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RESEARCH ON THE MARKET POTENTIAL FOR LOCAL PURIFIED WATER IN ILAJE, NIGERIA

Ikuesan Oladeji

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Laurea University of Applied Sciences
Laurea Business Ventures, Otaniemi

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Oladeji Ikuesan
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This study has been a wonderful experience for me, aside my passion for social innovations, it has led me to some vital information about sustainable water technology. I hope this study will stimulate further research in this area and in Ilaje.

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"Tough times never last, only tough people do". – Robert Schuler.

ABSTRACT

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Author: Oladeji Michael Ikuesan
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Lack of potable water has always been a problem for many communities, especially in developing countries, and Ilaje in Nigeria, is not an exception to this lack of healthy water. The aim of this study was focused on current water situation in Ilaje, hence investigating the market potential for purified potable water in the region. There are different reports from the United Nations and more organizations about future shortage of water. Among the world strategic resources, oil, land, coal etc., none of them will be more valuable than fresh water in the coming decades.

The oil rich Ilaje region has a population of approximately three hundred thousand (300,000) inhabitants; this alone is staggering enough to convince potential investors in water technology industry. However, there was a need to look into the possibility of venturing into such a business there, through some research methods that will get the opinion of the prospective consumers and the view of the policy makers towards a private purified water company in the region. This resulted in a structured questionnaire to carry out a survey; some interviews were also executed to support the available secondary information.

Despite being surrounded with water, it was found that drinking waters are supplied to Ilaje communities from neighbouring towns through motor trucks; the closest town is about 25km away from Ilaje, and the purity of the water is not guaranteed. Based on all the information gathered, Ilaje remains a potential market for healthy potable water, but still lacks basic infrastructures for direct water supply to homes through pipes.

Key words: Ilaje, Niger Delta, Water Pollution, Water Scarcity, Market Potential

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1 INTRODUCTION

1.1 Background

Oil was discovered in the Niger Delta area of Nigeria towards the late 1950's (Mbendi 2010) and the Ilaje communities are parts of this oil rich region. Due to the continuous spills of crude oil (Waado 2010) from the oil mining rings; the entire ecosystem in these communities has been decaying for decades. Healthy seafood's and fresh agricultural produce are becoming scarce including clean drinking water. The UN says that at any time half the hospital beds in the developing world are occupied by patients suffering from diarrhea and other water related ailments (UNDP, 2004).

Ilaje local government consists of over four hundred towns and villages, covering an area of 3,000 square kilometers. It southern boundary is by the Atlantic Ocean, and the extreme south is covered by silt, and mud and superficial sedimentary deposit. The Ilajes are a distinguished, distinct linguistic of the Yoruba stalk, the Ilajes occupies the coastline in Ondo State, South-West, Nigeria. Ilaje as a whole is endowed with vast oil and gas reserves, there are oil wells and fields spread all over the Local Government Area both offshore and onshore, Oil Companies such as Shell, Chevron, Texaco Nigeria Ltd and Consolidated Oil, Express Petroleum and Gas Company, Atlas Oil Company, Allied Energy Oil Company, Cavendish oil Company, Exxon-Mobil were at a time already operation in the Local Government Area thereby leading to the constant pollution of the riverine communities and their entire ecosystem, despite its 180km shoreline which makes Ondo State the state with the longest shoreline in Nigeria; Ilaje region still lacks potable drinking water.(Coastline news, 2010). Many locals fetch water from stream, pond, river, sea and traditional wells which are generally considered unhealthy for drinking. Currently, development of surface and underground water has become a problem due to the presence of abundant salty seawater in Ilaje region (Yahaya et al., 2009).

There are local water dealers with boreholes operating from nearby towns the nearest is about 25km; they supply drinking water to Ilaje via motor trucks which leads to the possibility of being contaminated before delivery, hence it will be baseless to spend substantial amount of money on promotion and advertising to lure competitors customers in such a case. Considering the potential for contamination in the water supply, whether supplied by water dealers or taken from other sources, there is potentially a great demand for an alternative source of clean drinking water, which can be exploited if one has already done the research homework to determine the "products and services to address the current needs of the customers" (Kaden., 2006, p.41). This thesis will focus more on the importance of a purified water company situated in Ilaje and the available market potential for such a company.

1.2 Research objectives

The objective of this thesis aims to identify the potential market in the Ilaje region for clean healthy drinking water. Access to purified water in Ilaje is becoming scarce and expensive; the situation is not sparing anyone, including the rich and the poor. Water is essential to the survival of all living things and the need for quality water is constantly increasing.

