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Clarion University of Pennsylvania, Clarion, Pennsylvania

WATER RESOURCES USE, ABUSE AND REGULATIONS IN NIGERIA

By: E.O. Longe, D.O. Omole, I.K. Adewumi and A.S. Ogbiye

ABSTRACT

The evolvement processes of water laws in Nigeria, as well as their efficiency in the sustenance of surface water resources, were studied. A cursory look was also taken into the mode of access to water resources by households in Nigeria. This was done vis-à-vis the governmental effort at providing potable water for its teeming population as well as the Land Use Act of 1978, which vests absolute control and ownership of all water resources, ground and surface, in the land owner. About 47 million Nigerians still rely, exclusively, on surface water sources to meet their domestic needs. Yet, pollution discharge into the surface water by individuals and industries go on unmitigated, unregulated, and unpunished due to weaknesses in the existing laws. The involvement of the scientific community in the regular calibration and monitoring of surface water quality as a tool for managing the surface and groundwater resources, among other things, would be an advantageous tool for curbing the pollution menace.

Keywords: surface water, groundwater, pollution, regulations, water standards, water rights

INTRODUCTION

Water is a universal resource which, because of its free occurrence in nature, is often taken for granted and abused, especially in third world nations where information is neither readily accessible, nor disseminated to society. Abundant as it may seem, water, in its clean state, is one of the rarest elements in the world (Omole & Longe, 2008). Like all scarce resources which have regulations guiding their exploitation, ownership, preservation, and sustenance, water, the world over, is protected by a body of laws, policies, and regulations in order to prevent abuse (FGN, 2000). However, effective legislations cannot be made without prior ascertainment of the quality of water sources. This involves identifying the common pollutants, causes, effects, and mitigation measures. It is data obtained from water quality assessments that lead to water quality standards and,

ultimately, legislations and regulations (Chapman, 1992). There are no fixed standards with respect to water quality. It is the use to which the water is to be put that determines the quality standard that must be imposed (Anyata & Nwaiwu, 2000). For instance, water meant for consumption, food, and pharmaceutical industrial purposes would, for obvious reasons, have higher standards than water for fish production. To this end, different countries and regions of the world have adopted suitable standards. This includes the World Health Organization (WHO) standard, the European Community (EC) Limits, the United States of America (US) Limits and, of course, the Nigerian Limits, as specified in the Federal Environmental Protection Agency (FEPA), Guidelines and Standards for Environmental Pollution in Nigeria (FEPA, 1991). However, standards are of little or no effect when they are not adequately backed up by functional legislations. The bane of the Nigerian society has been the lack of will to enforce legislations, which will be used to drive the necessary standards for public good.

While the sufficient provision of potable water supply may not be possible in the nearest future for majority of the ever increasing citizenry of Nigeria, certain actions can be taken to ensure that the available resources are well managed and kept relatively safe through the instrument of scientific water quality assessment, design and specifications, regulations, and public enlightenment. For instance, developed countries have certain water laws that give water use rights to deserving individuals. Some of the conditions attached to the issuance of these water use rights are (Omole, 2006):

(i) That the water should be put to beneficial use

(ii) That the use to which the water is put upstream by the prior user does not adversely impact on the quality of the water that gets downstream to the next user.

In addition, the Riparian law says that anyone owning a piece of land adjacent to a surface water source can make beneficial use of the water but has no right to divert it. Moreover, the Riparian owner can only use the water on the site and has no right to pollute the water beyond specified standards (Omole, 2006). The Appropriation law, subsequently, came into effect when more beneficial uses for water came up but the users could not secure land adjacent to surface water sources. They were, thus, enabled by law to remove and transport the water from the source to the point of use. These two laws are common water laws and they confer property rights, not ownership rights (Howsam, 1999). A DFID sponsored research on water rights, law, and use in five African Countries (Howsam, 1999) also revealed that water related laws have still got a long way to go with respect to sophistication and implementation.

METHODOLOGY

This research work was carried out by consulting a spectrum of literature in order to put the evolvement of water laws and management in Nigeria into perspective.

