a distance of 2.0 kilometres from Nyambari Town to the right and is accessible from Nyambari Town immediately past the police station, which is a distance of 2 kilometres from the highway.
- (ii) The swamp derived area is 2.447 km² or 244.66 Hectare as delineated from 1976 Map Sheet 148/1 for Limuru. The Swamp falls on Bathi River sub-catchment.
- (iii) Lari Swamp is the source of Ruiru River and an important water conservation area that constitutes ground water recharge area for Nairobi Aquifer Suite.

SECOND SCHEDULE

THE LARI SWAMP CATCHMENT MANAGEMENT PLAN

[p. 2, 4, 5]

PART I – PREAMBLE

1.1 Citation

This Plan may be cited as the Lari Swamp Catchment Management Plan.

1.2 Acronyms

The following acronyms shall have the meanings as assigned, below;

AEZ - Agro-Ecological Zone

ABA - Athi Basin Area

KFS - Kenya Forest Service

Km² - Square Kilometer

L.N. - Legal Notice

m.a.s.l. - meters above sea level

M³/d - Cubic meters per day

M³/s - Cubic meters per second

Mm³ - million cubic meters

MoA - Ministry of Agriculture

MoL - Ministry of Lands

NEMA - National Environment Management Authority

NGAO - National Government Administration Officer

NLC - National Land Commission

°C - Degrees Celsius

Q50 - Flow that is equaled or exceeded 50% of the time

Q80 - Flow that is equaled or exceeded 80% of the time

Q95 - Flow that is equaled or exceeded 95% of the time

RGS - Regular Gauging Station

RQOs - Resouree Quality Objectives

ToR - Terms of Reference

WDC - WRUA Development Cycle

WRA - Water Resources Authority

WRUA - Water Resources Users Association

WRM - Water Resources Management

1.3 Application of the Plan

This Plan shall apply in respect to the management and use of the Lari Swamp Catchment Protected Area.

1.4 Objectives

The objectives of this Plan are to—

- (i) enhance implementation of existing regulations to protect the rights of all users;
- (ii) promote water, use efficiency that is hydrologically and economically beneficial to domestic, agricultural, and industrial water users and the environment; and
- (iii) identify funding sources to implement water conservation programs that help to enhance water resources.

1.5 Introduction and Background information

[Subsidiary]

A catchment area is defined as the land from which water naturally flows into a water course. The status and conditions of a catchment determines the reliability, quantity and quality of its water yields. A catchment area acts like a water storage facility where during the rains, the vegetation cover allows the water ample time to percolate deep down and move as a sub-surface flow to recharge the rivers, springs and ground water storage in both shallow and deep aquifers. This sub-surface flow is slow resulting in rivers from a well-maintained catchment having higher base flows even during the dry season as well as good water yield from boreholes in the vicinity. In poorly maintained and degraded catchment, the rainfall results in the rapid surface run-off which is channeled into the river courses, resulting in flashfloods and high volumes of suspended solids. Since there is little storage in such a catchment, the rivers originating from such catchment will not be able to sustain their base flows during the dry season.

Catchment areas are thus a vital component in water resource management, and they should be formally delineated, declared as protected areas by being gazetted as such, protected from encroachment and pollution and managed sustainably to maintain their ecological integrity.

1.6 Location and size of the Protected Area

The Lari Swamp (hereafter referred to as the "swamp") traverses three locations namely Lari, Kirenga and Gituamba of Lari Sub-county in Kiambu County. The swamp is can be seen off Nairobi-Nakuru Highway, a distance of 2.0 kilometres from Nyambari Town to the right and is accessible from Nyambari Town immediately past the police station, which is a distance of 2 kilometres from the highway.

1.7 Water shed area

The swamp derived area is 2.447 Km² or 244.66 hectare as delineated from 1976 Map Sheet 148/1 for Limuru. The Swamp falls on Bathi River sub catchment.

1.8 Criteria Adopted in Identifying Lari Swamp for Protection

WRA has taken into account of the considerations provided under the Seventh Schedule of the Water Resources Regulations, 2021.

PART II – PROCEDURES TO BE APPLIED FOR THE MANAGEMENT OF THE LARI SWAMP CATCHMENT PROTECTED AREA

2.1 Physiography

Lari Swamp's estimate terrain elevation above sea level is 2348 metres, Latitude: - 1° 1'59.99 Longitude: 36°37'59.99". The physiography of the swamp is characterized by low lying terrain that is characterized by flat, low-lying terrain that is surrounded by higher ground. The swamp is the source of Ruiru River.

2.2 Climate

The climate of Lari Swamp is generally sub-humid, with average annual precipitation ranging from 800 to 1200 millimetres. The wettest months are typically April and May while the driest months are July through September. Temperatures are mild throughout the year, with average highs ranging from 24 to 28 degree Celsius and average lows ranging 14 to 17 degrees Celsius.

2.3 Rainfall

Continental Rains from July to September when the ITCZ is located north of the equator pulling winds from the than the Eastern part during this season. Short rains from October to November. Besides the seasonal changes brought about by the ITCZ, the local topography causes large variations in the climate.

The Annual table is contained under Annexure 2 of the Second Schedule.

2.4 Vegetation

There is both indigenous and exotic vegetation cover in this area, however vegetation in Lari Swamp is largely influenced by human activities. Most farmers practice mixed farming, the most dominant vegetation is food crops for both animal and human consumption, and woodlots. The most popular woodlot trees are the blue gums present in large quantities.

2.5 Vulnerability of the water resource.

There is intense agricultural practice and settlements that has led to degradation of Lari Swamp. Its riparian and catchment has been affected by cultivation, livestock grazing, harvesting of indigenous plants and the planting of exotic tree species that has resulted into reduced recharge into the ground, lowering of the water table and a decrease in the discharge of the Ruiru river that flows downstream out of the Lari Swamp.

2.6

Lari Sub-county has witnessed increase in population, decline in soil fertility this has made most farmers to move upland and encroach the swamp. Lari swamp areas is subdivided into plots. Part of the swamp has been backfilled and proscribed activities are being carried out including building of permanent structures, dumping of soil, cultivating, planting of exotic trees. Ruiru River has been canalized.

