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38th WEDC International Conference, Loughborough University, UK, 2015**WATER, SANITATION AND HYGIENE SERVICES BEYOND 2015:
IMPROVING ACCESS AND SUSTAINABILITY****An assessment of the informal water sector in the
provision of water supply services to consumers in
Idah town, Nigeria***C. O. Ataguba (Nigeria)***BRIEFING PAPER 2087**

In this write up, the characteristics and role of the informal water supply sector in the provision of water services in Idah Town Nigeria have been researched, assessed and presented. The assessment has revealed that there are three major classes of the informal sector involved in water services provision namely; the water supply tankers, sachet water producers and the water borehole shops. The study has shown that much needed to be done by way of regulation to improve not only the quality of service delivery but also the quality of the commodity; that is; water in order to achieve satisfactory water services in Idah in the bid to attain the global feat of improved water supply.

Introduction

Generally water supply to consumers can be achieved via two major sectors namely formal and informal sectors. Water supply in urban, sub-urban and rural areas in developing countries is a major challenge that has called for attention of international water agencies; although the MDG drinking water target of halving the world's population without access to improved drinking water has been met, the job seems far from full attainment (JMP 2012).

Over the years, water supply has been centralized with the conventional piped network. Centralized systems are generally more cost effective, because of economies of scale and management, compared to water vending. In many urban and sub-urban areas the centralized facilities do not fully cover the entire inhabitants (Sharma 2009). One major setback with centralized facilities is that when they develop faults and breakdown, much more acute problems are manifested (DFID 1998). However, the challenges of high cost of maintenance of infrastructures, infrastructure breakdown and decay, the lack of maintenance culture for public infrastructure, lack of adequate funding among others have opened up avenues for the introduction of decentralized water supply system in Idah town. The decentralized water supply system which could either be formal or informal has been well adopted in most developing countries to overcome some of the deficiencies of the centralized water supply system Hutin et al (2003) and Nkwocha (2008)

In this paper, the characteristics and role of the informal water supply sector in the provision of water services in Idah town Nigeria have been researched, assessed and presented. The assessment reveals that much needs to be done to achieve satisfactory water services in Idah

Delivery of water services in Idah town

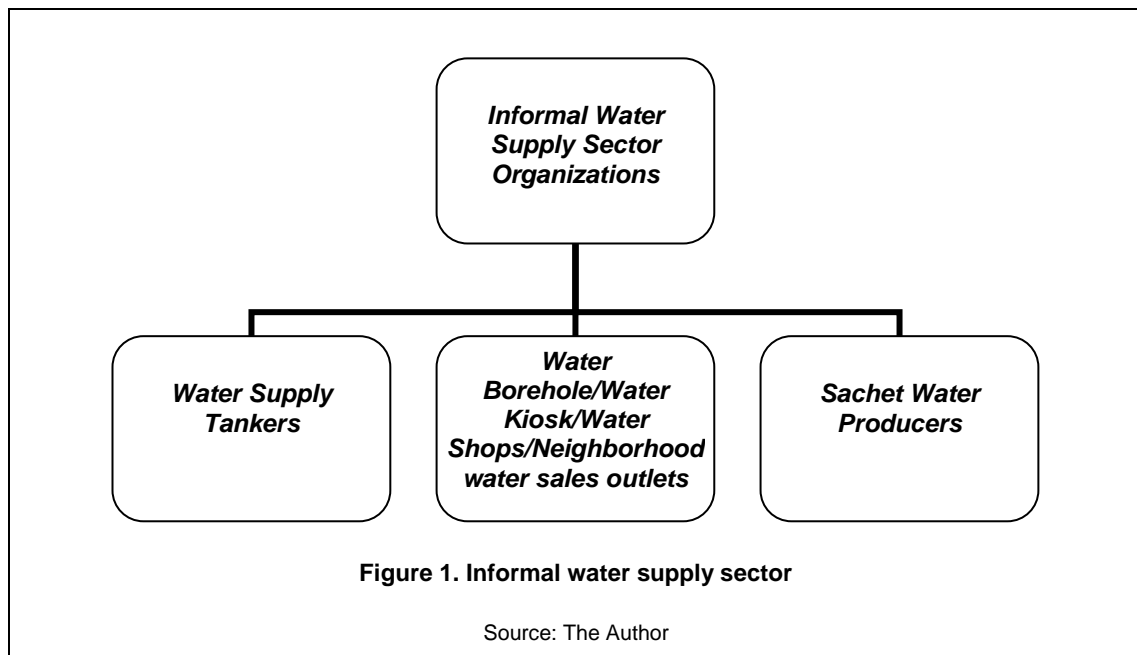
Idah is one of the major towns in the central part of Nigeria bordered by River Niger and some of its tributaries to the east. The town is blessed with abundant surface water resources from the major river and its tributaries all year round. One of the tributaries which serve as the major source of water for domestic supply via the water tankers is the Inachalo stream.

The provision of water supply services in Idah town has predominantly been undertaken by private informal organizations. These private informal organizations have developed over the years as necessitated by the need to meet the water needs of the populace owing to the fact that the public supply sector; the Kogi

State Water Board in Idah; has almost broken down. The main advantage of informal water supply sector is that it is demand responsive, as increase in service delivery matches growing demand (Solo, 1999). One major feature of the informal water supply sector as practiced in Idah and most rural areas in developing countries is water vending. Water vending which is one of the oldest trades has been seen as a substitute to the normal pipe borne water systems that have broken down. At present, the water board at Idah is non-functional and there is no plan to lay or extend pipe water services in the town yet.

