INADEQUACIES IN WATER LEGISLATION FOR WATER RESOURCES MANAGEMENT: EXPERIENCES FROM TANZANIA

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ABSTRACT

Water legislation is one of the instruments that are used to streamline social behaviour towards water resources management. However, the pieces of water legislation in most of the developing countries, Tanzania in particular, have many weaknesses that affect their enforcement. This paper aims at presenting some of the weaknesses present in Tanzanian pieces of water legislation. The majority of the pieces of legislation are outdated and where fines are prescribed are too low to compensate for any damage caused. They are generally based on control and command principle rather than sustainable use of the resource. Community participation is generally neglected, as too much power is concentrated to the executives. Provisions protecting the quality and quantity of water resources are scattered in various government departments. Thus, in order to achieve sustainable water resources management there is a need of having comprehensive, cost effective and environmentally sound water legislation, which takes into account the existing weaknesses. There should be an autonomous regulatory organ with legal powers to enforce the laws and oversee environmental matters. Environmental impact assessment must become a statutory obligation for any planned projects so as to reduce their impacts to water resources and environment in general.

KEYWORDS

Legislation; water legislation; water pollution; water resources management

INTRODUCTION

Water, like air, is indispensable for human existence. It is an essential ingredient in body cells without which no life on earth and water shortage may render most of our domestic and industrial activities impossible (VanHylckama, 1971). The continuous availability of adequate freshwater resources of acceptable quality is therefore a pre-requisite for sustaining life and development. Despite the importance of the water resource in the life it is continually being degraded from unsound development activities especially in the poor countries. Excessive mineral ions and other biological materials in water bodies such activities make them unsuitable for different water end-uses. The great solvent power of water has therefore made it practically impossible the creation of absolutely pure water and waters in excess of any materials scientifically regarded as polluted. Thus, water pollution is referred to as the addition to water of an excess of materials (or heat) that is harmful to humans and animals or desirable aquatic life or otherwise causes a significant departure from the normal activities of various living communities in or near water bodies (Chhatwal et al., 1989). So, when one uses the term "good or safe" to describe the quality of water one should ask for which end-use one is referring to because each of the end-uses has legal standards or specifications that define the goodness or safeness of that water.

The global freshwater resources are facing increasing population pressure and degradation by pollution and saline intrusion. It is said that nowhere these forces are stronger than in developing countries (World Bank, 1992). That has caused water availability in some arid and semi-arid countries to fall or may fall in the near future below the common benchmark for water scarcity of 1000 m³ per person per year (IPCC, 1995).
The increasing population pressures and unsustainable exploitation and utilization of the natural resources exacerbate water pollution that in turn pose public health risks and indeed water pollution is a culprit to human tragedies. The 1950s incidence of deadly 'Minamata' disease outbreak, which claimed life hundreds of people in Japan, is the classic example of mercury pollution problems in the human history (UNEP, 1983). The amount of mercury, due to gold mining activities, in river waters from Mugusu (Geita) was 2.306 ppm; Ushirombo (Kahama) was 0.106 ppm while the WHO permissible limit is 0.005 ppm (CEEST, 1996). Biological water pollution is highly associated with poor sanitary and sewerage support systems and it is the source of waterborne diseases in poor countries. It has been reported that one third of the world population has inadequate sanitation and one billion people are without safe water, which caused 900 million cases of diarrhoea every year (World Bank, 1992). In Tanzania, for example, only 40% of planned houses in cities and towns are connected to water supply and sanitary systems; and use of pit latrines are a source to contamination of piped waters and well waters (Ministry of Natural Resource and Tourism, 1994). This has led to resurgence of cholera and diarrhoea. Cholera alone has claimed the life of 2,025 Tanzanians out of 35,591 cases reported in 1998 (WHO, 1998) and for Dar es Salaam City cholera is pandemic. These problems might have come partly due to either less strict laws or poor enforcement of the laws or both. The enforcement of water quality standards and water legislation essentially requires comprehensive legal and administrative framework. So, the objective of this paper was to assess the efficacy of water laws of Tanzania in sustaining water resources management.

