

THE RELATIONSHIP BETWEEN WATER SCARCITY AWARENESS BY TRANSNATIONAL NIGERIANS AND ITS
EFFECT ON THE WILLINGNESS TO CONTRIBUTE TO WATER SCARCITY RELIEF EFFORTS IN NIGERIA

BY

KELECHI D. IBE-LAMBERTS

THESIS

Submitted in partial fulfillment of the requirements
for the degree of Master of Science in Community Health
in the Graduate College of the
University of Illinois at Urbana-Champaign, 2012

Urbana, Illinois

Adviser:

Professor Reginald Alston

ABSTRACT

Water Scarcity has been argued to be one of the fastest growing pandemics of the world currently. The purpose of this qualitative study was to determine the relationship between the awareness of water scarcity in Transnational Nigerians and if it effects their willingness to contribute to water scarcity relief efforts in Nigeria. The findings in the study support the assertion that there is a high level of awareness of water scarcity but the priority of water scarcity seems to be a secondary issue to the electrical supply, which is deemed to be the primary target of altruism. Theoretical considerations and further implications are discussed.

ACKNOWLEDGMENTS

First and foremost I would like to thank Ms. Tina Candler, who has been one of my biggest resources and support system throughout my tenure. This research was also supported by the Kwara State Association of Nigeria. I appreciate the opportunity for them allowing me to interview their members for my study. I am also appreciative to Dr. Reginald Alston who provided the guidance needed to complete this study. I am also grateful to all my mentors and family members who supported me throughout.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION.....	1
CHAPTER 2: LITERATURE REVIEW.....	6
CHAPTER 3: METHODS.....	22
CHAPTER 4: RESULTS.....	27
CHAPTER 5: DISCUSSION.....	33
CHAPTER 6: CONCLUSION.....	36
REFERENCES.....	38

LIST OF FIGURES

Figure 1.....	13
Figure 2.....	32
Figure 3.....	32

LIST OF TABLES

Table 1.....	23
--------------	----

CHAPTER 1: INTRODUCTION

1.1 Purpose

Water scarcity affects every continent; up to 1.2 billion people dwell in areas of physical scarcity of water (UN, 2010). Though expensive to transport and has no substitute, freshwater is essential to human health and development (LeRoy, 1995). Nigeria alone stands as the most popular country in Africa and as the eighth most populous country in the world. Nigeria carries approximately 145 million people (BBC News Africa, 2011). The Nigerian community is by far the largest African community with 30,000 people residing in the Chicago area (Encyclopedia of Chicago, 2005). Transnational Nigerians are immigrants who have strong ties/relations back to their homeland and are above average in knowledge of current issues within Nigeria. Though Nigeria has an extremely large population, there is a lack of literature that focuses on water scarcity issues or water scarcity preventative measures taken in urban African countries such as Nigeria (Showers, 2002). This paper seeks to identify water scarcity effects on transnational Nigerian practices and approaches toward water scarcity.

The purpose of this research is to raise awareness about water scarcity in Nigerian to the transnational Nigerian communities at large by studying correlations between transnational Nigerians' knowledge of water scarcity in their homeland and their contributions to water scarcity relief efforts. This study will examine the severity of water scarcity from a global scale and also examine the amount of literature produced about water scarcity in Africa, specifically Nigeria. The study will also analyze the activities that transnational Nigerians engage in that may or may not affect their awareness of water scarcity and their willingness to contribute to relief efforts.

Research Question

The guiding research question for this study is: What is the relation between transnational Nigerian awareness/understanding of water scarcity in Nigerian and their willingness to contribute to relief efforts?

Subsidiary Questions

1. Is education and class a factor in evaluating awareness?
2. How do demographic factors relate to transnational Nigerian understanding/awareness of water scarcity and their willingness to contribute to relief efforts?
3. Does experience with water scarcity affect the utilization of current transnational Nigerians' utilization of the water system here in the United States?

I hypothesize that there will be a fairly high amount of awareness but a rather low effect on altruistic relief efforts. The hypotheses that are assumed within this research are the following:

1. Water scarcity will be an unrecognized topic amongst the transnational Nigerian community in Chicago.
2. Exposure to water scarcity in Nigeria will affect how Nigerians in America utilize water.

1.2 Significance

While approximately three quarters of the earth is covered by water, only a small proportion is available as freshwater. Of the available fresh water supplies, nearly 70% is withdrawn and used for irrigation to produce food – and the demand just keeps growing (United Nations, 2007). Water scarcity is should not simply be limited to its definition. Its significance goes beyond several key factors such as the health or economy or even population growth. Water is the input

that serves directly and indirectly in the production of goods and services by a particular business or within the government (Peterson & Kepler, 2007). Areas that are stricken with poverty are also areas that have shown a high demand of water (Falkenmark, 1989). As the population continues to grow and technology begins to advance, there will be a high use in water to coincide with the population growth worldwide, but particularly within the African regions (Moe & Rheingans, 2005).

Water scarcity affects the health of community areas and can potentially be a pandemic if not addressed by the government and health officials. Due to lack of water supply for sanitary usages, things such as hygiene become affected. This also consequently leads to the spread of diseases such as malaria or cholera and foodborne illnesses (Pruss et al., 2002). Long term physical damages to the body can also occur to adults and children alike from carrying heavy weights of water while travelling a long distance to and from their homes. Contaminated water due to lack of clean usable water can lead to the ingestion of parasites or microorganisms that can also lead to the growth of infectious worms inside the body. Children also are affected and die from diarrheal infection from the consumption of contaminated drinking water (Center of Disease Control and Prevention (CDC), 2007)

The utilization of water also contributes to the effectiveness of a country and the economical scarcity of a country. Urban areas and agricultural areas are recycling and sharing the same water sources without any form of filter or sanitary devices, particularly in African countries. (Molle & Berkoff, 2009). Because of the lack of literature in urban African areas (Showers, 2002), countries like Nigeria will not be able to develop the proper infrastructure necessary to face the potential challenges with water scarcity (Biswas, 2005) This includes accommodating the high demand of water usages of such a populous country as Nigeria is in both urban and rural regions.

1.3 Definitions and Terms

Nigeria- The most populous country in Africa, rich in abundance of natural resources and capital. (Ogundele, 2004)

Nigerians- People born in Nigeria or of Nigerian descent. In this case we will be referring to transnational Nigerian migrants as Nigerians

Transnationalism- the process in which immigrants create and sustain simultaneous multi-stranded social relations that link together their societies of origin and settlement (Schiller et al., 1995; Portes 2001)

Transnational Migrant or Transmigrant-Immigrants whose daily lives are based on strong connections and practices with their homelands and identify themselves with more than one nation (Schiller et al., 1995)

Contribute (Remittances)- Sending of resources and utilities from one place to another (Vertovec, 2004)

Water Scarcity-The aggregate impact of users impinges on the supply or quality of water to the extent that the demand cannot be fully satisfied. (United Nations)

- **Physical Scarcity-** Actual physical shortages of water supplies and resources.
- **Economical Scarcity-** Inability to meet demands due to lack of resources.

Hometown Association (HTA)- An organization of migrants from the same town or ethnic group in a host country who congregate primarily for social and mutual-aid purposes, their main defining characteristics is the informal and voluntary structure of a relationship with their native homeland. (Levitt, 2001; Orozco 2000)

1.4 Assumptions

The following assumptions can be made during the collection of information and study of the prospective transnational Nigerian population. 1) The information was given accurately to the best of the participant's knowledge. 2) Participants consented to participation with a coercion and understanding of the risks and confidentiality in the study. 3) Information given is truthful. 4) It cannot be assumed that all migrants discussed in this article are transnational or currently engage in transnational activities.