RESULTS AND DISCUSSION

Governmental Input through Setting up of Regulatory Bodies and Regulations in Nigeria

Governmental attitude to environmental and water issues in Nigeria can best be described as reactive rather than proactive. This assertion can be backed up by the series of actions taken by government which has resulted in the few legal tools available for the protection of the environment. The creation of the National Water Resources Institute (NWRI) and the River Basin Development Authorities (RBDA) in 1976 and Federal ministry of water resources (FMWR) in 1977 were in direct response to the threat of famine brought about by the drought of the early 1970s (Handidu, 1990). While FMWR was charged with the responsibility of policy formulation and advising, the NWRI was set up to embark on research and manpower training. The RBDAs, on the other hand, were saddled with the responsibility of providing water to communities for the purposes of agricultural, domestic, and industrial consumption (FMWR, 2007). NWRI and twelve RBDAs spread across the entire country are subsidiaries of the FMWR. The RBDAs are backed up by the RBDA act of 1986 (Kuruk, 2005). Also in 1988, government put together the Federal Environmental Protection Agency, FEPA. This institution metamorphosed into Federal Ministry of Environment in 1999 (Adelegan, 2004). The most recent development in the constitution of Environmental regulatory institutions, however, came about with the creation of the National Environmental Standards and Enforcements Agency, NESREA. It was constituted as a parastatal within the Federal Ministry of Environment. This agency was established under Act No. 25 of 31 July 2007 as stated in the Federal Republic of Nigeria Official Gazette No.92 (NESREA, 2008). NESREA is responsible for the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general. The agency also concerns itself with environmental technology, coordination and liaison with relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, rules, laws, policies and guidelines (NESREA, 2008). Aside from the acts backing up the set-up of the aforementioned institutions that are directly involved in water resources and environmental issues in Nigeria, the most potent and relevant water regulation in Nigeria today is the Water Resources decree of 1993 (FGN, 1993) put into effect by the then Military government of Nigeria. This decree ties the right of ownership and power of

administration of water resources to land ownership. Section 2(iii) of this decree states that ‘‘any person who has a statutory or customary right of occupancy to any land, may take and use water from the underground water source or if abutting on the bank of any water course, from that water course, without charge for domestic purposes, for watering livestock and for personal irrigation schemes” (FGN, 1993). Then, Section 1(i) of the Water resources decree vests the control of all surface water affecting more than one state of the federation in the Federal Government of Nigeria.

This decree, in effect, places all power over water resources within an area covered by the certificate of occupancy (with the exception of interstate water courses) on any individual who can secure it from the customary channel, or better still, from the government channel. The decree, however fails to recognize the fact that indiscriminate exploitation of underground water resources without recourse to expert evaluation could lead to other adverse environmental occurrences, like subsidence and landslides, among other things, if overexploited (CEDA, 1997; Oteri & Atolagbe, 2003). The issue of access to land ownership however, is somewhat complicated. The complication arises from the apparent dual authority on landed matters. The first and overriding authority is the Federal authority backed up by the Land Use Act of 1978. The lesser, but equally forceful, authority is the traditional/historical ownership of land by individuals, which is backed up by customary laws. The Act vests ‘‘all land comprised in the territory of each State (except land vested in the Federal Government or its agencies) solely in the Governor of the State, who would hold such land in trust for the people’’ Land Use Act (1978). The Local Government, which is the equivalence of municipal authorities in western countries, can also grant customary rights of occupancy on land not situated in urban areas, to any person or organization for the use of land in the Local Government Area (Kuruk, 2005). In essence, customary (traditional) rights, as instituted in customary laws, are backed up by, but subjected to, the Federal laws. In terms of effectiveness, the water resources decree of 1993 can be described as stale judging from the punitive contents which can best be described as a disincentive and invitation to chaos. Section 18(i) says ‘‘Any person who contravenes or fails to comply with any provisions of this Decree, or any regulation, made there under commits an offense and is liable upon conviction to a fine not exceeding N 2,000, or to a term of imprisonment not exceeding six months, or to both such fine and imprisonment and, in the case of a continuing offense, to an additional fine not exceeding N 100 for every day, or part of a day, that the offense continues’’ (FGN, 1993). These penalties are cheaper alternatives for industrial offenders who, otherwise, would require hundreds of thousands of naira for the primary treatment of their effluents. Paying this pittance as fine saves them more money than the actual objective for which the decree was made. This point goes further to reinforce the fact that water regulations made in Nigeria were just done as a fire-brigade approach to solve pressing political issues and not out of genuine interest to mitigate the pollutions.

Water Sources, Usage and Sanitary Issues

Nigerians derive their water from surface water (springs/stream/rivers), hand dug wells, rain harvesting, pipe borne water, boreholes, and vendors (FGN, 2000). An estimated 224 billion cubic meter of water is available, annually, from run-off of rivers in the eight hydrological zones of the country. Groundwater resources in aquifers, however, are yet to be quantified (Handidu, 1990). Anyone who can afford drilling costs simply goes ahead to tap groundwater sources without recourse to geophysical tests or the obtaining of necessary permits from regulatory bodies.