WATER RESOURCES MANAGEMENT (WRM) AND LEGISLATION

Water resources management and legislation are inseparable. Any management policy or programme requires legal framework that would facilitate and legitimize its implementation. Thus, water resources management, in this context, is defined as the totality of all tasks required to producing water and water-related goods and services. The whole process of producing and providing water and water related goods and services to society involve many institutions, groups of people and individuals in one way or another at least at some stages of the programme. Water resources management process is complex, continuous and dynamic in nature and therefore requires effective capacity building in the technical, financial and institutional aspects of WRM (UNESCO, 1987). The regulatory and administrative issues normally fall under institutional capacity building and thus at this point legal issues come in. The terms law and legislation may be used synonymously but they differ slightly in meaning. Law is a dynamic force for maintaining social order and preventing chaos in society (Grilliot and Schubert, 1989) and therefore it may be considered as an aggregate of rules and regulations enforceable by judicial means in a given country. The sources of law in any society may be divided into seven categories: constitutional law, statute law, case law, treaties, executive orders, regulations of administrative agencies and local ordinances (Grilliot and Schubert, 1989). The primary and most important sources of law in modem societies are constitutions, statutes and cases (Cataldo et al., 1987). But legislation is defined as any set of statutes enacted by a legislative body (Burke, 1977). However, the precise nature of legislation and the legislative bodies in each country will vary depending on national, constitutional and other considerations (WHO, 1997). In our case, the Parliament of United Republic of Tanzania enacts the legislation and it only applies to acts done after its effective dates. Thus, water legislation is technically defined as the principal formal expression of policies and procedures that define a water resources management system (UNESCO, 1987), and there are three expected functions of water legislation:

i. To define the responsibilities of individual components of the WRM systems to an extent necessary to ensure the operation of the management systems as a whole.

ii. To resolve conflicts among stakeholders of water resources during the process of providing goods and services, and also people must be able to make use of them to demand for their rights on water resources.

iii. To define the rights, obligations and appropriate constraints and incentives relative to such activities.

So, the effectiveness of strategies for controlling water quality and quantity, ideally, depends on the existence of adequate water legislation, standards and codes (WHO, 1997) though there’re other factors. Some of such factors include the level of technology, economy, education, cultural values and respect of the rule of law.

THE STATE OF WATER LEGISLATION IN TANZANIA

Freshwater bodies in Tanzania are protected by two principal water legislations viz, Water Utilization (Control and Regulation) Act, 1974 and Urban Water Supply Act, 1981. In addition there are also other pieces of legislation scattered in various government departments, which are geared towards protecting quality and quantity of water resources. The water legislation defines the administrative roles, quality and quantity control of water resources and prescribes penalties for offences. For the sake of this paper only a few Sections of Water Utilization (Control and regulation) Act, 1974 and its amendments and Urban Water Supply Act, 1981 and its amendments and other related pieces of legislation are discussed.
Water Utilization (Control and regulation) Act, 1974

Water quality and quantity control: Section 11(1) (a) of this Act states that the owner or occupier of any land may sink or enlarge a well or borehole thereon and abstract water therefrom, not exceeding 22,700 litres in anyone day, and this Section shall not authorize the sink of the well or borehole within 230 m of any other well or borehole or within 90 m of any body of surface water or enlargement of any well or borehole which is within these distances from any other well or borehole or body of surface water, as the case may be. Section 12(2) allows the holder of claim registered under the Mining Ordinance or disc claim under the Mining (Controlled areas) Ordinance to abstract water not exceeding 22,700 litres per day. Whereas, Section 12(3)(b) allows the holder of prospecting rights or exploration rights to sink and enlarge any well or borehole in any land he has right to explore or prospect; and Section 13(b) allows the holder of an exclusive licence to take trees and timber granted under the Forest Ordinance to sink or enlarge a well or borehole and abstract water not exceeding 22,700 litres per day. Section 17(a) states that water used there under:

i. Shall be returned to the streams or water body from which it was taken as may be authorized by the water officers,

ii. Shall be essentially undiminished in quantity, and

iii. Shall not be polluted with any matter from such uses to such an extent that flora and fauna, land and human health are affected.

Section 17(b) states that precautions should be taken to the satisfaction of the Water Officer to prevent accumulation in water bodies of silt, stores, gravels, etc. Section 19 regulates abstraction of water when volume of water is inadequate to satisfy all rights granted in respect to above Sections or on account of drought, and thus Section 20 states that granted rights to water may be suspended as per Section 19.