CHAPTER 2: LITERATURE REVIEW

2.1 Empowerment in health promotion

Since the 1960s, social, cultural and geopolitical structures have begun to change social movements, as well as cultural and institutional environment (Porter T. & Tarrow S. 2005). Environments are motivational factors for the transnational ideologies brought into the nation by immigrants. The concept of empowerment can suggest an individual's determination over one's life and his/her involvement in their community areas through institutions such as schools, churches and organizations (Rappaport, 1987). Research has indicated that powerlessness, in this case economical powerlessness, within a community can be linked to increased social dysfunction, poverty, morbidity and mortality rates (Braithwaite & Lythcott, 1989). Braithwaite and Lythcott believe that there are increased stress factors amidst a "powerless" community, along with physiological ailments and lack of access to the necessary resources (primary or preventative care as far as community health) needed in order to gain some form of empowerment.

Empowerment can be interpreted as the ability of people to gain control and have an understanding of their personal, social, cultural, and political forces in order to make the necessary changes to improve or maintain their life (Israel et al., 1994). When an individual demonstrates powerlessness, this is because the individual allows him or herself to be the "object" to their environment. This enables their environment to act upon them, instead of being the subject and acting upon the environment to create a change in their environment (Friere, 1974). Wallerstein & Bernstein (1988) indicate the notion of empowerment education as an instrument for an effective health education and prevention method that can create social change,

stressing that people are likely to develop a new belief in their ability to influence others through empowerment and community participation. True community empowerment is when a community has the ability to collectively use its resources and skills in order to improve the welfare of their community and suffice their needs (Israel et al., 1994).

In light of his views of health communication and activism, Zoller (2005) states that community self-empowerment can be helpful in reducing dependencies on outside sources that take away from the self efficacy and help improve communication amongst individuals and an organization in which an improvement to the status quo cannot be truly made. When a community is empowered, there is support amongst individuals and organizations in which conflicts and obstacles are addressed and reduced. Health improvement within a communal environment can be directly impacted with the enhancement of social support, social competence and community debate (Wallerstein & Bernstein, 1988). Rappaport, however, argues that though empowerment can be looked upon as the phenomena of interest, empowerment cannot be considered compatible with prevention but rather empowerment should be looked upon as a tool that is focused on within theory development. Empowerment is something that research tries to define through interventions and policies (Rappaport, 1987). Both literatures agree that empowerment occurs when people in a group effort develop the ability to identify, assess, and create a strategy to make change (Wallerstein & Bernstein, 1988) recognizing that it is not just an “individual psychological construct” (Rappaport, 1987). A study indicates that empowerment does play a role as a mediator in the relationship between intellectual stimulation, individualized consideration and service quality (Ismail et al., 2009).

Though empowerment stands as a versatile tool for primarily low income minority communities (Braithwaite & Lythcott, 1989), the idea of power makes empowerment an idea

worth debating. Labonte (1994) argues that health promotion is not simply a movement but a professional and bureaucratic response. He advocates the idea that the community is empowered for a social movement. It empowers the professional leading the intervention and the community but fails to address the government's involvement in creating the macro-social powers that lead to the unhealthy conditions in which the "community" is fighting to change. The idea is that the community is disempowered because the community isn't taking control of the health issues at stake but rather empowering the professionals of the government (public health officials) and allow them to take control, creating a self-efficacy and improving the health promotion in community (Labonte, 1994).

Braithwaite and Lythcott believe that community based health promotion is a model for change. The empowering of the community develops community leadership for health promotion, creating an expectation that community organization and development will enable the community to take control and address certain quality of life issues that are stress factors amidst the powerlessness of a community (Braithwaite & Lythcott, 1989). Labonte builds his case by imposing that when a community empowers itself, the professional consumes more power or control. He argues that the professional always has more power due to access to resources and control over it compared to the clients (individuals or organizations of a community) but the professional still has less power compared to the government (the employer) who provides the funding for changes to be made. Rimal et al claims that community empowerment can be understood as an alternative to medical and public health service. This can be achieved when the individuals in the communities, through community based health promotion, discover that they have the capacity to improve their health rather than depend on health professional's to fix their

state of health. This is where preventative measures in health behaviors and habits come into play (Rimal et al., 1997). So the question posed to critical scholars is “who truly has the power?”

Speer (1995) introduces an ecological perspective on community empowerment. The authors observe that community empowerment is a long-term project and its maintenance is driven by a sustained pattern of organization actions. Empowerment outcomes are reached when a community can display control over the three sectors of power: 1) Power to reward and punish, 2) Social power, and 3) Power to shape community ideologies and express community thinking in one voice. (Speer & Hughey, 1995). The authors stress that action for a community does not constitute an actual social movement, but more so based on the agenda of the community; these actions have agendas. The agendas are maintained and information, therefore, can be presented. These actions are strengthened by participation from the individuals. Israel et al. would defend the notion that the “empowering process” is what really defines the power being discussed, displayed and shared.

“Used as a verb ‘to empower’ refers to a process through which people gain influence and control over their lives and hence become empowered.....Used as a noun, empowerment refers to a state of being empowered as an outcome of the process.” (Israel et al., 1994) (pg.154)

The authors collectively argue in all literatures that empowerment within a community is both an outcome and a process. It is a dynamic that is always changing based upon the perception of power displayed within the relationship, the communication and interpretation between the individuals and organizations respectively (Israel et al., 1994). The authors have a common concept that community empowerment in health promotion is not something that can be

achieved in the short run, but a very long term process. (Israel et al, 1994; Speer and Hughey, 1995).

Health activism/Community organizing

Social activism plays an important role in leadership, defining areas of engagement and mobilizing individuals (UNV, 2007). Engagement within it can be considered integral to not only civic matters, but also as to how internal authority and decision makings can be made; affecting institutional missions an responsibility distribution (Martin, 2009). Martin goes on to iterate the failure for people to recognize the activism that is within their midst in order to make more of it. Health activism, one of the more undefined terms in the activism realm, is defined by Geist-Martin, Ray, and Sharf (2003) as taking responsibility for individual health, working to improve health conditions for a group, and making efforts to change and improve policies for large groups of people (Zoller, 2005). Zoller states that health activism implies a challenge to the existing order that are influential to the negative effect of health promotion or health in general. The author also describes how community organizing is an integral form of health activism. Zoller also adds on that health activism should not be correlated to health advocacy but should rather be contrasted from it.

Health advocacy focuses on the works within the existing system while health activism focuses on direct action to change the system. Community organizing is describes as the specific process of empowering individuals and organizations alike to build relationships and promote action for social change within a community. When health activist move for a health related change, they engage in processes that are interactional and interpretive (Zoller, 2005). Labonte insists that though communities do organize and act in the name of health promotion, they however engage in topics that include employment, welfare, safety, or pollution, but nothing in

the sense that relates to their self health promotion. Braithwaite and Lycott's point is enhanced because community organizing would initiate a collective effort that would cause social changes to the issues mentioned above because they can be considered stress factors of the aforementioned "powerlessness" which prospectively would create an increase in poor health, particularly to minorities.

