



# **Socio-Economic and Environmental Impact of Ogun River on Food Security in Ogun State, Nigeria**

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## INTRODUCTION

The contribution of natural resources (particularly water bodies) to the socio-economic wellbeing and food security of surrounding dwellers is high in Nigeria.

Ensuring affordable, adequate and nutritious food for the increasing population while keeping a sustainable natural resource levels remains the principal challenge facing policy makers and governments of developing countries (Stamoulis *et al.*, 2004).

Food security is one of the several necessary conditions for a population to be healthy, productive and sustainable (Nord *et al.*, 2001).

Fishing, irrigation farming, etc. are one of the main livelihoods of the people living around the wetland areas.



## PROBLEM STATEMENT

Like virus, hunger and food insecurity have taken over and continue to spread across the globe.

The increasing depth and severity of poverty leaves so much to be concerned about, particularly in the developing economies (FAO, 1996).

The per capita food intake with respect to protein and energy is severely low among the people.

The contribution of wetland areas to household food security though positive has implications on sustainability.

The extent of its contribution and limit to its exploitation is an issue to examine



# The Research Questions

- Who are the dwellers around the Ogun River?
- What are their major livelihood activities and the extent of dependence on the wetland?
- What is the food security profile of the people?
- Is there any difference in the wetland income, poverty indices and other livelihood outcomes of dependent and non-dependent households on the wetland?



# Objectives

The specific objectives of the study are to;

- describe the socio-economic characteristics of the dwellers around the wetland.
- describe the livelihood outcomes, wetland income and poverty indices of the respondents.
- profile the poverty status of the dwellers
- analyse the difference in the wetland income, livelihood outcomes and poverty indices of wetland dependants and non-dependants.



# Methodology

- The study was conducted in Ogun State of Nigeria.
- The study was a cross-sectional survey of wetland dwellers.
- Primary Data was obtained
- Focus Group Discussions and Personal Interviews were conducted
- Multi-stage sampling procedure was used to select a representative sample from the population



## Methodology Contd

First Stage: this involved the purposive selection of the wetland area in the Opeji axis of Ogun State.

Second Stage: this involved the random selection of 50 respondents around the Opeji axis of the wetland.

A post-data collection analysis showed that 17 (34%) are dependent on the wetland while 33 (66%) are non-dependent on the wetland.



# Analytical Techniques

Objective One and Two: Descriptive analytical tools such as; percentage, mean, standard error etc were used.

Objective Three: Household Food Security Scale Score was used. It employed the eighteen (18) USDA Food Security Module.

Objective Four: Test of difference of means, chi-square and correlation analysis were used



## Eighteen USDA Household Food Security Module

The 18 USDA foods security module contains questions of food related experiences by households.

Households were classified into food security categories for monitoring and statistical analysis of the food security status of the studied population.

The 18 items were decomposed into two to capture adult food security and children food security, giving clues about intra-household food distribution.

The adults and households were categorized into four different groups namely ;

Food secure (FS), score 0 - 2

Food insecure without hunger (FISWOH) score 3 - 7

Food insecure with moderate hunger (FISWMH) score 8 – 12 and

Food insecure with severe hunger (FISWSH) 13 - 18

The categorization were based on household food security scale scores obtained from the number of items.



# RESULTS AND DISCUSSION



## Socio-Economic Characteristics of Households Disaggregated by Dependence on Wetland

Variable	Wetland (N=17)	Non-Wetland (N=30)	P-value
<b>Gender</b>			
Male	94.1	63.3	0.02
Female	5.9	36.7	
<b>Marital Status</b>			
Single	29.4	13.3	
Married	64.7	76.7	0.424
Divorced	0.0	3.3	
Widowed	5.9	6.7	
<b>Educational Status</b>			
None	47.1	13.3	
Primary	29.4	40	0.016
Secondary	23.5	40	
Tertiary	0	6.7	

Majority of the households in the study area are headed by male in both wetland (94.1%) and non-wetland dependent (63.3%).

Majority of the respondents are married 64.7 per cent of wetland dependent areas and 76.7 per cent of non-wetland dependent.

The level of education of wetland dependent respondents is relatively lower compared to the non-wetland dependent respondents.



