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Project Country Report

Water Permit Systems, Policy Reforms and Implications for Equity in Kenya

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Contents

List of Figures

List of Tables

1. Introduction

The chronological norms, rules, provisions, regulations, procedures, systems and rights on the use of the water resources started gradually from the customary rules to the development of Ordinances, Acts, Rules and Regulations. These legal provisions have led to the development of the permitting system that governs the regulation on the use of the water in Kenya. Permitting in Kenya can be traced back to the Crown Land Ordinance of 1902 and the Water Rules of 1903, through which the colonial state through the Department of Public Works used permits to exert stricter control over especially water claims for irrigation by white farmers. After the promulgation of the Water Ordinance of 1929, all the pre-1929 colonial permits were converted into licenses when applied for within two years.

The permitting system is the tool that Water Resources Management Authority (WRMA) uses to regulate the use of the water resources which is legally vested in the government of Kenya. Permitting, which includes authorization and permit issuance has been steadily increasing with more water users registering their abstractions with WRMA. Since Kenya is a water scarce country, coupled with issues of climate change, the best state of the art in the regulation of water resources should be employed to cope with the existing and future challenges.

2. History of permit systems

To understand the water permit system and structures in Kenya, one has to look at the historical evolution of water laws. Local communities had customary rules governing water before the onset of colonialism and the introduction of formal water laws in Kenya. Communities treated water as a common good and granted rights for water use in this spirit. The onset of colonialism led to radical changes, both in state-led infrastructure services for urban and later rural domestic supplies and for irrigation, and in formal water laws. Formal and informal water laws govern the allocation of water resources. They are a condition for infrastructure development, whether public or a large- or small-scale private infrastructure. Since their establishment, Kenya's formal law, permit systems, especially served state-led infrastructure development and the prioritization of water resource allocation to that end. However, this aspect is not further addressed in this report. The primary focus here is on water laws and their relationships with any infrastructure development, so both public and formal and informal small- and large-scale private infrastructure development.

The radical change in water legislation at the onset of colonialism, which continued till today, was that water resources were divested from local communities and vested in the – then-colonial government. [1] The state institutions mandated to grant permits, and the key

[1] See for example the 1929 Water Ordinance (Colony and Protectorate of Kenya, 1929), which vested all surface waters in the State and the authority of managing of water resources on a Water Board. Under the Ordinance all water uses had to be granted through a license instead of earlier riparian rights.

characteristics of permits till today, can be traced back to the Crown Land Ordinance of 1902 and the Water Rules of 1903, through which the colonial state (in particular the Department of Public Works) aimed at exerting stricter control over especially water claims by white farmers. With the Water Ordinance of 1929 the water allocation authority was vested in a Water Board (of which the Chief Native Commissioner was one of the nine members). The Water Board could delegate and decentralize its functions to district Boards or other institutions.

Secondly, through the enactment of the 1929 Ordinance, the State declared that all surface water resources were the property of the Crown, and control be vested in the Governor of the Council on behalf of the Crown. The state also took over the role of water service provision in urban areas from the Uganda Railways.[2] All water users had to apply for a license that had to be authorized by the newly established Water Board. The application process was strict and highly sophisticated: providing a detailed infrastructure construction plan and likely affected users, publish this plan, and, if approved, complete the works within a given period, followed by an inspection of the quality of works. Or a temporary 'sanction' could be obtained. Further, license holders could be obliged to install and operate measuring devices. Some fees were charged for this application process (but not for other purposes). Licenses could have a fixed or open period (sections 22-34). However, if water was not used beneficially, permits were cancelled (section 21). Licenses were for specified uses only, and appurtenant to land, and to be transferred together (section 41). Pre-1929 colonial permits could be converted into licenses if they were applied for within two years after the promulgation of the Ordinance. All water uses without permit and under other authorities, so including African water regimes, ceased to be lawful. Such uses became an offence, liable for a maximum of two thousands shillings or three months imprisonment.

The only exemption to the obligation to apply for a license was for water for domestic purposes 'if such abstraction or use is made without the employment of works'. Hand utensils were not seen as 'works'. Domestic uses were defined as 'household and sanitary purposes, the watering and dipping of stock and the essential requirements of such farming operations as are not of any industrial use'. (The latter differed from 'minor irrigation' defined as irrigation up to five acres, which was *not* exempted). Moreover, in water resource allocation a priority for domestic uses was stipulated in section 8.2, which states that the Water Board may reserve such part of the stream that in its opinion is required for domestic purposes.

The other side of the coin of vesting ownership of surface water resources of the entire territory in the Crown, was that Africans' water uses and their governance regimes were annulled. Africans seemed not overtly excluded from the possibility to also apply for a license. Land holders obliged to apply for a license included holders of customary land: page 167 defines land holder as 'including (a) any person who by any established right, *custom,* or estate whatsoever is, or is entitled to be, the holder or possessor or land' . It was also stipulated that in natives' reserves,

[2] P. Juuti *et al,* "*Governance in Water Sector-Comparing Development in Kenya, Nepal, South Africa and Finland*," (International Centre for Research on Environmental Services and Governance (ICES), 2007), available at www.envhist.org , accessed on 10/15/2013.

all powers of the Ordinance should be subject to any laws in force and to the approval of the Native Lands Trust Board, the authority in charge of 'protecting' the rights of the natives (Nilsson and Nyanchaga 2008)[3]. However, the process through which access was negotiated was skewed: section 27.3 indicated that in case an application for a license could affect water uses in native reserves, the Water Board should inform the District Commissioner who should cause 'such native to be informed of the terms of the application'. More fundamentally: the question whether Africans could apply for permits implied first of all that Africans had to recognize the colonial authority and their claimed ownership, underpinning licenses. Also, the governance arrangements of customary law differ from individual permit systems. Conversion of the one legal system into the other at any short term is generally recognized as impossible (Caponera 1992). In sum, Africans lost all control over their water resources and governance systems and got, at best, very skewed access to the new decision-making institutions. The dispossession of all Africans who continued being governed by customary water arrangements, ceased with developments in later Acts.

Later, the Water Act Cap.372 (1952) repealed the Ordinance and the Minister of Agriculture was given the overall mandate of water policy development and granting of permits. The 1952 Act was subsequently revised in 1962 and 1972.[4] While formal water laws have adopted a one size fits all approach, the local water governance regimes have continued to co-exist with formal water laws. The former place emphasis on the colonial elite and so-called 'industrial' and 'commercial' rural water uses which are incompatible with the latter. To use water under the formal laws requires one to obtain a permit.

The 1974 National Water Master Plan aimed at ensuring the availability of potable water at reasonable distances to all households by the year 2000. It required government involvement in water services provision through the development of water supply systems. This was in addition to the role of government in policy making; water resources use regulation and financing of the water sector.[5] Later on, the government realized that it could not deliver water to all Kenyans by the year 2000 on its own due to financial constraints, and thus had to involve other actors in water services provision. This led to a process described as 'handing over' where the government handed over the water supply system to other actors.[6]

The Water Act Cap. 372[7] (1972) provided the legal framework for carrying out these functions. Under the Act water provision was considered a factor in promoting development in other sectors of the economy. For this purpose, the Act included the appointment and regulation of 'undertakers', mainly for water supply for domestic uses. The Act was more concerned with

[3] Nilsson, D. and E, Nyanchaga. 2008. East African water regimes: the case of Kenya. Chapter 7 in: Dellapenna and Gupta (eds). The evolution of the law and politics of water. Springer Verlag

4 *Ibid.*

5 A. Mumma, "*Kenya's New Water Law: An Analysis of the Implications of Kenya's Water Act, 2002, for the Rural Poor*," available at http://www.iwmi.cgiar.org/Publications/CABI_Publications/CA_CABI_Series/Community_Law/protected/Ch%2010.pdf, accessed on 18/09/2013.

6 *Ibid.*

7 Chapter 372, Laws of Kenya (*Repealed*).

water supply as opposed to conservation and management. The assumption was that water would always be available hence no need to use it in an efficient and sustainable manner.[8] At the time, emphasis was on service provision and not much attention was given to management of the resource.

The Water Act Cap. 372 (1972) shifted ownership of all surface and now also all groundwater resources from the Crown to the independent 'Government' (section 3), in which the minister had all use rights (section 5). However, for the rest the Act essentially further elaborated all above-mentioned elements of the Water Ordinance of 1929, but also started applying these for groundwater development. Changes were minor. The name for the 'document conveying a water right authorizing the abstraction, diversion, obstruction, storage or use of water and drainage' shifted from 'license' to 'permit'. Permits got a fixed duration of 25 years for all the uses apart from irrigation which has five years (section 95) while that for domestic water users permit duration was 10 years For offenders, the maximum fine increased to five thousand shillings but the duration of imprisonment remained the same three months.