According to the 2006 National Population Census in Nigeria, the Local Government was considered as one of the most populated in Ondo State, with a growing population figure of 289,838, (NPC, 2006). Such a growing population will definitely increase the use of water.

1.3 Research Questions

The general research question of this study is *what is the potential market for clean healthy drinking water in Ilaje?* This thesis will attempt to answer this broader question through the following sub-questions:

- What are the economic and social factors affecting the lack of potable drinking water in Ilaje?
- What are the technical and environmental problems investors in water purification are likely to face in starting up a mini water corporation in the region?
- Is there a need and market for healthy drinking water in Ilaje?

2 LITERATURE REVIEW

2.1 Water Value Chain

Water is arguably the most essential element needed by humans, it is needed daily for cooking, washing, bathing, drinking, and for many other uses. Even the human body chemistry needs water to function (Jegtvig, 2010). The value chain controls all areas from the fresh water source to the end buyer.

Price of water and sanitation services reflects the fact that they are both social and economic goods (Holden et al. 2009); hence the sustainability of the whole water value chain will definitely depend on the willingness of the end users to pay for the product (water) (Holden et al. 2009). The aim behind water value chain is to effectively deliver healthy

water at a reasonable price, if the end result is considered fruitful; it must have met or exceed the end users positive expectations. For this value chain to sustain, the benefit being generated by all the stakeholders involved should be shared fairly. It is more ideal to consider the value chain from the consumer's perspective, if each link in the chain is seen as the customer of the previous link, and each link in the value chain is working towards providing the needs of its customers; then the end consumer of the product (water) are rest assured of superior service and satisfaction (Mukokoma, n.d).

Putting the continuous need of water services into consideration there will also be a demand for potable water services, the value and the bargain will increase tremendously (AWWA, 2010). One can hardly put a price on a service that does not only delivers public health but also economic development and quality of life.

2.2 Sustainable World

The environmental challenges that nature and businesses now face has resulted to the call for a "sustainable world". Ralf Fucks (2010) defines sustainable world as the development of sustainable technologies and the infrastructure that will enable green growth; hence growth within the limit of the earth system.

Most of the environmental pollution we are witnessing today is as a result of the last two centuries increasing industrialization, their continuous use of materials and dumping of waste has side effects in the entire eco-system (Senge 2008). The technologies to drive a sustainable world exist in different forms but it's the implementation by the governments of the day, and the framework law that will give a blueprint to enforce this undeniable revolution that is urgently needed (Kotecky 2010). Government policies are always important because they influence change easily, although, any policy without a political will or movement is like a brain without a body (Bursik 2010).

Green technology became the core of many countries economy recovery plan. Environmentalists and sustainable enthusiasts argue that any job can be redirected to a green job. Jobs and businesses can be more sustainable by embracing green energy and technologies to support the emerging green economy (Foster, 2010). Non-Governmental Organizations (NGO) and many other civil society groups are putting pressure on governments, local policy makers, multinational companies, and the world governing body United Nations (UN); to see the issue of climate change and environmental disaster as a threat to human existence (GPA, 2010). The power of social websites and the potential of the internet at large have contributed to the massive campaign for a sustainable world. There are signs for positive policies and implementations in the nearest future, in preparation for COP 16, United Nations Climate Change Conference 2010, group of 20 leaders agreed to support the ratification of the carbon cap bill, the G20 said in their final statements that; "*We are committed*

to support country-led green growth policies that promotes environmentally sustainable global growth along with employment creation while ensuring energy access to the poor" (Young-aah 2010).

2.3 Data and Business Decisions

Collecting, organizing, analyzing, interpreting, and presenting data is the prelude to vital evaluation and right decision making (Evans et al, 2003); the risk is higher when there are not enough facts to guide the final decision. There are chances of gathering useful data without properly analyzing or interpreting it content before making decisions.

A decision model as a guideline can clarify the current business situation and the likely outcome of any decision taken. Microsoft Excel is generally used to organize data for easy study or as a useful tool for clearer presentation of data. Data analytics can make solid impact on the bottom line (Kelly, 2010). Aside the financial perspective of data gathering before decision making; gathering data for internal use can help to analyze productivity and quality levels (Evans et al, 2003), prior information of internal data gives real time information while benchmarking on competitors.

One of the most important issues for decision makers is the ability to come up with new winning strategy, hence data accuracy and updates gives room for constructive analysis before making decisions.

