

## **A gender analysis of poverty profile of rural farming households in North Central, Nigeria**

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**Abstract:** This study used 510 representative households to profile the poverty status of rural farming households in North Central Nigeria based on gender of the household heads. The Foster, Greer and Thorbecke class of weighted poverty indices as well as social indicators were used as analytical tools. The results of the study showed that the female-headed households were disadvantaged on all counts with poverty incidence of 63 percent as against 59 percent for male-headed households. In terms of asset ownership they were equally disadvantaged; only 33 percent had access to farm land as against 81 percent for their male-headed counterparts. The widow sub-group of female-headed households was particularly disadvantaged despite remittances from friends and relations. Monthly emolument as safety net was recommended for this particularly vulnerable sub-group of households.

**Keyword:** Poverty measures, female-headed households, male-headed households, consumption, social indicators.

### **INTRODUCTION**

Poverty a severe and endemic phenomenon is on the increase in Nigeria. Its incidence as recorded by NBS, (2006) approximated 64 per cent in 2006. The pattern of poverty in Nigeria shows the pre-eminence of agriculture and rural dominance with eighty-five per cent of the rural households being poor in 2006 (NBS, 2006). Among the numerous causes of poverty is low or fluctuating levels of labour productivity in agrarian-based-livelihoods (Belshaw, 2002). The renewed interest in agriculture in meeting poverty reduction targets therefore stems from the contribution the sector can make to the Nigerian economy. Agriculture is the source of food, livelihood, market, raw materials, foreign exchange earnings and savings. However, the ability of the Nigerian

agricultural sector to meet these roles is of concern, considering the high poverty level inherent in the sector. The inter-linkages between gender and poverty have also been major issues in the role and effectiveness of policy interventions in poverty reduction in developing countries. Women have been known to be highly represented among the poor with lack of access to social and human capital to participate in development and to contribute to higher living standards for their families (World Bank, 2001). Poverty assessment studies in Nigeria have focused mostly on all households (Oduola 1997 and Anyanwu 1997). Scanty literature however exists on female-headed households and poverty and challenges faced by rural women. This study therefore carried out a gender analysis of poverty profile of rural farming households in North

Central Nigeria using Kwara State as a case study. The incidence, depth and severity of poverty of the rural farming households were estimated based on gender of the household heads. A thorough investigation of the rural households poverty status was also made using social, human, livelihood and asset based characteristics. A gender perspective of poverty means recognizing that women stand at the crossroads between production and reproduction, economic activities and care of human beings, and therefore between economic growth and human development. Women are workers in the two spheres and thus the ones with higher stake and the most vulnerable when the two spheres meet at cross purposes and therefore the most sensitive to the need for better integration between the two spheres (Sen, 1999).

**METHODOLOGY**

The study area is Kwara State which is essentially agrarian with about 80 per cent of the population living in the rural areas. Primary data obtained through a set of pre-tested structured questionnaire administered with the aid of 16 trained enumerators were used for the study. Pre-test of the survey was carried out in 2006 in four rural villages of the state. The actual survey started in October 2006 and ended in March 2007. The bulk of the information collected was mainly on weekly households' consumption expenditure and income. Information was also obtained on socio-economic and demographic characteristics of the households. The state is divided into four zones by Agricultural Development Project (KWADP) of the state. The target population for the study is the entire rural farming households in the state. A two stage

simple random sampling technique was used for selecting the representative farming households for the study. The first stage was a random selection of 36 villages from the four zones. The second stage involved a random selection of ten per cent of the farming households in the chosen villages. The cooking pot definition of household was adopted and as such households that conformed to this consumption-based definition were used. Where a house had more than one household based on our definition of households, a household was randomly chosen. A total of 510 farming households were used for the study. Sixteen per cent of these households were headed by females while the remaining eighty-four per cent had male heads.

Consumption is preferred to income as a money-metric measure of economic welfare for its being able to capture easily the value of home grown food. The following indicators were used for the study: consumption expenditure per adult equivalent, food consumption and food share, income, assets, social indicators such as education and health and poverty indicators. Poverty refers to the lower decile or quintile of the distribution of economic welfare which is consumption expenditure per adult equivalent for the purpose of this study. The Foster, Greer and Thorbecke, (1984) class of weighted poverty indices were used for the poverty measure. The formula, following Foster *et al.* (1984) and as adapted by (IFAD, 1993), is given as:

$$P_{\alpha} = 1/n \sum_{i=1}^q (z - y_i / z)^{\alpha} \dots\dots\dots(1)$$

Where  $P_\alpha$  is the weighted poverty index; n is the number of households;  $y_i$  is the expenditure per adult equivalent of *i*th household;  $z$  is the poverty line defined as 2/3 of mean consumption per adult equivalent of the sampled population (FOS, 1999);  $q$  is the number of the sampled household population below the poverty line;  $\alpha$  is the aversion to poverty (a coefficient reflecting different degrees of importance accorded to the depth of poverty and it ranges from 0 to 2. When  $\alpha$  equals 0, 1 and 2 it measures proportion, depth and severity of poverty respectively. The overall poverty was expressed as the sum of groups' poverty weighted by the population share of each group.