In addition, the Cap 372 Act confirmed that the use of water for domestic purposes took priority over the use of water for any other purposes, including any irrigation purposes.[9]

Exemptions from the obligation to apply for a permit were reduced to only household and sanitary uses (again, without employing works) and watering and dipping of livestock (section 38). 'Non-industrial irrigation' was removed from the definition of 'domestic uses', and, hence, also from its earlier priority. Minor irrigation was now defined as irrigation of up to 2 acres and still needed a permit. New exemptions regarded the storage of water on one's land that was not a water course (from 2002 onwards called an enclosed spring); and groundwater abstraction at sufficient distance of a surface water body (100 yards) or other well (half a mile).

For wells, including hand-dug wells within the exempted distances, persons applying for permits were not only required to give notice of commencing the works to the Water Apportionment Board, but also to 'keep a record of the progress of the work, which shall include measurements of the strata passed through, specimens of such strata, the levels at which water was struck, the quantity of water obtained at each level and the quantity finally obtained and the rest level thereof' (section 51.1). The 1972 Chapter 372 further stipulated a state authority to declare areas as conservation areas, which was done in 70 cases.

With regard to Trust Lands, it was repeated that the powers of the Act in respect to Trust Land should be exercised subject to any written law relating to that land (section 161). This confirmed the exclusion of African customary oral water law. However, it remains unclear how the void left by the dissolution of the protection by the Natives Trust Lands Board was filled.

It is unknown to the authors whether Africans could and did apply for individual permits at equal par to non-Africans. However, the Water (General) Rules of the Subsidiary Legislation of the

8 M. Akech (2008), "Governing Water and Sanitation in Kenya," in C.O. Okidi, P. Kameri-Mbote, and Migai Akech (eds) *Environmental Governance in Kenya: Implementing the Framework Law*, EAEPL, p. 315.

9 *Ibid*. See also the Water Act 2002.

Chapter 372 proposed differential treatment. For example, a collective approach was promoted in reserved areas, where 'community (reserved areas) permits' could be authorized to groups of water users represented by one permit holder. This permit was vested in the name of the county council on behalf of the persons concerned (Subsidiary legislation section 94). The further application procedures were the general ones. This would have shifted transaction costs from the government to Africans, and also subjugated Africans to the risks of elite capture of any top-down imposed internal organization.

Another example of differential treatment was the subsidiary rule that stipulated that the quantities allowed for domestic uses during the permit application were: non-Africans: 50 gallons per day per head, while for Africans 10 gallons per day per head. This was because allocation was based on households with sanitation (50g/d) or households with non-sanitation (10g/d).

Lastly, the Water Act Cap 372 established new institutions for water governance : the minister; the water resources authority (advising the minister on all responsibilities, implementing, and decentralizing responsibilities and authorities to the following bodies); Catchment Boards (in charge of water resource management and permitting, envisaged for each of the six newly demarcated regions, based on the Country's five catchment areas); Regional Water Committees (in charge of water development planning in each province); the Water Apportionment Board (technical oversight and compliance, issuance of permits to state schemes, drought and other emergency actions with the authority to revise or vary permits issued); Local Water Authorities (addressing local water issues)[10], and – a new category of local authorities providing water services, called- Water Undertakers. The race- and gender composition of these bodies were not addressed at all. The undertakers were to supply water in bulk in urban areas.

This institutional framework was criticized for concentrating power in the Minister in charge of water; undue fragmentation of institutional roles impeding sound water resources management; uncertainty in decision making among institutions; undemocratic governance with little participation by water users and was State-centric with no room for private sector participation.[11] Notably, the Act did not have adequate provisions to encourage the participation of women in water governance.

Sessional Paper No.1 of 1999[12] sought to address the weaknesses in the Water Act Cap. 372. The policy's objectives were, *inter alia*, the conservation of water resources and allocation in a sustainable, rational and economical way, supply of good quality water in sufficient quantities, establishing an efficient and effective institutional framework and to develop a financing system for effective water resources management, water supply and sanitation development.[13] The policy focused more on domestic water supply at the expense of irrigation and water resources management. Water supply was most developed in urban areas where there were commercially

10 Local authorities played the main responsibility for water provision.

11 *Ibid,* p. 317-318.

12 The National Policy on Water Resources Management and Development Sessional Paper No. 1 of 1999.

13 *Ibid.*

viable Water Service Providers established under the policy. However, water supply coverage in rural areas was not addressed. This is because the policy did not recognize community or informal water service providers.[14] By failing to address rural water supply, the policy effectively failed to address domestic water uses of the poor and marginalized people particularly women.

3. The current Legal Framework for Water Resources Management

The objectives of the 1999 policy found legislative basis in the Water Act 2002. The Act separated water resources management and water services provision. It established the Water Resources Management Authority (WRMA). WRMA took over the responsibility for issuing permits. This 2002 Act articulated that the obligation to apply for a water right or permit (both names were used interchangeably) now applied to *all* Kenyans investing in 'water works' for any domestic and productive uses. The duration became a decision by WRMA; (WRM Rules 2007) set the maximum duration at five years, renewable.
The substance of the permits largely continued and elaborated or updated all above-mentioned elements of earlier Acts. One element was the explicit inclusion of a 'reserve'. This 'reserve' encompassed a continued priority for water resource allocation for domestic uses (but now defined as basic human needs), and added a reserve to protect aquatic ecosystems. Water quality aspects also received more attention as condition tied to permits. For example, by 2014, 43 out of 138 major effluent dischargers had permits (WRMA performance report 2014).

Second, whereas earlier fees only applied to the permit application process, section 31 expanded: 'the condition of the permit may require that, on issue of the permit and at prescribed intervals thereafter, the permit holder shall pay charges to Authority for the use of water in accordance with the permit'. This includes effluent discharge fees by means of 'polluter pays principle'.

Third, the institutional set-up was simplified by establishing only two body corporates with regard to separated functions of water resources management and water service provision. One was the Water Resource Management Authority (in charge of water resources management, also delegating functions to regional offices and increasingly active catchment area advisory committees and voluntary Water Resource User Associations at the lowest levels; and for public works). The other was the Water Services Regulatory Board (in charge of regulating water services provision, among other by so-called 'licensing' Water Service Boards who then license water services providers; and managing a Water Services Trust Fund). Lastly, under the Water Resource Management Authority, water resource management strategies and catchment strategies were included. Also, specific attention was paid to national monitoring and information systems.

The Water Act (CAP 372) was repealed by Water Act, 2002. In order to align provisions of the Constitution of Kenya 2010 to provisions of legislation, it became necessary to develop the Water Act 2016. The Constitution of Kenya 2010 delineates the functions of the national and county

[14] Republic of Kenya, (2012), Draft of the National Water Policy, March 2012.

governments. Water resource management is a function of the national government while water service provision is a function of the county governments. The Water Act 2016 was assented-to into law on 13th September 2016 and is awaiting commencement.

The Water Act 2016 establishes a Water Resources Authority which is a regulatory authority[15] mandated to issue permits amongst other functions. Issuance of permits is related to the entity vested with rights to water. [16] In line with the provisions of the Constitution of Kenya, 2010, the Water Act, provides that all water resources are vested [17] in the National Government in trust for the people of Kenya.[18] This has to be read with Section 9, which states that 'every person has the right to access water resources' and Section 7, which regulates this right to water providing that it may only be alienated or transferred in accordance with the Water Act.[19] A 'water right' under this Act means 'the right to have access to water through a water permit'. Whereas the Constitution of Kenya 2010 recognizes customary law in so far as it is not inconsistent with the COK 2010, the 2002 and the 2016 Water Acts do not make explicit provisions in respect to customary laws relating to use of water. Traditionally, access to water from water resources has been unrestricted in respect to water use for domestic purposes. Similarly, the 2002 and the 2016 Water Acts allow for use of water without a permit where works are not employed, mostly water for domestic use.

To some extent, the 2016 Act provides procedural safeguards against large landholders disenfranchising the rights of other water users in the issuance of new permits because all new permits shall be subject to public consultation and environment impact assessments (EIAs),[20] contestation,[21] existing lawful users (which excluded African customary law, though) must be taken into account, effect of proposed use on water resource and users, public interest, precedence granted to domestic use of water, the nature and degree of water use shall be reasonable and beneficial to other water uses[22] and variation of permit in case of inequity.[23] Tentatively, these provisions will go a long way in securing every citizen's right to water regardless of their landholding status, provided small-scale and large-scale land holders have equal access to the state institutions issuing permits.

