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SOCIOECONOMIC DETERMINANTS OF UTILIZATION OF WATER SANITATION INFORMATION IN OYO STATE

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ABSTRACT

This study, focused on socioeconomic determinants of utilization of water sanitation information in Oyo State. A multistage sampling technique was employed for the study. The first stage involved the purposive selection of all the four agricultural zones in Oyo State and those zones are; Ibadan/Ibarapa, Ogbomoso, Oyo, and Saki. The second stage involved purposive selection of two blocks from each of the agricultural zone which are known for water borne disease incidences and their access to information from water and sanitation (WATSAN) unit of the local government councils. So, Akinyele, Ibarapa east, Ogo-Oluwa, Oriire, Iseyin, Oyo east, Saki east and Olorunsogo respectively were selected. The third stage involved random selection of two villages from each of the selected blocks: and a total of 230 household heads were sampled. Data collected were analyzed using descriptive statistics and ordinary least square. The Mean age of the respondents was 41.16 years of age. Majority (74.8%) of the respondents were male while the remaining 25.2% were female. 8.1 per cent of the respondents' uses personal tap, 60.8 per cent public utilizes tap/ hand pump and 80 per cent uses borehole. Another 87.7 percent uses protected dug well, 40.4 percentages water from spring and 89.1 percent uses rain water. Also 33.5 percent respondents uses water from unprotected well while 33 percent of the respondent's uses water from the brooks. Linear regression result indicated a significant and positive relationship between age ($t = 3.686^{**}$), household size ($t = 2.085^{**}$), years spent in school ($t = 1.883^{**}$) and annual income ($t = 1.036^{**}$) and the level of utilization of water sanitation information. It was concluded that, most of the farmers were males, the main source of water was rain water and the annual income of the household heads increases as their information utilization increases.

KEYWORDS *Bore hole, brooks, dug well, rain water."*

1. INTRODUCTION

The quest for getting water has resulted in the collapse of water based ecological systems leading to decline in river flows and depletion of ground water (UNDP, 2006). This has led to an increased potential for conflict within and between countries with the rural populations being the most affected (UNDP, 2006;Anand, 2007). Water is a crucial component of sustainable development. However, limited access to clean and safe water associated with poor water supply and sanitation at household level is increasing the poverty gap, gender inequalities and the prevalence of water borne diseases. This accounts for 3.7% of the total global disease burden and 2.2million deaths each year with rural households in the developing countries mostly affected (World Health Organization / United Nation Children Education Fund (WHO, 2008).

The impacts of ill health caused by waterborne diseases on rural households can be broadly categorized into three: absenteeism from work due to morbidity (and eventual death); family time diverted to caring for the sick; and loss of savings and assets in dealing with disease and its consequences. The long-term impacts of ill health include loss of business knowledge ;reduction in economic activities, engaging in less labor-intensive economic activities, among others. The ultimate impact of ill health is a decline in household income—that is, a severe deterioration in household livelihood (Akpabio, 2011).

The objectives are to;

- Examine the socio-economic characteristics of the rural household's heads in the study area.
- Ascertain the respondents sources of water supply in the study area.
- Determine the socioeconomic determinants of utilization of water sanitation information in the study area.

Hypothesis of the study:

H_{01}: There is no significant relationship between the socio- economic characteristics of the respondents and the level of utilization of water sanitation information.

2. METHODOLOGY

The study was carried out in Oyo-State, Nigeria. Oyo State falls appropriately between $2^{0}38^{1}$ and $4^{0}35^{1}$ East of Greenwich Meridian. The state is bounded on west byOsun State and the republic of Benin and in the North and South by Kwara and Ogun State respectively. The state lies in south western of the crystalline basement complex of Nigeria. Also known as the western upland, the crystalline basement complex areas had a relatively tidy relief with elevations varying from 220m to 650m above sea level, with occasionally steep hills of exposed bedrock (inselberg) rising higher than the undulating plain. The undifferentiated basement complex rocks made up of migmatities and geneisses are the most predominant rock type in the area, especially around Saki, Kishi and Sepeteri in the Northern part, as well as Ayete, Ado-Awaye, Lanlate and Eruwa in the Southern part.

