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Socio-Economic Factors Influencing the Initiation of Water Projects in Nigeria: The Example of Sustainable Ibadan Project (SIP)

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Abstract

Socio-economic factors such as age, income, sex, marital status among others determine the purchasing power of an individual and have much influence on what the individual will engage in and type of project(s) such individual and group of individuals or community will embark upon. Issues that would be of interest to men folks may be different from that of the women folks and there may be areas of overlap of interest due to various reason(s). This study investigated the effects of socio-economic factors on the initiation of water projects by Sustainable Ibadan Project in Ibadan, Nigeria. Nine water projects were identified under the Sustainable Ibadan Project, of which, six (6) were development of natural springs and 3 were borehole projects that spread over 6 Local Government Areas in Ibadan. A total of 729 users were sampled for this study. Age and household-size had negative correlation while income had positive correlation. Sex, level of education, occupation and marital status were significant at 0.01 Alpha level. The study also confirmed that apart from the socio-economic characteristics of the users, the preservation of cultural heritage, especially in communities that have natural spring projects played a very significant role in the initiation of the water projects. The paper called for the replication of these water projects in more communities in Ibadan.

Keywords: Communities; Cultural heritage; Initiation, Interest and water Projects.

1. Introduction

Water is one of the most important natural resources and its effective management is essential given its scarcity (Aladuwaka and Momsen, 2010). The volume of water supplied by the government is not enough to meet the needs of the populace, and some areas do not even have access to water supply. Therefore, there is the need for alternative sources of water supply.

World Health Organisation/United Nations Children Education and Fund World Health Organisation (2012) estimated that in Nigeria, 194,000 children under the age of five years die from diarrhoea caused by poor water and sanitation every year. The World Health Organisation (2012) estimated that 361,900 people die every year due to poor water and sanitation in Nigeria. Water Aid Nigeria (2011) revealed that the Nigerian government is spending only 0.18% of her Gross Domestic Product (GDP) on water and sanitation which means that Nigeria is far from meeting the 2008 commitments to allocate 0.5% of GDP to sanitation. It was also included in the report that countries in the Sub-Saharan Africa, including Nigeria, need to spend at least 3.5% of GDP on these services.

The World Health Organisation and United Nations Children's Fund (2012) defined 'access to drinking water' as the availability of at least 50 litres of drinking water per person per day within 1 km of the dwelling (a 30 minute round-trip journey). In urban areas, the distance to a source is usually not a problem, and in such densely populated areas, a water-hauling trip of 30 minutes or less, including queuing time, is a more appropriate indicator of access. 'Safe' drinking water is water that meets accepted quality standards and poses no significant health risks. But determining the microbiological safety of drinking water in each household is impractical, and it is therefore assumed that water is safe if it comes from an 'improved' source such as piped water, a protected well or spring, or rain-water.

An "improved" drinking-water source is defined as one that, by nature of its construction or through active intervention, is protected from outside contamination, in particular from contamination with faecal matter. To allow for international comparability of estimates, the Joint Monitoring Programme (JMP) uses the following classification to differentiate between "improved" and "unimproved" drinking-water sources. See Table 1.

Table-1. Sources of Water

Improved Drinking Water Sources	Unimproved Drinking Water Sources
Piped water into dwelling, plot or yard	Unprotected dug well
Public tap/standpipe	Unprotected spring
Tubewell/borehole	Small cart with tank/drum
Protected dug well	Tanker truck
Protected spring	Surface water (river, dam, lake, pond, stream, channel, irrigation channel)
Rainwater	Bottled water[1]

Source: WHO/UNICEF (2010)

[1] Bottled water is considered to be improved only when the household uses water from another improved source for cooking and personal hygiene; where this information is not available, bottled water is classified on a case-by- case basis.

Awuah *et al.* (2009) further stated that there are limited sources of water available to provide clean drinking water to the entire population of Africa. Surface water sources are often highly polluted, and infrastructure to pipe water from fresh, clean sources to arid areas is too costly for an endeavour. Groundwater is the best resource to tap to provide clean water to the majority of areas in Africa, especially rural Africa, and groundwater has the benefit of being naturally protected from bacterial contamination and it is a reliable source during droughts. However, the high costs associated with drilling for water, and the technical challenges in finding sources that are large enough to serve the population in need, present challenges that limit tapping the resource. Groundwater is not a fail-safe resource, either, when it comes to providing clean water. There may be contamination of the water with heavy metals, and bacteria may be introduced by leaking septic systems or contaminated wells. For these reasons, it is important that groundwater be monitored frequently, but this is costly and requires technical abilities that may not be present in rural areas (Awuah *et al.*, 2009).