Offences and penalties: Water Laws (Miscellaneous Amendments) Act of 1997, Section 33(4) states that any person who causes pollution of any sort to water bodies, which causes injury or death of flora and fauna and man shall be guilty of an offence and is liable on conviction to a fine not exceeding 1.5 million Tanzanian shillings (US$ 1 = 1012 TZS) or 2 years imprisonment or both. Any subsequent conviction, the fine is 2 million shillings or 3 years imprisonment or both, and continuous pollution upon receiving a written notice, additional fine of 50,000 shillings per day is imposed. The fines for various offences under Waterworks Ordinance Cap 281, as amended in Sections 27 to 35 and Section 39 range from one hundred thousand to one million shillings.

Water Utilization (Control and regulation) (Amendments) Act, 1981

Water quality and quantity control: Section 6 of this Act deals with the functions of the Water Boards. There are two main functions: Section 6(1) is in relation to the utilization of water, where the Central Water Board shall be the principal advisory organ in matters related to the utilization of water, and shall have an exercise functions in relation to the control and regulation of water pollution subject to the provisions of this Act. In Section 6(2)(a)-(g) the Central Water Board shall advise the Principal Water Officer on all matters related to water resources management including the control and regulation of water pollution. The body will carry out all activities concerning prevention of pollution of water and advice the Minister on formulation of appropriate reaction to the pollution control matters. Section 18A(1) states that no person to whom a consent of discharge is given under Section 15A may construct or discharge into a body of underground water within 230 m of any well or borehole or any other water body, or within 90 m of a body of underground water or enlargement of any well, or borehole or other water bodies which is within these distances from any other well or borehole or body of underground water as the case may be. Section 18B deals with declaration of standards in respect of effluents and recovering waters to be complied by water users before or during discharges.


Water quality and quantity control: Section 9 of the Urban Water Supply Act of 1981 dwells on orders and directives of the Authority and thus Section 9(1) states that any order or direction given by the Authority under this Act is abiding. Section 9(2) states any person who contravenes or fails to comply with any order or direction made or given by the Authority shall be guilty of an offence. Section 20(1) stipulates that where it appears to Authority that it is necessary that any water which it is authorized to take and whether it is on the surface or underground, be protected against pollution, the Authority may with consent of the Minister create rules which define the area to be controlled and prohibiting or regulating activities within that area, which may pollute the water bodies. Section 32(2) states that the decision made by the Minister on any appeals brought to him by aggrieved persons on matters related to refusal of a Water Officer to grant or renew a water right shall be final.

Offences and penalties: Water Laws (Miscellaneous Amendments) Act of 1997, Section 40 states that if any person willfully or negligently damages any water fittings or appliances belonging to the authority, he shall be
guilty of an offence and upon conviction he shall be liable to a fine not exceeding 200,000 shillings or imprisonment term not exceeding 6 months or both and the Authority may do all such works as may be necessary for repairing any damage done and may recover the expenses reasonably incurred by them in so doing from the offender summarily as a civil debt. Section 41 states that misuse or waste of water passing into, or through or upon or near one's premises from water works is an offence and is penalized by paying a fine not exceeding 100,000 shillings. Section 43 prohibits any attempts to make use of water other than for the purposes supplied shall be guilty of an offence and shall be liable on conviction to a fine not exceeding 100,000 shillings. Section 44 states that any person who does washing or bathing in the water works or catchments areas or any vessel used by the authority for supplying water from any public fountains or any inappropriate deeds on water works shall be guilty of an offence and shall be liable on conviction to a fine not exceeding 50,000 shillings. Section 45 states that any person who deposits materials or chemicals on earth in such a manner that it may be washed, fall or be carried into the water works, shall be guilty of an offence and on conviction is liable to a fine not exceeding 200,000 shillings. If the material continues to be there even after receiving a written notice from authority, the person shall pay a further fine not exceeding 5,000 shillings for each day the offence continues.

