



Public Perception of Potable Water Supply in Abeokuta South west, Nigeria

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ABSTRACT: The perception of residents towards the supply of potable water to Abeokuta was assessed with the aid of questionnaire. Well-structured interviewer administered questionnaire were distributed across the city through the stratified random sampling method using the network distribution map obtained from the Ogun State Water Corporation as guide. Sixty – eight per cent of the respondents attested that the quality of the water supplied was unsatisfactory while 36% agreed that they had contacted water related diseases as a result of the consumption of drinking water obtained from public taps. Sixty – five per cent of the respondents use less than 120 litres of water daily, while 77% attested that the water supplied did not meet their daily demand. Only 39% of the respondents who relied on water from alternative sources subjected the water to treatment before usage. It was advised that issues of inadequate water supply and coverage area be addressed speedily and residents should subject water obtained from alternative sources to treatment. The Corporation was also advised to pay attention to the state of infrastructure across the distribution network. ©JASEM

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Introduction

Potable water, clean environment and proper hygiene are key factors in ensuring man's survival on planet earth. However, inadequate water supply and lack of basic sanitation has resulted in grave economic and health consequences. Inadequate water supply is peculiar to developing countries (Akpor and Muchie, 2011); a situation Ali, (2012) attributes to poor water supply infrastructure, technical capacity and absence of appropriate regulatory framework. Hunter, MacDonald and Carter (2010) attests that in developing countries, about one billion people lack access to an improved drinking water supply; such that the menace of unsafe water, inadequate sanitation and hygiene results in about 88% of the 4billion annual cases of diarrheal disease; mortality and morbidity inclusive. Furthermore, the economic losses resulting from the lack of access to improved basic water and sanitation in Africa cannot be overemphasized (Aladejana and Talabi, 2013).

The three tiers of government in Nigeria are saddled with providing potable water for its citizenry. The country, though blessed with abundant surface and ground waters still struggles with inadequate water

supply; a phenomenon that has led residents across Nigerian cities to rely on water from various sources such as hand dug wells, boreholes, ponds, streams, rivers etc. Potable water is supplied to Abeokuta by the Ogun State Water Corporation through the Abeokuta Water Scheme. Nevertheless, water supply to Abeokuta has been far from adequate due to the progressive decline in accessibility and reliability; an issue Odjegba et al., 2014 attributes to continuous population growth and expansion of the city. Therefore, this paper examines the perception of residents to potable water supply in Abeokuta.

Description of Study Area: Abeokuta, the capital of Ogun State, Southwest Nigeria, is situated within the rainforest belt of the tropics lying between latitude 7^o06' and 7^o13' North and longitude 3^o15' and 3^o25' East (Figure 1). It occupies a geographical area of 1256sqkm with a population of about 449,088 inhabitants according to 2006 Nigerian population census. The city is approximately 100km north of Lagos and 80km Southwest of Ibadan, the Oyo State capital.