[15] Section 11

[16] Fourth Schedule of the Constitution of Kenya 2010.

[17] A water resource is defined as any: means any lake, pond, swamp, marsh, stream, watercourse, estuary, aquifer, artesian basin or other body of flowing or standing water, whether above or below the ground and includes sea water and transboundary waters within the territorial jurisdiction of Kenya."

[18] Section 5

[19] Section 7 states: "Upon the commencement of this Act, no conveyance, lease or other instrument shall convey, assure, demise, transfer or vest in any person any property, right, interest or privilege in respect of any water resource except as may be prescribed under this Act."

[20] Section 38 (4)

[21] Section 38 (5)

[22] Section 41.

[23] Section 44 (1)

On the other hand, holding rights to land determines whether the Authority will issue a permit.[24] As before, the 2016 Act specifies that 'land holder' 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, custom or estate is entitled to be the holder or possessor of land; However, the 2007 Water Management Rules requires satisfactory evidence of land ownership such as an authentic title deed, lease agreement, easement, way leaves or a letter from the landowner or community.[25] This system perpetrates the concept of privatization or individualization of water rights. More often than not, it places small water users at a disadvantage and those without secure or customary land rights from realizing their constitutional right to water.
In line with earlier Acts, it is following from these provisions that Section 36 provides that a permit is required for any of the following purposes:

a. Any use of water resources;
b. The drainage of any swamp or other land;
c. The discharge of a pollutant into any water resource; or
d. Any other purpose, to be carried out in or in relation to a water resource, which is prescribed by Regulations made under this Act to be a purpose for which a permit is required.

The circumstances under which a permit is required are very wide and have the potential to be wider with the enactment of Regulations that could include other instances. It is however notable that there are instances when a permit is not required. These include the same as before:

a. abstraction or use of water, without the employment of works[26], from any water resource for domestic purposes by any person having lawful access to the water resource;
b. abstraction of water in a spring which is situated wholly within the boundaries of the land owned by any one landholder and does not naturally discharge into a watercourse[27] abutting on or extending beyond the boundaries of that land; or
c. storage of water in, or the abstraction of water from a reservoir constructed for the purpose of such storage and which does not constitute a watercourse for the purposes of this Act.

The exceptions above would not be applicable if the Water Act or Regulations provide that a permit is required.[28] Section 37(2) is somewhat confusing however, it essentially leads to the

[24] Section 43

[25] The Water Resources Management Rules, 2007 Rule 20.

[26] Works is defined in the Water Act as "any structure, apparatus, contrivance, device or thing for storing, recharging, treating, carrying, conducting, providing or utilizing water or liquid waste, but does not include hand utensils or such other contrivances as may be prescribed by Regulations made under this Act."

[27] Watercourse is defined as: "any natural channel or depression in which water flows regularly or intermittently, unless declared not to be a watercourse under this Act".

[28] Section 37(2) of the Water Act.

conclusion that there is a proviso to the proviso. There is no absolute situation in which a party may be exempted from requiring a permit and if the Act or Regulations prescribes a circumstance in which a permit is required, such permit is required despite falling into the exemptions. In a nutshell, the answer to the question 'who requires a permit?' is wide and includes any person who uses a water resource; drains a swamp; discharges a pollutant into a water resource; or uses a water resource for any other reason. Once the Regulations are enacted, we hope that this will become clearer with the expression "any other reason" being defined and concrete.

4. Kenyan Experience with Implementing Permits

According to a 2015 Water Resources Management Authority Performance Report-, there was a notable decline in issuance of surface water and ground water permits in the 2013/2014 period.[29] The slow processing of permits was attributed to the high number of conflicts and complaints from Athi and Tana. "Low per capita water availability coupled with temporal and spatial water availability … [causes] shortage of water resources resulting in conflicts of water sharing…because of the high demand for irrigation which becomes critical during drought."[30] Data indicates that in the Athi and Ewaso Ngiro North, surface water was mainly used for irrigation.[31] The Athi region has the highest number of permits issued to water abstractors and highest proportion of abstracted volume of water with valid permits.[32] It is worth reviewing the proportion of permit allocation to landholders carrying out large-scale irrigation in contrast to small-scale water users. This will be informative as regards to whether the current permitting system perpetrates inequalities particularly based on landholdings.

Permitting, which includes authorisation and permit issuance has been steadily increasing with more water users registering their abstractions with WRMA. WRM Rules 2007 defines Authorisation in terms of 'Authorization to construct works'. Authorization to construct works as per section 33(1) of the WRM Rules is issued to an applicant once the application for a water use permit has been given approval by the Authority. The Authorisation indicates the period of time needed to complete the works, and also provides the commitment by the Authority to issue a valid water use permit if the conditions stated on the Authorisation are fulfilled (Sec 33(1). Nevertheless, an authorisation does not allow the applicant to commence abstraction or the proposed use of the water until the conditions governing the authorisation are certified as having been met (WRM Rules 2007). Authorisations may not be equated to the sanctions of Water Ordinance 1929, as sanctions were defined as 'a document issued under the Water Ordinance, 1929 (now repealed), authorizing the abstraction, diversion, obstruction, storage or use of water or the drainage of land (CAP 372). However, sanctions may be equated to permits.

[29] Water Resources Management Authority (2015) Performance Report 4, *A report to the public from the Water Resources Management Authority for the periods 2012/13 and 2013/14*
http://www.wrma.or.ke/images/pdf/WRMA_Performance_Report%204.pdf
[30] See http://www.wrma.or.ke/index.php/wrma-regional-offices/athi.html
[31] Note 8 p 26
[32] Ibid p 35

When WRMA took over the management of water use in 2006, there were less than 2000 authorizations and less than 100 permits nationally, after almost a century of state obligations to apply for a permit. Currently there are over 10,000 authorizations and 4000 permits. This increase is over a period of 10 years with the improvement being more remarkable in the last two years. In the first five years of operationalization, the improvement in authorizations was minimal reaching a 2000 mark in 2010 while permits increased to about 250 over the same period. The slow progress during this period can be explained by lack of guidelines, systems and structures, which were still being developed during the same period. Water users were yet to appreciate the essence of having permits in order to abstract water.

Nevertheless, from June 2011 to June 2013, there was a significant increase in permitting with authorizations increasing from about 3700 to about 5500 while permits increased from 300 to about 1700. The increase can be attributed to increased awareness and acceptance among water users/abstracters on the need to regulate water abstraction and therefore readily complied with regulations and innovative reporting system through the Permit database. Prior to WRMA taking the permit issuance there were more surface water permits than ground water. Currently, groundwater permits comprise 80% of all the permits issued.

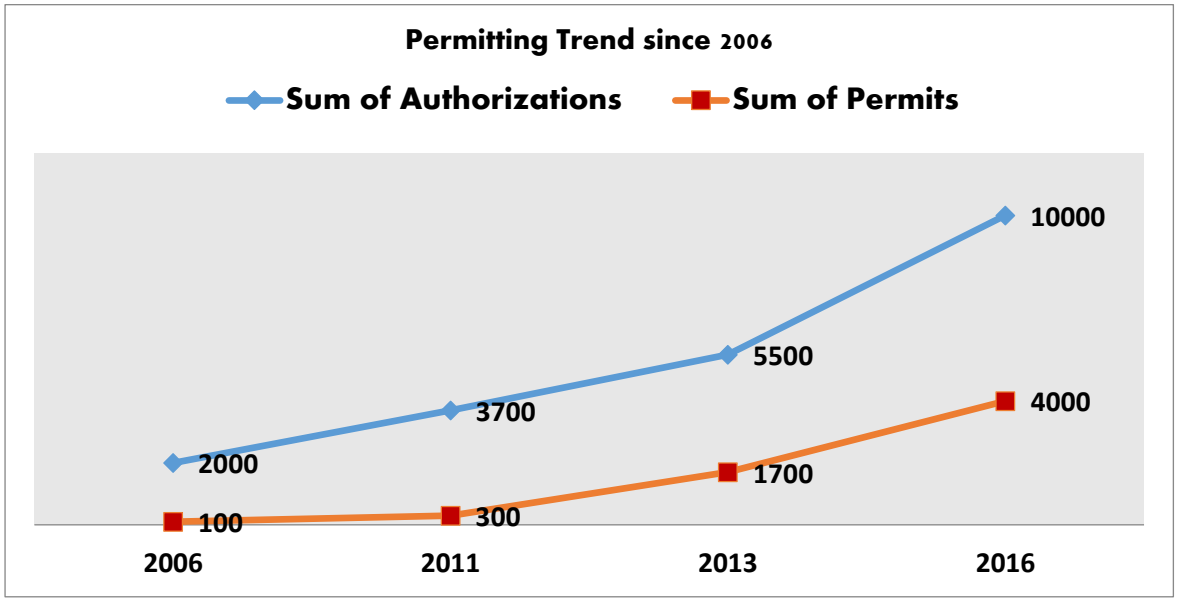
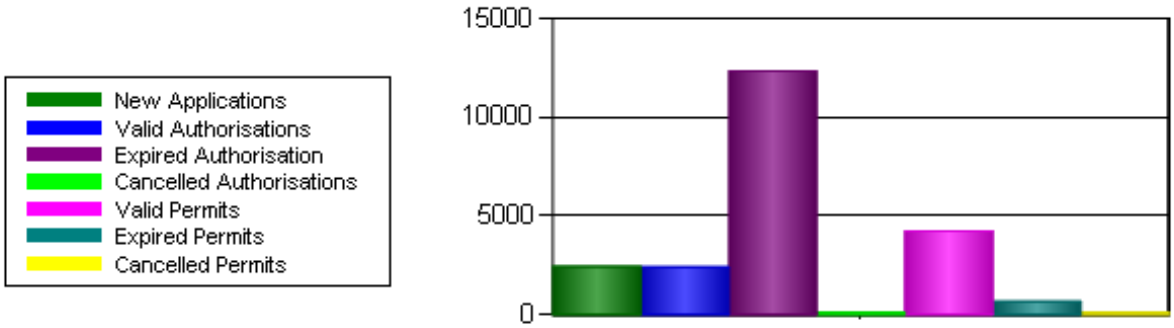


