

Gender Dimensions of Food Security Status of Households in Oyo State, Nigeria

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Abstract

he quest for identity construction knew its apogee in the burgeoning Caribbean literature of the 1950's, a period marked by a great tide of immigration to London and the exile of a significant number of West Indian writers. This exile generation of West Indian writers, including leading figures such as George Lamming, Samuel Selvon, Andrew Salkey, Edward Kamau Brathwaite, V.S Naipaul, was concerned with depicting their West Indian experience and dealing with issues revolving around liberty and identity.

Index terms— gender, household and food security.

1 Introduction

ll living things need food to satisfy hunger and nourish the body. Food also gives a feeling of comfort and satisfaction to man (Oyebamji 2000). Adequate nutrition is essential for many human functions that include body growth, motivation, work output and educational attainment (Okunmadewa 1999). In order to enjoy a healthy life therefore, there is the need for access to a nutritionally balanced diet, comprising all essential ingredients for growth, energy and longevity. The recent emphasis on alleviating hunger, reducing malnutrition and the serious consequences of food insecurity on the poor, calls for investigation on food problems in African countries. As reported by FAO (2000), majority of the countries with the most extreme depth of hunger (less than 300 kilocalories per day) are residing in Africa.

Food security exists, according to World Food Summit Plan of November 1996, when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preference for an active and healthy life. Without food, a feeling of insecurity permeates the society, fuelling tension and creating ground for antisocial behaviors.

Within the framework of government goals of ensuring widespread improvements in the well being of households and individual welfare, the issue of food insecurity is of high importance to Nigeria because average calorie intake is only at the threshold of adequacy. The inability of Nigeria to sustainably feed it's rapidly growing population was quantitatively revealed in the early 1970's and estimate shows that at least one percent of the population is food insecure with 16 percent being severely undernourished.

Gender is a central factor in household decision-making, which affects productivity, time allocation, and investment in developing countries (Kenan, Jr. 2004). Gender inequality induced poverty and any poverty alleviation programmes towards household welfare must thoroughly examine the link between gender relations and state of household's food security. Gender analysis is therefore an important factor in poverty and food security analysis. Ingrid Palmer (ILO 1991) referred to Women as "a group operating under the conditions in which their reproductive activities are traded at the margin against their economic ventures". This does not only limit the time at these women's disposal but also restrict them to activities that are compatible with their schedules. Consequently, most women work on small-scale farms for production with attendant low yields and income that can hardly meet their varying family obligations. This therefore places limitation on their purchasing power and invariably their household food security level.

This study therefore set out to examine the food insecurity profiles among the urban and rural households by comparing the level of food insecurity among the male headed and female headed households in both urban and

105 vector of unknown coefficients X_i is the vector of characteristics of the i th individual and are the independent
106 variables, which are defined as follows. An iterative maximum likelihood algorithm was used to estimate the
107 empirical model in order to obtain asymptotically efficient parameter estimate. The statistical power of the
108 estimated model is evaluated by using the percent of correct predictions of food insecure and food secured
109 household and the likelihood ratio test.

110 6 IV.

111 Results and Discussion a) Food insecurity indices for the study area Table 1 presents the summary statistics of
112 food insecurity indices among the households. Based on the recommended daily energy level (L) of 2700 Kcal,
113 the food insecurity line (Z) for the household was estimated at N117.10 per day for the study area. About 55.5%
114 of the male headed household and 55.3 % of the female headed household are food insecure with average food
115 expenditure below N 117.10 per adult equivalent per day hence subsisting on less than the recommended daily
116 per capita calorie requirement of 2700 kcal. This implies that food insecurity exists among both male-headed
117 households and female-headed households.

118 The depth of food insecurity, which is also known as food expenditure deficiency is 0.37 and 0.55 for the male
119 and female headed households Volume XIV Issue I Version I

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121 Y_i is the probability that the i th individual will be poor. Thus, the probability of poverty is the area under
122 the standard normal curve between $-Z$ and Z .

123 The larger the value of Z the more likelihood that the household will be food insecure (the higher the Z
124 Z , the higher the depth of food insecurity) respectively. This implies that female-headed household's needs 55%
125 while the male headed households needs 37% increase in their food expenditure to become food secured.

126 The severity of food insecurity for households in the study area is 0.17 for the male-headed households and 0.37
127 for the female-headed households. This shows a higher level of severity of food insecurity among the female-headed
128 households than the male-headed households in the study area.

129 This observation might be due to the fact that male headed households have better access to productive
130 resources and asset base such as credit facilities, access to improved seed varieties, land, access extension services
131 among others compared to their female counterpart. This enhances their productivity level and therefore their
132 household food security status. This inequality might be due to the way biological difference between male and
133 female is being translated into socially constructed differences, which invariably lead to inequality in access to
134 productive resources.