**Town and Country Planning Ordinance Cap 378**

Section 71 states that without prejudice to the provision of Section 72, which deals with lawful erection of buildings, any person who willfully doesn't act or willfully fails to do any act, in contravention of a provision contained in a scheme, shall be liable on conviction to a fine not exceeding 5,000 shillings and additional fine of 100 shillings per day in case the offence continues.

**Mining Act, 1979 (Repealed by Mining Act, 1998)**

The Mining Act of 1979, Section 23 sets conditions and preconditions for the deposit of minerals of tailings particularly those, which may terminate in any watercourses. Section 37, Subsection 2(b) part (v) and (vi) compels the applicant for mining licence to furnish the Authority with sufficient information giving the particulars of the proposed mining programme and the proposal to safeguard the environment and proposal for elimination of any risks associated with the project. Section 39, Subsection 3(a) part (i) and (ii) empowers the Minister responsible for mining to grant a mining licence under the conditions that the proposed programme takes into account of the environment and safety factors and will ensure cost-efficient and beneficial use of the minerals resources concerned. For the first time Mining Act of 1998 has made environmental impact assessment (EIA) and submission environmental management plan (EMP) mandatory for every application for mining licence under section 38(4)(c); and for renewal of the licence under Section 42(2) 42(2)(d) to avoid adverse impacts of the operations on environment This Act gives some guarantee for protection of watercourses and environmental I general yet it has some weakness that will be pointed out in the next section.

**DISCUSSION ON THE PIECES OF LEGISLATION**

Despite the role these pieces of legislation have played in conserving the quality and quantity of water, and also in the distribution of goods and services borne of water resources, the pieces of legislation cannot pass without say. If one looks critically at these few pieces of legislation one would find that the two principal water legislations are lacking Sections that satisfactorily suffice the functions of water legislation prescribed by UNESCO (1987) and also there are many other weaknesses. The water laws are in pieces and are generally pro-administration as much power is in the hands of ministers, directors and appointed officers. None of these pieces of legislation recognizes the role of other stakeholders in managing water resources and therefore community participation is not legally recognized. However, it has to be noted that if we need to have sustainable water resources management vital stakeholders such as communities and other institutions have to be involved in planning, implementation and evaluation of water resources management programmes. For over three decades Tanzanian government, under socialism ideology, took the responsibility of supplying clean and safe water to communities. But it has so far failed to meet this goal up to this moment. That might have been one of the reasons why Tanzania experiences outbreaks of waterborne diseases every year. The reasons behind this failure are beyond the scope of this paper. In providing water resource goods and services disputes are inevitable. Although DAWASA Act of 1981 has Sections prescribing procedures for dispute resolution the Water Utilization [Control and Regulation](Amendments) Act, 1981 Section 32(2) undermines the right of any stakeholder to appeal against the decision passed by the Minister. This Section contravenes the principles of the rule of law. All pieces of legislation presented have Sections, which penalize any offences committed. Most of these Sections penalize persons but no Sections prescribe appropriate penalties in case a registered company breaks the law. Although Water Laws (Miscellaneous Amendments) Act of 1997 raised the fines they are still too low to compensate any damaged caused and they are not likely to be recovered from the Tanzanian poor who to some extent are polluters
of our water resources and also victims of such pollution particularly in squatter areas. In such situation putting more emphasis on penalties than incentives will not help at all. The sections the water laws discussed are yet silent on how fines can be claimed from persons who have been sentenced both terms of imprisonment and fines.