The population of the study were all the rural households in Oyo State of Nigeria. A multistage sampling technique was employed for the study. The first stage involved the purposive selection of all the four agricultural zonesin Oyo State and those zones are; Ibadan/Ibarapa, Ogbomoso, Oyo, and Saki. The second stage involved purposive selection of two blocks from each of the agricultural zone which are known for water borne disease incidences and their access to information from water and sanitation (WATSAN) unit of the local government councils. So, Akinyele, Ibarapa east, Ogo-Oluwa, Oriire, Iseyin, Oyo east, Saki east and Olorunsogo respectively were selected. The third stage involved random selection of two villages from each of the selected blocks: and a total of 230 household heads were sampled.

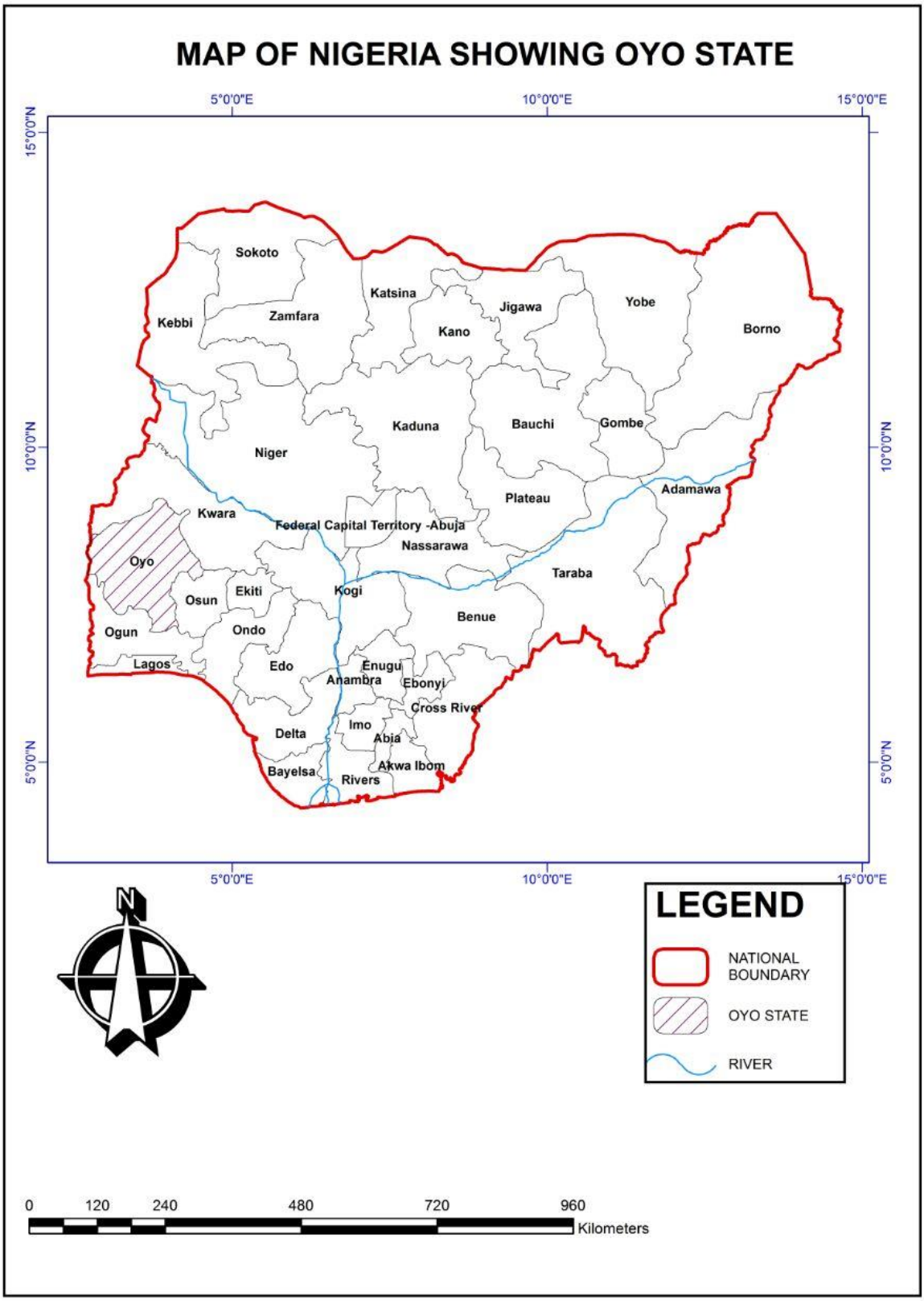

Figure 1:Map of Nigeria Showing the Selected State for the Study

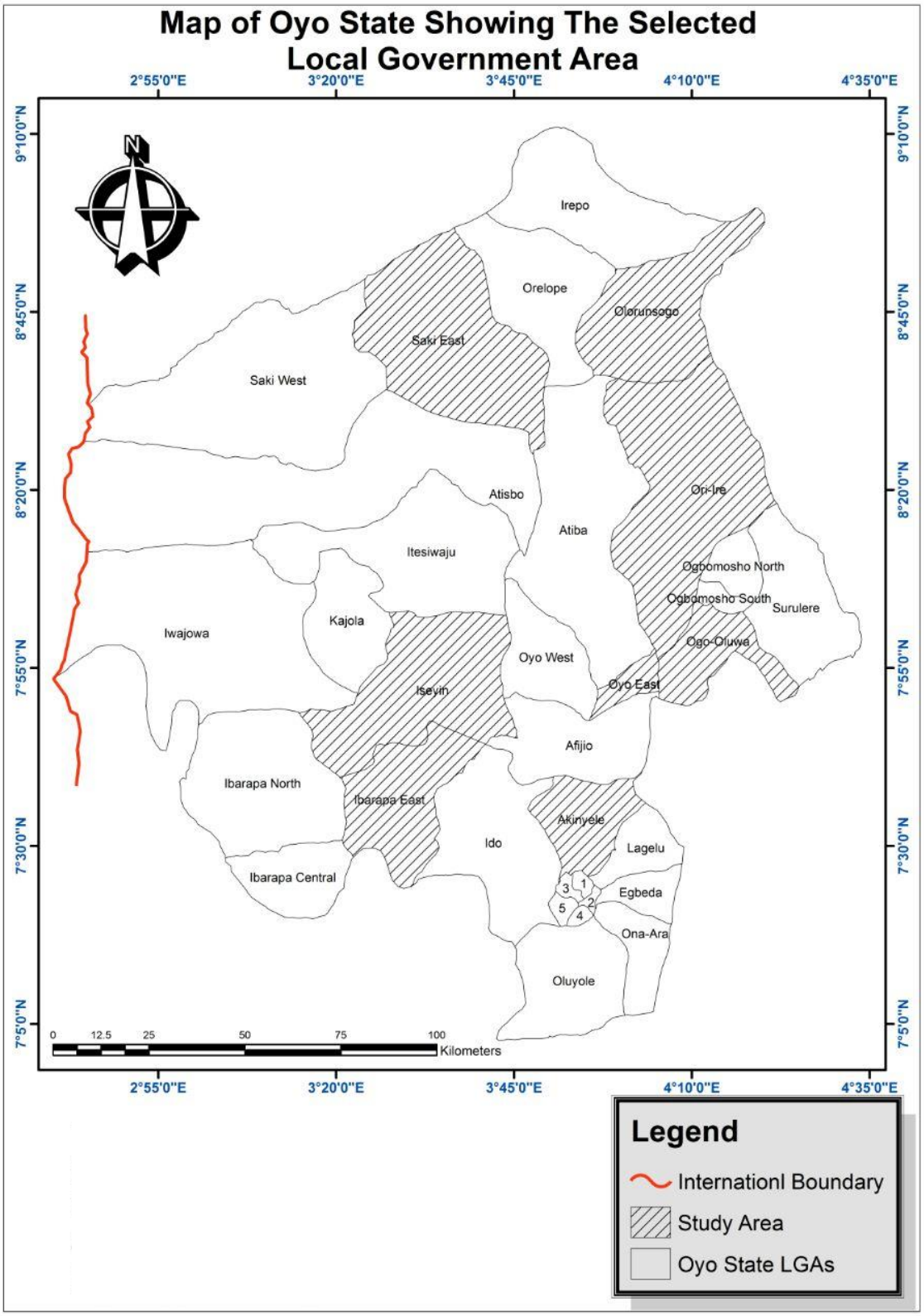

Figure 2: Map of Oyo State Showing the Selected Local Government Areas.

Table 1: Sampling procedure of the rural household heads from selected local government areas across Oyo state