Figure 1: Permitting trend since 2006

Table 1: Summary of applications, authorizations and permits as at September 2016

Hydro. Unit	No. of New Applications	Current Authorization Status			Current Permit Status		
All	All	Valid	Expired	Cancelled	Valid	Expired	Cancelled
TOTAL	**2441**	**2406**	**12311**	**8**	**4236**	**658**	**8**



Source: WRMA Permit Database (HQ)

The thresholds have the legal background in the Water Act. The classification per category depend on the impact of an application to the water resource. For example, category A applications are those which have low risk of impacting water resource, while category B have the potential of making significant impact on the water resource. Category C have measurable impact on the water resource, while category D involve international waters, two different catchment areas, are large scale or complex with measurable impact on the resource. The guiding principles for thresholds are need for flexibility, need to manage permit issuance, as well as the extent of enforcing permit conditions (WRMA, 2007).

4.1. Policy and legal provisions on permitting

As pointed out above, permitting function is undertaken by WRMA as mandated by law. So far permits have been issued under the Water Act 2002 which describes water rights and works under sections 25 through to 43 and gives necessary requirements for permits and expected permit conditions attached to use of water from a given water resource. Section 8(4) of The Water Resources Management Rules 2007 describes conditions attached to permits and provides the basis for suspending, cancellation or variation of a permit. These are expected to change to align with the Water Act 2016.

4.2. Permitting function in WRMA

The permitting function enables WRMA to generate revenue from charging water use fees. Permitting is given a lot of emphasis by WRMA because of the increasing demand for water resources and the declining per capita fresh water availability. Also recognition of economic value for water and the need for users to appreciate it requires extra effort. As such permitting process needs to be efficient and effective.

To achieve this, WRMA developed a permitting database (PDB), which is software that facilitates the processing of permits. The PDB is installed in all WRMA offices where applications are received and processed according to the category of permits. The categories increase from A-

being the lowest and D- the highest. Categories C and D apart from technical evaluations at the regional office, also undergo Catchment Area Advisory Committees and public notification in the newspapers. This allows for transparency and stakeholder participation in the permitting process.

Table 2: Water use categories and applicable fees

Applications	Assessment of Application (KShs.)	Issue and Renewal of Permit (KShs.) (for 5 years)
Water Use Category A	1,000	Nil
Water Use Category B	5,000	7,000
Water Use Category C	20,000	25,000
Water Use Category D	40,000	45,000

Table 3: Other fees relating to permit

Relevant form if applicable	Description of activity	Fees (Ksh.)
WRMA 002	Application for easement	2000
WRMA 005	application for Extension of Time of Authorization	2000
WRMA 012	Variation of Permit	2000
WRMA 013	Transfer of Permit	2000
WRMA 014	Search of Water Permit	1000
WRMA 020	Supplement to Water Permit/Authorization	3000
	For Re-issue of or alteration to Authorization, Permits and Licenses	2000

Table 4: Water use Charges applicable to Category B, C and D

Type of Water Use	Criteria	Rate
DOMESTIC, PUBLIC, LIVESTOCK	Domestic, public, and livestock purposes	50 cents/m^3
HYDROPOWER GENERATION	Installed capacity	
	Up to 1 MW	No charge
	Over 1 MW	5 cents per kW/h
IRRIGATION	First 300 m^3/day	50 cents/m^3
	Over 300 m^3/day	75 cents/m^3
FISH FARMING	Amount of water supplied	5 cents/m^3
COMMERCIAL INDUSTRIAL	First 300 m^3/day	50 cents/m^3
	Over 300 m^3/day	75 cents/m^3
EFFLUENT DISCHARGE		Pollution load rate.

4.3. Revenue Generation

Revenue in this case is based on water allocated to abstractors in category B, C and D. Expected collections are pegged on a percentage increase assuming that:

- All permitted abstractors comply with water use payments.
- Percentage funds are allocated to increase compliance of payments and identification of illegal abstractors.(Plough back)

Permitted abstractors are as follows.

Volume of water allocated per year to class B, C and D Clients

	Permit Class	Allocation per day(m3)	Allocation per year(365 Days)
1	B	335,744.69	122546811.9
2	C	557,128.82	203352019.3
3	D	3,206,617.70	1170415461
4	D	80,473,570.72	29372853313

- Flower firms. i.e Vegpro
- Bottling industries-Soft drinks. i.e Aquamist
- Large scale irrigation schemes.-Pekkera irr.scheme
- Water service providers i.e Nairobi water
- Leaning institutions-i.e Nairobi university, Kabarak
- Sugar cane industries-i.e Mumias
- Fish farms-i.e Jambo fish limited
- Beverage firms-i.e KBL
- Energy producing companies...KenGen

Revenue collected is used to implement WRMA Mandate as follows:

WATER ACT 2002	Mandate and strategy to achieve.	RELEVANCE TO THE COUNTRY
S8(h)	Data acquisition and management-Strengthen monitoring networks to enhance data collection and improve information management system.	-Water resource data is essential for planning and development. -Monitoring enhances strategy implementation.
S8(a)	Water resource planning and allocation-Improve the use of Water Resources Management tools for effective planning and allocation.	-Water allocation plans developed thus equitable sharing of water resources. -Water allocation and apportionment.
	Adequate quantity and quality of water resources-Strengthen stakeholder collaboration to enhance water storage and and adaptation to climate change impacts.	-Enhance water demand management. -Conservation of water resources for future needs.

S(8) (f)	Catchment protection and conservation-Strengthen use of water resources management tools and collaboration for effective catchment protection and conservation.	-Protection of water resources against diverse effects on both quantity and quality. -Minimize the rate of catchment degradation.
	Human resource development and management-Build staff capacity and improve working environment.	-Enhance quality of service provided to customers. -Ensures rapid results and better service delivery to the general public who are our main customers.
	Financial resource mobilization and accountability-Enhance resource mobilization and effective use of finances.	Accountability to tax payers and general public in terms of value for money.

The lower permit categories A, B and C are processed at the regional level while category D that involves large abstractors are processed at the WRMA headquarters. At this level, all permits can be viewed regardless of category and relative performance analysed based on data in the system.

At the Head office, the permit function serves to provide:

- Back-stopping to Regions on all Water Rights activities including prosecutions of offences committed under the Water Act 2002 and Water Resources Rules 2007.
- Monitoring and evaluation of effectiveness of enforcement activities on water rights
- Processing of class D applications

4.4. The permitting process

Permitting of water resources is a process through which WRMA regulates water abstractions by various users. It starts with the user submitting a request using a pre-scribed form with information, which includes the amount of water to be abstracted, location, mode of abstraction and other details stated in the form. The application then undergoes through approval process followed by authorisation to construct works. Works are then inspected to ensure they comply to the conditions set in the authorization. If the works are satisfactorily constructed, a water use permit is issued.

Once a permit is issued it remains valid for a maximum duration of five years after which it expires and should be renewed if abstraction is to continue using the same permit number. Permits can be issued on pro-rata basis, depending on the use of water.