$$\text{Thus, } P_\alpha = \sum k_j P_{\alpha j} \dots\dots\dots(2)$$

Where  $j = 1, 2, 3, \dots, m$  groups,  $k_j$  is population share of each group  $(n_j/n)$ , and  $P_{\alpha j}$  is the poverty measure for each group. The contribution of each group,  $C_j$  to overall poverty was calculated as follows:

$$C_j = k_j P_{\alpha j} / P_\alpha \dots\dots\dots(3)$$

Where  $C_j$  is the contribution coefficient of subgroup  $j$ ;  $k_j$  is the proportion of subgroup  $j$  to the total population;  $P_{\alpha j}$  is poverty index of the subgroup  $j$ ;  $P_\alpha$  is the total poverty index. The poverty indices estimates were tested for statistical differences using Kakwani, (1993). The test of significance of subgroup poverty measure ( $P_{\alpha i}$ ) is given as:

$$t = \frac{P_{\alpha i} - P_\alpha}{SE(P_{\alpha i})} \dots\dots\dots(4)$$

Where  $SE(P_{\alpha i})$  is the standard error of ( $P_{\alpha i}$ ). This was used to test whether significant differences existed between the  $P_\alpha$  measures of a subgroup  $i$  with another one  $j$ . The number of the subgroup pairs was obtained using the combination formula  ${}^n C_2$ . Where n is the number of subgroups in a particular characteristic of the farming households. The results of the poverty measures were tested for robustness to the changes in the estimated poverty line with the use of stochastic dominance analysis. The estimated poverty line (2/3 of mean per adult equivalent expenditure) obtained from the survey was varied at an interval of 15% (following Canagarajah, (1997) from 70% to 145% to obtain a poverty range for the sensitivity analysis. The proportion of this range that is 0.7-1.45 was used for the dominance analysis.

**RESULTS AND DISCUSSION**

**Socio-economic Characteristic of Farming Households based on Gender of the Heads**

Table 1 gives the summary of the descriptive statistics based on gender of the household heads. Expectedly male-headed households (84%) were more than female-headed households (16%) in the study area. The presence of female-headed households was due to death of male heads, migration, divorce and economic reasons. The mean age for the household heads for the two categories of households were 51.9 and 54.0 years for male and female-headed households respectively. The

modal age group of the two categories of households fell within the active and virile age class of 44-64 years. Sixty-five per cent of the male-headed households engaged in full time farming; while 42 per cent of the female-headed households took farming as means of livelihood. The percentage of livelihood diversification varied with gender of the household heads. Rural farming households' involvements in civil service were relatively small in the study area; 6% and 4% respectively for male and female-headed households. Nonetheless, farming as a means of livelihood was still the major occupation in rural Kwara for the two categories of households. NBS, (2005) reported a similar finding. The rural areas in Kwara State were characterised by large family sizes with the modal family size class being 6-10 members per household. Forty-two per cent of the male-headed households had more than 10 members per households as against 4% for the female-headed ones. This was probably as a result of polygamous nature of most male-headed households in the study area; 58% of these households were polygamous (Table 3). Fifty-one percent of the female-headed households had child dependency ratio of between 0.51-1.0 as against only 35 percent for the male-headed households. This is an indication that the female-headed households had more children that were age fifteen and below who were not contributing to households' income and this properly accounted for their lower level of consumption and higher level of poverty. Interestingly however, the male-headed households had more adult dependants (13%) than the female-headed households (8%).

**Table 1: Descriptive Statistics based on Gender of the Household Heads**

Items	Male-headed n=430	Female-headed n=80	All households n=510
<b>Gender</b>	430 (84)	80 (16)	510 (100)
<b>Age:</b>			
25-44	73(17)	15 (19)	88 (17)
45-64	328 (76)	49 (61)	477 (74)
>64	29 (7)	16 (20)	45 (9)
Mean	51.9	54.03	52.19
Age Standard deviation	9.46	9.61	9.15
<b>Marital Status</b>			
Single	17 (4)	-	17 (3.3)
Married	411 (96)	32 (40)‡	443 (87)
Widowed	1 (0.5)	46 (58)‡	47 (9.2)
Divorced	1 (0.5)	2 (2)	3 (0.6)
<b>Major Occupation</b>			
Farming only	280 (65)	42 (53)‡	322 (63)
Farming and Trading	45 (10)	35 (44)†	80 (16)
Farming and artisan	81 (19)	-	81 (16)
Civil service and farming	24 (6)	3 (4)	27 (5)
<b>Input access</b>			
Yes	230 (53)	38 (48)‡	268 (67)
No	200 (47)	42 (52)	242 (47)
<b>Extension Access</b>			
No visit	286 (66)	56 (70)	342 (67)
1-2 visits	137 (32)	21 (26)	158 (31)
>2	7 (2)	3 (4)	10 (2)
Mean	0.48	0.45	0.47
Standard deviation	0.76	0.83	0.77
<b>Cooperative Membership</b>			
Yes	140 (33)	17 (21)‡	157 (31)
No	290 (67)	63 (79)	353 (69)
<b>Household Size</b>			
Small (1-5)	35 (8)	28 (35)‡	63 (12)
Medium (6-10)	216 (50)	49 (61)	266 (52)
Large >10	179 (42)	3 (4)	181 (36)
Mean	10.10	6.39	9.52

<b>Child dependency Ratio</b>			
Nil (0)	10 (2)	2 (3)†	12 (2)
0.01-5	271 (63)	37 (46)	308 (60)
0.51-1.0	149 (35)	41 (51)	190 (37)
Mean	0.49	0.54	0.50
Standard deviation	0.18	0.19	0.18
<b>Adult Dependency Ratio</b>			
Yes	56 (13)	6 (8)	62 (12)
No	374 (87)	74 (92)	448 (88)
<b>Ratio of Food Expenditure to Total Expenditure</b>			
0-0.5	39 (9)	5 (6)	44 (9)
0.61-1.0	391 (9)	5 (6)	44 (9)
Mean	0.64	0.64	0.64
Standard deviation	0.14	0.16	0.15

Source: Field Survey, 2007. The tests are for differences by gender of household heads, ‡, † denote significance at 1% and 5% respectively.