Agric Zones	Block	Selected villages based on WATSAN Activities	Respondentsselected
Ibadan/Ibarapa	**Akinyele**	Onidudun	19
		Olanla	16
	Ibarapa east	Adeekola	18
Sub total		Maya	22
	2	4	**65**
Ogbomoso	**Oriire**	Ajinapa	15
		Aje	10
	Ogo - Oluwa	Pontela	15
		Lagbedu	15
Sub total	**2**	**4**	**55**
Saki	**Saki east**	Agbonle	20
		OjeOwode	12
	Olorunsogo	BudoAlhaji	13
		TesiGaruba	15
Sub total	**2**	4	**60**
Oyo	**Iseyin**	Ado Ogun	15
		Isherin	15
	Oyo East	Agboin	20
		Akinpeju	15
Sub total			**55**
Grand total	**8**	**16**	**230**

The tools and procedure that were employed elucidated the objectives of the study: this includes the following.

Descriptive statistics:-

They are the mean, percentages and frequency distribution. These were used as tools to describe the socioeconomic characteristics of respondents, their income generating activities and specific projects benefited by respondents.

Ordinary least square:-

Ordinary least square was used to estimate the socioeconomic determinants of utilization of water sanitation information and the test of hypothesis.

3. RESULTS AND DISCUSSION

Figure 3 shows the distribution of the respondents by their socio-economic characteristics. The findings of the study revealed that 32.7 percent of the respondents were less 30years or less, 17.2% were between the ages of 31 and 40, while 21.2 percent of the respondents were between 41 and 50 years of age. Also, 17.3 percent of the respondents were between 51 and 60 years of age while only 10 per cent of the respondents were above 60 years of age. The Mean age of the respondents was 41.16 years of age. This mean age is considered to be a middle age. Having a population that is middle aged suggests that understanding water and sanitation information would be easier since most middle aged people are expected to have had at least the minimum level of formal education and are likely to be more curious in trying new ways of handling hygiene issues. This is in line with that of Ayoade *et al* (2013) who reported middle aged farmers are agile, active and more innovative than the older ones and possesses more energy to dissipate on productive efforts.