TIME TAKEN IN PROCESSING OF DIFFERENT CATEGORIES OF APPLICATIONS (QTR II 2016/17).				
APPLICATION CATEGORY	**APPLICATIONS PROCESSED WITHIN SERVICE CHARTER TIMELINES (YES)**	**APPLICATIONS NOT PROCESSED WITHIN SERVICE CHARTER TIMELINES (NO)**	**TOTAL APPLICATIONS PROCESSED**	**% EFFICIENCY IN PROCESSING**
A	3	1	4	**75**
B	479	172	651	**74**
C	14	1	15	**93**
D	0	1	1	**0**
TIME TAKEN FOR ALL APPLICATIONS AS PER THE WATER ACT	**606**	**65**	**671**	**90**

Category B comprises 80-90% of all applications, with 20% of the volumes allocated. High numbers of applications may explain the longer duration taken. The analysis showed that the water allocation system was effective in processing classes C and D, with average permit processing time shorter than the target 180 days. However, the system was not effective in processing permits in category B, whose average processing time was longer than the target 180 days. On average, the system was effective since it could process the permits within 152 days (WRMA performance report 2014). The time taken for the permit processing depends on the category of application.

Under special conditions such as road construction, a permit can be given pro rata for a duration of one year thereafter it requires renewal. Whichever the case, one is not allowed to abstract water using an expired permit. Use of such permits is considered to be non-compliant and is against the regulations

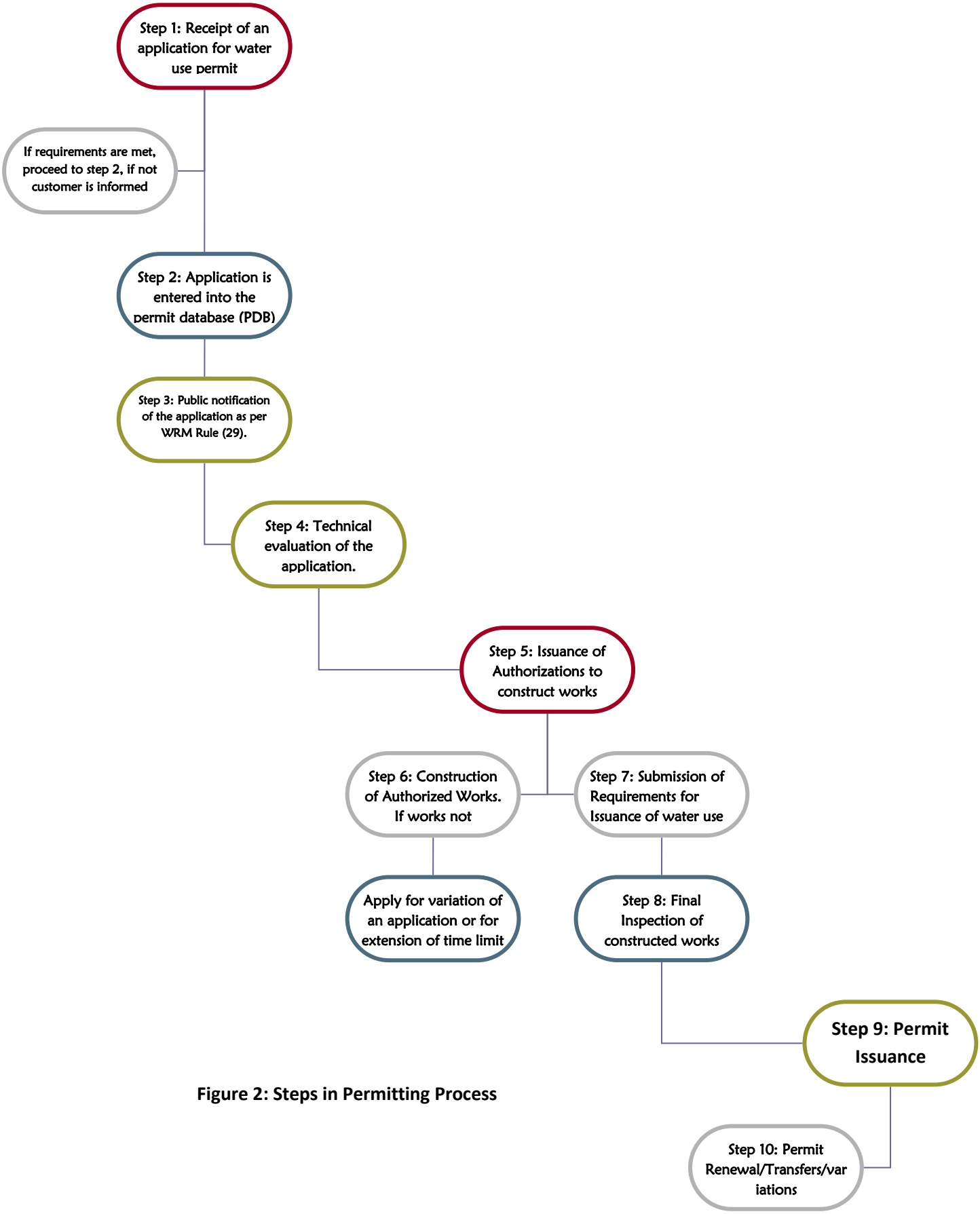


Figure 2: Steps in Permitting Process

In Table 1 below, the permitting data is presented in the manner in which it is processed in the PDB, which includes the volumes of water permitted. The status of data for all the six regions is clearly stated in the Table, which reflects the level of engagement in permitting and performance. The Table is in structured into three parts. Part 1 contains the entire permitting data namely applications submitted, approvals, authorisations and permits per region for both surface and groundwater. In part 2 of the Table all permits and valid permits in categories B, C and D are presented. Invalid permits, which require renewal, are not presented but they form part of all permits. The total number of permits per region is the sum of those in the three categories. Part 3 of the Table contains data on the volumes of water in m^3/day, which have been permitted for the three permit categories for both surface and groundwater. In this case also the total volume of water permitted per region is the sum of the volumes in the three categories. Thus the total permits and volumes of water permitted indicate the level of engagement of every region in water allocation. Performance is therefore measured in terms of the proportion valid permits and volumes of water per region.

Table 5: Status of permitting comprising applications, authorizations and permits

Region	**Part 1: Permitting data**														
	Applications pending processing		**Number of approvals**		**Number of authorizations**		**Number of valid authorizations**		**Number of permits**		**Number of valid permits**		***Total***		***Combined***
	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	(SW& GW)
LVN	30	45	29	59	67	394	34	117	71	88	68	86	197	586	783
LVS	35	66	38	59	65	378	32	210	88	63	72	62	226	566	792
RVC	97	255	18	20	87	984	27	354	96	322	80	292	298	1581	1879
Athi	34	201	8	45	184	6717	29	1603	388	1634	379	1618	614	8597	9211
Tana	227	102	66	16	234	712	92	182	621	248	600	240	1148	1078	2226
ENN	65	60	46	19	62	503	41	276	226	202	214	194	399	784	1183
Total	**488**	**729**	**205**	**218**	**699**	**9688**	**255**	**2742**	**1490**	**2557**	**1413**	**2492**	**2882**	**13192**	**16074**
	Part 2: Permit categories														
	All permits						*Valid permits*						*Total*		*Combined*
	Category B		*Category C*		*Category D*		*Category B*		*Category C*		*Category D*				
	SW	*GW*	*SW*	*GW*	*SW*	*GW*	*SW*	*GW*	*SW*	*GW*	*SW*	*GW*	*SW*	*GW*	*SW& GW*
LVN	*40*	*81*	*23*	*5*	*8*	*2*	*37*	*79*	*23*	*5*	*8*	*2*	*71*	*88*	*159*
LVS	*39*	*59*	*29*	*4*	*20*	*0*	*33*	*58*	*23*	*4*	*16*	*0*	*88*	*63*	*151*
RVC	*37*	*162*	*30*	*62*	*28*	*97*	*37*	*145*	*26*	*55*	*28*	*91*	*95*	*321*	*416*
Athi	*267*	*1435*	*100*	*176*	*21*	*22*	*263*	*1420*	*95*	*230*	*10*	*13*	*388*	*1633*	*2021*
Tana	*556*	*230*	*44*	*6*	*21*	*11*	*526*	*228*	*42*	*3*	*21*	*8*	*621*	*247*	*868*
ENN	*143*	*148*	*74*	*45*	*12*	*9*	*135*	*144*	*67*	*43*	*12*	*7*	*229*	*202*	*431*
Total	**1082**	**2115**	**300**	**298**	**110**	**141**	**1031**	**2074**	**276**	**285**	**106**	**130**	**1492**	**2554**	**4046**

