



ANALYSIS OF THE ROLE OF WOMEN IN ENVIRONMENTAL PROTECTION IN KURA LOCAL GOVERNMENT AREA, KANO STATE

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ABSTRACT

. The aim of this study is to analyze the role and implication of women participation in environmental protection in Kura Local Government Area of Kano State. The specific objectives were to: ascertain the level of women participation in decision-making and policy formulation that concern environmental protection, identify the major productive activities of women in the study area, assess the effects of these activities on rural environment and livelihood, determine the management techniques employed by women to protect the environment, assess existing programmes in place aimed at improving women's participation in environmental decision. Primary source of data was used for the study, where 200 women were randomly sampled. Simple descriptive statistics and the Probit Model were employed in the analysis. The result showed that women's traditional roles imposed on them by the society, like providing and preparing food; cleaning the house; washing clothes and dishes; gathering fuel wood; fetching water; and taking care of children directly affect the state of the environment. This study further showed that the depletion of the natural resources as a consequence of climate change among other factors have implication on women's livelihoods and thus have serious consequences on their well-being. Also women have not been involved in the issues concerning environmental policy formulation and implementation.

INTRODUCTION

Environment is usually defined as the system of biological and physical resources and their processes of interaction that affect lives and livelihoods. However, these biophysical

systems are also in constant interaction with human and social systems that live in them (Alam 1999:275, Ahmad, 1995:17). There is a close linkage between women and natural environment.

In rural areas in developing countries a woman's life is totally dependent on nature as she has to carry on her family through managing and using natural resources. Women are primary providers of household food, fuel and water for cooking, heating, drinking and washing (Haider, 1995; 126, UN, 1991).

As farmers, women produce foods and agricultural products, their tasks in agriculture and animal husbandry as well as in the household make them daily managers of the living environment (Ahmad, 1995:18). With depleting natural resources which has been attributed to climate change among other things, women have become more vulnerable and despite this, women with their limited access to resources are still required to manage to provide sustenance to their families and communities. (Dankelman and Davidson, 1988, Ahmad, 1995:20)

The Fourth UN Women's Conference in Beijing (September 1995) resulted in the "Platform for Action". A special section (K) is included in the "Platform for Action" on Women and the Environment. It calls upon governments (at all levels), international organizations, NGOs, and private sector institutions, to among other things involve women actively in environmental decision-making at all levels (United Nations, 1995:103).

Despite this call for action, women continue to be under-represented in decision-making processes on environmental protection programme at all levels international, national and local levels. Some of the reasons include their high illiteracy rates, limited access to

natural resources, lack of information and training, stereotypical attitudes regarding their roles, insufficient research on gender equality and environment, lack of sex-disaggregated data and political commitment (Agarwal, 1989:92).

Women's limited participation in decision-making processes relate to almost all environmental sectors. Obstacles to their participation, particularly in the study area, include the lack of secured access to land, adverse financial conditions, time constraints, public policy which traditionally focused on the male population as head of household and gender division of labor along socio-cultural norms.

The aim of this study is to analyze the role and implication of women participation in environmental protection in Kura Local Government Area of Kano State with the objectives to ascertain the level of women participation in decision-making and policy formulation that concern environmental protection; identify the major productive activities of women in the study area; Assess the effects of these activities on rural environmental condition and livelihood; Determine the management techniques employed by women to protect the environment; Assess existing programmes in place aimed at improving women's participation in environmental decision.

METHODS

Study Area

Kura lies between Latitude 11°46' N and 13°53'N and Longitude 8°25'E and 10°35' E covering an area of about 260 km²