3 TECHNOLOGIES FOR WATER PURIFICATION

There are numerous technologies for water purification, aside the research on the market potential for purified water in Ilaje; the aim of this thesis is also to look into existing green technologies for water extraction or purification. The thesis will take a general approach to this issue, and as such will not see to establish which of these technologies would be the most suitable for such an initiative.

3.1 Solar Hydrogen Water Purification

This technology can purify any source of water and make it healthy for consumption, it is powered by solar energy and purifies the water with it hydrogen and oxygen (H2O) elements. Solar Hydrogen Water Purification is the world first mobile solar hydrogen powered water purification and community energy station. It a mobile power plant that creates power through hydrogen and purify water at the same time (Reuters, 2010), it also generates medical oxygen that can be used for medical treatment.

Figure 1: Mobile power plant that generate green energy and purifies water.

3.2 Wind Energy Water extractor

Water challenges are more common in the deserts and rural areas, hence the wind energy water extractor extract humidity from the air directly from the wind and purify it for consumption. This technology does not pump water, it actually produces it.

Quoting the inventor of this technology; *it's a relatively simple technology that builds on principles of physics that have existed for thousands of years, this is nothing more than a machine that makes rain* (WIPO, 2010). There are no extra sources to power the machine than that of wind, 1000 liters of water each day can be produced by one machine with the speed of wind at 35km/hr. This technology is environmentally friendly because it produces no waste and carbon dioxide (CO2).

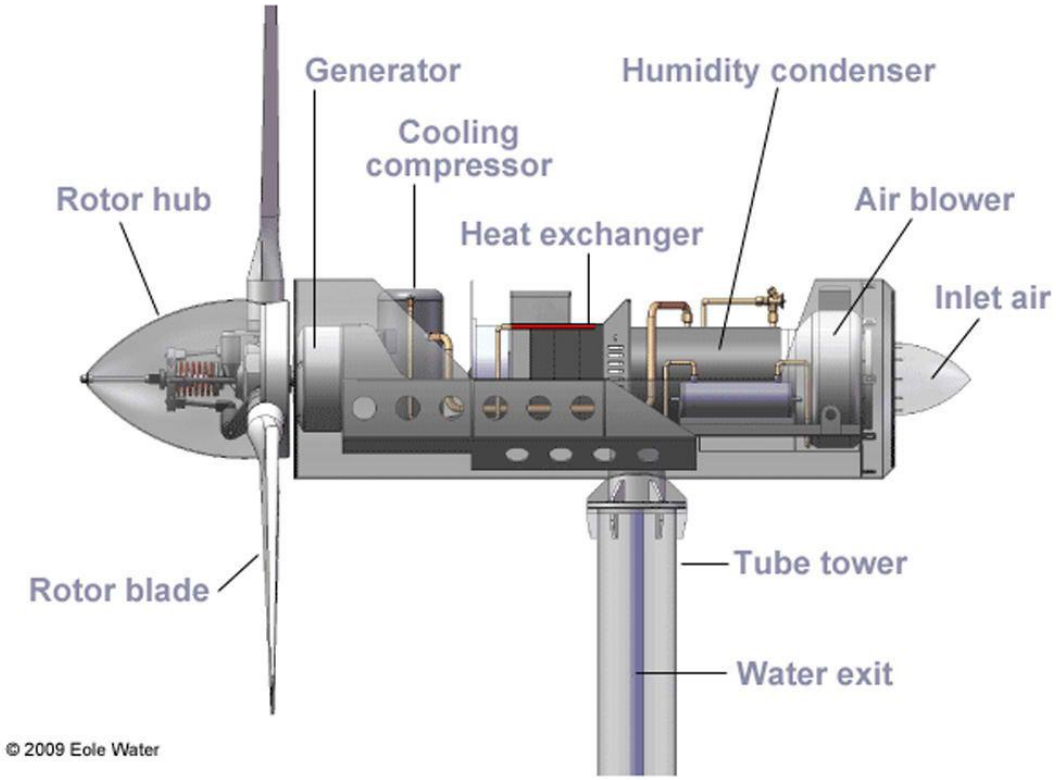

Figure 2: Wind energy water extractor.

4 DEFINITIONS OF KEY TERMS

Market Research: Is a component of marketing research that identifies a specific market and it size with some other characteristics [BusinessDictionary.Com].

Market Potential: Estimated maximum sales revenue of all suppliers of a product in a market during a certain period [BusinessDictionary.Com].