2.7 The water resource quality objectives and the current status of the water resource

Section 20 of the Act requires the Authority to prescribe the criteria for classifying water resources for the purposes of determining water resources quality objectives for each class of water resource.

The Resource Quality Objectives represent the desired status of the resource, covering all aspects of quantity, quality, timing and aquatic biota. The RQO's are different for different classes of water resource. The objectives generally relate to the extent to which the water body is allowed to be adversely impacted by water use with respect to its natural state. Conceptually the RQO's provide a "target" condition of the resources.

Management decisions should be made such that the condition of the resource is progressively trending towards the RQO. The status of the resource is a measure of how far the condition of the resource is from the RQO. Initially, RQOs shall be determined at the nodes where the Reserve flows are being determined.

2.8 RQOs shall be determined at the nodes where the reserve flows are being determined.

The focus for water resources management is the protection of the natural ecological characteristics for ecological, recreational and development of tourism with economic importance. Key water resources issues include:

- (a) Water scarcity.
- (b) Catchment degradation.
- (c) Erosion.
- (d) Legal settlement in riparian areas and swamp and the land tenure around the swamp.
- (e) Human activities in Lari Swamp affecting the role of swamp.
- (f) Illegal and over abstraction

2.9 Sustainable regional water resources management of these units would require cooperation collaboration and synergy with the Kenya Forest Service, WRUA, the Kenya Wildlife Service, counties, user communities and other stakeholders.

2.10 The class of the water resource

The present aquifer classification system in Kenya is partly demand-oriented and partly geo-political and entails five classes:

[Subsidiary]

2.10.1 STRATEGIC aquifers: Aquifers used to supply significant amounts/proportions of water to an area where there are no alternatives, or where alternatives would take time and money to develop.

2.10.2 MAJOR aquifers: High-yielding aquifers with good quality water.

2.10.3 MINOR aquifers: Moderate-yielding aquifers with variable water quality.

2.10.4 POOR aquifers: Low-yielding aquifers with poor to reasonable quality water.

2.10.5 SPECIAL aquifers: Aquifers or parts of aquifers designated 'special aquifers' by the WRA .

2.11 Each is further defined in terms of its status, i.e.:

2.11.1 Satisfactory: No immediate stress, pressure or threat.

2.11.2 Alert: Stress, pressure or threat identified or anticipated.

2.11.3 Alarm: Water levels declining, water quality declining (stress, pressure or threat identified).

2.12 The Upper Athi sub-catchment which Lari Swamp falls under can be classified as "Alert" as the available water is at times not of adequate quantity and quality to meet the demand. The water availability is relatively good in terms of quantity and quality in the upper parts of the river but deteriorates as the river flows downstream due to pollution.

2.13 Land uses and their potential impact on the water resources

The land uses impacts on water resources in Lari includes water pollution due to agricultural chemicals and fertilisers used in farming, deforestation and soil erosion and changes in precipitation patterns due to climate change.

2.14 The swamp is continuously being degraded through land reclamation for subsistence agriculture, human settlement and set up of investments of varying scope and character agricultural activities and settlement.

2.15 The high demand for productive land across and the increasing population in Kenya is evident in Lari Sub-county. The following are characteristics in different sections of the swamp area:

- (a) Locals have title deeds and assert their land ownership.
- (b) The swamp area is sub-divided into plots and boundaries erected in some sections.
- (c) Ongoing and developed permanent structures.
- (d) Draining of the swamp by digging of canals to reclaim land for agriculture.
- (e) Grazing of livestock such as dairy cattle, lambs, goats.
- (f) Growing of exotic trees species such as blue gum.
- (g) Dumping of red soil to reclaim land for settlement.

PART III – MEASURES FOR PROTECTION, CONSERVATION AND REHABILITATION OF THE LARI SWAMP CATCHMENT PROTECTION AREA

3.1 Proscribed Activities

The activities to be undertaken within the protected area are those with zero impact on its ecological status and integrity.

The following activities are hereby specifically prohibited in the protected area—

- (i) tillage or cultivation;
- (ii) clearing of indigenous trees or vegetation;
- (iii) building of permanent structures (especially boreholes and houses);
- (iv) disposal of any form of waste;

- (v) excavation of soil or development of quarries;
- (vi) planting of exotic species that may have adverse effect to the water resource; and
- (vii) land reclamation.

3.2 Conservation Plan

The objective of the conservation plan is to protect the long-term environmental sustainability of the catchment for enhanced water resources yield and maintain its ecological functions in terms of flora and fauna. This will be achieved through—

- (i) demarcation of the wetland and its riparian zone and fence it off;
- (ii) gazettelement of the swamp as a protected water catchment area;
- (iii) enforcement of the Lari Swamp management plan; and
- (iv) control water resources abstraction from the swamp.

In the development of the management programmes, care has been taken to ensure that there are explicit and logical links between the vision statement, management objectives, and the management strategies to achieve the objectives. Each management programme is discussed in further detail under Plan contained under Annexure 3 of the Second Schedule.

3.3 Rehabilitation Plan

The objective of the rehabilitation plan is to ensure the wetland achieves its optimal performance level. This will be achieved through—

- (a)** removal of all inappropriate/invasive species of plants;
- (b)** re-vegetation of the swamp with water friendly/native species of trees and vegetation; and
- (c)** development of alternative livelihoods to discourage farming within the swamp.

The Rehabilitation Plan is contained under Annexure 4 of the Second Schedule.

3.4 Catchment and Water Resources Monitoring

The objective of the monitoring plan is to collect and analyse catchment and water resources data to provide information on water discharge, water quality and catchment health as a response to human activities within the neighbourhood. This will be achieved through:

- (a)** Upgrading of the Uplands rainfall station to a fully telemetric hydro-meteorological station to monitor precipitation, evaporation, humidity and temperature.