	Part 3: Volumes of water permitted														
	All permitted volumes (x1000 m³/d)						Valid Permitted volumes (x1000 m³/d)						*Total*		*Combined*
	Category B		Category C		Category D		Category B		Category C		Category D				
	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	SW& GW
LVN	4.99	1.56	8.0	0.27	152.92	0.24	4.7	1.52	8.0	0.27	152.92	0.24	166	2	168
LVS	912.18	1.36	16.73	0.72	1864.03	0	911.98	1.34	12.72	0.72	1852.88	0	2793	2	2795
RVC	3.82	5.92	13.72	9.1	1577.5	148	2.97	5.2	13.72	8.76	1572	124.94	1595	163	1758
Athi	4.51	35.94	117.52	31.1	214.66	20.12	4.47	35.62	104.56	30.91	214.66	20.12	337	87	424
Tana	313.53	5.21	321.66	1.60	80601.44	8.7	303.09	5.06	314.84	0.6	80601.44	1.5	81237	16	81253
ENN	26.16	6.05	66.52	9.01	44.43	6.6	23.45	5.94	57.20	8.56	44.43	5.2	137	22	159
Total	**1265**	**56**	**544**	**52**	**84455**	**184**	**1251**	**55**	**511**	**50**	**84438**	**152**	**86264**	**292**	**86556**

SW: Surface water and GW: is groundwater

4.5. Permitting status in Kenya

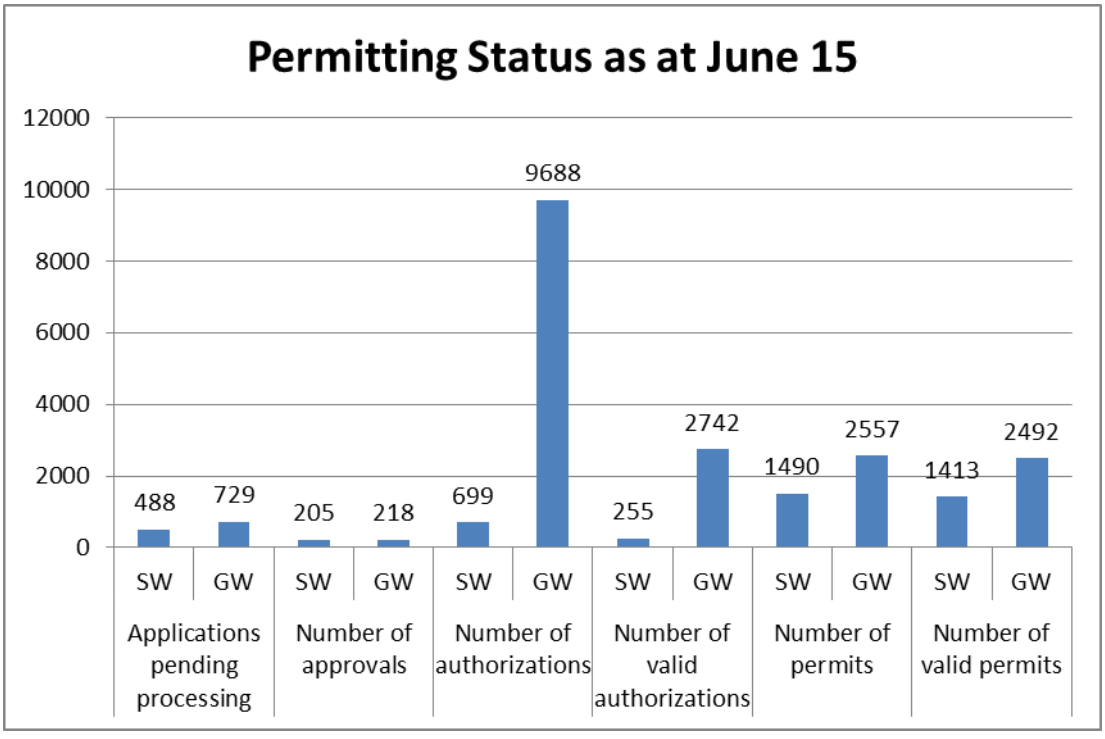


Figure 3: Permitting Status as at June 2015

Source: WRMA Performance Report 5, 2016.

Overall Groundwater has more applications, authorizations and permits which are concentrated in the urban areas. This could be attributed to the shift from Surface Water to Groundwater use for industries and businesses. The dwindling quality and quantity of surface water resources also contributes to the shift.

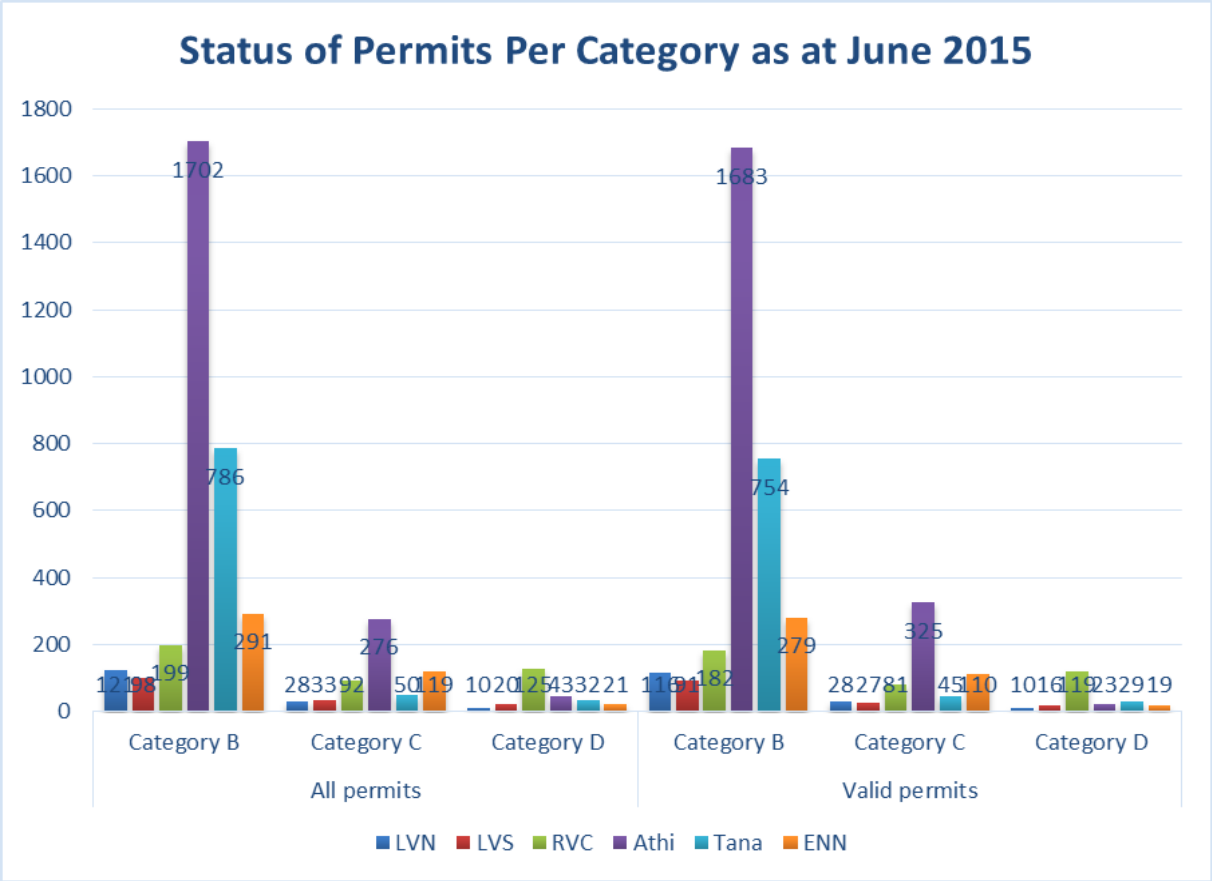


Figure 4: Status of Permit per Category as at June 2015

Source: WRMA Performance Report 5, 2016

Overall all regions performed well in their permitting, as most of the permits were valid. Category B permits have more abstractors than C and D as a result of more boreholes falling under this category. Athi had the highest number of permits in all the categories compared to all other regions. This is attributed to the two major cities Nairobi and Mombasa in Athi. The Lake regions (LVN and LVS) had the lowest numbers of permits in all categories due to the low number of applications. The high endowments of water resources in the lake region has resulted in use of shallow wells, which are manually abstracted hence do not require a permit.