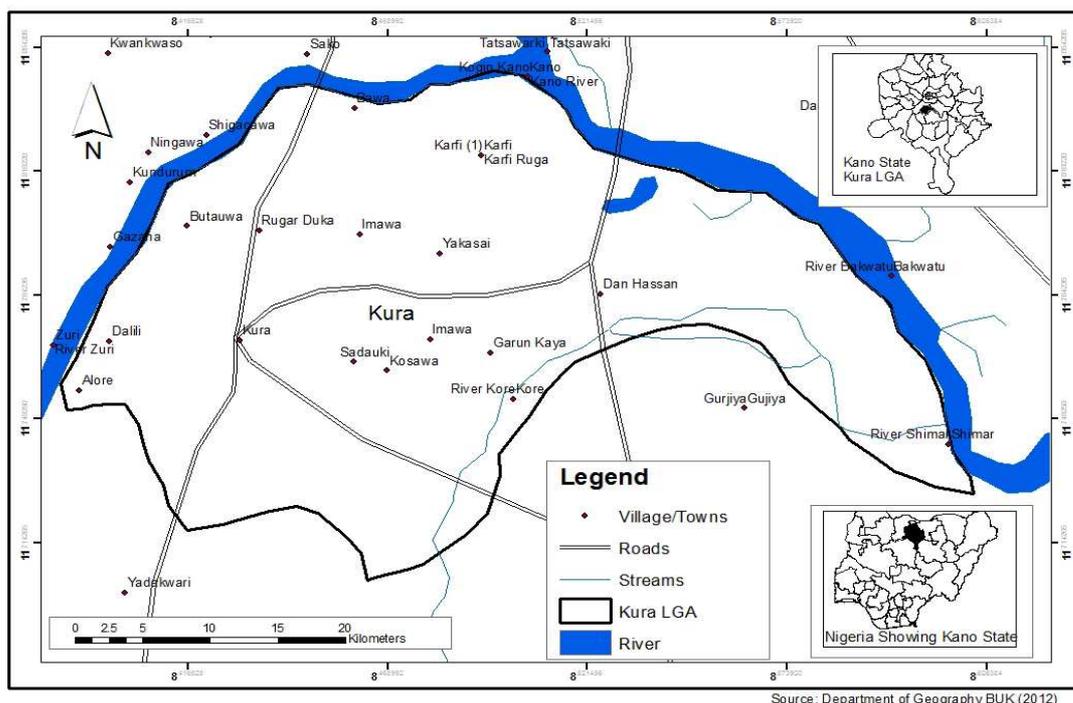


Figure 1.1: Study Area

Kura LGA has a population of 89, 342 in 1991 Census and 143,094 in 2006 Census. The LGA has an Inter census Growth Rate (ICGR) of 3.37% between 1991 and 2006 Censuses. The population density increases from 168.16 in 1991 Census to 272.67 people per sq Km in 2006 Census. The 2015 projected population of Kura based on the 3.37% ICGR is 194,319 and women between the ages of 15 to 54 years constitutes about 24.5% in 2006 census.

As an agricultural town Kura was known for the production of food stuffs and Vegetable Crops both during Dry season and Rainy season. The Dry seasons mostly start from October to April, while the Rainy season begins from April to September with an average annual rainfall of 134.4mm. The people of the local Government are 80% percent farmers who are engaged in mixed farming in both the seasons. Some of the crops produced in the area are Rice, Wheat, Maize, Millet, Guinea-corn, Beans, Tomatoes, Onions, Sugarcane, Cucumber, Cabbage, Water melon, etc. Their local business has been trading, dyeing, and weaving, hunting and

black smithing. A double stage random sampling was employed in obtaining the sample for the study. In stage one, ten villages were randomly selected these are Dalili, Kosawa, Karfi, Rafinkuka, Tanawa, Gundutse, Danhassan, Tafasa, Dukawa, and Kura. In the second stage 20 women were selected at random from each village to form the sample size. A total of 200 women were therefore randomly selected for the study.

A pilot questionnaire administration was administered on 20 women of whom 18 were filled and returned two were invalidated, and were not returned.

Simple descriptive statistics and the probit model were used in the analysis. Since the dependent variables of main interest that is, the factors that determine women participation in environmental management decision making, had an ordinal categorical nature, the ordered probit model was employed for the analysis of the polychotomous response data. Considering the ordinal probit model, let $Y = bX_i + e_i$

Where; Y is the underlying latent variable that indexes the level of participation of the woman in a given environmental operation, X is a vector of parameters to be estimated and e is the stochastic error term.