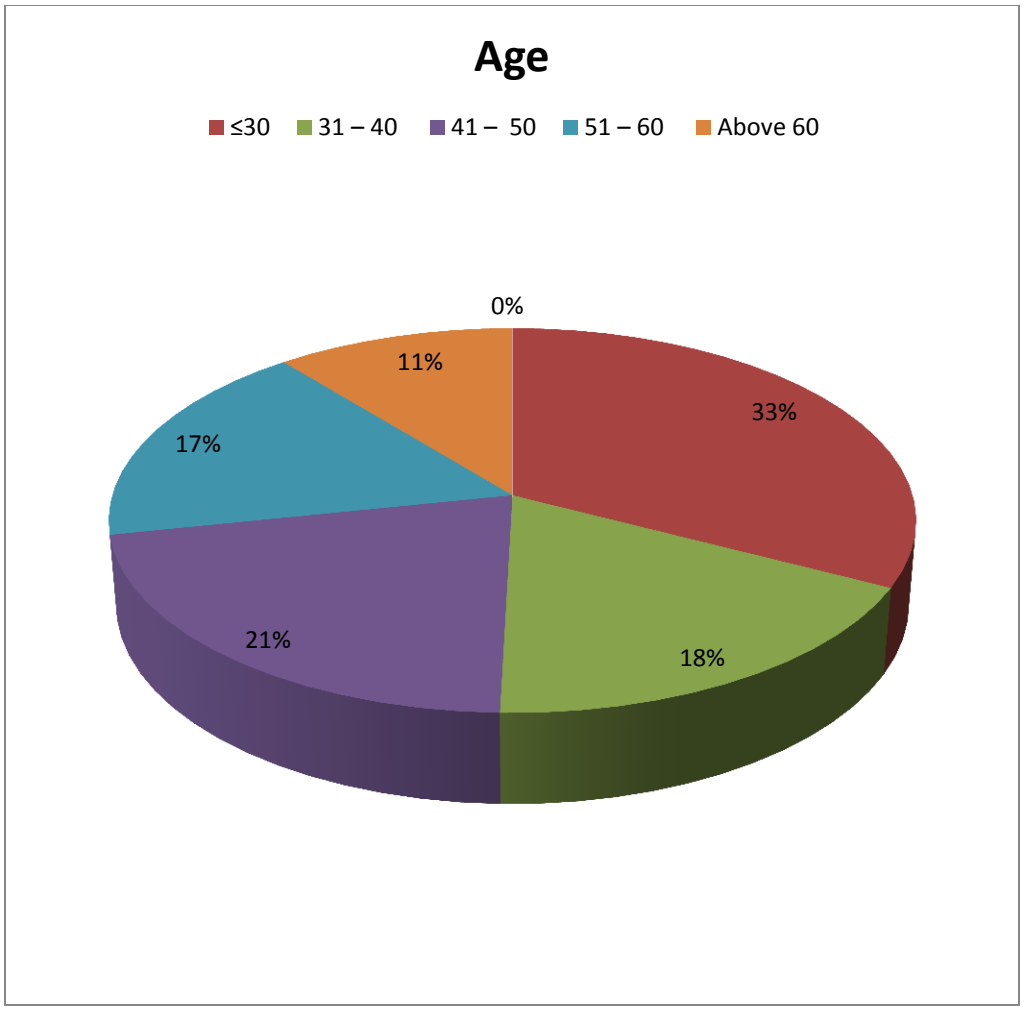

Figure 3: Piechart showing the distribution of respondents by Age

Figure 4 shows the distribution of respondents by sex. This revealed that majority (74.8%) of the respondents were male while the remaining 25.2% were female. The results revealed there were more male headed households in the study area. This could be due to the general belief of the people Oyo state that male gender is the head of the family.