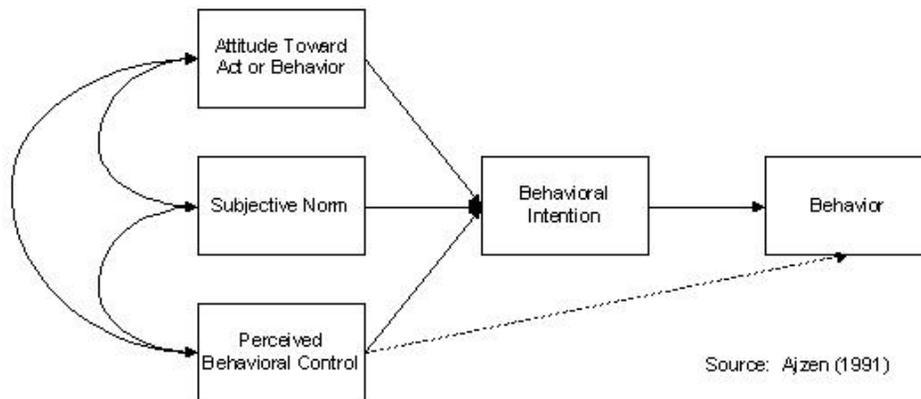
Labonte contrasts this conceptualization by indicating that communities are built with the framework of inclusivity, but yet display disempowerment by seeking out more powerless group with a purpose of opposing the groups that may have more power than them. It then builds the idea that individuals who believe they are participating in a social change process are instead participating in a bureaucratic process. Zoller's study would also agree with Braithwaite and Lycott in reference to health activism, claiming that health activist have to engage in the complexities of health and engage in the multiple sectors of health status that range from education to health delivery to governmental regulation. Zoller indicates that all those sectors play a factor in health activism for a community. For health activist attempting to organize a community, the central goals are to bring about cultural changes in order for people to see and interpret their social reality from a different lens (Morris & Braine, 2001). So in retrospect health activism and community organization should not primarily focus on power, but rather communication because communication creates a better understanding of the common goal. Zoller defines that health communication can contribute to our understanding of the interpretive choices activists make towards health and illness causation. Common communication tactics taken by health activist include public advocacy and education through the entertainment media (Zoller, 2001). Health activists' actions help to constitute the health context that health communication researchers examine. Part of Israel et al. observation implies that it is important

for health educators and health activists not to “give” the power to people but to only provide the resources and strengthen the skills and resources of the people to gain control over their lifestyles.

2.2. Theory of Planned Behavior (TPB)

Theory of planned behavior adds the notion of perceived control behavior over behavioral achievement as a determinant of behavior intention and behavior (Madden et al., 1992); Ajzen 1985). This is reached when there is a belief that there is possession of the necessary resources and opportunities to perform an action; the more resources and opportunities that an individual may believe that they have, then the stronger their perceived behavioral control will be (Ajzen, 1985) (for example: “I have a fork and knife, therefore I can cut a steak properly). This concept of perceived behavioral control creates an indirect affect due to assumptions that perceived behavioral control plays an influential role in the motivation for behavioral intentions. The greater a person believes he/she has control over performing an action, the greater the motivation is for that person to perform that action (Madden et al., 1992; Ajzen, 1985). In a review of TPB, Conner and Armitage (1998) noted that just as intentions are known to have determinants in the TRA, the determinants to behavior intent in the TPB increases to three determinants: attitudes, subjective norms and perceived behavioral control (Conner & Armitage, 1998; Ajzen, 1985). Figure 1 displays the model of the TPB created by Ajzen (1985) which shows the determinants direct and indirect effect on behavioral intent.

Figure 1 (Ajzen, 1991)



After some analytical review, research indicates that there is strong support of the TPB as a predictor of behavior (Godin & Kok, 1996; Conner & Armitage, 1998). Ajzen and Madden (1986) were the first to test the theory, which was an experiment on student's class attendance. The results also supported the strength of perceived behavioral as a control for behavioral intent and TPB as a strong behavioral predictor (Madden et al., 1992).

However, researchers also discovered that similar to the TRA, the TPB does have limitations and they have called for expansion of the theory. Critical scholars have called for the expansion of TPB by having the theory determine a definite relationship between intentions and behavior in order to determine how attitude can impact the achievement of goals (Conner & Armitage, 1998; Sutton, 1998). The researchers also indicated that they believed that TPB would only be most effective when perceived behavioral control and motivation are very high and when those factors are not applied, then the attitude affecting the behavioral intent appears spontaneous (Conner & Armitage, 1998; Madden et al., 1992). In sum, the theory of planned behavior is consistent in becoming one of the mainstream behavior models applied in all facets and proves to

be one of the better primary instruments when applied to health behavior analysis and health behavior change (Ajzen, 1991).

2.3 Water Scarcity

For the sake of research and global awareness, water scarcity is the point in which the aggregate impact of all users impinges on the supply or quality of water under prevailing institutional arrangement to the extent the demand cannot be fully satisfied (United Nations, 2011). Water scarcity can be associated to economy demands and physical demands. It is also portrayed as, to a certain extent, a natural and human made phenomenon (United Nation, 2011). It is documented that there is about 1.2 million people approximately that do not have access to water for domestic usage (World Health Organization (WHO), 2003). There is an abundance of research that indicates that the year 2025 is an approximate year when water scarcity can potentially impact from a global standpoint if the appropriate strategies are not taken (Falkenmark, 1990; Rijisberman, 2006; Seckler et al.,1999). Rijiberman goes on to question whether the potential water crisis can be determined as truly scarce through the study of indicators that were derived by Malin Falkener (1989). Falkener goes to differentiate the difference between water scarcity and water insecurity. Water insecurity is when an individual does not have access to water for livelihood and domestic usage but scarcity is when an individual or community are water insecure for a significant amount of time. Water is a complex resource. Many countries, due to the fact that they are water rich temperate countries, fail to appreciate the fact that water is a finite resource (Falkenmark, 1990). Water availability is based on its geographical position in the global water cycle (Falkenmark et al., 1987) The involvement of water in the life processes of living matters makes them vulnerable when there is a change in the quality or quantity of water (Falkenmark, 1990). It cannot be ignored that causes of this lack

of “resource” is geared towards both man and natural causes based upon the amount of stress put upon it (CAF America, 2009).

The distribution of water is becoming an issue, particularly in areas that are developing without the adequate resources to maintain a proper water distribution infrastructure. Global water usage continues to increase based on the increase population globally (Moe & Rheingans, 2006). The literature indicates that the provision of water is related to hygiene and the intrusion of it can leave an area vulnerable to waterborne illnesses. It call forward the global challenges that leadership faces, such as high demands per population, irrigation practices, sanitation implementation and water reuse methods. A call for an awareness in the climate changes and the impact it will have on water scarcity through the potential deficit in water resources which can be achieved through understanding the true value of water virtual operators (Dominguez, 2010). Virtual Water Operators (VWO) are firms that operate in the water market without the need of abstraction licenses. This paper captures how expensive it will be for a water provider in areas where water is scarce.

Seckler et al. focuses more on the economic and physical scarcity that the globe will encounter as time continues. The research identifies water scarcity as the single greatest threat to food security, human health and natural ecosystems (Seckler et al. 1998). The research supports the study of the International Water Management Institute (IWMI) studies, which show that there will be a high water demand and supply situations with over 118 countries from the year 1990-2025. The author calls for an increased focus by policy makers and professionals on the continuous depletion of groundwater because of the major threat it will have on food security. It is also reiterated again the one of the main causes of water scarcity globally is the population growth along with the economic growth and usage of water rather than the concept of global

changes that was aforementioned above (Vgrosmary et al. 2000). The author questions that claim of previous hydrological researcher by introducing the lack of evidence that countries will not be able to have some form of water output.