## Socio-Economic Characteristics of Households Disaggregated by Dependence on Wetland

Variable	Wetland (N=17)	Non-Wetland (N=30)
Household Size		
1 – 3	6.3	20
4 – 6	56.3	60
7 – 9	25	10
Above 9	12.5	10
Religion		
Christianity	41.2	62.1
Islam	58.8	37.9
Age		
18 – 30	35.3	46.7
31 – 40	35.3	26.7
41 - 50	5.9	16.7
51 - 60	11.8	6.7
Above 60	11.8	3.3

**Wetland dependent households have higher percentage (37.5%) of the large household size class (7 and above) compared to 20 per cent for the non-wetland dependent households. The age group of wetland dependent households in the older class, above 50 years is higher than that of the non-wetland dependent households.**



## Livelihood Outcomes and Poverty Indices Disaggregated by Dependence on Wetland

Variable	Wetland	Non-Wetland	(P-Value)
Wetland (Agricultural and Fishing) Income	141, 352.94 (35, 063.9)	28, 666.67 (14, 976.87)	0.001
Agricultural Marketing	8, 235.29 (5,703.15)	85, 553.33 (26,997.98)	0.039
Non-farm Income	52, 125.00 (28,184.20)	55,869.57 (20,534.78)	0.913
Total Income	211, 062.5 (36, 295.49)	178, 739.13 (32, 015.94)	0.513
Per capita Income (₦)	52, 241.55 (16, 910.10)	38, 076.23 (7, 797.80)	0.401
Per capita Income (\$)	0.92 (0.30)	0.67 (0.13)	0.401
Poverty Incidence	0.8 (0.11)	0.78 (0.09)	0.901

The difference between the wetland (agricultural and fishing) income and income from agricultural marketing of wetland dependent and non-dependent households is statistically significant at 1% and 5% respectively. Differences in other variables between the dependent and non-dependent households as shown in the table are not different from zero.



## Food Security Classes of the Respondents Disaggregated by Dependence on Wetland

Food Security Status	Wetland (N=17)	Non-Wetland (N=30)
Food Secure	16.7	28.6
Food Insecure Without Hunger	41.7	42.9
Food Insecure With Moderate Hunger	33.3	21.4
Food Insecure With Severe Hunger	8.3	7.1

Contrary to expectations, for the study area, non-wetland dependent households are more food secured and have lesser incidence of food insecurity with moderate and severe hunger.

Reasons adduced mainly is the extent of income generating opportunities and likely fewer household sizes of the non-dependent households.



## Socio-Economic Characteristics of Households Disaggregated by Food Security Class

Variables	FS	FSWOH	FSWMH	FSWSH
<b>Gender</b>				
Male	26.3	47.4	26.3	0.0
Female	14.3	28.6	28.6	28.6
<b>Age</b>				
18-30	36.4	27.3	27.3	9.1
31-40	25.0	37.5	37.5	0.0
41-50	0.0	100.0	0.0	0.0
51-60	0.0	66.7	0.0	33.3
Above 60	0.0	50.0	50.0	0.0
<b>Marital Status</b>				
Single	66.7	0.0	33.3	0.0
Married	19.0	52.4	23.8	4.8
Widowed	0.0	0.0	50.0	50.0
<b>Occupation</b>				
Wetland Related	16.7	41.7	33.3	8.3
Non-Wetland	28.6	42.9	21.4	7.1

The severity of food insecurity is high in female headed households while male headed households have tendency to be food secured. Older households are also likely to be food insecure. Households headed by widows are also likely to have severe hunger. Households that are not dependent on the wetland are more food secured.



## Socio-Economic Characteristics of Households Disaggregated by Food Security Class

Variables	FS	FSWH	FSWMH	FSWSH
<b>Educational level</b>				
None	25.0	62.5	0.0	12.5
Primary	11.1	55.6	33.3	0.0
Secondary	25.0	12.5	50.0	12.5
Tertiary	100.0	0.0	0.0	0.0
<b>Household size</b>				
1 - 3	100.0	0.0	0.0	0.0
4 - 6	16.7	38.9	33.3	11.1
7 - 9	0.0	100.0	0.0	0.0
Above 9	33.3	33.3	33.3	0.0
<b>Religion</b>				
Christianity	16.7	41.7	33.3	8.3
Islam	23.1	46.2	23.1	7.7

Households heads that have higher educational training tend to be more food secure compared to other categories. The higher the household size, the lesser the household is food secure.



# Summary and Conclusion

- Majority of the households in the study area are headed by male, who are married and have formal education which is largely at primary and secondary level. Household size is moderate and majority are less than 40 years old.
- Besides wetland income and income from agricultural marketing, non-farm income and other livelihood outcomes and poverty indices are not different from zero for the dependent and non-dependent households.
- Households not dependent on the wetland are better off than wetland dependent households.
- Households heads that have higher educational training and smaller household size tend to be more food secure compared to other categories.
- Findings imply that utilization of wetland though may impact on household food security, food security may be better enhanced by provision of education institutions and encouraging relatively smaller household size among dwellers around the wetland