3.5 Establishment and operationalization of management structure

The objective of the management structure is to ensure that the Lari swamp catchment protected area is managed in a sustainable manner with the involvement of all stakeholders under the leadership and coordination of WRA - ABA. This plan envisages a budget of Kes 42,450,000 to implement it in the medium term (approximately 5 years). The management will need to raise the funds through various activities and events. This will be achieved through—

- (a)** setting up the management structure with defined ToRs and mandates; and
- (b)** development and implementation of resource mobilization strategies to raise funds for the management and conservation of the protected area.

Operationalization of the management structure shall be as set out under Annexure 5 of the Second Schedule;

3.6 WRA as the agent of the National Government in the regulation of use and management of water resources, will be the coordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a not

[Subsidiary]

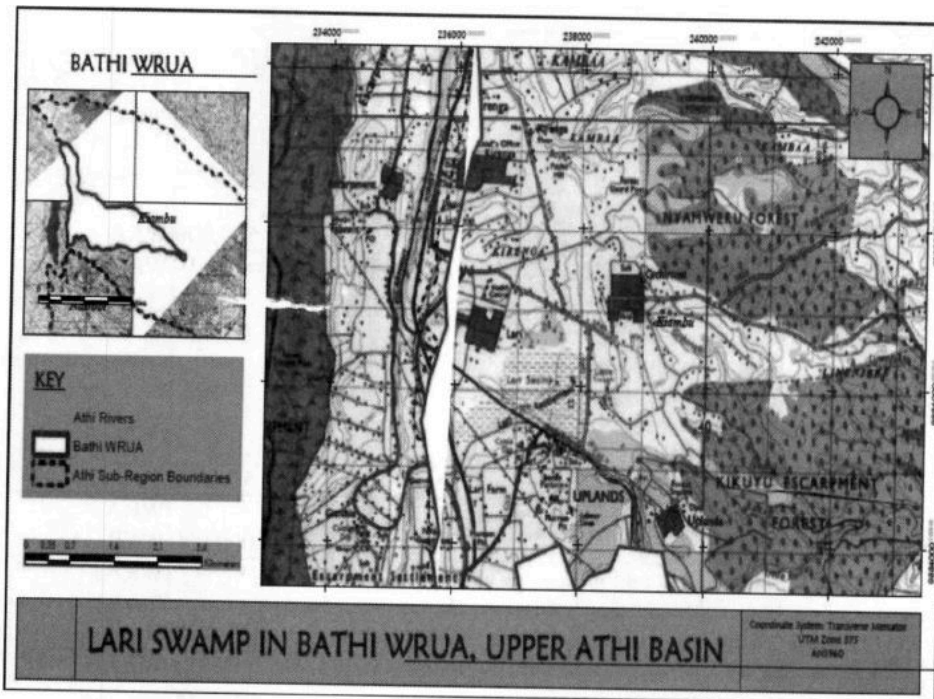
for profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

The linkages between various stakeholders are represented under Annexure 6 of the Second Schedule. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa

3.7 Monitoring and Evaluation Matrix

The matrix contained under Annexure 7 of the Second Schedule shall be adopted for Monitoring and Evaluation to capture detail of the progress of implementation of the planned activities.

ANNEXURE 1: WATERSHED AREA



ANNEXURE 2: ANNUAL RAINFALL AT LARI SWAMP

Table.1. Annual Rainfall and Humidity at Rumurutu

Station ID	Name	Area	%	Years of Data	Annual Rainfall (mm)
9136022	Uplands Lari Forest Station	31.65	18%	81	1409.8

ANNEXURE 3: CONSERVATION PLAN

Activity	Sub-activity	Time Frame	Cost (KSh.)	Responsibility
Demarcate the swamp and its riparian zone	Undertake cadastral survey of the area and place beacons along the boundary	1 month	800,000	WRA, SoK and Land Owners' Committee
	Develop the PDP for the demarcated swamp area	1 month	500,000	CGL, MoLS, WRA
	Liaise with NLC for Valuation and Compensation before revocation of the Title. Liaise with NLC for the revocation of any privately held title deeds and acquire a title deed (in trust) for the swamp	3 months	500,000	WRA, NLC
	Fence off the demarcated area	1 month	5,000,000	WRA, BWRUA
	Place signs and notices to warn the public that this is a protected area	Continuous	250,000	WRA, BWRUA
	Gazette the Lari Swamp as a protected water catchment area	Assess the status of Lari Swamp	1 month	800,000
Create awareness on the status of the swamp		Continuous	500,000	WRA, WRUA
Develop guidelines and conservation plan through stakeholders' engagement		2023	5,000,000	WRA with all stakeholders
Submit gazette instrument to the Cabinet Secretary in charge of water		2023	100,000	WRA
Enforce Lari Swamp management guidelines	Create awareness to stakeholders on the management guidelines and conservation plan	2023	1,000,000	WRA
	Enforce Lari protected area guidelines, management plan and relevant legislations	Continuous	5,000,000	WRA, National Govt
Control water resources abstraction	Enforce requirements for acquiring water use permits for any abstraction from the swamp as per the Water Act 2016 and Water Resources Regulations 2021	Continuous	1,000,000	WRA, WRUA
Sub-total			20,450,000	

[Subsidiary]