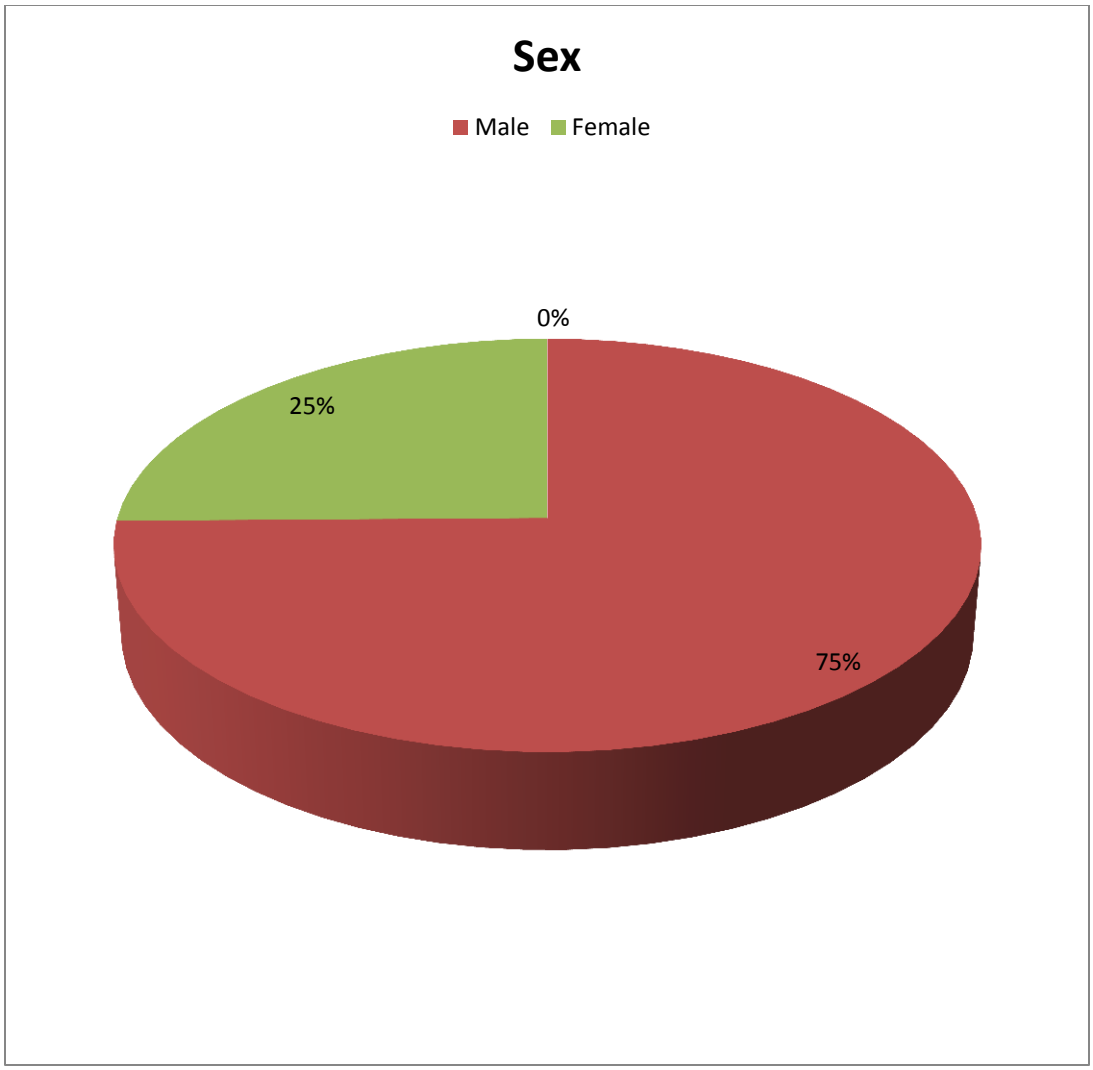

Figure 4: Piechart showing the distribution of respondents by sex

SOURCES OF WATER SUPPLY

The finding in the table below shows that 8.1 per cent of the respondents' uses personal tap, 60.8 per cent public utilizes tap/ hand pump and 80 per cent uses borehole. Another 87.7 percent uses protected dugwell, 40.4 percent uses water from spring and 89.1 percent uses rain water. Also 33.5 percent respondents uses water from unprotected well while 33 percent of the respondents uses water from the brooks. This results implies that majority (89.1%) of the respondents utilizes rainwater probably because its readily available during the rainy season, it saves time because they don't need to go a long distance before getting it, It is cheap (doesn't require any form of financial commitment to get). A large number of respondents also uses water from Borehole (80%), and Public tap (60.8%) possibly because they are very clean and of good quality but the challenge with these sources is that they are mostly located far away from the household at the town centre, this doesn't make it to be easily accessible and as a result, the respondents utilizes it majorly for drinking purposes while water from other sources are used for other domestic purposes.