#### Consumption-based measures of welfare

Consumption is probably the single most comprehensive ability to meet wants (World Bank, 2005). The consumption expenditure obtained from the survey was adjusted per adult equivalent to verify the likely differences among the two categories of households. The mean per adult equivalent household expenditure by deciles showed the male-headed households had a significant higher level of consumption than the female-headed households with the tenth decile figure of N6,345 per adult equivalent per month as against N5,396 for the female-headed households (Table 2). The mean per adult equivalent household expenditure for all households (the pooled data) was N2,557.11. Significant difference existed between the means of the two categories of households based on gender.

**Table 2: Expenditure Pattern of Rural Farming Households in Kwara State based on Gender of the Head**

Deciles	Male-Headed (n=430)	Female-Headed (n=80)	All Households (n=510)
First	896.35 (3.47)	903.5 (3.76)	896.82 (3.51)
Second	1092.19(4.47)	1054.4.39	1086.17 (4.25)
Third	1229.19(4.76)	1177.63 (4.91)	1220.18 (4.77)
Fourth	1338.47(5.18)	1271.5 (5.30)	1327 (5.19)
Fifth	1436.65 (5.56)	1356.63 (5.65)	1424.75 (5.56)
Sixth	1638.05 (6.34)	1493.75 (6.22)	1594.53 (6.24)
Seventh	3108.26 (12.03)	2783.5 (17.12)	3080.08 (12.05)
Eight	3978.02 (15.39)	4111.25 (17.12)	3998.76 (15.63)
Ninth	4781.58 (18.5)	4555.38 (18.78)	4727.49 (18.49)
Tenth	6345 (24.55)	5396 (22.48)	6215.33 (24.31)
Total	25844.13 (100.00)	24,003.77 (100.00)	25571.11 (100.00)
Mean	2584.41	2410.38‡	2557.11
Standard Deviation	1808.00	1632.72	1781.30
<b>Per Adult Equivalent Monthly Expenditure by Category</b>			
<N1000	82 (19)	16 (20)	97 (19)
N 1,001– 2,000	177 (41)	39 (49)	217 (42)
N 2,001– 3,000	47 (11)	6 (8)	54 (11)
> N 3,000	124 (29)	19 (23)	142 (28)

Field Survey: 2007. Figures in parentheses are expenditure distribution in percentages. ‡ Tests are for differences by gender of the household Heads, significant at 1%.

The difference in consumption patterns of the two categories of households was further investigated by categorization of monthly expenditure, 69 per cent of the members in the female-headed households lived on less than two thousand naira a month as against 60% in the male-headed households. This is less than 1.25 dollar a day as recommended by the World Bank and is in agreement with earlier reports (World Bank, 2001; NBS, 2005 and a host of others). In

all, the male-headed households fared better than the female-headed ones. The expenditure per adult equivalent was further disaggregated based on gender and marital status of the households as shown in Table 4 to capture the heterogeneity of the households better.

**Table 3: Disaggregation of Consumption Expenditure by Gender and Marital**

**Status of the Household Heads**

Items	Male-Headed Households	Female-Headed Households	All Households
<i>Mean Real Consumption Expenditure Per Adult Equivalent (MPAEHE)</i>			
Single	6,447 <sup>‡</sup>	-	6,447
Married	2,415	3,765 <sup>‡</sup>	2,355
(i) Monogamous	3,360	-	3,360
(ii) Polygamous	1,662 <sup>‡</sup>	-	1,662
Widowed	5,060	1,459 <sup>‡</sup>	1,514
Divorced	5,033	2,633 <sup>†</sup>	3,433

Source: Field Survey, 2007. The tests are for differences by gender of the household head. ‡, denotes significant at 1%, † denotes significant at 5%.

The sub-groups of households headed by widows had the lowest significant mean expenditure per adult equivalent of N1,459 while the highest figure of N6,447 was recorded by male single sub-group. Those households headed

by married women enjoyed a significant higher level of consumption than other sub-groups in the female-headed category. Widow-headed households had significantly lower consumption than widower-headed ones; conversely, households headed by married women had significantly higher per adult equivalent consumption than those headed by married men. Female-headed households with divorced heads resembled those with widowed heads in that they appeared to suffer from a gender disadvantage: they were worse off than male-headed households with divorced heads, but were not particularly poor; their living standards were fairly comparable to those of female-headed households with married heads. The large variations in consumption per adult equivalent were more vivid based on disaggregation by gender and marital status of the household heads.

**(b) Food consumption per adult equivalent and food share**

Using the food consumption per adult equivalent, the female-headed households also recorded lower level of consumption than their male counterpart except in the first and second decile (Table 4). Significant differences also existed among the means based on gender.