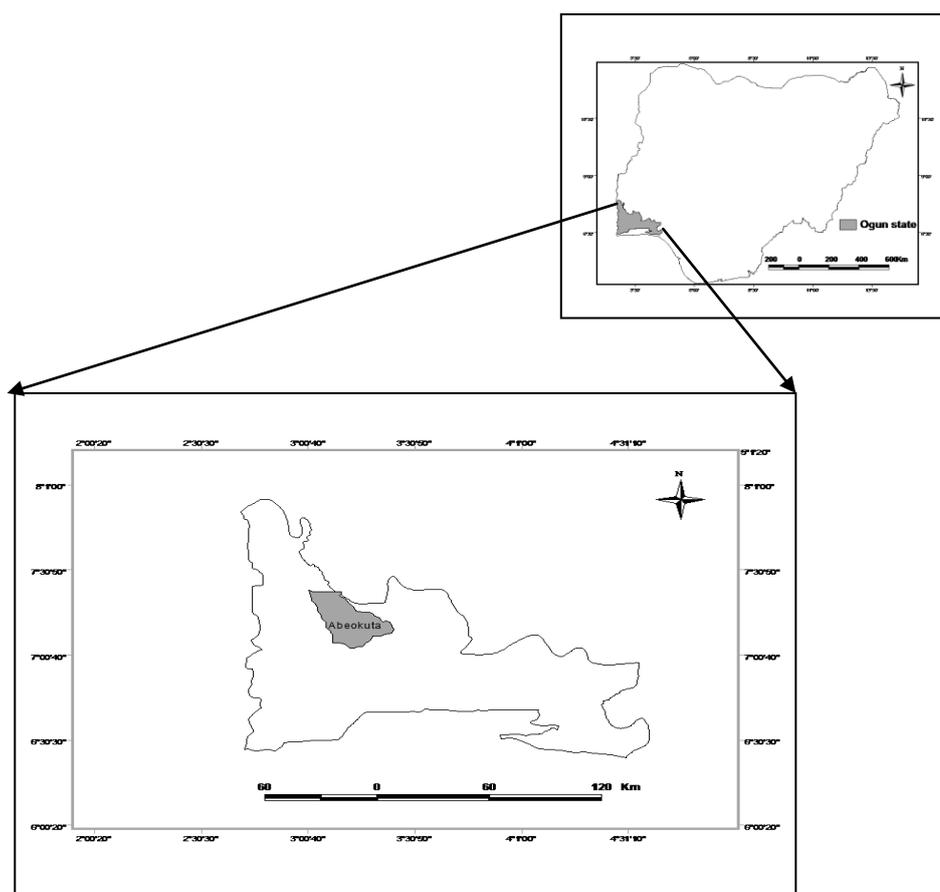


Fig 1: Map of Study Area

METHODOLOGY

Well structured interviewer administered questionnaire were distributed across Abeokuta with the aid of a network distribution map of Abeokuta obtained from the Ogun State Water Corporation. The questionnaire was distributed using the stratified random sampling and interviewer administered method (Aderibigbe, Awoyemi, and Osagbemi, 2008). The questionnaire was designed to obtain information on water related issues that includes the average volume of water consumed by respondents', adequacy and frequency of supply, water quality, and so on. Standard measurements as defined by Aderibigbe et al. (2008) were described to respondents in order to estimate the volume of water consumed. SPSS 15.0 was applied in analysing the questionnaire with the use of frequencies, percentages and measure of central tendencies (Amori and Makinde, 2012).

RESULTS

The results obtained from the questionnaire indicated that 80% of the respondents had access to tap water occasionally, 15% regularly while 5% did not have

access to public water supply at all (Figure 2). Sixty – eight per cent of the respondents attested that the quality of the water supplied was unsatisfactory while 32% were satisfied with the quality of water supplied. Thirty – six per cent agreed that they had contacted water related diseases during the period of consumption of water obtained from public taps while 64% said they had not contacted any disease.

More than one third of the respondents had had typhoid fever (25%), 21% diarrhoea, 18% cholera, while combinations of typhoid and diarrhoea and typhoid/cholera/diarrhoea were 18% each (Figure 3). Over half of the respondents (65%) use less than 120 litres of water daily. Twenty – nine per cent uses between 120 – 160 litres per day while 6% use more than 160 litres per day; and on whether the quantity of water supplied met their demand, 77% answered 'NO' leaving 23% answering 'YES'. Eighty – two per cent of the respondents that answered 'NO' attested to the use of wells as alternative water sources (Figure 4), 9% to boreholes; while 3% to rivers, burst/broken pipes as well as a combination of wells and broken pipes respectively.

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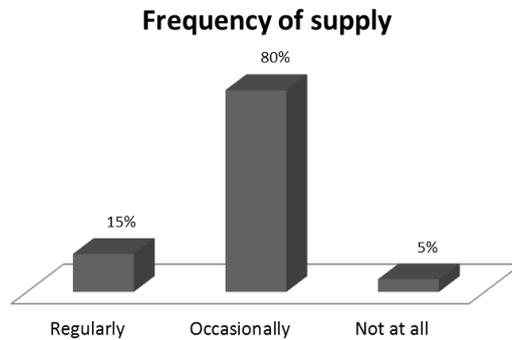