Water Scarcity: Simply means insufficient water resources to satisfy long-term average requirements (See appendix1). It can also be defined as long-term water imbalances, combining low water availability with a level of water demand exceeding the supply capacity of the natural system [European Environmental Agency website].

Water Pollution: The presence of harmful materials in water that leads to the degrading of it quality [BusinessDictionary.Com].

Purified Water: water obtained either by distillation or deionization; used when mineral-free water is required, it's clear, tasteless, odorless, and colorless. [Medical-Dictionary. TheFreeDictionary.Com].

Ilaje: The Ilajes are a distinguished, distinct linguistic of the Yoruba stalk, the Ilajes occupies the coastline in Ondo State, South-West, Nigeria. [IlajeUsa.com].

Figure 3: Map of Ondo State showing Ilaje closeness to the Atlantic Sea on the South-West (Speakers Office, 2010).

Niger Delta: Is the delta of the Niger River in Nigeria. Some 31 million people of about 40 ethnic groups with 250 dialects lives across the Oil rich Niger Delta (foe.co.uk)

5 RESEARCH METHODOLOGY

This chapter will focus on the research method choices taken by the researcher, research methods such as research strategy, research methods, data collection method, and approach to the local government officials. Malhotra (2004) stressed that achieving a well-designed and well conducted research result requires a clearly defined marketing research problem.

5.1 Research Strategy

The Ilaje people are very hospitable and at the same time highly inquisitive and sensitive to change. Strategy is all about creativity and innovations (Chakravarthy et al, 2003); there-

fore, environmental scanning will be the initial approach, by scanning an environment that is about to be researched on, one can come up easily with the best research method to get useful information's from the locals. This can also give an early signal of a likely business opportunity or future threats to a company's product or market (Jobber, n.d).

The researchers' knowledge about the area and the people's culture will make the research little bit easier. Due to the circumstances beyond the researcher's control of not being able to physically carry out the research in Nigeria; the research will be based on both secondary and primary research. Certain individuals will do some primary findings in those communities as the research progresses. The secondary research which happens to be the existence of some previous researches or useful information will be much cheaper for the researcher to undergo and complete this research within the available time-frame. The secondary research will establish a background for the study and answer the first research question; while the primary research will answer the second and third questions.

5.2 Research Methods

Marketing Research Society (MRS), the world's largest professional body for individuals working in, or interested in, market, social and opinion research; defines marketing research methods, as the methodological approach used for the "collection and analysis of data from a sample or census of individuals or organizations relating to their characteristics, behavior, attitudes, opinions or possessions" (MRS, 2005).

Aaker et al (2001), sees it as a way of getting information on consumers' needs which can be used to satisfy the needs efficiently through marketing intelligence. Gathering useful information is vital to the success of this research; hence qualitative and quantitative research methods will be approached for data gathering (Qualitative and quantitative research methods will be discussed in detail). Although, qualitative and quantitative research methods differs in the way they are conducted; but both were applied for this research.

5.2.1 Qualitative research

This is used by researchers to define the problem in order to develop an approach to identify different variables (Malhotra 2004); it's an exploratory research that can help decision makers to understand the research problem clearly and to properly interpret the available information. Because qualitative research is mostly centred on small samples; it can be criticized (Proctor 2003), decision makers might be reluctant in arriving at a final decision based on a small-sample research. Some of it major techniques are focus groups, and in-depth interviews. Focus groups are group of certain people or targeted segments for products or services, interviewed by an experienced moderator (Malhotra 2004), during the exploratory stage of the research their responses can help to identify the marketing research

problem precisely (Proctor 2003). Had the researcher present in Ilaje during the research for this thesis; these technique would have been fully applied in this kind of research that involves the livelihood of a certain people, which also encompasses different research methods that concentrate on small sample of customers' opinion about products and services. This is a way of using techniques to know customers' motivations, their behaviour or attitude. It requires proper planning, money and experience too; to utilize these techniques perfectly. However, in-depth interviews were carried out by the researcher via telephone.

5.2.2 Quantitative research

Quantitative data can be used to explain the outcome result from qualitative research (Malhotra 2004). Quantitative research comes into play because it requires a lot of sample of people's opinion or view about products or services, which is being use to provide statistics. This process concentrate on interviewing people personally or collecting data by mail or any other contact method from many people, the collection will allow statistical analysis due to much information. Because of the likely mistakes from quantitative research it is advisable to complement both qualitative and quantitative research methods instead of seeing them as competitors (Malhotra 2004), (See Table 1) Malhotra's (2004) shows how the combination of both research methods can provide helpful insights for marketing strategies.