As the world's population grows, the average amount of renewable freshwater available per person begins to decline (LeRoy, 1995). The projected population growth within the next few decades can push another two dozen countries into the brink of water scarcity, adding to the fact that the predicted changes in global climate along with the increase in water degradation will reduce water distribution and intensify the forthcoming challenges to be faced (LeRoy, 1995). It is agreed that developing countries, however, have not developed the appropriate water infrastructure in order to be on the same level as developed countries which puts them at high risks for waterborne illnesses and a reduced production in food products (Biswas, 2005). Some developing countries mobilize only about twenty percent of their potential resources because they lack the capital and technology to capture more (LeRoy, 1995). This is where economic scarcity becomes a factor. It is not envisioned to change in the foreseeable future. Biswas does agree with Seckler et al. (1998) that the lack of attention received by water professionals are likely to make radical changes to the patterns in the water usages in numerous countries including the United States. Countries such as Uganda, **Nigeria**, Cameroon and Ghana are prompted to double the development of water supplying mechanisms by the year 2025 in order to meet the reasonable needs of the respective country's water demands; these countries mainly lay within the sub-Saharan portion of African.

With the populations beginning to increase rapidly, the aforementioned countries do not have enough financial stability and resources in order to achieve water development at such a rapid pace as the population growth (Secklar et al. 1999). Adding that politicians also do not pay

attention to the water sector and the quality of water being distributed, there will be a continuing rise of contaminations in the water supply, especially in developing countries. Another factor is the depletion of fresh groundwater as a country's water supply. Some of the most populous countries have been mismanaging the use of this valuable water resource hence creating problems such as drawdown with pure water aquifers due to the abundance of wells and irrigation systems used all over the world for both domestic and industrial usages. The other problem also developing is the rise of water tables that contain toxins that pollute the aquifers (Seckler et al., 1999). Crop productivity becomes low and water eventually becomes undrinkable.

In retrospect, it can be said that there is an adequate amount of literature that focuses on raising awareness about water scarcity as a global issue. It can be agreed upon by the majority of researchers that the world will face a major water crisis within the coming years to the rise of water scarcity, both physically and economically, in numerous countries.

Water Scarcity in Africa

It should be reemphasized that there is a lack of knowledge and literature that is being shared about water scarcity issues pertaining to Nigeria or urban areas in large African countries (Showers, 2002), but there is sufficient literature about water scarcity from a global perspective on Africa. Water scarcity trends as one of the more underestimated issues within the globe but is one of the more threatening issues in Africa. Less developed countries are mostly located in tropical and subtropical landmarks where the industrializations of some of these countries are determinants to access to water. A particular research states the importance of countries, specifically African countries, to develop the appropriate systems and programs to combat water

scarcity based on the rapid growth of the population (Falkenmark, 1990). The author proceeds to state that based on the population growth the demand for water begins to increase and it will not suffice the needs per number of people within a country. When a country reaches or exceeds 1000 persons per million cubic meters of water, and then absolute water scarcity has been reached. Research indicates that Africa populations are in the midst of quadrupling since 1986 (World Resources Institute, 1986).

Falkenmark hypothesizes that access to water is a necessary condition for development, which becomes relative to most developing countries in Africa. Urban areas in African countries tend to have a higher water productivity compared to rural areas (Molle & Berkoff, 2009). It is also proven that the urban areas tend to have priorities in distribution, and reallocations in water are a low priority for distributors to the agriculture. The reallocation of water stems to be high in costs and environmentally- urban cities' water transfer generally result in more wastewater being generated which in hindsight raises the risks of contaminants and pollutants within the industrial areas. Accessing water can now be affected based on the distance of the water sources from a household. If people have to walk an approximate distance of 2 miles to collect water for 30min and ambulate back to utilize the water for domestic purposes, adequate hygiene will still not be achieved (Moe and Rheingans, 2006). The frequency of the access to the water source is not enough to produce enough water that can be sanitized and utilized for hygienic purposes.

The potential of water scarcity to become an issue based on population growth and lack of resources to develop water programs that are sufficient is integral to the rural areas in Africa because of the lack of economic resources and irrigation infrastructures available to provide quality water for domestic and agricultural usages. Water scarcity potentially has affected migration patterns and other demographics such as death rates in Africa. An awareness of the

implication in water scarcity by political leaders, organizations and planners in developing countries is greatly needed.

2.4 Transnational Migrants

Research indicates that many contemporary migrants engage in activities and engagements that link them to family members or significant others who may reside in another area in which the migrant is from, but may not be residing in (Vertovec, 2004). This idea of “transnationalism” can be identified as a sustained long distance, border-crossing connections that can be found in several ways including communication networks, social movements or even criminal/terrorist groups (Schiller et al., 2005). The literature focuses on the key practices taken upon by transnational migrants that help maintain strong ties back to their homelands such as remittances- sending money back- or telephoning or the development of hometown associations. One literature argues that the use of transnational indicates the broader phenomena of globalization (Schiller et al.,1995). The concept of “transnationalism” creates a time period of strengthening nation-state building processes (Schiller et al., 1995). Today migrants encounter a society that is much more diverse and contains a stronger transnational connection compared to a time period where assimilation was demanded (Levitt et al., 2003). Debate about when and how the word transnational should be employed is still ongoing; however recognition is growing in observing the objective dimensions of transnational practices (Levitt et al., 2003).

Hometown associations (HTA) represent the most numerous and permeating form of voluntary organizations for first generation immigrants (Zabin &Rabadan, 1998; Vertovec, 2004). HTAs activities include charitable work such as donating clothes, raising money for improving infrastructures and educational institutions (Orozco, 2000; Vertovec 2004). Though

HTAs have the most charitable intentions, claims of the exclusion of women or raising funds for issues that are not of high concerns tend to bring in internal disagreements within HTAs (Mahler, 1998; Goldring, 2001; Vertovec, 2004). Vertovec claims that HTA or other forms of remittance sending groups are more poised for providing the broadest benefits (Vertovec, 2004).

Transnational Nigerians

“Our country Nigeria is the largest single unit in Africa” (Shaw & Fasehun, 1980). Nigeria’s constant resourceful characteristic from an international position standpoint is considered, by analyst, its greatness (Shaw & Fasehun, 1980). Transnational Nigerian immigrants have developed a network that contrast from any of the other immigrant networks (Reynolds, 2002). Nigerians are fairly new immigrants in America, beginning to immigrate in the US starting in 1925 (Ogbaa, 2003) Compared to most transnational immigrants who come as farm workers or have little education, many Nigerian immigrants have immense educational accomplishments, professional experiences and backgrounds, and have experiences living in large sized cities, with large social contacts with various ethnic groups and classes (Reynolds, 2002). Transnational Nigerian immigrants use the prospects to obtain higher education and professional practice as a motivating factor to immigrate to the US compared to political freedom or poverty (Reynolds, 2002). Nigerians’ perception of immigration is based on the fact that one’s best bet to enter the country is with a visa for education compared to Europeans who have access to tourist visa, or Filipinos who have direct political ties with the United States or Mexican immigrants who can simply cross a border (Reynolds, 2002). Also unlike most immigrant affairs, Nigerian immigrants arrive with the mindset of returning home after their education or professional achievement in order to help their young nation (Ogundele, 2004).