Table 2: Distribution of the respondents based on sources of water supply

Sources of Water	Frequency	Percentage
Personal tap	29	8.1
Public tap/ Hand pump	139	60.8
Borehole/Tube well	184	80
Protected dug well	202	87.8
Spring	93	40.4
Rain water collection	205	89.1
Unprotected dug well	77	33.5
Brooks	76	33.0

Source: Field survey 2015

Relationship between the selected socio – economic characteristics and the level of Water Sanitation Information utilization:-

The result of the linear regression in Table 3 indicated a significant relationship between age (t = 3.686**), household size (t = 2.085**), years spent in school (t = 1.883**) and annual income (t = 1.036**) and the level of utilization of water sanitation information in the study area. The relationship was positive which implies that any increase in any of the predictors' variables would result into a corresponding increase in the explanatory variable. The R square value for the model was found to be 54.6%, which indicates that the predictors variables accounted for 54.6% of the level of utilization of water sanitation, while some other variables that were not included in the model accounted for the remaining proportion of the determinants of the level of utilization of water sanitation information in the study area.

Age in this study was a significant variable in determining the utilization of recommended information at the chosen level of significance probably because respondents were all heads of households implying that all of them were adults and mature enough to make decisions on adoption of the water sanitation recommended information introduced to them which needed years of experience to make a difference.

In the case of household size, the variable was positively related to water sanitation utilization level. These implies a positive relationship suggesting that the larger the household size the more the likelihood of utilization of the recommended information. It can be understood that larger households would require more water, soap and disinfectants to maintain good hygiene and sanitation within the house. Water availability is a major challenge in the study area; therefore larger households are likely to manage to observe the recommended information especially due to the fear of disease outbreak. It is also logical that larger households would able to train and encourage household members on the usage of water and sanitation facilities. The number of adult agricultural workers in the farmer's household is expected to ease labour constraint, thereby enhancing adoption.

The finding also revealed year of schooling having a positive relationship with utilization of water sanitation information. This means that those households that were more educated adopted WATSAN recommended practices more than less educated ones. Education is thought to create a favourable mental attitude for the acceptance of new practices. Education affords a person the ability to read and understand sophisticated information that may be contained in a package thereby increasing adoption. The finding in this study agrees with the result of a similar work on adoption of WATSAN practices in Cameroun by Yamakoshi (2008) where educational level was found to positively and significantly influence adoption of WATSAN recommended practices.

Table 3: The result of Linear Regression analysis showing the determinants of level of water sanitation information utilization.

Socio-Economic Characteristics	T-value	P-Value	Remarks
Constant	14.058	0.00	Significant
Age	3.686**	0.000	Significant
Household Size	2.085**	0.000	Significant
Years Spent in school	1.883**	0.001	Significant
Years of farming Experience	0.382	0.430	Not Significant
Farm Size	0.235	0.273	Not Significant
Annual Income	1.036**	0.001	Significant

Source: Field survey, 2015.

Adjusted R^2 = 54.60%

Hypothesis Testing:-

$H_0$1: There is no significant relationship between the selected socio – economic characteristics and the level of Water Sanitation Information utilization.

In Table 3 age of the household head, household size, years spent in school and annual income were significant at 5% level. Thus, the null hypothesis that, there is no significant relationship between the selected socio – economic characteristics and the level of Water Sanitation Information utilization was thereby rejected.

CONCLUSIONS AND RECOMMENDATIONS

The household heads were in their middle age. Therefore, young and agile individuals to be encouraged to engage in farming than their aged counterparts. Most of the farmers were males. Thus, Government and Non-Governmental Organization should specifically train and empower the less privileged female farmers. The main source of water was rain water. Therefore, portable and hygienic water should be made available farmers and non-farmers. Annual income of the household heads increases as their information utilization increases. Thus, government should implement programme that aims on enhancing farmers income and standard of living. Educated household heads increases their information utilization. Therefore, adult education should be made accessible and affordable to uneducated farmers.

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