Quantitative research can be approached in two ways for effective result depending on the research problem. The first is usually customer-based research, this provides genuine information from the customer's perspective (Hiebing et al. 2003), and the customers can be the company existing customers or prospective customers. The other approach is to research on the market-wide, hence researching on the entire market, which happens to the Ilaje potable water supply market in the case of this thesis. Customer-based and market-wide research was applied in this research so as to have a clearer understanding of the end users want, need, and thoughts about purified water supply in Ilaje. (See table 1 for the comparison between qualitative and quantitative research methods)

Qualitative Versus Quantitative Research		
	QUALITATIVE	QUANTITATIVE
Objective	To gain a qualitative understanding of the underlying reasons and motivations	To quantify the data and generalize the results from the sample to the population of interest
Sample	Small number of non-representative cases	Large number of representative cases
Data collection	Unstructured	Structured
Data analysis	Non-statistical	Statistical
Outcome	Develop an initial understanding	Recommend a final course of action

Table 1: Qualitative Versus Quantitative Research Malhotra, 2004. (P.137).

5.3 Data collection

The result of every data gathered is for the management or final decision maker to fully understand the information and take action based on it (Malhotra, 2004). What is the problem being addressed? This question should be clearly answered by any researcher before thinking of writing a questionnaire. Data analysis should not be seen as an independent exercise (Malhotra, 2004), it should rather be treated as the main information provider to the initial problem components. The researcher clearly defines and analyzes the research questions before drafting the questionnaires and interview questions for this thesis.

Data gathering depends on the source of information; it will either be primary or secondary data. Primary data directly originated by the research to address the research questions or problem, Malhotra (2004) explained further that secondary data are existing information or materials collected for back-ups other than the problem at hand.

The researcher has been gathering various secondary data from various sources about water resource projects and water supply in Ilaje, including other information related to the Ilaje business environment. This is as a result to the fact that; secondary data are easier to gather for background information (Malhotra 2004) than primary data because they already exist. Every data should be properly managed for easy access when needed for analysis and decision making (Baker et al. 2000), pre-gathering and analysis of secondary data is vital to the defining of research questions or problems.

5.4 Observational research

This has already been carried out by the researcher. Observational research is a way of taking into account the behavioural pattern of your prospective customers or people that falls on your targeted segment (Malhotra et al. 2003). It basically involves the gathering of information from scratch by observing people, their actions and how they respond to some situations. The researcher is also an indigene of "Ilaje"; which automatically gives him an upper edge to understand the behaviours of the Ilajes. The researcher will give more details in the research results about his observation.

5.5 Questionnaires

Questionnaires can be very problematic sometimes, in other words too complicated if not well planned. In order to make it simple and highly result oriented; the researcher combined self-completion questionnaire and an interviewer-administered questionnaire (Adams et al. 2006). Self-completion questionnaire is to be filled by the interviewees as they read through the questions, while interviewer-administered questionnaire works exactly as it sound, the interviewer politely interrogate the interviewee more to get some clear facts to write down in the questionnaire. The researcher developed one general questionnaire form and an interview form meant for policy makers in the water sector. All the questions were formalised to obtain useful information from the respondents.

The questions in the questionnaires were simple and straight to the point so that people it will motivate and encourage the respondents to take part in the survey. The title of the survey was catchy in order to get the attention of the respondents. There were questions to know the age bracket, and to also find out the knowledge of the respondents about water-borne diseases, after which the following questions would challenge them to give their thoughts about the current price of water, and the kind of services they would love to get from any prospective water company in Ilaje.

5.6 Contact methods

Due to the limited time available to finalize this research, and the location of the researcher, swift contact methods such as E-mail survey and telephone interview was applied. Few face to face interviews were carried out with the locals by the researcher's contact person in Ilaje.

5.7 E-mail survey

People will be contacted in Ilaje, and were contacted mostly via email because it stands to be one of the fastest means of communication and probably the cheapest for the re-

searcher. Although there were little challenges here and there to get quick responses from the receivers of the mails but it happens to be the cheapest means for the researcher to reach numerous people.

5.8 Telephone survey/interviews

Some decision makers in Ilaje and Ondo State were contacted and interviewed via telephone. The researcher uses a paper questionnaire specifically designed for this research (See appendix 3 for the questions) to question policy makers, responses were recorded down by the researcher. This survey approach works faster when dealing with authorities in Nigeria. Few questions were asked to clarify the stand of the authority on private clean water production. One of the interviewee is a senior staff from the Ondo State Water Board. Another one happens to be a senior adviser to the Ilaje Local Government, and the last interviewee is one of the chieftains in the current ruling political party in the Ilaje and Ondo State. They requested not to be named in this report.