Transnational practices such as ethnic hometown associations (HTA) are also formed in order to develop better transitional networks amongst immigrating Nigerians. Nigerian immigrants tend to search for an association as quickly as possible when they immigrate to the US in order to find job leads and business associates. It is important to remember that some of these Nigerians have previous professional or pre-professional experiences from their homeland as merchants, entrepreneurs, scientists or engineers and establishing themselves in their new homeland is not a hard transition, especially with the help of their respective HTA's. Transnational Nigerian immigrants are very fluent in English, withstanding an accent (Ogundele, 2004) and would much rather to live in areas based on professional affiliation compared to ethnic affiliations, rather relying on their HTA meetings as a time to interconnect amongst similar ethnicities (Reynolds, 2002). Transnational Nigerians often engage in the remittance of money to their native lands for reasons such as: a) Family provision b) Investment for future retirement in Nigeria and c) Commercial or business ventures that they wish to engage in or are already involved in (Ogundele, 2004). These actions are the best ways for them to maintain the strength of the ties to their native lands.

CHAPTER 3: METHODS

In order for data and information to be collected for this study, approval was needed from the University of Illinois Institutional Review Board (IRB). The prospective hometown association was contacted via email for permission to interview willing participants. After approval by the hometown association, approval was then sought from the University. The study was approved by the University's Institutional Review Board on April 3rd, 2012. The data collection was carried out on (TBD)

The data was collected through audio-recorded interviewing of willing participating members of Nigerian Hometown Associations in Chicago who are transnational Nigerians.

3.1 Subjects

The subjects being studied were Nigerian residents in Chicago who are active members of the Kwara Association in Chicago. Members are normally attempt to keep up with the current affairs that are going on in Nigeria, whether it is on a national scale or a personal, local scale. Subjects recruited must be within the age range of 18-65yrs of age and must be able to account to some form of current transnational tie back to Nigeria. The participants spoke of their experiences living in Nigeria, whether it is Urban or Rural, and their experiences in water scarcity, the utilization of water and the value of water in Nigeria. Data was collected based on the information shared in interview pertaining to exposure to water scarcity and how it influences their willingness to contribute to relief efforts

3.2 Instrument

The research instrument used for the collection of data pertaining to this study was face-to-face interviewing. The subjects were interviewed for approximately 30 min to 1 hour per session. Interviews are particularly useful for getting the story behind a participant's experiences.

I pursued in-depth information around the topic. Interviews may be useful as follow-up to certain respondents to questionnaires to further investigate their responses. (McNamara, 1999). The interview was a standardized open-ended form of interviewing in which all subjects will be asked the same type of questions but given the opportunity to answer to the extent of their ability. This promotes a more efficient yet quick interview that poses well for this form of study. **Table 1** sets the framework for the interviewing approach consisting of questions divided into categories; serving as a guide, rather than dictating the flow of the conversation between the participants and the researcher.

Table 1

Interview Questions

A. Personal, Social & Cultural

1. For the purpose of interview procedures, can you please state your name?
2. How old are you?
3. Are you married?
4. How big is your household?
5. Are you the first born in your family?
6. Do you have a high school, college or professional degree?
7. Are you the first one to immigrate to the United States?
8. How involved are you in the Nigerian community closest to you?

B. Status In United States

1. Where in Nigeria are you from?
2. How long where you there?
3. What is your purpose for immigrating to the United States?
4. How long have you been in the United States?
5. How long do you plan on being in the United States?
6. Are you employed?
7. Do you still have ties back home in Nigeria?

- a. What are your ties? Is it family? Friends? Business?
8. How often do you communicate to your ties back home in Nigeria?

C. Generation of Remittances

1. Are you affiliated with any Nigerian organization?
2. Does the organization collect funds to send back Nigeria?
3. Is money the only thing sent to Nigeria?
4. What is normally the reason behind the fundraising?
5. Do you personally send things back to Nigeria?

D. Water scarcity and Relief

1. Are you familiar with what water scarcity is?
2. Have you experienced any form of water scarcity back when you lived in Nigeria?
3. How did you manage and use water in Nigeria?
4. Does it affect how you use water currently in the United States? If so How?
5. Are you aware of any of some of the water scarcity relief efforts held in Nigeria?
6. Would you contribute water scarcity relief efforts in Nigeria or do you feel your money is better donated to something else to help Nigeria?

3.3 Procedures

Prior to interview process, the proper protocol aforementioned was followed. All subjects must have provided consent and signed IRB approved consent form. Prior to interview, the following steps were followed.

1. A location with less distraction must be selected and agreed upon with subject.
2. The purpose of the study must be explained to the subject prior to interview.
3. Format and approximate time allotment of the study must be explained to the subject.
4. Interviewer contact information will be provided to subject.
5. Subject will be allowed to ask any questions to clarify any doubts prior to interview.
6. Audio recorder will be turned on and interview process will commence.

During the interview process, the following questions pertaining to these particular variables were applied as part of the data collection process:

Age: Subjects were asked to state their age in years. The information used is the information that will be stated by the subject and recorded during the interview process.

Ethnic group represented: The subjects were asked to identify their respective ethnic group in which they represent. Subjects can be a mix of different ethnic groups and the ethnic groups in which consider their primary ethnicity will be used during the transcription of information.

Migrant status: Subjects were asked to state their migrant status in the United States. The information will be held confidential, but was used as a scale to determine the longevity of their residency here in the United States.

Education: Subjects were asked the level of education in which they have achieved. They will be given the options of elementary, high school, and college educated. The information given by the participant during the interview will be the level of education used during the transcription of data.

Marital Status and household: Subjects were asked to state their marital status and the current status of their household.

Current ties to Nigeria: Members were asked in which manner do they have an establish tie with their native homeland or native town in Nigeria.

Frequency of activity and contribution of remittances: The participants were asked how often they contribute remittances or donate to any relief efforts in Nigeria directly (personal) or indirectly (through organizational fundraising and accounts)

All interview questions are attached to final draft of the literature.

3.4 Data Analysis

As stated prior, the statements of all the participants were digitally audio recorded and meticulously transcribed by the researcher. The transcribed notes were coded by topical areas reflective of the general questions provided earlier. Through the open coding method (Glaser & Strauss, 1967) the topics were identified, named and categorize. The transcriptions were examined in order for to discover any particular patterns or themes within the interviewee's views displayed thru their answers. The data was analyzed through the inductive approach as described by Thomas (2006). The purpose of this approach is to allow findings from the research to emerge within themes that can be frequent, dominant or significant within the raw data (Thomas, 2006). The raw data was analyzed and themes were created based on the participants' answers and examined closely to determine whether answers to the research questions could be captured within the raw data. Different themes are then created relative to the analyzed raw data. Through this process, the data is explored by the researcher and the interpretations were developed relative to the developed themes congruent to the research questions. Through these interpretations, explanatory patterns capable of suggesting possible relationships were identified.