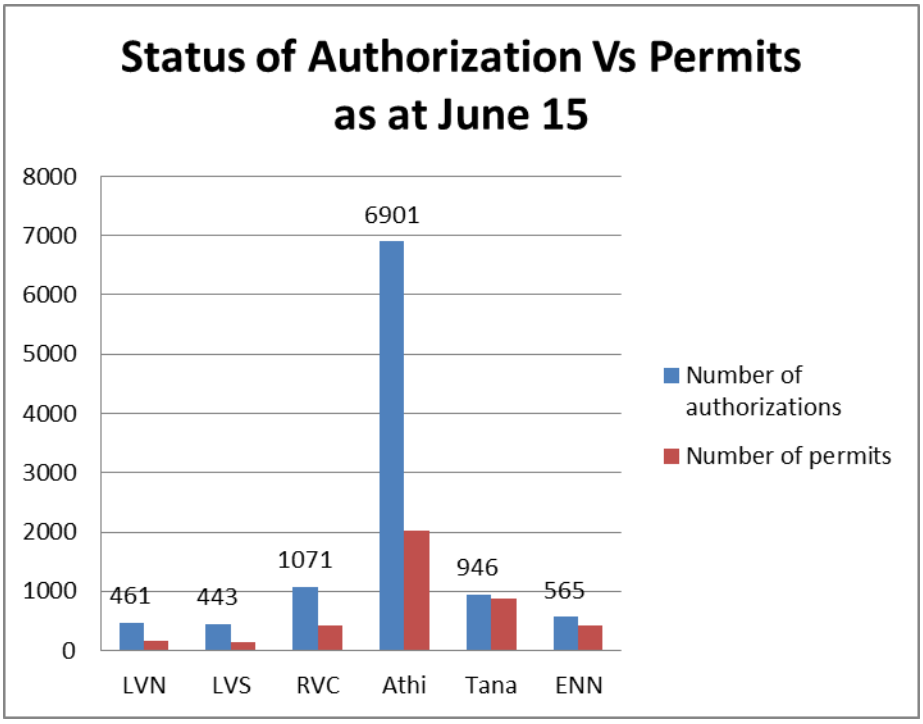


Figure 5: Status of Authorization Vs Permits as at June 2015

Source: WRMA Performance Report 5, 2016

Overall there are more Authorizations than permits in all the regions. The disparity between Authorizations and permits issued is highest in Athi and Lowest in Tana. This is because after Authorizations there is the process of converting Authorization into permit, which requires completion of works, inspection of works and issuance of permit. These processes are dependent on the Customer, and at times may take years as in the case of dam construction**.** Class A authorizations do not mature into permits which add to the disparity**.**

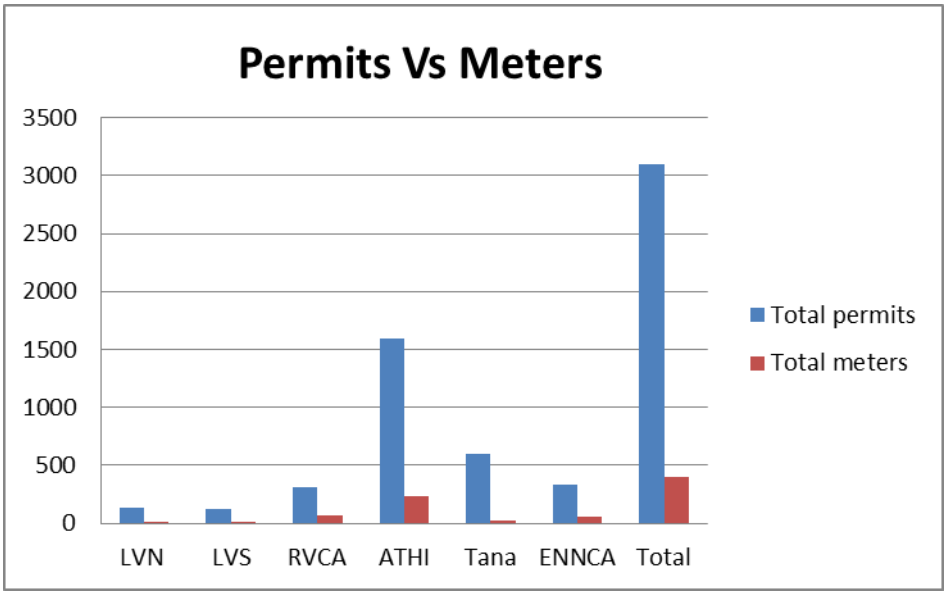


Figure 6: Number of Permits Vs Meters

Source: WRMA Performance Report 5, 2016

Overall the level of compliance to measuring devices is low. There are some permits such as sand dams that do not require having a measuring device. Athi has the highest number of measuring devices by the virtue of it having the highest number of permits. The lowest region in measuring device is LVN where WRMA is making efforts in ensuring the abstractions are metered.

4.6. Water Consumption by Sector

The groundwater use as shown in figure 6 has a very small percentage while in reality the use has been increasing with time. The main reason for the low usage proportion is because surface water use is increasingly high because of the hydropower consumption, which is a non-consumptive use of water.

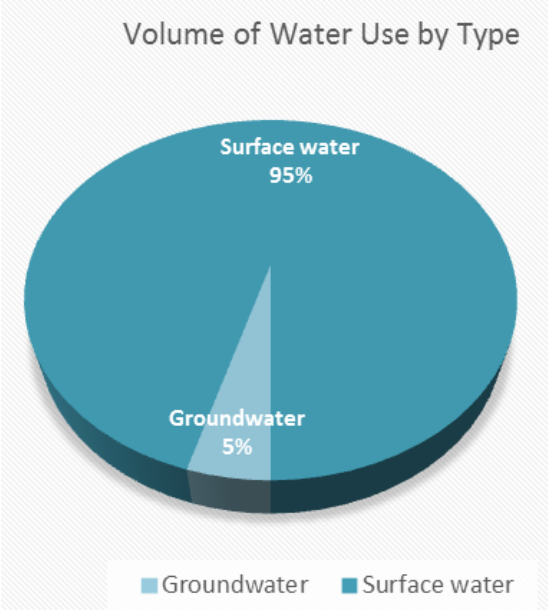


Figure 7: Volume by Category of water use

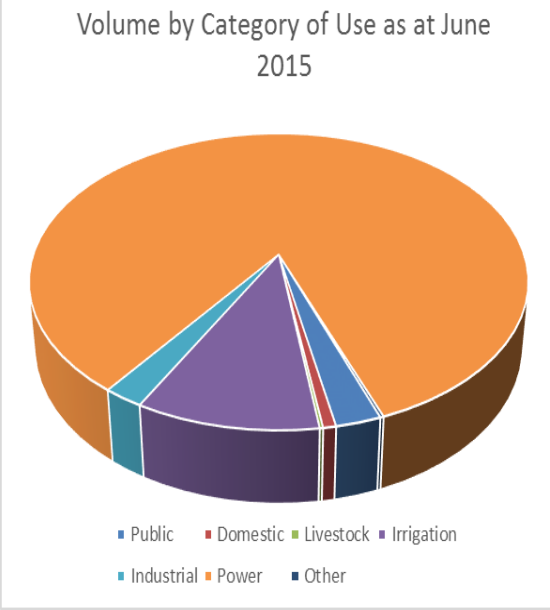


Figure 8: Volume of Water use by type

In reality the water use for hydropower is not abstracted but only temporarily retained and it stays within the watercourse. In Figure 7 where water allocation for the five different categories of water is compared, it clearly shows how water allocation for hydropower takes the bulk potion. If only consumptive water use is considered which essentially constitutes abstraction, irrigation would take the bulk allocation with a proportion of 46% as shown in Figure 7. Similarly by comparing consumptive water use only for both surface and groundwater, surface water constitutes 79% and groundwater 21%. In this case, also the higher percentage is due to irrigation, which uses more surface water than groundwater. The highest volume of water use with regard to Surface water is for hydropower generation followed by irrigation as depicted in the pie charts below:

By comparing the total amount of water used and the total amount of water permitted, it was found that WRMA was able to permit 70% of abstracted surface water and 33% of abstracted ground water up to June 2013. Total Abstractions are assessed and calculated through such means as hydrological survey reports.

4.7. Role of PDB in Permitting

PDB provides data on water use allocation for both surface and ground water abstracted in each sub catchment, which is useful for planning of development as well as total amounts of revenue collected. It further allows for:

- Transparency in water allocation process
- Linkages with other WRMA departments

- Reporting tool
- Source of data

4.8. Permitting challenges and revenue collections

Compliance to water use charges remains a challenge as WRMA continues to sensitize and create awareness among water users on the significance of recognizing and appreciating the economic value of water. Water users therefore need to appreciate that the value of water resources will continue to increase and therefore payment for water use in accordance with user pay principle.