The challenge here is that global research has shown that people who buy their water from water vendors and those whose source of water is unimproved wells or surface water are generally classified as not having access to improved water supply (Kjellen and McGranahan 2006).

The private informal water supply organizations that were identified to operate in Idah town can be grouped into the following classes as shown in Figure 1.



Water supply tankers

As at the time of going to press there are about thirty five functional water supply tankers operated by individual owners under the umbrella of an organized union. The tanker owners/drivers deliver water to homes, farmlands, construction sites etc. These tankers mostly deliver water without course to the quality as there is no quality control as the water is pumped into the tankers directly from Inachalo river tributary. Here water quantity is given more preference over water quality. The internal conditions of the water tankers leave much to be desired because they are hardly washed, flushed or cleaned from time to time based on interactions with the operators. The onus of enhancing the quality of delivered water rests much on consumers than the supply in this case. There is a need for the operators to wash and clean their tankers. In the cause of this study, it was discovered that only few people pay attention to point of use treatment (e.g use of alum, boiling, filtration and Water Guard^R) as there is hardly any point of delivery treatment. In terms of cost, water delivered by tankers range between US\$0.02 to US\$0.03 per litre of water. The union enforces any other localized ethical conducts on the members with little or no regard for efficient service delivery and quality of delivered water. Photograph 1 shows a typical water tanker supplying a household with water.

Sachet water producers

There are more than 10 registered and 10 unregistered sachet water producers in the town. The regulatory body that certifies the quality of water and the production/treatment as well as registers the producers is known as NAFDAC. The major sources of water for this production are basically the Inachalo stream and personal boreholes sunk for that purpose. One of the major challenges here is that most of the unregistered producers flood the market in the town with water of doubtful quality in recent times; NAFDAC has

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clamped down on the producers of unregistered sachet water by closing down the production centres. This has engendered the unregistered producers to meet the requirements for registration. The major requirement for registration is the full inspection of the production premises, assessment of the equipment for production and also the source and quality of water to be used vis-a-vis the required treatment. In terms of cost a sachet of water (commonly called pure water) costs US\$0.2 per 50 cl. This sachet water is handy and readily available shop outlets as single units or in a bag of 20 sachets. Bags of sachet water are so commonly available and cheaper when compared with bottled water cartons. Photograph 2 shows a collection of sachet water used by a household in Idah town.



Photograph 1. A water tanker supplying water to a household

Source: Author



Photograph 2. Sachet water

Source: Author

Water boreholes / Water shops

In the town under study, a few households sink wells and boreholes for their domestic uses and also for resell in order to meet demand and ensure a continuous supply. There are about twenty motorized boreholes in the town and private wells in few households where the water table promote their sinking. Private reselling of groundwater to the public is a common phenomenon in the town. Water is pumped from the ground to an overhead storage tank before supplying to the interested public via stand posts at the water source.

Generally, this supply is not continuous. Water supply here is divided into morning session between the hours of 6:30 am and 8:00 am as well as evening session between the hours of 5:00 pm and 7:00 pm. Water is sold in containers, jerry cans and drums. This source of water is cheap, but the quantity and the quality of water are not guaranteed all over the year. On the average, 20 Litres of water goes for US\$0.1).



Photograph 3. Water being sold at borehole water shop

Source: Author

The three major groups of the informal water supply sector have been identified and briefly discussed. The following are the observations that cut across these groups in their strides to provide water services in the area where public water supply is lacking:

- The lack of quality control measures has been identified as a major problem with the surface water delivery through the water tankers. Scattered but unconfirmed water borne diseases do exist but not at epidemic level as no records are available for such.
- The price of water from any of the identified groups is relatively cheap but the use to which the water is put determines the point of use treatment that is applied, example the use of alum, boiling or Water Guard.
- The conservative use of water is a common practice as observed from the field study which revealed that the average water consumption stands at between 60 LCPD to 70 LCPD (Ato, 2010). One of the methods of conservation of water is the use of laundry water in flushing of toilets.
- Groundwater is generally less susceptible to contamination but only odour due to condition of storage tanks.
- Household water treatment methods such as the use of sodium hypochlorite, alum, moringa leaves etc are common practice in this study area.

Challenges ahead

From the aforementioned details of the informal water supply sector as it is obtainable in Idah town under study, the following challenges among others need to be addressed in other for this sector to continue to provide the bridging functions to supplement the nearly nonexistent public water supply sector.

- There is the need to recognize and strengthen these informal water service institutions legally and otherwise as well as develop the capacity from time to time to give them sense of belonging in the water services system. This implies that enabling laws establishing and recognizing them should be made by the government.
- There is also the need to enforce laws on minimum water quality to be supplied and delivered by the different informal groups so identified.
- There is also the need to promote public-private partnership in the provision of water services as they should see themselves as partners in service provision.
- As a medium term measure, the Kogi State Water Board (Offiah Water works in Idah) could be resuscitated and made to support and regulate the activities of these informal water providers by serving as a bulk water supplier. Under this arrangement, the water board provides and sells treated river water to the tanker drivers and the sachet water producers. By providing satisfactory bulk supplies, it would be much easier for the water board to regulate the informal providers by insisting they obtain their water from safe sources.
- The State Water Board should monitor and control the internal conditions of the water tankers from time to time to promote the delivery of safe water for use by the consumers.

Conclusion

In conclusion, this field assessment has shown that the informal sector can perform better in service delivery and water quality improvement if the Water Board is resuscitated and further charged with the responsibility of quality assurance and control by treating bulk water and selling such treated water via the informal sector organizations. The government stands to generate revenue from this structure.

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