Federal Republic of Nigeria (2000) reported that Nigeria has adequate surface and ground water resources to meet the current demands for potable water though the temporal and spatial distribution of water has led to scarcity in some locations. The government recognizes the need to make water available to the citizens. Due to the large capital involved, there is the need for collaborative approach towards achieving this which will involve contribution from the citizens and ability of the people to contribute to this depends largely on the socio-economic factors like age, gender, income, level of education and household size.

The United Nations estimates that sub-Saharan Africa, where Ibadan, Nigeria lies, alone loses 40 billion hours per year collecting water; that is the same as a whole year's worth of labour by the entire workforce of France. This is an incredibly valuable time. With much of one's day already consumed by meeting basic needs, there is no time for much else. The hours lost to gathering water are often the difference between time to do a trade and earn a living and not doing anything at all. When solution is provided to water problem, sustainable agriculture is possible. Children get back to school instead of collecting unsafe water all day, or being sick from water-borne illnesses. Parents find more time to care for their families, expand minimal farming to sustainable levels, and even run small businesses. The social and economic effects caused by a lack of clean water are often the highest priorities of African communities when they speak of their own development. World Health Organization (2006) has shown this in economic terms: for every $1 invested in water and sanitation, there is an economic return of between $3 and $34.

The Water Corporation of Oyo State (WCOS) is the government agency saddled with the responsibility of providing safe and potable water to Ibadan residents. Agboola (1996) and Tokun and Adeloye (2005) observed that the water supplied from WCOS is not enough to serve the populace. Water is essential to life, therefore, other sources of water have to be harnessed which include deep wells, boreholes and development of natural springs, which Ibadan is richly endowed with, in order to attain the daily water requirement of 50 litres per person per day (World Health Organisation (WHO) WaterAid Nigeria, 2004). Some natural springs exist and had been discovered in Ibadan while some of these springs had been developed to generate potable water for the use of the populace. Deep wells and boreholes are sunk to complement the volume supplied by the government or for use where the WCOS services are not available.

In this regard therefore, Ibadan was selected as a case study for this study because the city, both its urban and the rural settings, is well endowed with water resource in terms of existence of numerous natural springs that could be developed to provide potable water and even construction of deep well and borehole for the community use (Agboola, 1996). This is necessary as a way of augmenting the shortage of potable water being supplied by WCOS whose supply could not serve even a quarter of the population of Ibadan city (Tokun and Adeloye, 2005).

The aim of the study is to assess the effects of socio-economic factors on initiation of water projects in the identified communities in Ibadan with a view to enhance the sustainability of the water projects. This study is essential as Essendi and Madise (2014) in another study also carried out in Kenya examined the factors influencing perception of development in rural Kenya. Gender, age, education, income and household size were some of the factors that were identified and are all socio-economic factors.

1.1. The Sustainable Ibadan Project (SIP)

The SIP evolved as a result of the request of the Oyo State Government in 1991 to participate in the Sustainable Cities Programme (SCP) of the United Nations Centre for Human Settlements (UN-Habitat). This led to the inclusion of Ibadan City among the initial 12 cities selected all over the World for the demonstration of the Sustainable Cities Programme (SCP). The other cities in Africa which are participating in the programme are; Dar-es-Salam in Tanzania, Ismailia in Egypt, Accra in Ghana and Lusaka in Zambia.

The implementation of the SIP started in 1994 with the signing of a mutual contractual agreement called Project Document (Pro. Doc.) by the Military Administrator of Oyo State and the representative of the Federal Government of Nigeria and the United Nations Centre for Human Settlements (UN-Habitat).

The implementation agencies of the Project are the Oyo State Government and the 11 Local Government Councils in Ibadan with technical and financial support from the UNCHS (Habitat) which is the sponsor of the project and UNDP. As provided in the Project Document, the actual implementation of the Project is being carried out by a Technical Support Unit (TSU) which is based in Ibadan South-West Local Government Secretariat. The TSU is made up of a Project Manager appointed by the Oyo State Government and seconded staff from both State and Local Governments. The Project also has a Project Coordinator who is one of the 11 Local Government Chairmen in Ibadanland, and who was required to liaise with the implementing agencies. The supervising agency of the State Government is the Town Planning Department under the Oyo State Ministry of Lands, Housing and Survey.

