



## Impact of Gender Involvement in Sustainable Water Development Projects in Ibadan, Nigeria

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### Abstract

Gender is a term used to convey the process of social construct that mediates the relationships between women and men. Water is an environmental resource and it is essential to sustain life. Its scarcity pose negative impact on women and also children as they are usually saddled with the responsibility of scouting around for water for use at home for cooking, washing, bathing among others when it is scarce. Women that have these much responsibility on water issues are not always involved in the development of water projects in the communities as they are usually expected to stay back to take care if home when men decide on what and how the water projects should be done. The study used the natural spring and borehole projects facilitated by the Sustainable Ibadan Project as case study. 729 respondents were sampled for the study out of which 493 were male and only 236 were female. It is observed that water projects that involved more women are more sustainable that those with lesser number of women. It is therefore recommended that more women should be involved at all the stages of development of water projects.

**Keywords:** Communities; Environmental resource female; Management; Sustainable and water.



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### 1. Introduction

Gender is a term used to convey the process of social construction that mediates the relations between women and men. They are social as well as ideological and cultural relations suffused with power differentials that map the range of processes, behaviour, activities, forms of organization considered appropriate for women and for men given collectively over a period of time (Olurin, 2003). It was further stated that gender is a key concept in understanding the social differentiation of women and men. The activities involved cover not only interactions between individual women and men in the sphere of personal relationships but include all aspects of social activity, particularly the exercise of authority and power, divisions of labour, access to and control of resources of production, control of proceeds, remuneration of rewards for work, distribution of income, goods, consumption, participation in the political, cultural and religious activities.

Gender reflects a set of behavioural norms ascribed to men and women in a given social group or system. Gender thus reflects attitudes and beliefs that a particular cultural group considers appropriate for male or females on the basis of their biological sex. Allocation, distribution, utilization and control of resources reflect gender relations embedded in both ideology and practice (Peter, 2006). He stated further that in most parts of the world, there exist gender biases, which disadvantage women. This is in line with the submission of Mehta and Srinivasan (2001) that gender is not a static condition; it differs across cultural, geographical and temporal context. It is contingent on factors such as age, class and tribe. Therefore, it is wrong to assume homogeneity amongst women.

Water is one of the most important natural resources and its effective management is essential, given its scarcity (Aladuwaka and Momsen, 2010). Issue of management of resources is the genesis of environmental conservation which makes it an essential ingredient for sustainable development by meeting the present needs without jeopardizing future requirements.

Environmental resources are essential to life and human existence. Therefore, there is the need to properly manage them so that they can meet immediate needs adequately and also be available to meet future needs. Women and children (especially girl children) are the most vulnerable group as they are saddled with the responsibility of making water available for the family use in terms of cooking, bathing, washing and other household chores. This is corroborated by the WHO and UNICEF in their 2010 report that for families without a water source on their premises; it is usually the women who go to the source to collect water. The surveys conducted in 45 developing countries show that this is the case in almost two-thirds of the households (64%), while in almost a quarter (24%) of households, it is men who usually collect the water. In 12% of households, however, children carry the main responsibility for collecting water, with girls (8%) under 15 years of age being twice as likely to carry this responsibility as boys (4%) under the age of 15 years. It also added that the real burden on children is likely to be higher because in many households, the water collection burden is shared and children – though not the main person responsible- often make several roundtrips carrying water (WHO and UNICEF, 2010).

Several water projects exist in Ibadan from various sources. These include; boreholes, wells and natural spring development projects. These projects came from various sources like federal, state or local government, private

companies and individuals and Sustainable Ibadan Project (SIP). It was discovered that only water projects by SIP have contributions from the communities and are taken by host communities as their projects, hence the selection of SIP water projects for this study.

The aim of the study is to assess the impact of gender involvement in SIP water projects in Ibadan with a view to ensuring sustainability of the projects.

The specific objectives are to;

- i. highlight the role of each gender,
- ii. identify the water projects in Ibadan,
- iii. assess the level of involvement of each gender at the stages of development of these SIP water projects, and
- iv. highlight the role of management on the longevity of the projects.

## 2. Methodology

Primary and secondary sources of data were adopted for this study. Secondary sources are books, journals and internet while primary data were sourced from questionnaire administration and focus group discussion. The sample population for the study were buildings that are within 500-meter radius from the project location. The project location was gotten by getting the coordinates of the location of the project site with the use of Global Positioning System (GPS) and the proximity analysis tool in the Geographic Information System (GIS) was used to identify the buildings that are within 500-meter radius. This gave a total of 14,412 residential buildings out of which 5% were randomly selected and this constituted 729 residential buildings on which the questionnaire was administered on a selected adult (that is, respondent) per building, this gave 729 respondents out of which 493 were male and only 236 were female. The distribution of the 729 samples in each of the nine communities is as shown in [Table 1](#).