**Table 4: Rural Farming Households Food and Non-food Consumption by Decile**

Deciles	Male-Headed		Female-Headed		All-Households	
	Food	Non-Food	Food	Non-Food	Food	Non-Food
First	689.63	104.38	703.63	158.72	691.74	108.83
Second	792.29	167.11	801.63	221.38	793.83	175.74
Third	880.87	218.45	876.64	250.46	879.72	227.42
Fourth	982.51	299.47	933.36	298.63	965.98	299.20
Fifth	1088.31	386.77	968.08	354.18	1070.18	380.89
Sixth	1272.62	514.12	1088.56	487.14	1243.26	510.89
Seventh	1779.28	984.54	1555.32	1080.28	1746.28	998.06
Eight	2219.71	1477.60	2009.90	1727.64	2178.84	1509.0
Ninth	2689.28	2013.50	2343.02	2352.85	2632.67	2065.8
Tenth	3586.02	3074.90	2471.17	2981.17	3494.83	3070.9

Total	15980.3	9240.84	14165.80	8832.17	15697.27	9346.73
Mean	1598.30	924.09	1416.58‡	991.25†	1569.73	934.62
Standard Deviation	960.07	983.91	748.62	1018.62	932.15	990.23

Source: field Survey, 2007. ‡,†Tests are for differences by gender of the household heads, ‡,† denote significant at 1% 1nd 5% respectively.

### Education

Sixty per cent of adult members in the female-headed households had informal education while only 40% of adult household members in the male-headed category had no formal education. This corroborates earlier reports by Baulch and Masset, (2003); Deere and Leon, (2003); World Bank, (2005); and NBS, (2006). The gender differentials in education were also evident in the mean years of schooling

of the adult members in the male-headed households (4.21 years) as against 3.50 years in the female-headed households (literacy in English language). In terms of literacy in any language that is, with inclusion of Arabic education, the mean years of schooling for adult household members in the male-headed households was 5.20 years as against 4.35 in the female-headed ones.

**Table 5: Mean Educational Indicators by Gender of the Household Heads**

ITEMS	MALE-HEADED n=430	FEMALE-HEADED n=80	ALL HOUSEHOLDS n=510
<b>Educational Status of Household Members</b>			
<b>Percentage with :</b>			
No formal education	175 (41)	48 (60)‡	223 (44)
Arabic	104 (24)	3 (4)	107 (20)
Primary	54 (13)	15 (19)†	69 (14)
Secondary	70 (16)	11 (13)	81 (16)
Tertiary	27 (6)	3 (4)	30 (6)
Mean years	4.21	3.5‡	4.09
Standard deviation	5.18	4.91	5.19
<b>Post Primary Education (%)</b>			
Yes	102 (24)	14 (17)	116 (23)
No	328 (76)	66 (83)	394 (77)
<b>Post Secondary Education</b>			
Yes	27 (6)	3 (4)	31 (6)
No	403 (94)	77 (96)	479 (94)

‡† Tests are for differences by gender of the household head,‡ denotes significant at 1%, † denotes significant at 5%

### Other Indicators of Welfare based on Gender of the household Heads

Table 6 presents the living condition characteristics of the rural farming households in the State based on gender of the household heads. The two categories of households had varying percentages of living condition

characteristics. Sixty-nine per cent of the female-headed households utilized open field for faeces disposal as against sixty per cent for the male-headed category. The use of open spaces for faeces disposal had negative implication on the rural households' well-being. This finding is in agreement with Dhanani and Islam, (2002) and

NBS, (2006) that rural households generally have poor sanitation facilities.

**Table 6: Other Indicators of Economic Welfare based on Gender of the Household Heads**

<i>ITEM</i>	<i>MALE-HEADED n=430 Frequency</i>	<i>FEMALE- HEADED n=80 Frequency</i>	<i>TOTAL HOUSEHOLDS n=510 Frequency</i>
<b>Farm Income Per cropping Season (N)</b>			
0-25,000	87 (20)	27 (34)	114 (22)
25,001-50,000	133 (31)	28 (35)	161 (32)
50,001-100,000	148 (35)	18 (23)	166 (32)
>100,000	62 (14)	7 (8)	69 (14)
Mean	108,526.57	64,054.19‡	101,550.51
Standard Deviation	117,131.01	74,434.69	112,629.28
<b>Non-Farm Income Per Month</b>			
Nil	302 (70)	55 (69)	357 (70)
0-2,500	99 (23)	17 (21)	116 (23)
2,501-5,000	17 (4)	8 (10)	25 (5)
>5000	12 (3)	-	12 (2)
Mean	992.56	630‡	767.06
Standard Deviation	2069.52	1131.42	1952.42
<b>TREATMENT SOURCE</b>			
Clinic	28 (7)	2 (4)‡	30 (6)
Dispensary	199 (45)	28 (35)	223 (44)
Native Herbs	114 (27)	26 (32)	140 (27)
Spiritualist	8 (2)	1 (1)	9 (2)
Drug Hawkers	75 (17)	10(13)†	85 (17)
Dispensary &Native	6 (1)	-	6 (1)
<b>ASSETS</b>			
<b>Farm Size</b>			
<1 Ha	21 (5)	14 (18)†	35 (7)
1-2 Ha	343 (80)	66 (82)‡	409 (80)
>2	66 (15)	-	66 (13)
Mean Ha	1.60	1.15	0.75
<b>Land Access</b>			
Yes	350 (81)	26 (33)‡	404 (79)
No	80 (19)	54 (67)	106 (21)
<b>Water Source:</b>			
Pipe borne water	15 (3)	2 (2)†	16(3)
Well Water	192(45)	41(52)	233(46)
B/hole	57 (13)	9 (11)	66 (13)
Stream	166 (39)	28 (35)‡	195 (38)
<b>House Type:</b>			
Flat	31 (7)	3 (4)‡	34 (6)
Room and Parlour	195 (45)	28 (35)	223 (44)
Single Rooms	204 (47)	49 (61)†	253 (50)
<b>Room per Capita</b>			
0-0.5	318 (74)	58 (72)†	376 (74)
0.51-0.99	90 (21)	15 (19)	123 (24)
1 and above	22 (5)	7 (9)‡	11 (2)
<b>Toilet Facility:</b>			
Flush	17 (4)	1 (1)‡	18 (3)