The SIP is an Environmental Planning and Management (EPM) project that is designed to improve the capacity of the existing agencies to plan and manage the environment of Ibadan City in a sustainable manner. This is being effected through the introduction of a systematic

bottom-up EPM process of these agencies. The project has both technical and physical outputs. The technical output is in form of improved capacity for environmental planning and management while the physical output comprise; various capital development projects which are being implemented to solve some identified prioritized environmental problems of concern in Ibadan land.

This study therefore focuses on the nine water projects that were facilitated by the Sustainable Ibadan Project (SIP), a UN-Habitat sponsored project and co-sponsored by the Oyo State Government and the 11 Local Government Councils in Ibadan. These 9 water projects are located in six Local Government Areas (LGAs) in Ibadan city which include both urban and rural LGAs. These are; Ibadan North, Ibadan North-East and Ibadan South-West in the urban LGAs while Ido, Egbeda and Ona-Ara are in the rural LGAs. This is because the host communities were involved in the projects.

2. Methodology

Data for this study were sourced from both primary and secondary sources. The primary data were sourced mainly through the administration of questionnaires, conduct of Focus Group Discussions (FGD) and direct observations. Two sets of questionnaires were designed for the collection of research data. The first set of questionnaire was designed for the members of the host communities of SIP water projects and the second set of questionnaire was for the SIP and other agencies that were involved in the implementation of the projects in order to get their opinions on the project.

The sample size for the questionnaire for the host communities was 729 respondents. This was gotten by taking the coordinates of the project location. They were established with the use of the Global Positioning System (GPS). The locations were identified on the Geographic Map of Ibadan using GIS software. With the help of proximity analysis tool in ArcGIS, a 500-meter buffer around each of the project locations was established and the number of buildings that fall within the 500-meter radius from the project location was counted. This gave a total of 14,421 for the nine communities and 5% of this figure were selected as the sample size which made up the 729 respondents. An adult was sampled from each building. Total census was adopted for the second set of questionnaire. One questionnaire was administered on the senior personnel of the agencies (see Table 2).

Table-2. Sample Frame and Size for the Study

S/No	Community	Number of Buildings	Sample Size (5%)
1	Akeu	6,063	303
2	Agbadagbudu	1,999	100
3	Moga	565	28
4	Adegbayi	530	27
5	Sango/Isopako	1,425	71
6	Onipasan	1,542	77
7	Bodija Market	1,068	53
8	Seeni	173	09
9	Odo – Ona/Gada	1,220	61
Total		14,585	729

Source: Author's Research Design, 2016

Data gotten from the fieldwork were analysed with the use of univariate and bivariate statistical analysis tools. The univariate is the use of the frequencies while the bivariate methods adopted were Point Biserial correlation and the Chi-Square statistical tests.

3. Research Findings

The socio-economic characteristics of the respondents for this study as included in the questionnaire prepared and administered are; age, sex, level of education, occupation, income per month, marital status and household size of the respondents in the communities.

Table 3 shows the socio-economic characteristics of the residents of the host communities of the SIP water projects. Majority of the respondents (38.4%) are above 65 years and the least; (14.7%) are between 35 and 44 years. Male are dominant with 67.6% and female are 32.4%, this could be attributed to the fact that the questionnaires were directed to the household-heads despite that the study is not necessarily on household-head but probably due to the fact that the members of household usually accord the family head respect hence, every information required from the household were directed to the household-head, who are usually men except when the household-head is not available. It was revealed that the respondents were literate, despite that many of the communities were in the core area of Ibadan with 56.0% attaining secondary school certificate level and 17.7% had higher degrees like National Certificate in Education, Ordinary National Diploma, Higher National Diploma, University degree among others. The self-employed constituted 39.2% of the respondents while the retired people (that is, the pensioners) were the least 13.0%. This may not be unconnected with the fact that those above 65 years took the highest percentage and the retiring age in Nigeria civil service is 60 years except those in academics and self-employed.

The highest percentage of the respondents (28.8%) earned between ₦30,001 and ₦40,000 in a month and the least (1.8%) earned between ₦10,001 and ₦20,000 per month. The married people constituted the highest of the respondents (88.2%) which means that majority of the respondents were married. The household size ranged between 3 and 7 persons constituted the highest percentage of 34.7%. This is in line with the Nigeria National Population Commission's submission that the average household size in Nigeria is 7 persons (National Population Commission, 2006).