CHAPTER 4: RESULTS

Shaped by the interview questions, three primary themes were derived from the data. (1) Awareness (2) Concern and (3) Altruism. It was anticipated that the relationships would be established that a relationship would be established between awareness by Transnational Nigerians and their willingness to contribute to relief efforts but with a low effect. It was revealed rather that there seems to be a weaker relationship established in the aforementioned relationships. The concept of Concern became a major factor in establishing the effect on Awareness and Altruism and became the most redundant of the themes. In qualitative research, there is always the idea that new discovery may come in the most unpredictable form (Babbie, 2005). In this study though, the findings appeared to be fall within the lines of what was to be expected to a certain extent. The exploration of the data shows some new findings that impact the views of the participants which support the characteristics of a general transnational Nigerian population being very different than that of a transnational population from a different country. The technique of concept mapping is used in order to display a graphical format of the relationships linking the primary themes. Along with the map, the views of the participants will be integrated in order to establish the findings in a more coherent form.

Awareness: Participants appeared to have a high sense that water scarcity existed in Nigeria. Though having an awareness of water scarcity though did not imply that they experienced water scarcity while living in Nigeria. One participant shared the following about their form of experience with water scarcity:

“I was a brat, a spoiled brat, so I don’t know. No. Because you know my dad was well-to-do and eh water issue wasn’t my problem. Some of my problem, my friends they complained about it, so that uh opened my eye. Your friends, so you know when your friends, you know, talk about it,

you want to know why the issue is like that so that gave me knowledge of uh, water issue in Nigeria, but not greatly involved.”

This participant happens to be the minority, if the exception from the common views that was shared by the other participants. Numerous references were made about boreholes as alternative ways to produce water for their respective homes based on the inconsistent availability of water in public taps and the effects it had on their sanitation conditions. One participant says that sometimes water won't be available in their homes “for a week...maybe four days...three days...it depends”. Many participants also referred to having to go outside of their homes in order to retrieve water for their home. One participant talked about his experience in his community:

“What really happened is that in Lagos state now, you use all your money to buy water. If you don't have money to get water..Uh uh..its either you go to the stream and that cannot be possible. Before there are local government water, government provide water in every corner in Nigeria. You would see public tap, public tap, public tap everywhere. But now, no one is running”

Though awareness seemed to be a common factor amongst the participants, the study revealed that there was a lack of awareness about water scarcity relief efforts in Nigeria. Participants seemed to have little awareness about any of the water scarcity relief efforts initiated by organizations such as the CDC or WHO. One participant suggested the lack of awareness is based on the targeted locations of these efforts:

“uhm personally...uhmm...no. Because uh,,, those..those..those organization tend to focus more on the rural area..like the very very in depth of the...you know...places in the North..places far

far.off..far off from where I come from. So you know, personally I've not seen it but you know they do..they say those things on tv like they provide water them here and there and there..."

This was to indicate that the majority of the populations being in more urbanized areas in Nigeria have a lack of awareness or exposure to these water relief efforts due to the target population of these organizations being in the rural area (the northern part) of Nigeria. There being a lack of exposure to water relief efforts led common view that there wasn't much of a direct resolution for water scarcity as far as funding or an organizational initiative is concerned.

One intriguing dynamic view is that despite the fact that there was an established awareness of water scarcity and even a mutual experience with water scarcity, it did not have much of an effect on how transnational Nigerians utilize water in the United States. One participant even mentioned "I've already forgotten what is happening over there (chuckles)". However, it can be said that gender plays a certain role in this discovering. After further exploration of the data, it can be said that most of the participants that were females mentioned some frugal habits initially when it comes to the usage of water. One female participant explained:

"(Laughs) To me, I believe they abuse the water over here...in the United States. When I first got here, when I see them running the tap, I always close it....cause I get scared that "oh my God"...its...you know...the water will get away. The way the ab...they use water over here is like they abuse it. Because they just waste the water... to me"

Awareness of water scarcity, as predicted, turned out to high among the transnational Nigerians. Whether direct or indirect, it can be agreed that it is a growing problem in their homeland.

Concern: Although Awareness was high amongst the participants about water scarcity, an emerging factor within study induced the creation of this specific theme of concern. Many of the participants didn't seem to have water scarcity as a high priority of concern in Nigeria. Even though being acknowledged as a prevalent issue in their native lands, the common consensus of the participants indicated that their main concern in Nigeria is the utilization of electricity in Nigerian communities. It was repeatedly mentioned that the solution to water scarcity has a direct relationship with solving the electrical issues in Nigeria.

“when there's no light, there's no water for you because based on the borehole provisions, you have to use light to generate the water. So you know, so basically you just..you just try to save the little you get when there's light.”

“Because without the light, the hospitals can't function. And a lot of...you know...how come when they're doing...operating someone like this then they just...cut the light. And there's no..most of the time, when I was there, there's no back up...”

“Power is one of the main things, in that we do not have a regular power supply, its gonna be difficult to actually have the water. Even if we have the water, we don't have the power, But the power is gonna be able...is gonna be used to generate the water. So we have the combinations of problems in Nigeria that actually makes it difficulties to say “well, what are the priorities?” The priorities would be you get the power, you think about water you know, because it goes..it goes all along..all along with each other.”

Those statements from three different participants capture the new emerging factor of Concern about water scarcity. Based on the collected data, water scarcity seemed to be a subcategory that lies within the electrical utilization in Nigeria, therefore lowering their concern of the affects that

water scarcity can have in their homeland, regardless of how high their awareness of water scarcity is. One participant describes the lack of electricity in homes is “an embarrassment” and insisted that the inconsistent electrical output in Nigeria is a driving factor for why the participants comprise the idea that the economical growth of Nigeria is hindered. Concern, all of sudden, emerges to be a determinant in the relationship between the awareness of water scarcity and the contribution to water scarcity.

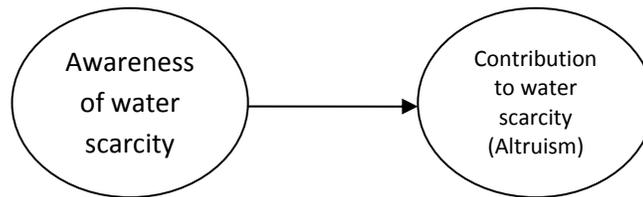
Altruism: With Awareness being high and Concern emerging as a factor that gauged lower among the participants, Altruism seemed to be moderately acknowledged. The study reveals that participants will contribute to water scarcity but it is a lower priority in compared to electrical provision to communities in Nigeria. Participants would rather contribute to improving the power output in conjunction to water scarcity because of the belief that both issues go hand in hand in order to create a better Nigeria. A majority of the participants are part of particular transnational Nigeria Hometown Associations that collect and donate things to Nigeria along with also sending certain remittances back to their own individual family members as well. Altruism, being the resulting theme, is the least impacting of the three developed because the participants all indicated a strong will to contribute to efforts as long as they are informed about it. One underrating factor is the notion that several of the participants had a lack of awareness in water scarcity relief effort provided by global health initiatives and many of the participants would like to know where their money is going to and who it would impact directly in order to develop a trust in consistently contributing to relief efforts. A participant voiced the fear of most altruistic transnational Nigerians.

“You contribute has to be dispense by a non-government organization because if the money goes into the government, its not...you know...its like a black hole. It’s like throwing something

into the black hole, it just disappears. The money doesn't go to the people that is...actually...that actually needed the money. Somebody will just, you know, put it in their bank account, foreign account or something like that. That is the situation back home. Its very unfortunate, but that is the reality of our society.”