The questionnaires were administered on adults of not less than 35 years of age who were believed to have good knowledge of the projects from inception as they were at least 18 years old (age of adulthood in Nigeria) at the inception of the project in 1996. Four research assistants were engaged in the administration of the questionnaires. The survey was conducted both on week-days and weekends to give opportunity to those that were not usually at home on week-days to participate.

## 3. Research Findings

The communities made contributions to the development of the SIP water projects in their communities though at varying level. The findings during the FGD held in the communities revealed that all the communities donated the land used for the project free of charge and labours were also members of the host communities engaged at no charges, these are referred to as contribution in kind. Though some of the respondents (7.4%) do not appreciate this contribution which made them believe that their communities did not make any contribution towards the project. Some communities contributed to the project in cash (1.6%), some in both cash and kind (74.5%) and some in kind only (16.5 %) as revealed in [Table 2](#). The cash contributions made by the communities were derived from levy. For instance, in communities like Bodija Market area, Agbadagbodu, Onipasan, Akeu and Odo-Ona/Gada, each building was levied one hundred naira (₦100) which was put together as the cash contribution by the communities towards the projects.

The level of involvement of both male and female at the initiation stage of the SIP water projects was tested in order to accept or reject the hypothesis that was postulated. The findings revealed that there was a significant difference between the level of involvement of male and female at the initiation stage. ([Tables 3](#) and [4](#)). This test corroborated responses of the members of the FGD that the initiation stage is believed to be technical and it required a lot of negotiations hence, men were more involved than women.

As shown in [Table 3](#), the Chi-Square value of level of involvement of men at the initiation stage is 14.250 with P-value of 0.000 and degree of freedom of 1. [Table 4](#) revealed that the Chi-Square value of level of involvement of women at the initiation stage is 44.640 with P-value of 0.000 and degree of freedom of 2.

The P-value for both men and women is less than 0.05 which indicates that the values are significant hence, the null hypothesis ( $H_0$ ) was rejected and the alternative hypothesis ( $H_1$ ) was accepted. By accepting the alternative hypothesis, it means that there is significant difference in the level of involvement of male and female at the initiation stage of the SIP water projects

This study investigated the level of involvement of male and female at the management stage of the SIP water projects. As revealed in [Tables 5](#) and [6](#), there is significant difference. At this stage, the activities involved are majorly cleaning of the project site and replacement of faulty parts.

The cleaning of the project sites are done more often while replacement of faulty parts is done as occasion demands. The cleaning is done by women and children while the replacement is usually handled by the PMC or CBA which have more male members than women. All these points are pointers to the significant difference between involvement of male and female despite that they are both involved.

The Chi-Square value of level of involvement of men at the management/maintenance stage is 91.900 with P-value of 0.000 and degree of freedom of 3. While the Chi-Square value of level of involvement of women at the management/maintenance stage is 97.929 with P-value of 0.000 and degree of freedom of 3.

The P-value for both men and women is less than 0.05 which indicate that the values are significant hence, the null hypothesis ( $H_0$ ) was rejected and the alternative hypothesis ( $H_1$ ) was accepted. By accepting the alternative hypothesis, it means that there is difference in the level of involvement of male and female at the management/maintenance stage of the SIP water projects.

It is worthy of note that the results of tests of level of involvement of men and women at the various stages of the development of the SIP water project shows that there are differences in the level of involvement of men and women at the various stages of the project development.

There are statutory ways by which management of water projects should be done. As recommended by the Department of Health and Human Services of Centre for Disease Control and Prevention, USA (2012), proper management of water are measured through the following means;

- i. Cost recovery strategy
- ii. Replicating the project
- iii. Upscaling / Expansion of the project.

The [Federal Republic of Nigeria \(2000\)](#), as highlighted in the water supply and sanitation interim strategy note stated the following as ways of measuring proper management of water projects. These are;

- i. Fixture and replacement of faulty parts
- ii. Monitoring on regular basis
- iii. Determination and payments of water tariffs and rates.

From these two documentations, payment is common to them, that is, cost recovery strategy through the determination and payments of water tariffs and rates. Four of these SIP water projects - Agbadagbudu, Onipasan, Bodija Market area and Akeu complied with this as user-charge of ₦20 for any container of maximum of 25 liters is determined and paid.

The cleaning of the project site is done by the women through the wash of the site on regular basis. This is done with the assistance of the children. This fee is used to meet other management strategies like purchase of upscaling items among others. For example, Bodija market area community purchased power generating set (see Plate 1); Onipasan community purchased two storex water tanks of 2,000 gallon capacity to complement the underground water tank (see Plate 2). Also, attendants were employed in some of the project sites like the Bodija market area community and Onipasan. These attendants are the ones that open the project site at 7.00 am and close it at 7.00 pm. They collect the user fee and oversee the orderliness at the project site.