RESULTS AND DISCUSSION

Socio-economic Characteristics of Women in the study area

The socio-economic characteristics of the respondents are examined under the variables of age, marital status, level of formal education attained and household size shown in table 1

Table 1: Respondents' Personal Profile

Categories (Age in years)	Frequency	%
21-40	127	63.5
41-60	71	35.5
Above 60	2	1.00
Total	200	100
Categories (Marital Status)	Frequency	%
Single	60	30.00
Married	140	70.00
TOTAL	200	100.00
Years spend in school	Frequency	%
Not attended	54	27.00
1-6	76	38.00
7-12	66	33.00
13 and above	4	2.00
TOTAL	200	100.00
Number of dependents	Frequency	%
1-3	40	20.00
4-6	106	53.33
7-9	34	16.67
10 and above	20	10.00
TOTAL	200	100.00
Sources	Frequency	%
Farming	81	40.50
Trading/food processing	18	15.00
Hand craft	89	44.50
Civil service	12	30.00
Others	10	6.00
	8	4.00
TOTAL	200	100.00

Source: Survey Data, 2014

The entire respondents are women, adults above 18 years. The average age of the respondents from the survey is 52.4 years, while the minimum and maximum were 25

and 85 years respectively (Table 1). This implies that those interviewed are mature women.

The marital status of the sampled respondents indicates that two-thirds are married and living together in the family while about two-sevenths are widowed (Table 1). This shows that most of the beneficiaries are committed to business due to the challenges involve in taking care of their families. The few that were not married could be either as a result of death of the partner or separation/divorce.

Table 1 shows that only insignificant proportion of the people interviewed attended spent 13 years and above in school. About one-fourths had not attended at all. Slightly third-eighths spent one to six years and seven to twelve years in schools respectively. This indicates that they only attended either primary or secondary school. This has translated into a great implication in the understanding of the modern means of environmental protection. The findings corroborated with Blum’s (1991) and Madukwe (1995) who viewed education as a facilitating factor to any developmental programmes. Household size is the number of persons that contribute and draw on the income of household head. Table 1 show that one –fifths of the population has a household size of 1 to 3 members while half of the respondents have household sizes ranging from 4 to 6 members. Household size has socio-economic and environmental implications to household as it determines the poverty level of a population. Thus, the larger the household membership, the higher the demands for basic needs of life and the higher the propensity to poverty.

Table 2: Access to land by female farmers

Access to land	Frequency	%
Inheritance	81	40.50
Purchased	12	30.00
Hired	10	6.00
No access	89	44.50
TOTAL	200	100.00

Source: Survey data (2014).

Table 1 also show that one –fifths of the population has a household size of 1 to 3 members while half of the respondents have household sizes ranging from 4 to 6 members. Household size has socio-economic and environmental implications to household as it determines the poverty level of a population. Thus, the larger the household membership, the higher the demands for basic needs of life and the higher the propensity to poverty.

It can be seen that about one-sevenths of the respondents’ main source of income is in agro-allied food processing; especially rice processing and two-fifths are farmers and thus have direct contact with natural resource, (land) in their various localities. Equally, two-fifths of the respondents were engaged in handcrafts. Two-sevenths of the respondents were civil servants with negligible proportions with no productive source of income. (Table 1) The minimal involvement of women in farming in the study area has to do with socio-cultural value of the environment which sees women as primarily responsible for reproduction and as such culturally they are not supposed to be involved in any form of secondary activity that divert their attention or take them out of the home environment (Brydon and Chants,1985)

Some four-ninths of the respondents have practical indigenous knowledge in food processing and trading. This implies that rural women do not lack entrepreneurial skill and they are poor because the right framework does not exist.

About half of the female’s farmers that inherited land had to surrender it to the male head of the family, only, perhaps, few used it for farming. The involvement of women in environmental protection through farming is therefore limited. This fact conform with findings in Tofa Local Government Area of Kano State, Nigeria, Limited access to land and other natural resources is another key aspect of rural poverty more than half of the rural poor have landholdings too small to provide an adequate income, and nearly a quarter are landless (UNDP, 1995). Thus, both

environmental conditions and access to a variety of natural resources are crucial to the ability of poor people to sustain their livelihoods.