Pit	153 (36)	24 (30)	177 (35)
Bush	260 (60)	55 (69)	315 (62)
<b>Light Source:</b>			
Electricity	75 (17)	6 (8)‡	81 (16)
Kerosene lantern	219 (51)	47 (59)†	266 (52)
Kerosene Lamp	82(19)	18 (22)	100 (20)
Electricity and lantern	54 (13)	9(11)‡	63 (12)
<b>Cooking Material:</b>			
Stove	13 (3)	-	13 (3)
Firewood	285 (66)	58 (73)	343 (67)
Stove and Firewood	126 (29)	21 (26)	147 (29)
Firewood & Sawdust	6 (2)	1 (1)	7 (1)

Source: Field Survey, 2007. The figures in parentheses are percentages. ‡,†Tests are for differences by gender of the household head.

### Assets

The female-headed households had less access to land for farming (33% as against 81% for the male-headed category). Also in terms of land holding, their performance was poorer than that of the male-headed households; none had more than two hectares of land for farming as against 15 percent for the male-headed households. They were equally at a disadvantage in terms of accommodation; only 39 percent had a relatively decent accommodation such as flat and room and parlour as against 52 percent for the male-headed households. This was due to the fact that the male-headed households earned higher level of income than the female-headed ones (Table 2). This probably allowed for more savings and asset acquisition by the male-headed households. This is in agreement with past studies that female-headed households were particularly deprived in terms of asset ownership (Buvinic and Gupta, 1996; World Bank, 2001).

Conversely, female-headed households had more remittance access that is 76% as against 45% for the male-headed households. The implication of this is that much of the female-headed households' consumption was augmented by remittances from kiths and kins and this notwithstanding; their level of consumption was not at par with their male-headed counterparts.

### Poverty Profile of Farming Households in Kwara State based on Gender of the Household Heads

Using the estimated relative poverty line of N1,704.74 per adult equivalent per month for rural Kwara, 58% and 63% of the male and female-headed households were poor respectively. Seventy-four per cent of total expenditure of poor households in the female-headed category was spent on food while the non-poor households on the other hand spent 52% (Table 7).

**Table 7: Per Adult Equivalent Food and Non-Food Share of Total Expenditure of Respondents by Poverty Levels**

<i>HOUSEHOLDS</i>	FOOD	NON-FOOD	TOTAL
<i>MALE-HEADED HOUSEHOLDS: n=430</i>			
Poor Households	967.40 (77.37)	302.24 (24.17)	1250.40
Non-Poor Households	2482.36 (58.00)	1796.06 (42.00)	4278.42
Total	1598.01 (63.36)	924.08 (36.64)	2522.04
<i>FEMALE-HEADED HOUSEHOLDS: n=80</i>			
Poor-Households	909.28 (74.30)	313.24 (25.59)	1223.84
Non-Poor Households	2482.36 (52.00)	2121.25 (48.34)	4387.93
Total	1598.01 (58.81)	991.24 (41.11)	2410.37
<i>ALL HOUSEHOLDS: n=510</i>			
Poor Households	922.73 (73.6)	231.04 (26.4)	1253.77
Non-poor Households	2396.41 (53.30)	2098.67 (46.69)	4495.08
Total	1526.65 (59.13)	1055.42 (40.87)	2582.07

*Source: Field Survey 2007. Figures in parentheses are shares of food and non-food in total expenditure.*

In the male-headed category, 77% of the mean per adult equivalent household expenditure of the poor households was spent on food. The poor households in the two categories of households spent more of their total expenditure on food component. The implication of this is that, poor households in the study area would require more level of income to bring them out of poverty.

**Poverty Profile of Rural Households in Kwara State by Socio-Economic Characteristics**

The results of the poverty indices of the rural farming households in the study area are presented in Table 8 based on their demographic characteristics. The head count indices were 63 and 59 per cent respectively for the female and male-headed households. The indices were significantly different from the whole group indices at 1%. This is in conformity with Martin and Fernandes, (2008) for Cape Verde. The contribution of the male-headed households to whole group's poverty incidence was however 83% as against 17% for the female-headed ones. This might be as a result of the large number recorded for the male-headed households'

category 84% as against only 16% for the female-headed category. The female-headed households with married heads had the lowest poverty incidence with only 19 per cent of this sub-group being poor. The widow-headed households were the poorest; 95 per cent of this sub-group was poor. The contribution of this marital sub-group to the whole group's poverty incidence was also highest 87%. Widows are usually one of the vulnerable groups in Africa where cultural and religious beliefs put this category of households at a disadvantage (Buvinic and Gupta, 1996). The identified sub-groups for the male-headed households were male-single, male-monogamous, male-polygamous, male-widowed and male-divorced. On the three counts, the polygamous households were poorer than other sub-groups of the household types with 82%, 22% and 8% recorded for the head count, depth and poverty dispersion respectively. Their contribution to poverty was also highest. The married male-headed households were poorer than their unmarried counterpart with headcount, depth and dispersion being 61, 16 and 5 per cent

respectively. This was probably due to large family size and large number of dependants in such sub-groups of households. Large family size and dependants are mostly found in married

households and this often times offset the pooling effect of income from spouses from such homes. Snyder *et al.*, (2006) reported a similar finding.