The Water Utilization (Control and regulation) Act of 1974, Sections 11(1), 12(2) and 12(3) grant any landholder a right to abstract underground water not exceeding 23,700 litres per day. These Sections are not realistic so to say. If that water is for domestic use, then it may be right but mining, agriculture and paper industries etc consume more than that prescribed amount. So, there is a need of determining the water stock in the aquifer before prescribing any draw down rates. Those data might also be helpful in identifying areas susceptible to acute water scarcity. The domestic, industrial and mining activities release wastewater into the environment. Section 17(a) restricts any landholder to discharge waste into water bodies or underground water. But the standards for various pollutants available are merely provisional and there are no standards for water for irrigation and other industrial activities. The principal water legislations lack legal definition of terms such as pollution and contamination, which are important as far as water quality standards are concerned. Most of these pieces of legislation might have been enacted without scientific bases. For example, Water Utilization (Control and regulation)(Amendments) Act, 1981 Section 18A(1) restricts discharge of waste into an underground water body within 230 m off any well or water body or within 90 m of borehole etc. The movement of pollutants into the soil and to underground water body and then from one point to another is influenced by a number of factors and distance is just a minor one. Their movements depend on hydraulic gradient, hydraulic conductivity, transmissivity, nature of the aquifer, soil texture and the ‘cone of depression’ effect (Subramanya, 1994). These factors are not constant or uniform through out any land formation. So, pollutants or wastes discharged into underground at a distance beyond 90 or 230 m of the water bodies may reach the water bodies and hence pollute them provided the other factors are not restrictive. Good town planning has valuable benefits to the inhabitants as far as public health; water supply and waste collection issues are concerned. But many towns and cities in Tanzania are poorly planned which contravenes the Town and Country Planning Ordinance Cap 378 Sections 71 and 72. As a result unplanned and squatter areas have poor sanitary and sewerage systems and poor supply of piped water. The squatters use pit latrines and they are predominantly depending on shallow well or borehole waters. In those areas where piped water connections are available still face water problem as well due to water rationing and low pressure. Hence, the squatters sometimes are tempted to cut the water pipes so that they can get the little water flowing under low pressure in the pipes. All these malpractices increase chances of secondary contamination of piped water. These problems are not likely to be overcome in the near future for more and more squatter areas are emerging year after year. These are some of the reasons why incidences of cholera and diarrhoea outbreaks are very common in such areas. The Mining Act, 1979 was loose compared to the Mining Act, 1998. Section 38(5) of the Mining Act of 1998 grants absolute powers to discrete compliance of standards and approval EIA. The Act should be amended to remove this power as well as the powers of oversight and approval of EIA and EMP from the Ministry responsible for mining to avoid conflict of interests.

The use of case laws in judicial systems as basis for ruling environmental cases is technically for two reasons: Firstly, the socio-economic and technological development are rapidly changing and so are consumptions patterns; and secondly, there are only a few environmental cases ruled out by the high court of Tanzania to be referred to for judging cases on environmental issues. Finally these few pieces of legislation grants the government absolute power over water resources and there is no linkage of laws scattered in various autonomous government departments. This is the general case in most of the developing countries (Roche, 1995). The National Environmental Management Council (NEMC), which exists, is a ‘toothless dog’ as it is just an advisory organ. This is unhealthy to our water resources as well as our environment as a whole.

CONCLUSIONS

The need for good quality water in sufficient quantities to the mankind is no longer a matter of debate and the demands for freshwater will grow higher and higher with time. But the prevailing pollution problems and the concurrent deficiencies in institutional, financial and technical capacities do not guarantee good quality water to the society. Thus there is an urgent need to direct the resources at our disposal to training and motivating technical staffs that would survey and produce databases for various aspects of water resources and also developing infrastructure. It is also a high time now to welcome private investment in water resources. Severe punishment or high fines by themselves may not necessarily discourage people from breaking the law. They sometimes break the laws out of ignorance lenience of the laws. Thus, environmental awareness is important to all stakeholders of environmental resources and incentives should be provided to law conformers. The legislation has to be enacted
basing on scientific data, where possible, in order to reduce unnecessary difficulties in implementing them. So, executives, legislature and scientists need to work together, as far as information sharing is concerned, to avoid unnecessary weaknesses in legislations enacted. In addition the constitution has to have explicit articles, which grant any person the right to protect and have clean and safe environment. It should also grant equal rights to all persons before the court of law without reservations. The legislations must be reviewed with time and made available to the judiciary and the public as soon as possible. The legislation should also be 'system oriented' and this calls for having an independent regulatory institution that will take charge of our environment and enforce the laws in a cost effective and environmentally sound way. Since water knows no political boundaries it may be a source of disputes and therefore regional cooperation necessary for countries sharing a common water resource. If not, any mismanagement that leads to deterioration or depletion of water resources might cause non-ending conflicts within and across nations. When the situation becomes much worse, the conflict might go as far as between mankind and animals as it was once reported in Kenya that monkeys and humans fought over water at Takaba Trading Center in Mandera District, during which ten villages were injured and eight monkeys were killed (Daily Nation of March 21, 2000).

REFERENCES

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