Water is used in traditional settings, mainly for domestic purposes, fishing, farming and irrigation, and livestock raising. The principal domestic uses of water include drinking, washing, and bathing (Kuruk, 2005). It is estimated that 48% (about 67 million Nigerians) going by 2006 census (FGN, 2007) make use of surface water for their domestic needs, 57% (79 million) use hand dug wells, 20% (27.8 million) harvest rain, 14% (19.5 million) have access to pipe borne water, and 14% have access to borehole water sources (FGN, 2000). Ahianba, Dimuna, and Okogun (2008) and FOS (2001) posited that 33.82% (47.3 million) Nigerians depend exclusively on surface water for their domestic water supply, 28.27% (39.3 million) on hand dug well sources, 24.38% (33.9 million) on pipe borne water, 11.83% (16.4 million) on borehole water sources, and 1.7% (2.4 million) on water vendors. Another interesting statistic informs that 54.6% (75.9 million) Nigerians use pit latrines, exclusively, 13.71% (1.91 million) use water closet, exclusively, 0.58% (806, 200) use the bucket system, and 31.16% (43.3 million) Nigerians use other unsanitary methods. Some of these unsanitary methods include defecating in open fields and disposal into surface water bodies (Ahianba *et al.*, 2008; FOS, 2001). When rain falls, all the defecations disposed on land could also get washed down with the run off into the surface water bodies as non-point source pollution. This is, beside the pollution, being discharged into surface water bodies by industries. It can be inferred, therefore, that 47.3 million people in Nigeria are potentially at the risk of an epidemic outbreak if our surface waters are not adequately protected through legislations guided by scientific facts.

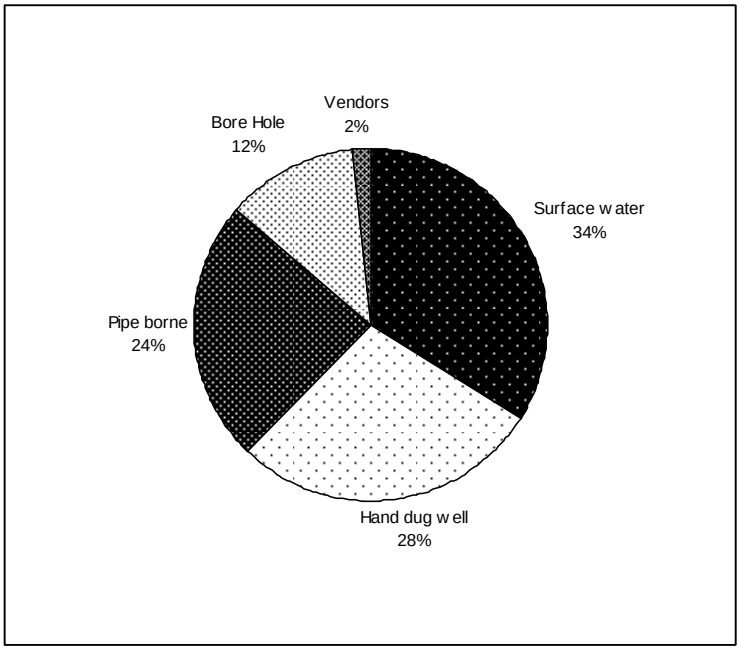

Figure 1 - Nigerian Household distribution by source of water supply

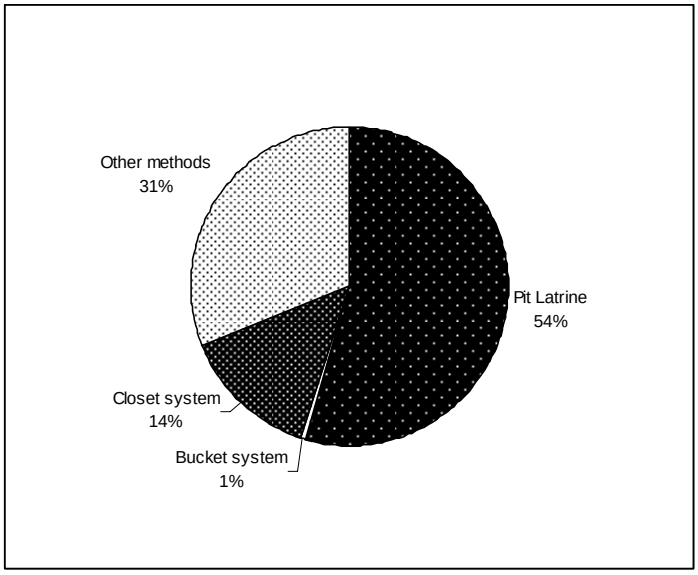

Figure 2 - Nigerian Household distribution by Toilet Facilities

Water Pollution Activities

Industries are the leading surface water pollution contributors in Nigeria because of the high volume of water required to carry out their economic activities. Studies carried out by FEPA in 1995 on 200 industries in Lagos revealed that only 18% of them performed any form of primary treatment on their wastewaters before discharging them into nearby surface waters (FEPA, 1995). This means that four years after the publication of FEPA guidelines in 1991 (FEPA, 1991), industries were still flouting