ANNEXURE 4 : REHABILITATION PLAN

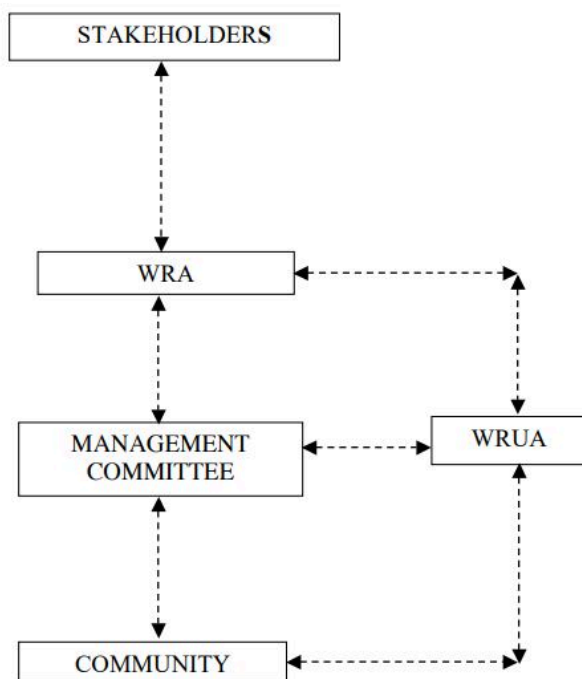
<i>Activity</i>	<i>Sub-activity</i>	<i>Time Frame</i>	<i>Cost (KSh.)</i>	<i>Responsibility</i>
Removal of all inappropriate/invasive species of plants	Identify and remove inappropriate and invasive tree species from the swamp	1 year	2,500,000	WRA, KFS, NGAO, WRUA
	Exotic species control	Continuous	500,000	WRA, KFS, WRUA
Re-vegetation of the wetland with water friendly/native species of trees and vegetation	Establish indigenous plants nursery	Continuous	1,000,000	WRUA, WRA
	Grow live fence on the boundary of the swamp	Continuous	3,000,000	WRA, KFS, WRUA
	Planting and growing of propagated seedlings (Watering and tending)	1 year	5,000,000	WRUA
Development of alternative livelihoods to discourage farming within the swamp	Identification and Development of proposals for alternative livelihoods (eco-tourism, bee-keeping, agro-forestry, etc);	1 year	10,000,000	WRA, WRUA
Sub-total			22,000,000	

ANNEXURE 5: MANAGEMENT STRUCTURE

<i>Activity</i>	<i>Sub-activity</i>	<i>Time Frame</i>	<i>Cost (KSh.)</i>	<i>Responsibility</i>
Setting up the management structure	Appoint one Member from each of the following stakeholders: <ul style="list-style-type: none"> ▪ Kenya Forest Service ▪ National Government Administration in Kiambu ▪ National Environmental Management Authority; ▪ Ministry of Agriculture; ▪ The Bathi WRUA; 	3 months		WRA
	Terms of References (ToR) will include but not limited to: <ul style="list-style-type: none"> ▪ To manage the catchment prudently on behalf of other stakeholders ▪ To submit quarterly reports to WRA – Athi on all planned and implemented activities; ▪ To develop by – laws and submit a copy to WRA – Athi for approval before implementation 	Continuous		WRA, WRUA
	Mandate and responsibilities: <ul style="list-style-type: none"> ▪ Promote the conservation and protection of the catchment ▪ Promote equitable distribution of the resources within the catchment ▪ Promote socio-economic and environmental sustainability of the catchment 	Continuous		WRUA, WRA
	<ul style="list-style-type: none"> ▪ Mapping of stakeholders and potential donors; ▪ Development and marketing of resources mobilization strategies; 			
	The sources of funds for the committee may include:	Continuous	5,000,000	WRA
	<ul style="list-style-type: none"> ▪ Bee keeping ▪ Tree Nursery; ▪ Eco-tourism; ▪ Sponsors/development partners Well-wishers ▪ WRA/WRUA - (WDC); ▪ Cultural/sports events 			
Sub-total			5,000,000	

[Subsidiary]

ANNEXURE 6: REPORTING LINKAGES FOR THE MANAGEMENT COMMITTEE



Note:

- (i) The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.
- (ii) WRA as the agent of the National Government in the regulation of use and management of water resources, will be the coordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a non-profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

ANNEXURE 7: MONITORING AND EVALUATION TEMPLATE

Activities	Implementation Schedule		Status (% Completion)	Planned Cost KSh.	Total Expenditure to date	Source of Funds	Output	Comments
	Start Date	End Date						

THE MWANGEA HILLS CATCHMENT PROTECTION AREA ORDER, 2023

ARRANGEMENT OF SECTIONS

1. Citation
2. Interpretation
3. Application of the Order
4. Declaration of protected area
5. Mwangea Hills Conservation Plan
6. Penalty

SCHEDULES

FIRST SCHEDULE —	THE MWANGEA HILLS CATCHMENT PROTECTION AREA
SECOND SCHEDULE —	THE MWANGEA HILLS CATCHMENT PROTECTION MANAGEMENT PLAN

THE MWANGEA HILLS CATCHMENT PROTECTION AREA ORDER, 2023

[Legal Notice 118 of 2023]

1. Citation

This Order may be referred to as the Mwangea Hills Catchment Protection Order, 2023.

2. Interpretation

In this Order, except where the context otherwise requires—

"Act" means the Water Act, 2016;

"association" means a water resources users association registered by the Authority in accordance with the Act;

"Authority" means the Water Resources Authority established under section 11 of the Act;

"Basin Area" means the area designated by the Authority as a Basin Area under section 24 of the Act;

"Protected Area" means the area declared to be a Protected Area under Paragraph 4 of this Order and is demarcated for protection and conservation within the Mwangea Hills Catchment Management Plan;

"Plan" means the Mwangea Hills Catchment Management Plan set out in the Second Schedule;

"riparian reserve" means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the Protected Area;

"soil and water conservation plan" means a soil and water Conservation Plan as defined in the Water Resources Regulations, 2021 (L.N. 170 of 2021); and

"sub-basin area" means the area designated by the Authority as a Basin Area under section 24(2) of the Act.

3. Application of the Order

This Order shall apply to the National Government, national government entities, county governments, county government entities and any other person being a user of water resources and the riparian reserve of the Protected Area.

4. Declaration of protected area

(1) The Mwangea Hills Catchment Protection Area is declared to be a protected area for purposes of the Act.

(2) The area declared in subparagraph (1) shall be as per the extent and description set out in the First Schedule and is demarcated for protection and conservation within the Mwangea Hills Catchment Management Plan.

5. Mwangea Hills Conservation Plan

(1) The Plan shall, without prejudice to the provisions of the Regulations made under the Act, be the basis for protection, conservation and use of the water resources within the Protected Area.