Effects of Women’s Activities on Environment

The current study reveals that people are affected by soil erosion and land degradation due to deforestation, overgrazing, and agriculture. Water scarcity is a major issue in almost all the communities in the study area. The sources of water identified are illustrated in Table 3

Table 3: Source of water for domestic use by the respondents

Source of water	Frequency	%
Borehole	81	40.50
Public pipe born water	89	44.50
Shallow-wells	20	10.00
Stream/river	10	5.00
TOTAL	200	100.00

Source: Survey data (2014).

Table 3 shows that nearly two-fifths of the respondents identify borehole as their main source of water for domestic use, mainly in the major settlements, other sources are shallow well, one-tenths and insignificant proportion from rivers/streams in the smaller settlements. Inadequate access to safe drinking water and sanitation, combined with poor

hygiene practices, are major causes of ill health and life-threatening diseases such as water related diseases like diarrhea and cholera which (Dasgupta and Das (1998) opined accounts for up to 2.5 million death a year in developing countries Table 4 illustrate type of energy used by the women.

Table 4 : Type of Energy for cooking and lightening by the respondents

Categories (Level of Education)	Frequency	%
Electricity	05	2.50
Crop residue	12	6.00
Charcoal	45	22.5
Firewood	104	52.00
Kerosene	34	17.00
TOTAL	200	100.00

Source: Survey data (2014).

Table 4 shows that more than half of the respondent uses wood fuel for cooking in both domestic and commercial purposes. One-sixths of the respondents used

kerosene as fuel for lighting. This result conforms to a study that over 2 billion people continue to rely on

biomass fuels and traditional technologies for cooking and heating, and 1.5 to 2 billion people have no access to electricity (UNDP and W.E.C. 2000). Shortage of fuel wood imposes time and financial costs on poor households especially women and children, putting a particular burden on those that are short of labor and making it harder for children to attend school and reduces the time spent on income-generating activities as a result of distance and time spent women have to spend travel to collect fuel, fodder and water (Dasgupta and Das, 1998).

The exposure to indoor air pollution caused by the burning of traditional biomass fuels (wood, dung, crop residues) for cooking and heating has significant

health implications for women (Dasgupta and Das,1998).

Level of Women’s Participation in Environmental Management

Results of the key informant interviews revealed that women have varied involvement in the environmental protection and conservation. But, in general the nature of their involvement is limited along the technical training, policy advocacy, and project proposal preparations of environmental programme. Most of these women are actively involved in tree planting, sewages clean-up, waste segregation and solid waste management (Table 5). They also create awareness programme to enable the communities become aware about the importance of environment.

Table 5: Women Involvement in Environmental Management

Conservation Methods being used	Number	Percentage
Reduce impervious surfaces	89	44.50
Practicing no till farming	Nil	0.00
Use of rain barrel	111	55.50
Total	200	100.00
Planted Trees in the last 5 years	Number	Percentage
Yes	174	87.00
No	26	13.00
Total	200	100.00
Where Planted	Number	Percentage
On the farm	18	10.34
Around the compound	122	70.12
Others	34	19.54
Total	174	100.00
Species Planted	Number	Percentage
Fruit trees	84	48.27
Flowers	34	19.54
Others trees species	57	32.76
Total	174	100.00
Frequency of Cleaning the Environment(Residential)	Number	Percentage
Daily	178	89.00
Weekly	18	9.00
Occasionally	04	2.00
Total	200	100.00
Major Activity in Environmental Cleaning	Number	Percentage
Weeding	16	8.00
Sweeping	94	47.00
Cleaning drainage	40	20.00
Others	50	25.00
Total	200	100.00

Source: field survey, 2014.