6 RESULT AND ANALYSIS OF THE THESIS

Both qualitative and quantitative research methods were used to collect data for this thesis. Professional researchers argue that there are more chances of getting the best result when both research methods are combined for data collections.

A questionnaire of 8 questions (See appendix 2) was sent to the Ilaje public via email and through contact person. Approximately 80% of the receivers are students while the remaining 20% were people of different social status, such as house wives, workers, civil servants, and petty traders.

Table 2: Percentage rate of response

Questionnaire	**Numbers**
Sent	90
Response	48
Percentage	53.3%

48 responses were gathered from the 90 questionnaires that were answered via email, telephone or through the contact person in Ilaje. The contact person is a final year law student of Obafemi Awolowo University, Ile Ife. Although she's currently writing her thesis as well, but she dedicated some of her time to give few locals the questionnaires during the research. Reminder emails were sent a week after the initial survey email.

Only 4 interview questions (See appendix 3) were drafted specifically for governments, politicians and any available policy or decision makers. The interview questions were sent to 7 people in the categories mentioned earlier, unfortunately none responded despite a follow-up reminder email, but 3 agreed to be interviewed on phone which was eventually conducted by the researcher (See appendix 4).

6.1 Success of the Study

Generally, the researcher considers this research a successful one despite the limited time available for it; this is based on the respondent's responses; from both the questionnaires and interview questions. Some of the respondents took time out to give suggestions for improvements, and most of their comments were almost similar.

The questionnaire questions were simply written in clear terms in a way that will understand and this also gives more facts to buttress the researcher's secondary information. In conclusion, the research questions went well with the aim of the study.

6.2 Research Findings

6.2.1 Questionnaire survey results

Out of the 48 responses more than half of the respondents were between the ages brackets of 20-25, this is as a result of the people that the questionnaires were sent to, and most of the respondents are in this age bracket because they frequent the internet more often than the more advanced people age-wise. This may or may not have affected the results if the other age brackets have equal chances of answering the questionnaires. The first two questions in the questionnaire were focused on getting information about the actual age of the respondents, and the respondents' knowledge on waterborne diseases. Each of the question responses will be briefly explained, while some will also be presented with a chart to show it percentages.

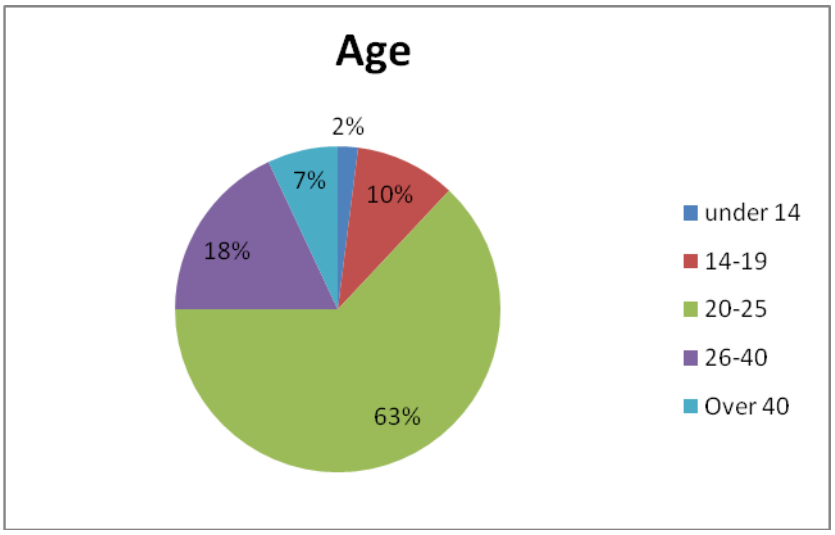

Figure 4: Age of the respondents.

Figure 3 above helped us to understand how respondents' knowledge and attitude varies with age, and 63% which represents the category between the ages of 20-25 shows that the youths in Ilaje communities are highly interested about issues related to potable water. This might also be as a result of their pre-knowledge or educational background about the effect of consuming unhealthy water.

The response gotten from the second question, which was to find out the respondents awareness about the possibility of getting diseases from polluted water; proves that, the entire 48 respondents have knowledge of water borne diseases.