Regarding investments, the actual revenue collected was used as an indicator of performance and this increased from KSh 302 million (USD 2.9 million) in 2013 to KSh 318 (USD 3.1) million in 2014, an increase of KSh 16 million over a period of one year (WRMA performance report 2015).

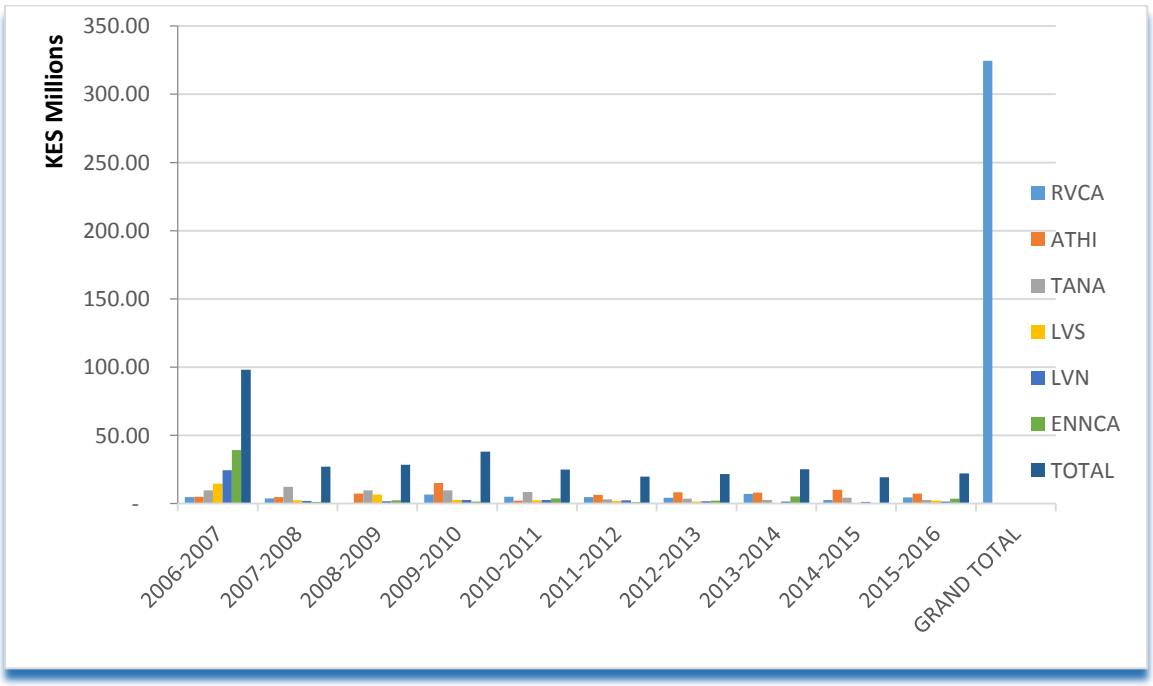


Figure 9: Actual revenue collected

Other challenges experienced include the following:

- Inaccurate customer database
- Duplicate and/or missing customer data
- Decentralized databases within regions/Sub-regions hence no real time transmission
- Inconsistent periods for updated Head Quarter database
- Inconsistent internet provision

4.9. Permitting Opportunities

- Centralize the Permit Database repository
- Direct data entry/update into the permit database to enable near real time customer data
- Developing one standard file number structure for PDB, RBCS and FMIS
- Centralization of the PDB to improve on security thus allowing for checks and balances.
- Facilitate monitoring of permit processing via work flow
- Real time data input, process and output
- Website integration of permit process enquiries to enhance customer service.
- Integrate the Permitting system with the M-pesa platform to trigger permit processing once fees are paid.
- Utilization of bulk messaging: Info SMS/short code alert on permit expiry and renewal.
- Export customer details directly to the billing and collection system

5. Broader Issues Related to Permits

5.1. Link between a Permit and Land Rights

There are two ways in which a permit is linked to land rights specifically land ownership rights. Firstly, through Section 45, which provides that a permit shall specify as far as practicable, the particular portion of any land to which is attached.[33] While this Section does not make any specific reference to a landholder or land rights, it is understood to mean that a permit can be attached to a portion of land and this can lead to the conclusion that the holder of the land right can seek a permit that shall be attached to their land.

Secondly, through Section 37(1) the Act provides that a permit shall not be required for the abstraction of water in a spring which is situated wholly within the boundaries of the land owned by any one landholder and does not naturally discharge into a watercourse. This section provides and exception or exclusion whereby a land right can exempt one from having to obtain a permit to exploit water resources.

5.2. Water security for large landholders and vulnerable persons

The Water Act, surprisingly, makes no reference to water security as a concept whether in reference to large landholders or vulnerable persons. However, this alone is not sufficient to suggest that water security is not governed by the Act particularly taking into consideration that all water resources vest in the National Government.

[33] It is noteworthy that Section 45 also allows a permit to be attached to an undertaking.

The Water Resources Authority is established by the Water Act and has a number of functions including the formulation and enforcement of standards, procedures and Regulations for the management and use of water resources and flood mitigation; and the provide information and advice to the Cabinet Secretary for formulation of policy on national water resource management, water storage and flood control strategies.[34] In these two roles the Water Resources Authority can influence the management of resources, which touches on water security. This however means that water security is a matter of policy.

The Water Act has linked the issue of permits to land rights but there has been no specific mention of size of land in the Act. We can be guided by the provisions in Section 43 of the Act which provides for the considerations to be take when issuing a permit:

a. existing lawful uses of the water;
b. efficient and beneficial use of water in the public interest;
c. any basin area water resources management strategy applicable to the relevant water resource;
d. the likely effect of the proposed water use on the water resource and on other water users;
e. the classification and the resource quality objectives of the water resource;
f. the investments already made and to be made by the water user in respect of the water use in question;
g. the strategic importance of the proposed water use;
h. the quality of water in the water resource which may be required for the reserve; and
i. the probable duration of the activity or undertaking for which a water use is to be authorised.

The above considerations to be taken when issuing a permit do not provide a *numerous clausus* and the framing of the Section suggest other aspects may be taken into consideration. The Act has not highlighted the size of land holding as a consideration but Section 43(3) suggests that land holding may play a part because the nature and degree of water used authorised by a permit shall be reasonable and beneficial in relation to other persons who use the same sources of supply or bodies of water. Therefore, this may be interpreted to mean that because one has a larger holding of land the use permitted shall be reasonable in relation to the size of the land but this has to be balanced in relation to persons who use the same sources of land.

Further in relation to vulnerable persons two aspects stand out the first is that every person has a right to water resources this should be read with Article 43 that guarantees the right to clean and safe water in adequate quantities. Further, Section 43(2) states that: "The use of water for domestic purposes shall take precedence over the use of water for any other purpose, and the Authority may, in granting any permit, reserve such part of the quantity of water in a water resource as in its opinion is required for domestic purposes." For instance, during droughts when the river flows are low, the law provides that the reserve is protected to take care of ecological

[34] Section 12 of the Water Act.

and basic human need. The reserve is not allocated for any other use hence permits can be recalled or stopped for some time. Additionally, the law provides that a permit can be varied during drought so as to protect water resources from deterioration, provide equity and increase water for domestic water (Section 35 of Water Act 2002).

This read with Section 37(1) means persons using water resources for domestic purposes are exempted from seeking a permit and in the issuance of permits the Water Resources Authority is obliged to give the use of water for domestic purposes precedent when issuing a permit

Once we issue a permit, we expect the owner to use water as per prescribed uses but if they deviate from applied uses we have no control over. When we ration water during droughts through Gazettement, we ban some activities through Gazettement i.e. we stop irrigation, limit time for abstraction for domestic uses. However, WRMA issues permits to WSPs for public use but does not control particular uses a WSP customer puts that water use for e.g. for swimming pool or backyard gardening

Vulnerable persons shall also be protected because the Authority is obliged by Section 43(3) to take into account persons who use the same source of supply or bodies of water into consideration. Therefore, a permit ought not be issued to the detriment a person sharing a water source.

6. Conclusion

Kenya has a system for issuing permits for the use of water resources through WRMA and now the Water Resources Authority. However given that the 2016 Act has only recently become law and Regulations have not been enacted, the substantive law around permits remains the 2002. It will be interesting to see whether substantial changes will be made in the permit system in the regulations under the 2016 Act.