Fig 2: Frequency of water supply

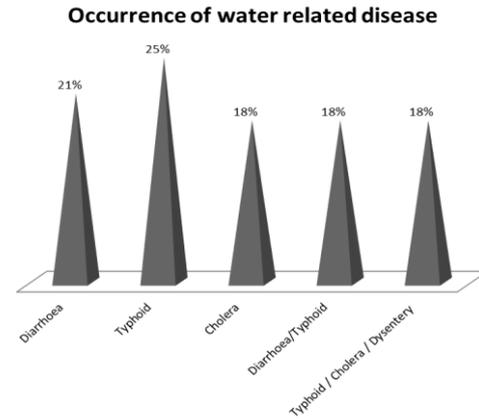


Fig 3: Occurrence of water related diseases

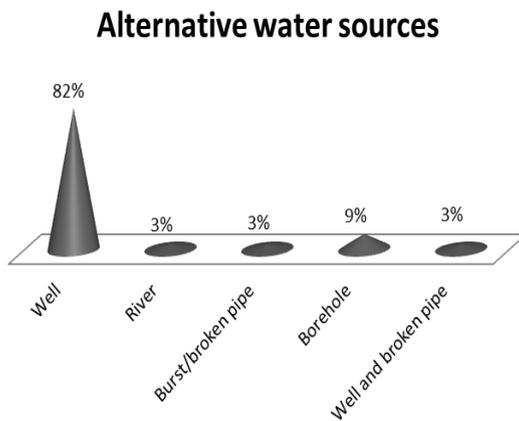


Fig 4: Use of water from alternative sources

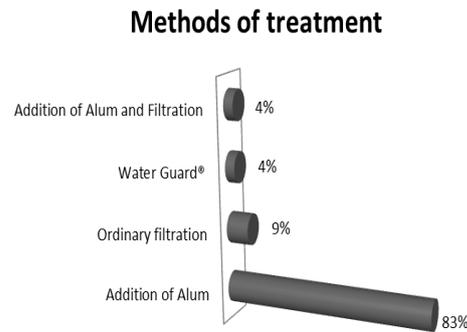


Fig 5: Methods of water treatment

Thirty – nine per cent of the respondents that resorted to alternative sources subjected the water to treatment before usage, with the remaining 61% using the water directly. For those that subjected the water to treatment before consumption, 83% resorted to the use of alum, 9% ordinary filtration, 4% a combination of addition of alum and ordinary filtration and 4% use Water Guard® (Figure 5). Seventy – four per cent of the respondents stated that repair work on leaking pipes was carried out at the convenience of the workers of Ogun State Water Corporation; 16% a week later, 6% not at all and 4% immediately. Forty – five per cent of the respondents rated repair work as poor, 25% rated it good, 24% satisfactory and 6% very good.

Forty – three per cent of the respondents believed that the services of Ogun State Water Corporation was good but wanted the rate of water supply to be increased, 35% stated that the service rendered was poor, 11% indicated that the service was satisfactory, while another 11% stated that the service rendered was poor and requested improvement in the services.

DISCUSSION

The response in the questionnaire shows that the problem of public water supply in Abeokuta metropolis is a compound one. First, there is the problem of coverage area as very few respondents had the luxury of having public taps close to their home let alone taps running inside their houses. Secondly, there is the problem of irregular water supply (Gbadebo and Akinhanmi 2010); as only 12.5% of the respondents reportedly had regular water supply weekly and thirdly, there is the question of purity of water supplied. These outlined problems are not peculiar to Ogun State Water Corporation or Abeokuta metropolis alone as Aderibigbe, et al. (2008) and Alabi – Aganaba and Osagbemi (2005) stated that a lot of people in Ilorin had epileptic water supply and usually went without water for days. However, Falkenmark (1994) had a contrary report stating that in developing countries (of which Nigeria is one) water only ceases to run in taps on very rare occasion.

The heavy reliance on water from alternative source has its attendant effect on the population. Aderibigbe

et al. (2008) stated that non-availability of adequate water usually has its consequences vis – a – viz water related diseases. Rottier and Ince (2003), Alabi – Aganaba and Osagbemi (2005) and John-Dewole (2012) reported that water from sources such as rivers are usually contaminated and often times unfit for human consumption.

According to Gleick (1996), water is said to be adequate when supplied in the right quantity to meet all the uses it is meant for. In his study, Gleick determined that a daily supply of 140 -160 litres per capita per day is considered adequate to meet all domestic needs. However, only 29% of the respondents in this study reportedly had access to 140 -160 litres per day, leaving 65% living on less than 140 litres per day for all purposes comprising of domestic, agricultural and industrial uses. This calls for serious attention as the daily requirement of water for domestic purposes alone is estimated to be about 50 litres per person (Park, 2002 and Gleick, 1996).

The 66.5% unsatisfactory response on the quality of water supplied did not come as a surprise as, the option of interviewer administered questionnaire gave the opportunity of interacting with some respondents, some of which reported the presence of sediments at the bottom of containers holding large quantities of the water supplied. However, only 36% stated that they have contacted one disease or the other during the period of consumption of the water and this is conforms to Okonko, *et al.*, (2008) that the consequences of water borne bacteria and virus infection: polio, hepatitis, cholera, typhoid, diarrhoea, stomach cramps etc. have been established. Nonetheless, it is strongly believed that more respondents would have suffered from water related diseases than the 36% that admitted to the diseases. Oluwasanya (2009) attributes the ‘denial’ of diseases to the ‘God forbid’ syndrome. The ‘God forbid’ syndrome refers to the concept of people; especially Africans denying the fact that they have or are suffering or can suffer from a disease. Consequently, diarrhoea, typhoid, cholera as well as dysentery (which come with stomach cramps and stooling) are diseases the respondents have reportedly had as a result of the consumption of this water.

Conclusion and Recommendation: It is important that the problem of water supply in Abeokuta is addressed. It was discovered from the responses obtained that the daily water supply is the not sufficient to meet the need of the constantly growing populace. There is also the issue of inadequate distribution/coverage area; as there were respondents that did not have access to public water supply, with some living in areas that used to have but are now cut off from the distribution line.

Also, while the uses of water from alternative sources especially for household uses like drinking and cooking as well as the development of self – supply systems is encouraged to cover for the shortfall, it is highly advised that people should pay attention to the quality of the water by subjecting it treatment methods like boiling, filtering, use of alum etc.

The Ogun State Water Corporation should pay attention to the state of its infrastructure across the city. There should be constant monitoring of the pipe distribution network to check for leakages and for prompt repairs when discovered. It also important for members of the public to report cases of pipe vandalism and destruction so that the quality of the water in the distribution network is preserved.

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