**Table 8: Poverty Sub-groups based on Socioeconomic Characteristics of Rural Households**

Item	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	q	n	Contribution to		
						P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>
<b>Gender:</b>								
Female	0.63**‡	0.18**‡	0.06**‡	50	80	0.17	0.18	0.19
Male	0.59**	0.16**	0.05**	251	430	0.83	0.82	0.81
All Households	0.58	0.15	0.05	301	510	-	-	-
<b>Household Type:</b>								
Male-divorced	-	-	-	0	1	0.00	0.00	0.00
Male monogamous	0.30**	0.07**	0.02**	49	163	0.16	0.14	0.11
Male polygamous	0.82**	0.24**	0.08**	202	248	0.68	0.67	0.75
Male single	-	-	-	-	17	-	-	-
Male widowed	-	-	-	-	1	-	-	-
Female married	0.19**‡	0.06**‡	0.02**‡	6	32	0.02	0.06	0.01
Female widowed	0.94**‡	0.26**‡	0.09**‡	3	46	0.14	0.04	0.13
Female divorced	0.51	0.18	0.06	1	2	0.00	0.00	-
<b>Age:</b>								
<b>Female-headed:</b>								
<25	-	-	-	-	-	-	-	-
25-44	0.07**‡	0.03**‡‡	0.01**‡	1	15	0.02	0.03	0.02
45-64	0.69**	0.18	0.06	34	49	0.68	0.64	0.60
>64	0.94**‡	0.30**‡	0.12**‡	15	1	0.30	0.33	0.38
<b>Male-Headed</b>								
<25	-	-	-	-	-	-	-	-
25-44	0.15**	0.05**	0.02**	11	73	0.04	0.25	0.06
45-64	0.66**	0.17**	0.06**	215	328	0.86	0.72	0.91
>64	0.86**	0.25**	0.10**	25	29	0.10	0.11	0.13
<b>HOUSEHOLD SIZE</b>								
<b>Female-Headed Household</b>								
<5	0.69*	0.19	0.06	22	32	0.44	0.42	0.40
5.1-10	0.59	0.17	0.07	27	46	0.51	0.56	0.58
>10	0.50	0.20	0.08	1	2	0.02	0.02	0.02
<b>Male-Headed Household</b>								
<5	0.08**	0.02**	0.01**	4	48	0.02	0.02	0.02
5.1-10	0.51*	0.11*	0.03*	125	243	0.49	0.40	0.34
>10	0.88**	0.28**	0.10**	122	139	0.49	0.58	0.64
<b>EDUCATIONAL STATUS</b>								
<b>Female-Headed</b>								
No Formal Education	0.90**	0.15**	0.05**	43	48	0.86	0.50	0.50
≤ 6 Years	0.39*	0.10*	0.03*	7	18	0.56	0.29	0.17
7-12 Years	-	-	-	-	11	-	-	-
Above 12 years	-	-	-	-	3	-	-	-
<b>Male-Headed Households</b>								
No Formal Education	0.83**	0.21**	0.07**	145	175	0.58	0.55	0.56
≤ 6 Years	0.63*	0.18*	0.10*	100	158	0.40	0.43	0.42
7-12 Years	0.07*	0.02*	0.01*	5	170	0.02	0.02	0.02
Above 12 years	0.04*	0.01**	0.00**	1	27	0.00	0.00	0.00
<b>MAJOR OCCUPATION</b>								
<b>Female-Headed</b>								

Farming Only	0.88**‡	0.25**‡	0.09**‡	37	42	0.74	0.74	0.78
Farming & Trading	0.37**	0.10**	0.03**	13	35	0.26	0.26	0.22
Farming & Artisan	-	-	-	-	-	-	-	-
Farming & Civil service	-	-	-	-	3	-	-	-
<b>Male-Headed Households</b>								
Farming Only	0.59	0.15	0.05	165	280	0.66	0.64	0.64
Farming & Trading	0.51*	0.15	0.05	23	45	0.09	0.10	0.10
Farming & Artisan	0.57	0.76*	0.06	48	81	0.19	0.20	0.20
Farming & Civil service	0.68*	0.22*	0.08*	15	24	0.06	0.06	0.06
<b>Cooperative Membership</b>								
<b>Female-Headed</b>								
Non-member	0.68	0.19	0.07	43	63	0.86	0.86	0.86
Member	0.41**‡	0.12**	0.04**	7	17	0.14	0.14	0.14
<b>Male-Headed</b>								
Non-member	0.74*	0.15*	0.05	216	290	0.66	0.62	0.64
Member	0.26*	0.07*	0.06*	36	140	0.34	0.35	0.36

Source: Field Survey, 2007. \*\*, \* Tests are for differences from group total, denotes Significant at 1% and 5% respectively. ‡, † Tests are for differences by gender of the household heads, denotes significant at 1 and 5 % respectively.