(2) The Authority shall place signboards and beacons in or near the Protected Area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Protected Area.

(3) The public notices shall contain information regarding the action required of water and land users to Conserve and protect the water resources of the Protected Area.

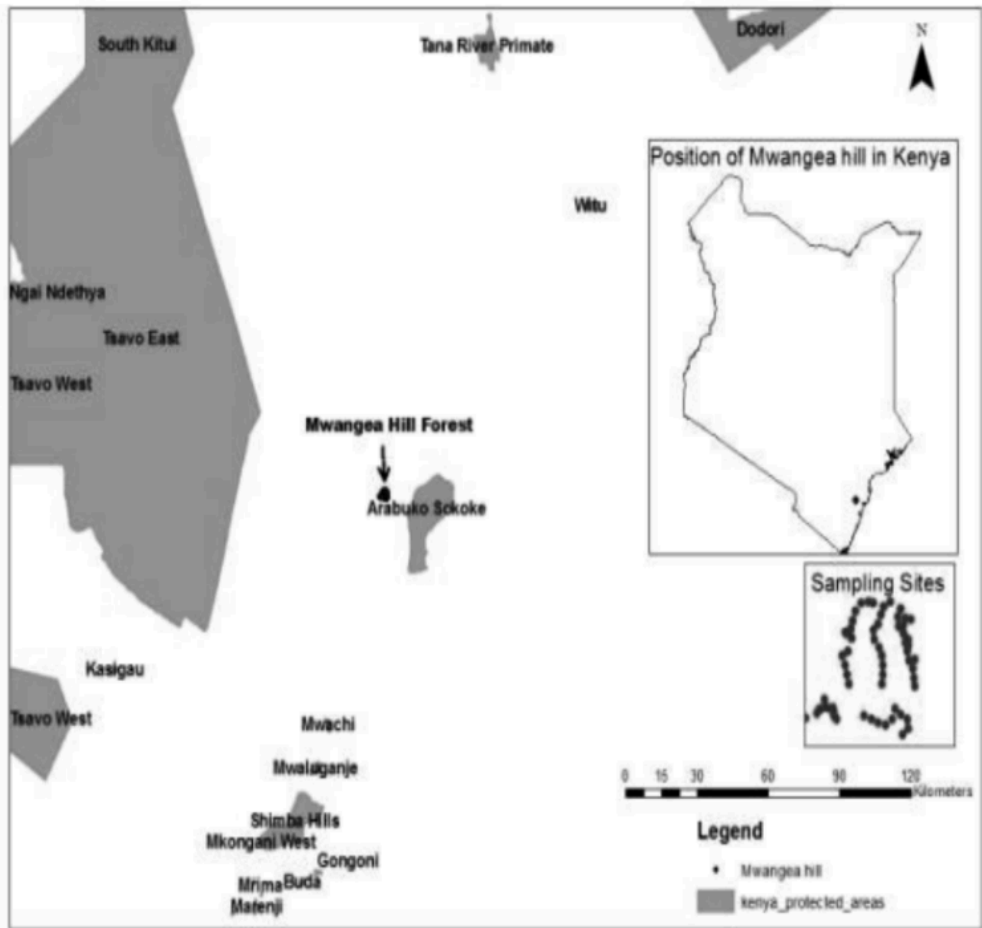
[Subsidiary]

6. Penalty

Any person who contravenes this Order commits an offence and is liable upon conviction to a fine of twenty thousand shillings or imprisonment for a term not exceeding six months or to both such fine and imprisonment.

FIRST SCHEDULE
THE MWANGEA HILLS CATCHWENT PROTECTION AREA

[r. 2, 4.]



Note:

- (i) Mwangea Hills catchment area is located within Kilifi County in the coastal region. It is within the jurisdictions of Mwangea Jilore and Wachivu; covering Makongeni, Mwahera, Makobeni, Lango Baya, Jilore/Ziani and Rare/Dida sub-locations and Chakama, Mwahera and Lango Baya locations, within Magarini, Ganze and Malindi sub-counties of Kilifi County.
- (ii) The catchment covers an area of 24,684 Ha and is within the 3LA and 3HDI hydrological sub-basins of Athi Basin Area.

SECOND SCHEDULE

THE MWANGEA HILLS CATCHMENT PROTECTION MANAGEMENT PLAN

[r. 2, 4, 5.]

PART I – PREAMBLE

1.1 Citation

This Plan may be cited as the Mwangea Hills Catchment Management Plan.

1.2 Acronyms

The following acronyms shall have the meanings as assigned below:

AEZ - Agro-Ecological Zone

ABA - Athi Basin Area
KFS - Kenya Forest Service

Km² - Square Kilometer

L. N. - Legal Notice

m.a.s.l. - meters above sea level

M³/d - Cubic meters per day

M³/s - Cubic meters per second

Mm³ - million cubic meters

MoA - Ministry of Agriculture

MoL - Ministry of Lands

NEMA - National Environment Management Authority

NGAO - National Government Administration Officer

NLC - National Land Commission

°C - Degree Celsius

Q50 - Flow that is equaled or exceeded 50% of the time

Q80 –Flow that is equaled or exceeded 80% of the time

Q95 –Flow that is equaled or exceeded 95% of the time

RGS –Regular Gauging Station

RQOs –Resource Quality Objectives

ToR –Terms of Reference

WDC –WRUA Development Cycle

WRA –Water Resources Authority

WRUA –Water Resources Users Association

WRM –Water Resources Management.

1.3 Application of the Plan

This Plan shall apply in respect to the management and use of the Mwangea Hills Catchment Protected Area.

1.4 Objectives

The objectives of this Plan are to:

[Subsidiary]

- (i) To enhance implementation of existing regulations to protect the rights of all users.
- (ii) To promote water, use efficiency that is hydrologically and economically beneficial to domestic, agricultural, and industrial water users and the environment.
- (iii) To identify funding sources to implement water conservation programs that help to enhance water resources.