The project inspection being done by the Local Government Community Development Inspection Officers is a way of managing the project properly. The Community Development Inspection Officers usually visit the sites to inspect and SIP officials equally do monitor the projects. It can be inferred from these submissions that the SIP water projects are being properly managed but it is worthy of note that only the projects that charge user fee are buoyant to manage the projects well which include; Agbadagbudu, Onipasan, Bodija Market area and Akeu while the Moga natural spring project and Seeni borehole projects are no longer functional due to poor management.

The study probed into the area of involvement of women in environmental management. As revealed in [Table 7](#), 57.1% of the respondents opined that women should be involved while 42.9% did not want women to be involved. The closeness in the percentage of those with the two opinions may not be unconnected with the fact that women are believed not to have good knowledge about such projects in the past but the current trend on the campaign against women maginalisation may be responsible for change in opinion of some of the residents.

#### 4. Recommendation and Conclusion

It is therefore recommended that community members should be involved in similar projects, especially financially, in the future and more women should be involved at all the stages of development of water projects. This is to ensure sustainability of and continuous benefits from the projects. This involvement of more women at all the stages of water project development and financial contribution towards project by community will attract more commitments from community members to ensure sustainability of the projects.

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**Table-1.** Sample Size for the Residents of Host Communities

S/No.	Target (Community/Agency)	Number of Residential 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 Area	1,068	53
8.	Seeni	173	09
9.	Odo-Ona / Gada	1,220	61
Total		14,412	729

Source: Authors' Research Design, 2017

**Table- 2.** Contribution of the Communities to the SIP water projects

S/No.	Contribution of Communities To Projects	Frequency	Percent
1.	No way	54	7.4
2.	Cash	12	1.6
3.	Kind	120	16.5
4.	Cash and Kind	543	74.5
Total		<b>729</b>	<b>100.0</b>

Source: Author's Fieldwork, 2017

**Table-3.** Percentage of Men Involved at the Initiation Stage of SIP Water Project as rated by each Sex

Sex	Percentage of Men Involved at Initiation Stage (%)										
	0 – 25		26 – 50		51 – 75		76 – 100		Total		
	F	%	F	%	F	%	F	%	F	%	
Male	0	.0	0	.0	138	18.9	355	48.7	493	67.6	
Female	0	.0	0	.0	36	4.9	200	27.4	236	32.4	
Total	0	.0	0	.0	174	23.9	555	76.1	729	100	
Chi-Square = 14.250				P-Value = 0.000				Df = 1			

Source: Author's Fieldwork, 2017

**Table-4.** Percentage of Women Involved at the Initiation Stage of SIP Water Project as rated by each Sex

Sex	Percentage of Women Involved at Initiation Stage (%)										
	0 – 25		26 – 50		51 – 75		76 – 100		Total		
	F	%	F	%	F	%	F	%	F	%	
Male	340	46.6	151	20.7	2	0.3	0	.0	493	67.6	
Female	183	25.1	36	4.9	17	2.3	0	.0	236	32.4	
Total	523	71.7	187	25.7	19	2.6	0	.0	729	100	
Chi-Square = 44.640				P-Value = 0.000				Df = 2			

Source: Author's Fieldwork, 2017

**Table-5.** Percentage of Men Involved at the Management Stage of SIP Water Project as rated by each Sex

Sex	Percentage of Men Involved at Management Stage (%)										
	0 – 25		26 – 50		51 – 75		76 – 100		Total		
	F	%	F	%	F	%	F	%	F	%	
Male	349	47.9	29	4.0	34	4.7	81	11.1	493	67.6	
Female	103	14.1	43	5.9	0	.0	90	12.3	236	32.4	
Total	452	62.0	72	9.9	34	4.7	171	23.5	729	100	
Chi-Square = 91.900				P-Value = 0.000				Df = 3			

Source: Author's Fieldwork, 2017

**Table-6.** Percentage of Women Involved at the Management Stage of SIP Water Project as rated by each Sex

Sex	Percentage of Women Involved at Management Stage (%)										
	0 – 25		26 – 50		51 – 75		76 – 100		Total		
	F	%	F	%	F	%	F	%	F	%	
Male	98	13.4	34	4.7	12	1.6	349	47.9	493	67.6	
Female	102	14.0	0	.0	31	4.3	103	14.1	236	32.4	
Total	200	27.4	34	4.7	43	5.9	452	62.0	729	100	
Chi-Square = 97.929				P-Value = 0.000				Df = 3			

Source: Author's Fieldwork, 2017

**Table-7.** Involvement of Women in Environmental Projects

S/No.	Women to be Involved in Environmental Projects	Frequency	Percent
1.	Yes	416	57.1
2.	No	313	42.9
<b>Total</b>		<b>729</b>	<b>100.0</b>

Source: Author's Fieldwork, 2017

**Plates-1.** The Upscaling Items at the Bodija Market Area Community Borehole Project Site



Source: Author's Fieldwork, 2017

**Plates-2.** Upscaling Items at Onipasan Natural Spring Project at Onipasan Community Source: Author's Fieldwork, 2017