Table-3. Socio-Economic Characteristics of the Respondents

Variable	Frequency	Percentage
Age		
35-44	107	14.7
45-54	179	24.6
55-64	163	22.4
65 and above	280	38.4
Total	729	100.0
Sex		
Male	493	67.6
Female	236	32.4
Total	729	100.0
Level of Education		
No Formal Education	23	3.2
Koranic/Christian School	48	6.6
Primary School	121	16.6
Secondary School	408	56.0
Higher Degree	129	17.7
Total	729	100.0
Occupation		
Government Employed	132	18.1
Private Sector Employed	216	29.6
Self Employed	286	39.2
Retired	95	13.0
Total	729	100.0
Monthly Income		
Less than ₦10,000	80	11.0
₦10,001 – ₦20,000	13	1.8
₦20,001 – ₦30,000	186	25.5
₦30,001 – ₦40,000	210	28.8
₦40,001 – ₦50,000	96	13.2
Above ₦50,000	144	19.8
Total	729	100.0
Marital Status		
Single	26	3.6
Married	643	88.2
Divorced	18	2.5
Widow/Widower	42	5.8
Total	729	100.0
Household Size		
Less than 3	44	6.0
3 – 7	253	34.7
8 – 10	225	30.9
Above 10	207	28.4
Total	729	100.0

Source: Author's Fieldwork, 2016

3.1. Test of Relationship between Initiation of SIP Water Project by the Community and Socio-Economic Characteristics of the Respondents

One hypothesis was postulated for the study which states that;

Ho: There is no significant association between socio-economic characteristics of the respondents and the initiation of the SIP water project in the communities.

H_I : There is significant association between socio-economic characteristics of the respondents and the initiation of the SIP water project in the communities.

The socio-economic characters of the respondents as included in the research questionnaire for the study are; age of the respondents (AGE), sex of the respondents (SEX), level of education (EDUC), occupation (OCCUP),

income per month (INCOME), marital status (MARSTA), and household size (HSIZE). These variables were correlated with the variable on the project was initiated by the community (PROJCOM).

Due to the varying nature of the variables, AGE, INCOME and HSIZE were isolated and correlated with the project was initiated by the community (PROJCOM) using point biserial while other variables; SEX, EDUC, OCCUP and MARSTA were tested with chi-square.

The result of the Point Biserial, as shown in Table 4 revealed that, the coefficient of the variables are AGE: -0.253, INCOME: 0.160 AND HSIZE: -0.164 .

Table-4. Point Biserial Test of Correlation Between Initiation of SIP Water Project by the Community (PROJCOM) and Selected Socio-Economic Characteristics of the Respondents

	Age	Income	Hsize	Projcom
Age	1	-.599**	.489**	-.253**
Income		1	-.347**	.160**
Hsize			1	-.164**
Projcom				1

*. Correlation is significant at the 0.05 level
**. Correlation is significant at the 0.01 level
Source: Authors' Fieldwork, 2016

All the variables were significant at 0.01 Alpha level. Age had the highest level of association with project initiation with coefficient of -0.253 followed by household size with -0.164 and income had 0.160. The coefficient showed that the variation in initiation of SIP water projects in the various host communities were influenced by variations in each of the socio-economic characteristics of the respondents. However, while income showed a positive association age and household size had negative correlation. This means that any positive variation in income of the residents will increase the potential of the people to initiate more water projects while an increase in the variation of age and household size will reduce the tendency of the people's enthusiasm to initiate water project in the community.

This is expected as the environment in which one lives in; income is bound to influence the ways of life of an individual and will be reflected in whatever one does and in this case, access to clean source of water. Age and household-size may not really have much influence on the initiation of the SIP water projects as all ages use water; irrespective of household-size, the use of water is inevitable. However, large household size means use of more water and more persons will be available to scout for water in case of scarcity or non-availability of water in the community.

These socio-economic factors are important because one of the features of any project facilitated by SIP is that it should be replicated be it in the host community or neighbouring community(s). Hence, it is important to know the factor(s) that enhanced the initiation of these projects which will assist in the replication of such projects in the future.