the standards. Though recent statistics are not available, not much change has taken place in terms of improvements from the scenario of 1995. Surface waters in Lagos continue to be openly polluted with impunity, just as law enforcement agencies look on, helplessly. Studies conducted between 1988 and 1991 also revealed 14 major contributors of industrial and hazardous waste pollution, among which are slaughter houses, breweries, cement, chemicals, paint and fertilizer companies. Others include steel and metal fabrication, textile, pharmaceuticals, tanneries, oil refineries, and paint industries (FEPA, 1995).

Figure 3 – An 11,000 litre sewage tanker about to dump its daily quota of sewage beside the bank of River Atuwara in Ota, Ogun State, Nigeria

All these are without prejudice to non-point sources of wastes contributed by individual. These types of wastes are mostly biological in nature. As illustrated in Figure 2, the lack of access to sanitary waste disposal methods has made many individuals view surface water bodies as veritable avenues to get rid of their wastes. Among the water contamination activities of individuals living or working close to surface water bodies that was observed first hand by the researchers, include bathing and laundry activities midstream and discharge of pumped sewage from overfilled septic tanks and pit latrines by commercial sewage disposal facility operators at deserted river banks (Figure 3).

CONCLUSION AND RECOMMENDATION

Identified causes of impediments to the advanced development of water resources in Nigeria can be attributed to:

i. Half hearted making of half-baked decrees and acts by government. Some of these laws were made several years ago under the military government and, therefore, need to be reviewed to reflect current conditions under which they should be applied.

ii. Unavailability of adequate and reliable data upon which analysis, planning, and management can be based. Data on characteristic patterns in hydrological, meteorological, and even anthropological impact changes over time need to be monitored with utmost sense of duty. This is indispensable to efficient planning and service delivery.

iii. Flooding and erosion, which tend to clog reservoirs and water channels, thereby, reducing water retaining capacity and design life of reservoirs. Conversely, the deposit of silt in both natural and man-made water channels result in flooding, which also goes on to cause negative environmental and economic impacts.

iv. Starvation of water and environmental agencies of required operational funds. Some of the personnel engaged in these agencies actually have world class training capable of handling their duties. However, they are rendered useless due to unavailability of modern equipment and adequate funding.

v. Demoralized and corrupt agency workers who seem helpless and look unconcerned while the ugly act of environmental degradation and water resources abuse persist unabated.

vi. Disincentives to actively commit the stakeholders into actively protecting surface water resources. Some industry operators probably know and wish to do the right thing. However, seeing that there is neither recognition nor penalty for doing the right or wrong thing, respectively, pushes the few good ones into doing the wrong thing. Since profitability is the end goal of every entrepreneur, what would be their incentive to spending more on waste treatment when no one is there to blow the whistle?

vii. Lack of capacity among government water resources agency staff who handle the business of data acquisition and preservation nonchalantly. Many staffers among government environmental agencies, as in many other government establishments, got employed just to get a meal ticket and not out of interest or adequate training for the job.

viii. Prevalent poverty and illiteracy among the citizenry who ought to see surface and ground water sources as exhaustible resources and as part of the habitat upon which the human race depend for survival.

ix. Selfishness among industry operators who think more of their profitability than the health of others who depend on the same surface water for domestic purposes.

It is, therefore, recommended that, beginning at the doorstep of government, a commitment to the proactive development of surface and groundwater resources be embarked upon by making relevant and environmentally sensitive laws. Government should also be as committed to the enforcement of the laws as they should be at making it. Also, government needs to coordinate the activities of all stakeholders, beginning with the scientific bodies that ought to provide latest methods in water quality monitoring. Other stakeholders, whose inputs need to be harnessed, include industry operators. They should be made responsible for the wastes they generate and made to comply with effluent standards. Individual citizens also ought to be enlightened on the impact of polluted water on public health as well as regulations guiding waste discharge habits. Also, capacity building has to be ensured among the government workers; both those charged with the responsibility of making water available and those charged with responsibility of enforcing the laws. Above all, emphasis needs to be placed more on compliance and cooperation than on punishment since it is easier for all parties when they see that the environment does not just belong to the government but to all, including generations yet unborn.

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