The third question is almost similar to the second question; we wanted to know their thought about the current available drinking water in Ilaje if it is healthy enough. They doubted safety of the water they consumer daily. 100% of the respondents agreed that it's not safe for consumption. The fourth question asked if they currently buy drinking water from dealers (those supplying water), they all agree about buying drinking water, and 2 of the respondents explained further what that they buy from the resellers (more about the resellers will be discussed in conclusion).

In the fifth question, the respondents were asked about their opinion on the current price of drinking water, the options were; too expensive, reasonable, and too cheap. Out of the 48 respondents; 37 believe it is too expensive, while the remaining 11 thinks that the price is reasonable. (See figure 4 below).

This indicates that 77% of the respondents believe that the current price of drinking water in Ilaje is quite expensive, 23% think it's still reasonable enough, while none agree that it's too cheap. The researcher noticed that most of the respondents that ticked "Reasonable" in question 5 are below the age of 20.

Question 6 was not answered because none ticked “Too cheap” in question 5. In question 7; only 1 out of the 48 respondents chooses “Not sure” when asked if they will patronize a local purified water company in Ilaje. However, the respondent commented on the space for suggestions, that, he or she will patronize if convinced that the company is for real and more interested in their health than mere profit making.

The last question on the questionnaire was focused on the services they would like to see from a local water purification company, if any chooses to operate in Ilaje. The options give in this question were; healthy drinkable water, reasonable prices, quick delivery (because of lack of infrastructure to supply water through pipes), and 24hrs customer service, a space to give other suggestions was added in the questionnaire. All the given options were ticked by the respondents; including the box for “Others” but none requested for other services.

6.2.2 Interview results

The interviewed questions (See appendix 3) were designed to find out some technicalities needed to set-up a purified water company in Ilaje. After analysis of the responses gotten from the interviewees, the researcher found out that almost all their comments are similar. They all confirmed the urgent need of potable water in Ilaje, when probed further why the local government hasn’t provided purified water resources in the region; a senior adviser to the local government chairman stressed that; they have implemented some projects in respect to water in the past but maintenance and continuity has always been the problem. The 3 interviewees strongly believe that a private water company presence in Ilaje will be a welcoming development.

To start a water company in Nigeria, aside registering the company, the place of operation, source, and purity of the water must first be inspected by the National Agency for Food and Drug Administration and Control, popularly known as “NAFDAC”. After the inspection if considered fit enough to produce consumable product, a certificated with a unique number will be issued to the company. However, there are some people selling water directly from uncertified boreholes to consumers, which are not considered to be an offence to some extent; except when the product (water in this case) is being packaged or bottled for distribution.

7 CONCLUSION

7.1 Discussion

The researcher carefully looked into all the results to get a clear picture of the water situation around the Ilaje communities, the availability of a ready market for cheap healthy clean water and the happiness it will bring to the people if provided. The pre-knowledge of the researcher as an indigene of Ilaje, and the information gathered during the research gave some clue about potable water market in Ilaje that is yet to be fully explored.

Looking into the research questions and based on the researcher's findings, potable water distribution in Ilaje proves to be a key business opportunity for any water purification company that is to focus service before profit making, this also goes for resellers. The resellers are the ones mounting 5,000-15,000 litres right in front of their house or different strategic locations to buy waters from the truck distributors and resell to the locals. No doubt, they stand as big distribution channel but; the water being sold to them is coming from different neighbouring towns that are about 25-30km from Ilaje. The transferring of water from the sources, to the trucks, before travelling to Ilaje for redistribution to resellers, carries every possibility of being contaminated before it gets to the final consumers. This is an area that is needed to be looked into for further research.

One of the challenges prospective investors in this water business might likely to confront in Ilaje is trust from the end users towards the product. The researcher observed in the results that most of the consumers do not trust the water they currently pay for, despite the outrageous price as stated in the results. The paper work for starting a water business is the easiest due to the information gathered from NAFDAC (See Interview results above).

The results of this research show that, the market potential for clean water is certain in Ilaje if the company can start by positioning it product based on trust.

7.2 Limitation

The researcher encountered a lot of challenges while carrying out this study, which hindered him from achieving the result he initially desired. One crucial limitation was that a majority of the survey respondents were in the same age bracket, which may have caused a bias in the results if different age groups have different opinions. Below are some of the other hindering factors.