1.5 Introduction and Background information

A catchment area is defined as the land from which water naturally flows into a water course. The status and conditions of a catchment determines the reliability, quantity and quality of its water yields. A catchment area acts like a water storage facility where during the rains, the vegetation cover allows the water ample time to percolate deep down and move as a sub-surface flow to recharge the rivers, springs and ground water storage in both shallow and deep aquifers. This sub-surface flow is slow resulting in rivers from a well-maintained catchment having higher base flows even during the dry season as well as good water yield from boreholes in the vicinity. In poorly maintained and degraded catchment, the rainfall results in the rapid surface run-off which is channeled into the river courses, resulting in flashfloods and high volumes of suspended solids. Since there is little storage in such a catchment, the rivers originating from such catchment will not be able to sustain their base flows during the dry season.

Catchment areas are thus a vital component in water resource management, and they should be formally delineated, declared as protected areas by being gazetted as such, protected from encroachment and pollution and managed sustainably to maintain their ecological integrity.

1.6 Location and size of the Protected Area

Mwangea Hills catchment area is located within Kilifi County in the coastal region. It is within the jurisdictions of Mwangea Jilore and Wachivu; covering Makongeni, Mwahera, Makobeni, Lango Baya, Jilore/Ziani and Rare/Dida sub locations and Chakama, Mwahera and Lango Baya locations, within Magarini, Ganze and Malindi sub-counties of Kilifi County.

The catchment covers an area of 24,684 ha and is within the 3LA and 3HD1 hydrological sub basins of Athi Basin Area.

1.7 Watershed area

The Mwangea Hills lies within the Galana and Goshi sub catchment which are part of the Athi Basin Area. All the rivers and streams are seasonal; filling and flowing only during the rainy season. These include: Katangani, Kazi ya Kawimbi, Kwamunga, Kwalango, Midugani, Kabuuni Mwahera, Kadzitsoni and Kwadadu. These Rivers and streams flow to Gosh/Vitengeni River to the South and Galana/Sabaki to the North of the Hills.

1.8 Criteria Adopted in Identifying Mwangea Hills for Protection

WRA has taken into account of the considerations provided under the Seventh Schedule of the Water Resources Regulations, 2021.

PART II – PROCEDURES TO BE APPLIED FOR THE MANAGEMENT OF THE MWANGEA HILLS CATCHMENT PROTECTED AREA

2.1 Physiography

Mwangea Hills is situated near Mlombo and the Ikanga with the peak marked by a point with coordinates 37M 0580173, 9640814 (E039.721625, S03.249372) and at an elevation of 625 m.a.s.l. Mwangea Hills Water Tower is one of the coastal ecosystems and lies within the Galana and Goshi sub-catchments which are part of the Athi Basin. All the rivers and streams are seasonal, draining into two major rivers: Sabaki and Vitengeni.

2.2 Climate

The climate around Mwangea Hills area is tropical with significant warm annual temperatures that ranges between 30°C and 34°C. Kilifi County experiences relatively low wind speeds ranging between 4.8 km/hr and 12 km/hr.

2.3 Rainfall

The Mwangea Hills experience significant amount of rainfall during the year, the average annual rainfall for Mwangea Hills being 300mm.

2.4 Vulnerability of the water resource

Mwangea Hills Catchment falls under sub basin 3HD1 and 3LA which is drained by the earlier stated rivers that supports the social-economic and environmental ecosystems.

2.5 Mwangea Hills is an important water catchment area that is a source of several rivers and source of water for the communities. The hill is not protected and due to its rich soils with readily available water resources, it has attracted human activities that include cultivation, harvesting of trees for charcoal/wood fuel as well as human settlement. This unsustainable approach to the water resources abstraction and catchment management is threatening the survival of the rivers emanating from the hills.

2.6 The water resource quality objectives and the current status of the water resource

Section 20 of the Act requires the Authority to prescribe the criteria for classifying water resources for the purposes of determining water resources quality objectives for each class of water resource.

The Resource Quality Objectives represent the desired status of the resource, covering all aspects of quantity, quality, timing and aquatic biota. The RQO's are different for different classes of water resource. The objectives generally relate to the extent to which the water body is allowed to be adversely impacted by water use with respect to its natural state. Conceptually the RQO's provide a "target" condition of the resources. Management decisions should be made such that the condition of the resource is progressively trending towards the RQO. The status of the resource is a measure of how far the condition of the resource is from the RQO. RQOs shall be determined at the nodes where the Reserve flows are being determined.

2.7 Sustainable regional water resources management of these units would require cooperation collaboration and synergy with the Kenya Forest Service, WRUA, the Kenya Wildlife Service, counties, user communities and other stakeholders.

2.8 The class of the water resource

The present aquifer classification system in Kenya is partly demand-oriented and partly geo-political and entails five classes:

- 2.8.1 STRATEGIC aquifers: aquifers used to supply significant amounts/proportions of water to an area where there are no alternatives, or where alternatives would take time and money to develop
- 2.8.2 MAJOR aquifers: high-yielding aquifers with good quality water
- 2.8.3 MINOR aquifers: moderate-yielding aquifers with variable water quality
- 2.8.4 POOR aquifers: low-yielding aquifers with poor to reasonable quality water
- 2.8.5 SPECIAL aquifers: aquifers or parts of aquifers designated 'special aquifers' by the WRA

2.9 Each is further defined in terms of its status, i.e.:

- 2.9.1 Satisfactory: no immediate stress, pressure or threat
- 2.9.2 Alert: stress, pressure or threat identified or anticipated
- 2.9.3 Alarm: water levels declining, water quality declining (stress, pressure or threat identified).

2.10 The Mwangea Hills catchment can be classified as "Alert" as the available water is at not of adequate quality and quantity to meet the demand. The Mwangea Hills catchment

[Subsidiary]

area is at the risk of pollution due encroachment of the catchment area for anthropogenic activities.