The women have also developed their own informal approaches to problem solving. Rural women groups represent the first level of the institutional framework needed to ensure bottom-up

development processes. The traditional knowledge of women is vital inputs to activities involved in the sustainable use of natural resources.

Table 6: Extent of the Participation of Women in Decision Making In Environmental Management

Decision making areas	Nil	Only consulted	Opinion considered	Final decision
Program formulation	176 (88.0)	21 (10.5)	3 (1.5)	0 (0.0)
Planning	156 (78.0)	34 (17.0)	8 (40.0)	2 (1.0)
Campaign and mobilization	162 (81.0)	19 (9.5)	15 (7.5)	4 (2.0)
Time of weeding	189 (94.5)	9 (4.5)	2 (1.0)	0 (0.0)
Implementation	135 (67.5)	39 (19.5)	17 (18.5)	9 (4.5)
Review	111 (55.5)	37 (18.5)	49 (14.5)	3 (1.5)
Evaluation	28 (11.5)	37 (18.5)	92 (46.0)	48 (24.0)
Resource mobilization	156 (73.0)	29 (14.5)	13 (6.5)	2 (1.0)
Follow up	161 (80.5)	23 (11.5)	11 (5.5)	5 (2.5)
Sustenance tips	117 (58.5)	57 (28.5)	26 (13.0)	0 (0.0)

*Figures in parenthesis are the percentages.

The participation of women in decision making was quite minimal. Table 6 reveals that in each of the stage, less than one-fourths of the women were consulted, except in the last stage where about two-sevenths were consulted; Insignificant proportions of women made input in each of the stages of environmental management decision making process except in some few areas where about

half had their opinion considered. However, only very insignificant proportions took the final decision in all of the management program operations.

Presentation of the Regression Results

The result of the Probit model used to estimate the determinants of women participation in environmental management decision making process in the study area are given in (Table 7).

Table 7: The Maximum Likelihood Estimates of the Probit Model

Variables	Coefficients	Standard error	P> T
age: <21	-2.079	0.0489	-1.203
age: 21-35	-2.117	0.0224	-1.175
age: 36-50	2.876*	0.0000	1.890
age: >50	1.248*	0.0077	2.987
Ledu	1.623*	0.3030	3.111
Mrg	1.949	0.0336	1.341
Welsta	2.017*	0.0404	2.752
Tenancy	2.568**	0.0004	3.876

*Sig at p<.05, **Sig at p<0.001, LR test: 49.81, Madalla R2: 0.68, Mcfadden R2: 0.7, Percentage of correct predictions: 98, Source: Survey data (2014).

Table 7 shows the maximum likelihood estimates of the parameters of probit regression model characterizing the role of women participation in environmental management decision making. Based on the Probit model analysis, the age group, education, wealth status and tenancy variables were found to have significant influence on the level of women participation in environmental management decision making. The negative signs on age groups with ages 35 and below and the positive signs on the age groups variables with ages 36 and above imply that the level of participation of the women in environmental management decision making increases with age: This therefore suggests that the age of the woman is an important variable influencing the involvement of the woman in environmental management decision making. However, only the 36-50 and >50 age groups were significant at the 5% level. The significantly positive sign on the LEDU variable might be attributed to the high level of knowledge and experience about improved farm practices acquired by the educated woman farmer. This helps her to influence major decisions being taken in the home, environmental management inclusive.

The wealth status of the woman is also a major determinant of the role of the

woman in environmental management decision making. The more financially strong the woman is, the more her involvement decision making process. As for tenancy, the significant positive sign implies that landless women do not make significant participation in environmental management decision making. The landless woman undertook farming on leased land and could not as such take a major decision that has to do with the land without the owner's consent.

Lastly, marital status was found not to have any significant influence on the level of the woman's participation in environmental management decision making.

Conclusion and Recommendation

The study concludes that women play a vital role in environmental protection and natural resource management as could be seen from their involvement in water resource management, agriculture and soil conservation, flood management, drainage management, solid waste disposal, human waste disposal and tree planting and forest management. Despite these important roles, different socio-economic, cultural and Institutional constraints impede women's contribution to environmental sustainability.

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