The correlation coefficients, though significant but they were very weak correlation (-0.253, -0.164 and 0.160). This means that there are other factors that necessitated the development of the SIP water projects in the host communities apart from the socio-economic characteristics of the residents of the host communities. As gathered during the FGD, preservation of natural resources / heritage was an important factor especially in the communities like Akeu, Agbadagbudu, Sango/Isopako, Onipasan and Moga where natural spring development projects exist.

Table-5. Chi-Square Value of Socio-Economic Characteristics of Respondents

	Sex	Educ	Occup	Marsta	Projcom
Chi-Square	90.602	176.222	120.937	1554.748	666.405
Df	1	2	3	3	1
Asymp. Sig.	.000	.000	.000	.000	.000

Source: Author's Fieldwork, 2016The other socio-economic characteristics of respondents that are on nominal and ordinal scales were tested using chi-square. The variables are; SEX, EDUC, OCCUP, MARSTA and PROJCOM. The chi-square values, as revealed in Table 5 were; 90.602, 176.222, 120.937, 1554.748 and 666.405 respectively. They were all significant at 0.01 Alpha level. Therefore, the null hypothesis, which states that, there is no significant association between socio-economic characteristic of the respondents and the initiation of the SIP water project in their communities, was rejected and the alternate hypothesis was accepted. This means that there is significant association between socio-economic characteristic of the respondents and the initiation of the SIP water project in their communities

4. Summary of Findings, Recommendations and Conclusion

The study revealed that majority of the respondents (38.4%) were above 65 years old while 14.7% were between 35 and 44 years, 56.0% obtained secondary school certificate and 17.7% had higher degrees. The self-employed constituted 39.2% of the respondents. The communities could be classified as medium income earner as 61.8% earned at least ₦30,001 monthly. The variables that were subjected to correlation test (that is, age, income and household-size) were all significant at 0.01 Alpha level but it was weak correlation which means that there were other factors that influenced the development of the SIP water projects in the communities. One of these factors was the preservation of natural resources / heritage.

Based on the findings of this study, it was recommended that socio-economic factors of the residents of the host communities of any developmental projects should not be treated in isolation of other factors like culture of the people. This is because factors like cultural belief of the people are equally and even more important than their socio-economic factors. All these factors need to be considered while implementing water projects in order to enhance the sustainability of the projects.

References

Agboola, D. O. (1996). *Profile of the ibadan metropolitan area. Edited by bloxom, w.R.* Sustainable Ibadan Project: Ibadan.

Aladuwaka, S. and Momsen, J. (2010). Sustainable development, water resources management and women's empowerment: the Wanaraniya water project in Sri Lanka. *Gender and Development,* 18(1): 43-58.

Awuah, E., Nyarko, K. B., Owusu, P. A. and Osei-Bonsu, K. (2009). Small town water quality. *Desalination*, 248(3): 453-59.

Essendi, H. and Madise, N. (2014). Factors influencing perception of development in rural Kenya: A structural equation modeling approach. *European Journal of Research in Social Sciences,* 2(4): 21-36.

Federal Republic of Nigeria (2000). *Water supply and sanitation interim strategy note.* FGN Press: Lagos Nigeria.

National Population Commission (2006). *National population census report.* FGN Publisher: Federal Government of Nigeria Gazette.

Tokun, A. and Adeloye, A. S. (2005). *Sustainable water management solution for Ibadan City, Nigeria. Proceedings of Symposium S2 on Sustainable water management solutions for large cities held during the Seventh IAHS Scientific Assembly at Foz do Iguacu.* IAHS Publication: Brazil. 293: 41-48.

Water Aid Nigeria (2011). Nigeria completely off-track on meeting MDG sanitation target. Retrieved from on 12th October, 2017. Available: http://www.wateraid.org/nigeria/news/10304.asp

World Health Organisation (2012). *United nations children's fund progress on sanitation and drinking-water: 2012 update.* WHO Press: Switzerland.

World Health Organisation (WHO) WaterAid Nigeria (2004). Meeting the water and sanitation MDG in Nigeria. Available: http://www.wateraid.org/other/startdownload.asp?DocumentID=321

World Health Organisation and United Nations Children's Fund (2012). *Progress on sanitation and drinking-water: 2012 Update.* WHO Press: Switzerland.

World Health Organization (2006). Meeting the mdg drinking water and sanitation target: The urban and rural challenge of the decade. Available: http://www.who.int/water_sanitation_health/monitoring/jmpfinal.pdf