2.11 Land uses and their potential impact on the water resources

The area around Mwangea Hills is predominantly rural settlement with the main land use being cultivation and rearing of livestock. The potential impacts on the water resources as a result of human acts includes:

- (a) Encroachment: People have encroached on water catchment and riparian reserves areas in the upper and middle parts of the catchment.
- (b) Overexploitation of available resources: The population in the area has been rapidly growing over the years. This leads to excessive pressure on available natural resources that includes water resources leading to potential water use conflicts.
- (c) Soil Erosion: Following uncontrolled farming and other human activities, soil erosion leads to siltation and loss of top soil cover.
- (d) Deforestation: The forest cover around the hill, the immediate catchment areas as well as the wider catchment has been depleted due human activities. Forests have been cleared to give way for farmlands, settlements as well as charcoal burning and timber.
- (e) Water Pollution: Due to excessive economic activities around the hill, the water has been polluted. The farms in the surrounding area use agro-chemicals which eventually find their way into the rivers and leading to pollution. Other pollutants include solid waste that is washed into the rivers by runoff water during rains.

2.12 Exotic species of plants: There exist numerous exotic species of trees which are unsuitable in a water catchment area, especially near wetland, which include the eucalyptus trees.

3.1 Proscribed Activities

The activities to be undertaken within the protected area are those with zero impact on its ecological status and integrity.

The following activities are hereby specifically prohibited in the protected area:

- (i) Tillage or cultivation.
- (ii) Clearing of indigenous trees or vegetation.
- (iii) Building of permanent structures (especially boreholes and houses).
- (iv) Disposal of any form of waste.
- (v) Excavation of soil or development of quarries.
- (vi) Planting of exotic species that may have adverse effect to the water resource.
- (vii) Land reclamation.

PART III – MEASURES FOR PROTECTION, CONSERVATION AND REHABILITATION OF THE MWANGEA HILLS CATCHMENT PROTECTION AREA

3.2 Catchment Protection Plan

The objective of the conservation plan is to protect the long-term environmental sustainability of the catchment for enhanced water resources yield and maintain its ecological functions in terms of flora and fauna. This will be achieved through:

- (a) Sensitization on catchment management.
- (b) Revegetation of the catchment area which includes indigenous and water friendly plant propagation and exotic species control.
- (c) Water storage enhancement to ease pressure on use of rivers water which includes rain water harvesting tanks and water pans.

- (d) Regulating activities that may lead to pollution and destruction of the ecosystem (Charcoal burning, over-grazing, cultivation, quarrying and sand harvesting).
- (e) Controlling abstraction limits and observing of safe yields.
- (f) Controlling encroachment and cancellation of illegal titles.

Each management programme is discussed in further detail under Plan contained under Annexure 1 of the Second Schedule.

3.3 Conservation Plan

The objective of the conservation plan is to protect the long-term environmental sustainability of the catchment for enhanced water resources yield and maintain its ecological functions in terms of flora and fauna.

In the development of the management programmes, care has been taken to ensure that there are explicit and logical links between the vision statement, management objectives, and the management strategies to achieve the objectives

The Conservation Plan is contained under Annexure 2 of the Second Schedule.

3.4 Catchment Monitoring Plan

The objective of the catchment monitoring plan is to collect water resources data and maintain a comprehensive database on the Mwangea hills that provides information on water levels and quality of the spring's water. This will be achieved through:

- (a) Establishing and implementing a water quality and pollution control plan.
- (b) Water sampling and analysis.
- (c) Establish a water resources database.
- (d) Reporting and appropriate interventions.

The Catchment and water resources Monitoring Plan is contained under Annexure 3 of the Second Schedule.

3.5 Establishment and operationalization of management structure

The objective of the management structure is to ensure that the Mwangea Hills catchment protected area is managed in a sustainable manner with the involvement of all stakeholders under the leadership and co-ordination of WRA - ABA. This will be achieved through—

- (a) setting up the management structure with defined ToRs and mandates; and
- (b) development of resources mobilization strategies to raise funds for operations, maintenance and conservation of the protected areas.

Operationalization of the management structure shall be as set out under Annexure 4 of the Second Schedule.

3.5 WRA as the agent of the National Government in the regulation of use and management of water resources, will be the coordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a not for profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

The linkages between various stakeholders are represented under Annexure 5 of the Second Schedule. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

Monitoring and Evaluation Matrix

[Subsidiary]

The matrix contained under Annexure 6 of the Second Schedule shall be adopted for Monitoring and Evaluation to capture detail of the progress of implementation of the planned activities.

ANNEXURE 1: CATCHMENT PROTECTION PLAN

Activity	Sub-activity	Time Frame	Cost (KSh.)	Responsibility
Gazettelement of Mwangea Hills Catchment as a protected area	Delineate and survey the Hills water catchment area.	2024	900,000	WRA, WRUA, Kilifi County Lands & Survey Team, NLC
	Develop the Part Development Plan for the hills catchment	2024	500,000	WRA, Physical Planning Dept., CGK, NLC
	Create awareness on the status of the hills catchment area.	Continuous	500,000	WRA, WRUA, NEMA, CGK, NLC
	Develop guidelines and conservation/protection plan through stakeholders' engagement	2023	1,000,000	WRA with all stakeholders
	Submit gazettelement instrument to the AG	2023	100,000	WRA
Enforcement of Mwangea Hills catchment management guidelines and other legislations	Enforce Mwangea Hills catchment guidelines, management plan and relevant legislations	continuous	2,000,000	WRA, County, Govt, NEMA, KWS.
Restricting activities that may lead to pollution and destruction of the catchment.	Public awareness creation	Annually	1,000,000	WRA, CGK, KFS, WRUA, KWS
	Controls/restrictions on charcoal burning, grazing, bathing and farming near sensitive areas.	Continuous	400,000	WRA, CGK, KFS, WRUA.
	Enforcement	Quarterly	580,000	NGAO, WRA, KFS, NEMA, WRUA.
Alternative livelihood activities	Promote bee keeping, poultry farming and butterfly keeping, eco-tourism.	Continuous	7,800,000	WRA, WRUA, Agriculture and Livestock, KFS, KWS
Total			9,780,000	