Table 8 reveals that poverty incidences were highest among households with no formal education and lowest among those with above 12 years of schooling. The poverty depth and severity followed the same pattern for the two categories of households. The contribution to whole group's poverty also reduced with increase in the years of schooling of the rural households. The results revealed that the average years of schooling of adult household members were inversely related to the poverty status of rural households in the study area. Households with educated members were more liable to adopt new technology than their unlettered counterparts. This might result in increase in output and level of consumption for such households. This is in agreement with earlier studies, (Fagernas and Wallace, 2007 and FAO, 2008) that a higher level of educational attainment reduces poverty. Poverty incidence was also prevalent among households with farming as the only means of livelihood that is 88% and 59% respectively for female and male-

headed households. The households that combined farming with civil service jobs were not poor in the female-headed category. Sixty-eight per cent of this sub-group of households were however poor in the male-headed category. The contribution to whole group's poverty incidence also followed similar pattern. High poverty incidence had been reported among farming households all over the world (Fagernas and Wallace, 2007 and FAO, 2008).

#### **Identified Poverty Sub-groups based on Living Condition Characteristics of the Households**

The households that occupied flat accommodation recorded the lowest figures for the indices. The head count indices for households living in flats were 33% and 16% for female and male-headed households as against 81% and 80% for those living in single rooms. Households that had flush toilet had 12% of their members being poor in the male-headed households while no value was recorded for the female-headed category (Table 9).

**Table 9: Poverty Sub-groups based on Living Condition Characteristics**

Item	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	q	N	Contribution to		
						P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>
<b>FEMALE-HEADED</b>								
<b>Building Type</b>								
Flat	0.33*‡	0.03*‡	0.00*‡	1	3	0.2	0.1	-
Room & Parlour	0.39*	0.12*	0.04	11	28	0.22	0.23	0.22
Single Rooms	0.78**‡	0.23**‡	0.08**‡	38	49	0.76	0.76	0.78
<b>House Construction:</b>								
Concrete Block	0.60‡	0.18‡	0.06‡	18	30	0.37	0.38	0.38
Mud with Zinc	0.63	0.18	0.06	32	50	0.63	0.62	0.62
<b>MALE-HEADED:</b>								
<b>Building Type.</b>								
Flat	0.16*‡	0.06*‡	0.02*‡	5	31	0.02	0.03	0.02
Room & Parlour	0.43*	0.12*	0.04*	83	195	0.34	0.35	0.30
Single Rooms	0.80**	0.21**	0.06**	163	204	0.64	0.62	0.47
<b>House Construction.</b>								
Concrete Block	0.32**	0.07**	0.02**	61	194	0.25	0.20	0.17
Mud with Zinc	0.81**	0.23**	0.08**	190	236	0.75	0.78	0.83
<b>TOILET FACILITY</b>								
<b>Female-Headed</b>								
Flush Toilet	-	-	-	-	-	-	-	-
Pit Latrine	0.33*‡	0.09*‡	0.03*‡	8	24	0.16	0.16	0.16
Bush/ Open space	0.76**	0.22**	0.07**	42	55	0.84	0.84	0.84
<b>MALE-HEADED:</b>								
Flush Toilet	0.12*	0.04*	0.02*	2	17	0.01	0.01	0.02
Pit Latrine	0.33*	0.09*	0.03*	51	153	0.21	0.20	0.22
Bush / Open Space	0.76**	0.20**	0.07**	198	260	0.78	0.79	0.76
<b>Water Source:</b>								
<b>Female-Headed</b>								
Pipe-Borne Water	-	-	-	0	1	-	-	-
Well	0.39*	0.09*	0.27*	16	41	0.32	0.28	0.25
Bore Hole	0.89*	0.25*	0.08*	8	9	0.16	0.15	0.15
Stream	0.90**	0.28**	0.10**	26	29	0.52	0.57	0.60
<b>Male-headed</b>								
Pipe-Borne Water	0.13*	0.04*	0.01*	2	15	0.01	0.01	0.01
Well	0.33**	0.07**	0.02**	66	192	0.26	0.22	0.18
Bore Hole	0.44*	0.13	0.05	25	57	0.09	0.11	0.12
Stream	0.95**	0.27**	0.09**	158	166	0.64	0.66	0.69
<b>Female-Headed</b>								
Clinic	0.50	0.51	0.02	1	2	0.05	0.02	0.02
Dispensary	0.41*	0.11	0.03	17	41	0.32	0.31	0.30
Native Herbs	0.85*	0.27*	0.09*	22	26	0.43	0.43	0.44
Spiritualist	1.00*	0.34	0.12	1	1	0.02	0.02	0.02
Drug seller	0.90*	0.31*	0.10*	9	10	0.18	0.22	0.22
Dispensary and Native	-	-	-	-	-	-	-	-
<b>Male-Headed</b>								
Clinic	0.11	0.03	0.01	3	28	0.07	0.01	0.02
Dispensary	0.44*	0.11	0.04	87	199	0.46	0.35	0.32
Native Herbs	0.81*	0.23*	0.08*	91	112	0.27	0.37	0.37
Spiritualist	0.75*	0.20	0.06	6	8	0.02	0.03	0.04
Drug seller	0.80*	0.21*	0.07*	60	75	0.17	0.23	0.22
Dispensary and Native	0.67*	0.27*	0.11*	4	6	0.01	0.01	0.03

Source: Field Survey, 2007. \*\*, \* Tests are for differences from group total, denotes significant at 1% and 5% respectively. ‡, † Tests are for differences by gender of the household heads, denotes significant at 1% and 5% respectively.

The households with access to good accommodation and good sanitation facility were less poor on all counts and contributed less to all the poverty indices of their groups. Significant difference also existed between these sub-groups and the whole group poverty incidence.