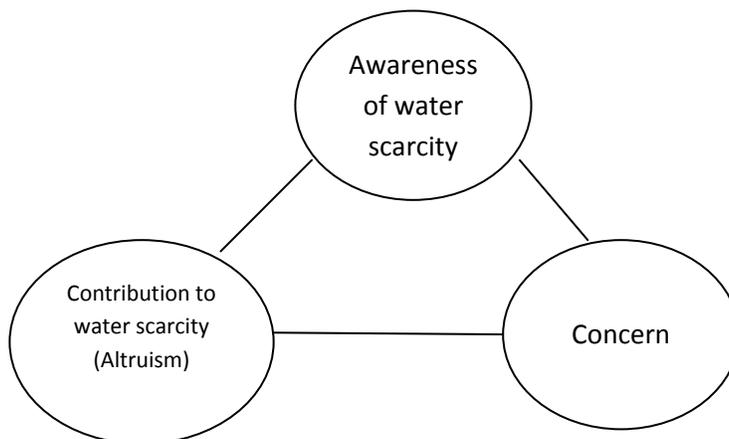
The initial anticipated relationship can be indicated in Figure 3. It was first anticipated that the awareness of the participants of what water scarcity has a direct relationship in gauging the altruism of a typical transnational Nigerian.

Figure 2.



However, it was explored and determined that because electrical output in Nigeria seemed to be a bigger problem in Nigeria, the idea of Concern became an emerging factor in order to gauge whether water scarcity is high of a concern or would be considered a minor issue. It potentially can create an ongoing pattern displayed in Figure 4. in which one factor plays a role in another. Awareness leads to determining the level concern which leads to determining the extent to which one would contribute.

Figure 3.



CHAPTER 5: DISCUSSION

The findings in this study suggest that there is a relationship established between awareness of water scarcity and the contribution to water scarcity relief efforts, but it is not a direct relationship. The trend seems to be that the level of concern impacts the altruistic actions toward water scarcity. High level of awareness but low level of concern would equal a low level of altruism. High level of awareness and concern would equal a high altruistic effort towards water scarcity efforts.

There is a lack of water relief efforts by global health initiatives directed to the more common cities and villages in Nigeria, leading for a lack of awareness among transnational. This supports the claim of a lack of literature in the more urbanized African countries like Nigeria (Showers, 2002) and could be a deterrent to the promotion of awareness about water scarcity to those transnational Nigerians who attempt to keep up with current events going on in Nigeria. Transnational Nigerians who emigrate from urban areas are then forced to believe that there is and will not be much assistance to their homeland if solely dependent on the government to solve the utility issues in Nigeria. Results also display that variables such as education does not play a role in gauging awareness; therefore, it can be implied that awareness to water scarcity is simply based on the experience of simply living in Nigeria. Any person who has been a resident seem to have a direct or indirect experience with water scarcity and that impacts to how much they know about water scarcity prior to their immigration. The findings emphasize a need for more literature about water scarcity the research of water scarcity in Nigeria as water scarcity becomes a growing pandemic as predicted by Falkenmark (1989)

As hypothesized, the results agreed that there would be a fairly high amount of water scarcity, but disagreed with the notion that water scarcity would go unrecognized within the

transnational Nigerian community. Many transnational Nigerians know that water scarcity exist have limited ideas as to acting upon it. The lack of trust in the government and the lack of promotion in the primary areas of Nigeria can directly impact their ability to contribute to relief efforts individually but rather in a group effort through a hometown association. For instance, a transnational Nigerian would rather contribute to an effort under the name of an organization, knowing that it will be accepted as a collective donation, than an individual effort, skeptical about whether those funds go. It reduces the accountability of the donation made from the individual and places it upon the organization.

The results also disagree with the hypothesis that exposure to water scarcity would affect the current utilization of water in the United States by transnational Nigerians. Most of the comments denote that there wasn't a distinguished effort to manage water in the United States compared to Nigeria. This finding is supported by the aforementioned idea that the majority of transnational Nigerians do not immigrate to the United States for refuge from any particular forms of poor conditions in Nigeria, but rather for education or to improve on their professional development and employment opportunities. Therefore, adaptation to the lifestyle of a typical American community is an easy transition for most transnational Nigerians.

In terms of health, there was limited concern of how the health of their native community is affected by the lack of water scarcity, despite their high rates of awareness. Health concern seems to be a topic of low priority compared to the well being of the actual economy and respective communities in Nigeria. Few participants seemed to acknowledge how their health can be affected by the lack of water in Nigeria. This also implies that there is a lack of health education supported by the aforementioned claim made by the participants of the lack of water scarcity relief efforts in the mainstream areas in Nigeria that may be in need of relief. It also

captures the lack of social competence and social support needed to improve the health of community as mention by Wallerstein & Bernstein (1988). A need for health education programs to teach Transnational Nigerians about illness prevention, environmental health and physical health needs to be provided. This can be created by health initiatives such as the CDC strictly targeting transnationals from western African countries. This can help improve the spread of awareness by taking advantage of the strong transnational ties they have and using it as a way to help communicate better help preventative measures to their ties in Nigeria that are often contacted.

The broad implication however is the general consensus that water scarcity is not viewed to be the most important issue. Based on the results, in order for water scarcity to be solved, the country must first develop a consistent supply of electrical power in the country, both urban and rural areas. Without power, places of high importance such as hospital or public health facilities cannot function properly and that can lead to poor quality of care provided to the populate. New questions are now derived and prospective issue is now identified. How can the power supply problem of a country be alleviated in order to provide a consistent electrical output? Thus leading to the notion that transnational Nigerians will not promote the awareness of water scarcity nor feel the contribution to water scarcity will be a high priority until their level of concern for the power supply in Nigeria has been alleviated.

CHAPTER 6: CONCLUSION

The aim of the study was to establish a relationship between the awareness of water scarcity to the willingness to contribute to water scarcity relief efforts. Based on the findings and direct observation of the participants, water scarcity has a high sense of awareness in the Transnational Nigerian communities, but it is not of high priority for altruistic efforts amongst them. A relationship was therefore established and the purpose of the study is considerably content. It is clear from the findings that there are several factors that need to be addressed in order for progress to be made to alleviate water scarcity in Nigeria. These factors may involve concepts that may be out of the control of transnational Nigerians in the community, such as the particular practices of the respective government agencies towards these emerging variables.

Despite the soundness of the methodological approach of this study, there are still existing limitations. Generalization of other transnational Nigerians must be restricted because the research sample sizes of participants were fairly small and limited to particular hometown association. Future study should include a larger sample size and participants from other regions of the country. Second, a possible use a mixed method compared to a qualitative method could enhance the finding; more of a focus group study. Lastly, future studies study should also focus on how the lack of power effects the livelihood and health habits in Nigerian communities in correlation to water scarcity; including the involvement of government policies and approach to alleviate the utility issues in Nigeria.

This study should be looked upon as an igniter for future investigations of water scarcity and improving the literature and promotion of water scarcity awareness. The findings should not be interpreted as the sole solution or remedy in improving water scarcity. It is to remind us that

empowerment is captured through knowledge and action. Activism cannot be directed without aim. This study simply serves to indicate a target in which Transnational Nigerians can direct their effort in improving their native land any ways possible.