7.2.1 Time Restrictions

This is one of the factors that hindered the effectiveness of the research work; the research questionnaire was dispatched to limited respondents via email, majority of them can only access their emails in cyber cafes which often times have very slow internet connection and can be considered to be expensive. Some promised to do it at their convenience which of course could not meet up with the deadline for this research. The result would have been more accurate to some points if the researcher was in Nigeria to personally distribute the questionnaire to the locals; especially mothers and house wives that are mostly in need of water for cooking, washing and for other uses in their homes. Most of the interviews carried out on government officials' were useful but very brief, they seems to be little bit sensitive to some extent. Corruption is common in governance and it is possible that their lack of not providing basic amenities; such as water for instance, is enough for them to be embarrassed and be suspicious of anyone asking them about what the community is lacking when the money has been provided for such projects long time ago. This may or may not have led to some dishonesty or lack of full disclosure in the responses they provided.

7.2.2 Location and Finance

The location of the researcher while this study was going on and lack of funds also stands as limiting factors; the researcher was unable to travel down to Ilaje, Nigeria, for a thorough case study with the locals. This resulted in the need to enlist help from acquaintances in the local area.

7.3 Recommendation for further study

The main problem of this research is the number of people we were able to reach in the target group. Also, the issue of field work presence is highly needed in order to get accurate facts about the potential market of potable water in Ilaje. The resellers (see 7.1) are stands as distribution network before a proper infrastructure for water pipe network will be put in place. However, the most of the respondents to the questionnaires worry about the purity of the current water supply. A further study on how to the resellers will be motivated and to be hygienic with their supply tools (standby water tanks) is highly recommended.

There are still rooms to go into partnership with the Ilaje Local Government or Ondo State Government, with good technology and a sustainable business approach; potable drinking water business in Ilaje looks viable.

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APPENDICES

APPENDIX 1

Appendix 1: Students in Ondo State cueing for water (Yahaya O, 2009).

APPENDIX 2

Appendix 2: Questionnaires

Research on the Need for Local Purified Water for the Ilaje Communities: Cheap Healthy Clean Water

Dear Respondent,

I am doing a research that seeks to survey your opinion on how to support, promote and encourage the establishment of a local purified water resource, to provide cheap clean water for the Ilaje communities. I will be very grateful if you can take few minutes out of your precious time to contribute to this study.

1. **Kindly indicate your age grouping**

   Under 14 ☐ 14 – 19 ☐ 19 – 25 ☐ 25 – 40 ☐ Over 40 ☐

2. **Do you believe that polluted water can lead to sicknesses such as diarrhea and waterborne diseases?**

   Yes ☐ No ☐

3. **Do you think the available drinking water in Ilaje is healthy enough for drinking?**

   Yes ☐ No ☐ Not sure ☐

4. **Do you currently buy drinking water in your home from dealers?**

   Yes ☐ No ☐

5. **If yes, what do you think of the selling price?**

   Too Expensive ☐ Reasonable ☐ Too Cheap ☐

6. **If no, what is your current source of drinking water?**

   River ☐ Flowing streams ☐ Home installed boreholes ☐

7. **Would you patronize a local purified water company in Ilaje?**

   Yes ☐ No ☐ Not sure ☐

8. **What kind of services would you expect a local water company to offer to win your continuous patronage?**

☐ Healthy drinkable water
☐ Everyday low-prices
☐ Quick delivery
☐ 24 hours customer service
☐ Others
Please specify
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Comments/suggestions

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Please feel free to add comments beyond the scope of the questions given above, use other side if necessary.

Thank you very much for taking part in this survey!

APPENDIX 3

Appendix 3: Interview questions

Research on the Need for Local Purified Water for the Ilaje Communities: Cheap Healthy Clean Water

Dear Respondent,

I am doing a research that seeks to survey your opinion on how to support, promote and encourage the establishment of a local purified water resource, to provide cheap clean water for the Ilaje communities. I will be very grateful if you can take few minutes out of your precious time to contribute to this study.

Interview questions:

1. **How easy is it to satisfy the demand for clean drinking water in Ilaje?**

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2. **What kind of technical problem is the local government facing in providing drinking water for the people?**

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3. **What are the approvals needed to start a private purified water company in the region?**

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4. **Would you support a service that provides a purification system for local water supply? If yes, in what ways?**

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Please feel free to add comments beyond the scope of the questions given above, use other side if necessary.

Thanks you very much for taking part in this survey!

Appendix 4: List of participants.

One senior staff	Ondo State Water Board
Senior Adviser	Ilaje Local Government
A Chieftain of Labour Party	Ruling party, Ilaje Local Government