In terms of use of modern toilet facility, there was prevalence of poverty among rural households that utilised open spaces for disposing their faeces, 76% for all households as against 11% for households that used flush toilets. Rural households in the study area had low income and had no means of constructing modern sanitary facilities. The use of open spaces for faeces disposal however has negative implication on water pollution and health hazards for the rural households. Dhanani and Islam, (2002) reported a similar finding. The households that utilized stream water recorded the highest figures for the indices for the two

categories of households. The head count was 90% for the female-headed households as against 95% for the male-headed ones. Access to and utilisation of potable water is an indication of better standard of living (Dhanani and Islam, 2002; World Bank, 2005; and NBS, 2006). Eighty-three per cent of households that utilised kerosene lamp were poor in the female-headed household category while 90% were poor in the male-headed category. This showed that households with no access to modern sources of energy for lightning were poor in the study area. This may not be unconnected with the low farm income recorded in the study area, which was barely enough for meeting the nutritional needs of these households with little or nothing for non-food needs. Access to and utilization of modern sources of energy is an indication of higher level of well-being for the rural households.

**Table 10: Sub-groups of Farming Households based on Energy Sources**

Item	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	q	n	Contribution to		
						P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>
<b>LIGHT SOURCE</b>								
<i>Female-Headed: n=80</i>								
Electricity	0.50*	0.23*	0.06	3	6	0.13	0.10	0.09
Kerosene lantern	0.58‡	0.16‡	0.05‡	30	52	0.6	0.54	0.45
Kerosene lamp	0.77	0.14	0.05	10	13	0.13	0.16	0.18
Electricity and lantern	0.78*†	0.33*†	0.15*†	7	9	0.14	0.20	0.28
<i>MALE-HEADED: n=430</i>								
Electricity	0.27**	0.06**	0.02**	21	77	0.08	0.07	0.05
Kerosene lantern	0.61*	0.17*	0.06*	132	216	0.52	0.53	0.58
Kerosene lamp	0.87*	0.25*	0.09*	72	83	0.29	0.30	0.31
Electricity and lantern	0.48*	0.12*	0.03*	26	54	0.11	0.10	0.06
<b>SOURCE OF ENERGY FOR COOKING</b>								
<i>FEMALE-HEADED :n=80</i>								
Firewood	0.71*	0.19*	0.06	41	58	0.83	0.81	0.81
Stove and firewood	0.38*‡	0.12‡	0.04‡	8	21	0.16	0.17	0.17
Wood and sawdust	1.00	0.39	0.15	1	1	0.02	0.02	0.02

**MALE-HEADED :n=430**

Stove	0.31*	0.11*	0.04*	4	13	0.02	0.02	0.02
Firewood	0.75**	0.20**	0.07**	214	285	0.85	0.84	0.85
Stove and firewood	0.23**	0.06**	0.02**	29	126	0.11	0.11	0.12
Wood and sawdust	0.67	0.26	0.10	4	6	0.02	0.03	0.02

**Number of Income Earners in the households**

**Female- Headed**

1	0.68*	0.19	0.07	44	65	0.88	0.88	0.95
>1	0.40**	0.13**	0.03**	6	15	0.12	0.12	0.05

**Male-Headed**

1	0.76**	0.21**	0.07**	203	262	0.80	0.81	0.84
> 1	0.29**	0.07**	0.02**	48	168	0.20	0.19	0.16

**Remittances**

**Female-Headed**

No	0.74*	0.22*	0.08*	14	19	0.72	0.71	0.67
Yes	0.59*‡	0.16*‡	0.05*‡	36	61	0.28	0.29	0.29

**Male-Headed**

No	0.82*	0.22*	0.08*	196	236	0.79	0.80	0.82
Yes	0.36**	0.10**	0.03**	55	194	0.21	0.20	0.18

Source, field Survey, 2007. \*\*, \* tests are for differences from group total, denotes significant at 1% and 5% respectively. ‡, † tests are for differences by gender of the household heads, denotes significant at 1% and 5% respectively.

In terms of sources of energy for cooking, the two categories of households recorded fluctuating results with no clear-cut indication of better welfare for one than the other. The use of wood fuel was predominant in the study area, households that utilised wood fuel for cooking recorded high prevalence of poverty 71% and 73% respectively for female and male-headed households. The poverty depth and severity followed the same pattern for the two categories of households. Dhanani and Islam, (2002) and NBS, (2006) reported similar findings. Households with no access to remittances were poorer, (82%) in the male-headed households than in the female-headed category that is 74%. Conversely however, the proportion of the poor was more in female-

headed households with access to remittances (59%) as against (36%) for the male-headed households. Incidentally, more female-headed households (76%) had access to remittances than the male-headed households (45%) (Table 3). It could be said that despite the support from kith and kin, female-headed households were still more deprived than their male-headed counterparts in the study area. The implication of this is that drastic strategic measures would have to be adopted to get the households in the female-headed category out of poverty. Martins and Fernandes, (2008) reported a similar finding.

**Conclusion**

The study profiled the poverty status of rural farming households in Kwara State using 510 randomly selected farming households based

on gender of the heads. Descriptive statistics, social and Foster, Greer and Thorbecke consumption based indicators were used as analytical tools. The study revealed that the female-headed households in the state were significantly deprived based on all indicators. The widow-headed households of the female category were particularly disadvantaged. The study recommended provision of safety nets to this particularly disadvantaged sub-group of households.

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