ANNEXURE 2: CONSERVATION PLAN

<i>Activity</i>	<i>Sub-activity</i>	<i>Time Frame</i>	<i>Cost (KSh.)</i>	<i>Responsibility</i>
Establish the water balance	Conduct water abstraction and pollution survey	2024	1,500,000	WRA, WRUA
	Assess demand and availability	2024	2,500,000	WRA, CGK, WRUA, KWS
Develop water allocation plan for the Mwangea Hills	Develop Water Allocation Plan	2024	2,500,000	WRUA, WRA, KWS, CGK
	Implement water allocation plan	continuous	3,000,000	WRA, WRUA, NEMA, CGK
	Enforce permit conditions	continuous	3,500,000	WRA, WRUA,
Enhance water use efficiency (introduction of technologies)	Sensitization and model water use units – irrigation, domestic Demonstration on efficient water use technology	Continuous	2,500,000	WRA, WRUA, CGK
Re-vegetation of the catchment area	Establish indigenous vegetation Propagation	Continuous	1,000,000	WRUA, WRA, KFS
	Grow live fence on the boundary of the catchment.	Continuous	2,000,000	WRA, KFS, WRUA, KWS
	Planting and growing of propagated seedlings (Watering and tending)	Continuous	2,500,000	WRUA
	Exotic species control	Continuous	500,000	WRUA
Total			21,500,000	

ANNEXURE 3: CATCHMENT MONITORING PLAN

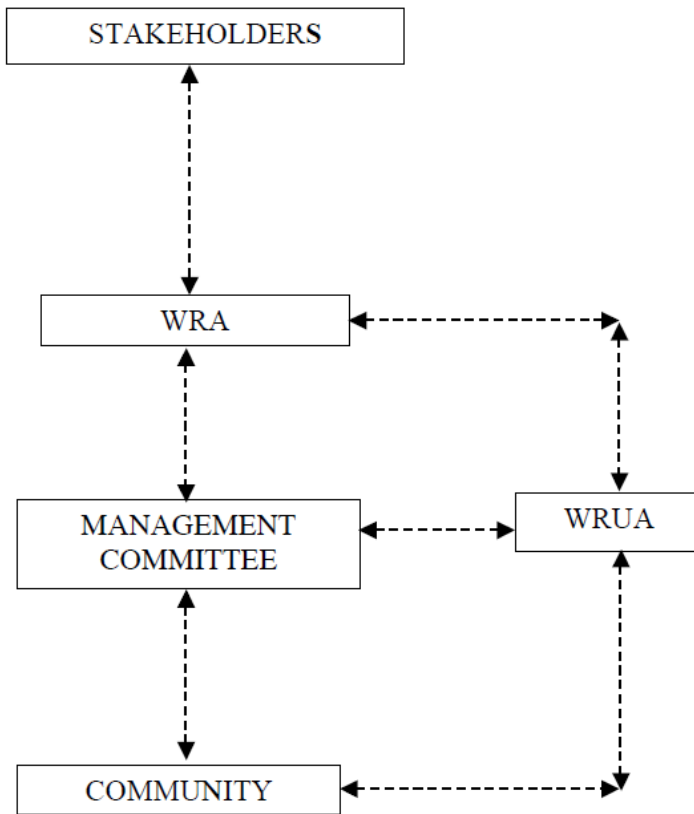
<i>Action</i>	<i>Sub-activities</i>	<i>Time Frame</i>	<i>Costs (KSh.)</i>	<i>Responsible</i>
Water sampling and analysis	Collect water resources samples and conduct analysis for biological and physico-chemical parameters.	Quarterly	1,200,000	WRA
Capacity Building	Capacity building on data collection and monitoring	Continuous	1,800,000	Stakeholders and WRA
Water resources monitoring	Install water resources monitoring devices	1 year	2,400,000	WRA, WRUA
Total			5,400,000	

[Subsidiary]

ANNEXURE 4: MANAGEMENT STRUCTURE

<i>Activity</i>	<i>Sub-activity</i>	<i>Time Frame</i>	<i>Cost (KSh.)</i>	<i>Responsibility</i>
Setting up the management structure	Appoint 1No. member from each of the following stakeholders: 1. Kenya Forest Service 2. National Environment Management Authority 3. National Government Administration in Kilifi County; 4. Kenya Wildlife Service; 5. County Government of Kilifi (Ministry of Agriculture, Ministry of Water Environment and Natural Resources); 6. Mwangea Jilore WRUA; 7. Mwachiru WRUA.	3 months	80,000	WRA
	Terms of References will include but not limited to: <ul style="list-style-type: none"> ▪ To manage the catchment prudently on behalf of other stakeholders ▪ To submit quarterly reports to WRA - ABA on all planned and implemented activities; ▪ To develop by - laws and submit a copy to WRA – ABA for approval before implementation 	Continuous	150,000	WRA, WRUA
Develop and implement resources mobilization strategies	Mandate and responsibilities: <ul style="list-style-type: none"> ▪ Promote the conservation and protection of the catchment ▪ Promote equitable distribution of the resources within the catchment ▪ Promote socio-economic and environmental sustainability of the catchment 	Continuous	50,000	Management Committee
	The sources of funds for the	Continuous	500,000	WRA
	committee may include: <ul style="list-style-type: none"> ▪ Bee keeping ▪ Tree Nursery; ▪ Eco-tourism; ▪ Well-wishers/Development partners ▪ WRA/WRUA - (WDC) 			
Total			780,000	

ANNEXURE 5: REPORTING LINKAGES FOR THE MANAGEMENT COMMITTEE



Note:

- (i) The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa;
- (ii) WRA as the agent of the National Government in the regulation of use and management of water resources, will be the coordinator of the committee. The members appointed to the Management Committee will serve on honorary basis as this will be a non-profit, non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in a protected area.

ANNEXURE 6: MONITORING AND EVALUATION TEMPLATE

Activities	Implementation Schedule		Status (% Completion)	Planned Cost Ksh.	Total Expenditure to Date	Source of Funds	Output	Comments
	Start Date	End Date						