REFERENCES

- Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, 22(5), 453-474.
- Babbie, E. (2005). *The basics of Social research (3rd ed.)* Canada. Wadsworth
- Barbier, E. B. (2004). Water and economic growth. *Economic Record*, 80(248), 1-16.
- Biswas, A. K. (2011). *An assessment of future global water issues*
- Braithwaite, R. L., & Lythcott, N. (1989). Community empowerment as a strategy for health promotion for black and other minority populations. *JAMA: The Journal of the American Medical Association*, 261(2), 282-283.
- Caglar, A. (2006). Hometown associations, the rescaling of state spatiality and migrant grassroots transnationalism. *Global Networks*, 6(1), 1-22.
- Carter, R. C., & Danert, K. (2003). The private sector and water and sanitation services—policy and poverty issues. *Journal of International Development*, 15(8), 1067-1072.
- Conner, M., & Armitage, C. J. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of Applied Social Psychology*, 28(15), 1429-1464.
- D'Exelle, B., Lecoutere, E., & Van Campenhout, B. (2009). Water sharing in rural africa: The behavioral relevance of scarcity and social status.
- Dominguez, F. (2010). Water scarcity: Can virtual water operators help? *Utilities Policy*, 18(3), 129-134.
- Falkenmark, M. (1989). The massive water scarcity now threatening Africa: Why isn't it being addressed? *Ambio*, 18(2), pp. 112-118.
- Falkenmark, M. (1990). Global water issues confronting humanity. *Journal of Peace Research*, 27(2), 177-190.
- Falkenmark, M. (1990). Rapid population growth and water scarcity: The predicament of tomorrow's africa. *Population and Development Review*, 16(, Supplement: Resources, Environment, and Population: Present Knowledge, Future Options), pp. 81-94.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research.* (D. C. Park & L. L. Liu, Eds.) Reading MA AddisonWesley (p. 480). Addison-Wesley. Retrieved from <http://www.mendeley.com/research/belief-attitude-intention-and-behavior-an-introduction-to-theory-and-research-2/>
- Gardner, T.M., Wright, P.M., & Moynihan, L.M., (2011). The impact of motivation, empowerment, and skill-enhancing practices on aggregate voluntary turnover: The mediating effect of collective affective commitment. *Personnel Psychology*, 64(2), 315-350
- Glaser, B. & Strauss, A. (1967). *The discovery of grounded theory: Strategies of qualitative research.* Chicago. Aldine

- Israel, B. A., Checkoway, B., Schulz, A., & Zimmerman, M. (1994). Health education and community empowerment: Conceptualizing and measuring perceptions of individual, organizational, and community control. *Health Education & Behavior, 21*(2), 149-170.
- Jofre, J., Blanch, A., & Lucena, F. (2010). Water-borne infectious disease outbreaks associated with water scarcity and rainfall events. In S. Sabater, & D. Barceló (Eds.), *Water scarcity in the mediterranean* (pp. 147-159) Springer Berlin / Heidelberg.
- Juan Jofre, Anicet R. Blanch and Francisco Lucena. (2010). Water-borne infectious disease outbreaks associated with water scarcity and rainfall events. *The Handbook of Environmental Chemistry, 8*, 149-159.
- Labonte, R. (1994). Health promotion and empowerment: Reflections on professional practice. *Health Education & Behavior, 21*(2), 253-268.
- Lampert, B. (2009). Diaspora and development? nigerian organizations in london and the transnational politics of belonging. *Global Networks, 9*(2), 162-184.
- Levitt, P., DeWind, J., & Vertovec, S. (2003). International perspectives on transnational migration: An introduction. *International Migration Review, 37*(3, Transnational Migration: International Perspectives), pp. 565-575.
- Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and Social Psychology Bulletin, 18*(1), 3-9.
- McNamara, C. (1999). General Guidelines for Conducting Interviews. *Minnesota, 2010*, 1-10. Free Management Library. Retrieved from <http://www.mapnp.org/library/evaluatn/intrview.htm>
- Mercer, C., Page, B., & Evans, M. (2009). Unsettling connections: Transnational networks, development and african home associations. *Global Networks, 9*(2), 141-161.
- Moe, C. L. In Rheingans R. D. (Ed.), *Global challenges in water, sanitation and health*.
- Molle, F., & Berkoff, J. (2009). Cities vs. agriculture: A review of intersectoral water re-allocation. *Natural Resources Forum, 33*(1), 6-18.
- Ogundele, J. *Nigerian immigrants utilizing ethnic affiliation to create and transfer social and economic capital to develop their home communities*
- Olesen, T. (2005). Transnational publics: New spaces of social movement activism and the problem of global long-sightedness. *Current Sociology, 53*(3), 419-440.
- Osili, U. O. (2007). *Understanding migrants' remittances: Evidence from the U.S.-nigeria migration survey*
- Peggy Levitt. Transnational migrants: When "home" means more than one country. *Migration Information Source*,
- Peterson, S., & Klepper, G. (2007). *Potential impacts of water scarcity on the world economy* Kiel Institute for the World Economy.
- Prüss, A., Kay, D., Fewtrell, L., & Bartram, J. (2002). Estimating the burden of disease from water, sanitation, and hygiene at a global level. *Environ Health Perspect, 110*(5)

- Rappaport, J. (1987). Terms of empowerment/exemplars of prevention: Toward a theory for community psychology. *American Journal of Community Psychology*, 15(2), 121-148.
- Reynolds, R. R. *An african brain drain: Igbo decisions to immigrate to the US* - Routledge.
- Reynolds, R. R. (2002). An african brain drain: Igbo decisions to immigrate to the US. *Review of African Political Economy*, 29(92, Africa, the African Diaspora and Development), pp. 273-284.
- Rijsberman, F. R. (2006). Water scarcity: Fact or fiction? *Agricultural Water Management*, 80(1-3), 5-22.
- Sanitation, clean drinking water remain global health problems.(2008). *Nation's Health*, 38(7), 20-20.
- Schiller, N. G., Basch, L., & Cristina Szanton Blanc. (1995). From immigrant to transmigrant: Theorizing transnational migration. *Anthropological Quarterly*, 68(1), pp. 48-63.
- Seckler, D., Barker, R., & Amarasinghe, U. (-2/March 01, 1999). Water scarcity in the twenty-first century. *International Journal of Water Resources Development*, 15, 29-42(14).
- Shaw, T. M., & Fasehun, O. (1980). Nigeria in the world system: Alternative approaches, explanations, and projections. *The Journal of Modern African Studies*, 18(04), 551.
- Sheppard, B. H., Jon Hartwick, & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15(3), pp. 325-343.
- Showers, K. B. (2002). Water scarcity and urban africa: An overview of Urban–Rural water linkages. *World Development*, 30(4), 621-648.
- Speer, P., & Hughey, J. (1995). Community organizing: An ecological route to empowerment and power. *American Journal of Community Psychology*, 23(5), 729-748.
- Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237-246.
- Van Den Bersselaar, D. (2005). Imagining home: Migration and the igbo village in colonial Nigeria. *The Journal of African History*, 46 (1), 51
- Van Den Bersselaar, D. (2005). Yoruba from the Diaspora. *Mapping yorùbá networks: Power and agency in the making of transnational communities*. by KAMARI MAXINE CLARKE. durham NC: Duke university press, 2004. pp. xxxiv+345. £69 (ISBN 0-8223-3330-9); £17.50, paperback (ISBN 0-8223-3342-2). *The Journal of African History*, 46(03), 516.
- Vertovec, S., University of Oxford. Centre on Migration,Policy, & Society. (2004). *Trends and impacts of migrant transnationalism* Centre on Migration, Policy \& Society.
- Wallerstein, N., & Bernstein, E. (1988). Empowerment education: Freire's ideas adapted to health education. *Health Education & Behavior*, 15(4), 379-394.