135 8 Disaggregation of the Household Food Security Status along 136 t here Socio-Economic Characteristics

137 In order to assess the influence of some socioeconomic characteristics / variables on the level of household food
138 security, the household's food security level were disaggregated along their socio-economic characteristics and
139 the households were classified by gender of the household head in order to see the effect of gender on other
140 socio-economic variables and household food security status. a) Distribution of household food security status
141 by location Distribution of the level of food security status of household head by location is presented in table
142 2. The table revealed that for the male headed household about 87 out of the 122 respondents that resides in
143 rural areas was food insecure i.e. 71.3% of the respondents in the rural areas are living on less than N117.10 per
144 day, while 38 out of the 42 (90.5%) male headed households that reside in urban area are food secured. For the
145 female headed households that reside in the rural areas about 64.3% of her respondents are food insecure while
146 70% of the female headed households residing in the urban centers belong to the food secured category.

147 The reason for the high level of food insecurity in rural areas might not be far fetched in view of the fact that
148 poverty is largely rural in nature as majority of the poor live in rural area. This fact is further ascertained by
149 World Bank (1996) that indicated that rural areas account for 66% of the incidence of poverty, 72% of the depth
150 and 69% of the extreme poor. Poverty status of households also determines the household welfare status, which
151 in turn affects their food security status. This is further complicated by the fact that most rural farmers still use
152 traditional means of agriculture which is usually accompanied by low efficiency, low productivity and in turn low
153 output. In addition, most of the farmers tend to sell off the best part of their produce to purchase other food
154 items that they do not cultivate and to acquire non-food items that the family needs 3 shows the distribution of
155 the level of food security of respondents by age. As shown, 90.5% of the households that are headed by male and
156 62.5% of those headed by females whose household heads are not older than 31 years of age are food secured while
157 96.6% of the male headed households and 60% of female-headed households whose household heads are older than
158 60 years of age are food insecure. This indicates that households with younger household heads irrespective of
159 sex are able to attain food security level. This might be due to the fact that this younger household heads are
160 still in their productive years and are able to engage themselves in various income generating activities through
161 livelihood diversification thereby increasing their income base hence the purchasing power, which makes them
162 more food secured 4 shows the disaggregation of the household food security level by their household size. For

163 the male-headed households the result revealed that 62 out of 92 (67.4%) households that have their household
164 size less than 6 were food secured. For the female-headed households, 21 of the 35 (60%) respondents that
165 have their household size less than six were food secured. Only 1 out of 8 (12.5%) male-headed households that
166 have their household size greater than 10 and also only 1 out of 6 (16.7%) female-headed households that have
167 household size greater than ten were food secured. This indicates that households with fewer household sizes
168 are food secure while households with higher households' size have the highest incidence of food insecurity. This
169 implies that the lower the household size, the higher the level of food security. This might be due to the fact
170 that households with higher household size have the tendency to have a reduced per capita expenditure since a
171 larger number of people are competing for the limited resources available within the households. Table 5 shows
172 the effect of the educational level of household's heads on the food security status of their households. The
173 result revealed that only 2 of the 27 respondents of the male-headed households that have no formal education
174 were food secured while 92.6% were food insecure. For male-headed households that had tertiary education 38
175 of the 45 were food secured while just 15.6% respondents of households headed by male and had up to tertiary
176 education were food insecure.

177 The table also reveals that only one out of the 24 (4.2%) female headed households that were without any form
178 of formal education were food secured while the remaining 95.8% were food insecure. Those that were educated
179 up to tertiary education level had about 88.9% of its respondents food secured while just 11.1% of them were
180 food secure. This implication of these observations is that the higher the literacy levels the higher the level of
181 food security status. This is expected since the higher the educational level, the more improved the skill and
182 human capital of the individuals will be. High literacy level also helps households to be able to understand and
183 adopt new technology because of the improvement in their technical know-how. In addition, educational level is
184 a major determinant of wages and salaries since it is believed that the number of years spent in school positively
185 determines level of skill acquirement and state of capacity building. e) Distribution of Household food security
186 level by primary occupation

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188 Table 5 shows that for both the male-headed households and female that were interviewed who were engaged in
189 non-farming activities were more food secured than those who had farming as their main occupation. For the
190 male-headed household, 18.8% of respondents that were engaged in agriculture were food secured. Also, only
191 13% of the female-headed households that were engaged in farm work have their main occupation were food
192 secured. The low level of food security among respondents that were engaged in agriculture might be due to high
193 rural-urban migration which has left agriculture into the hands of the old people in the rural area who are also
194 using traditional means of production in addition to the fact that they plant low yielding variety which leads to
195 low productivity. This therefore leads to low purchasing power, which invariably determines their food security
196 status f) Distribution of Household food security level by years of experience Table 7 presents the disaggregation
197 of male-headed households and female-headed household's food security status according to their years of working
198 experience. The table indicates that for the male-headed households 10 out of 43 respondents with years of
199 experience less than 10 were food secured while 70% of the respondents that had years of experience greater
200 than 20 were also food secured. This implies that the greater the years of experience, the higher the tendency
201 to have household that is food secured. This might be due to the fact that the higher years of experience,
202 helps to improve qualities acquired by such individuals over time. This will in turn enhance their productivity
203 and efficiency level and consequently their food security level. This might also be because years of working
204 experience usually enhances wages of workers, thus improving their purchasing power and therefore their food
205 security status. 8 indicates that 12 out of the 82 (14.6%) male headed households and 33.3% of the female
206 headed households that belongs to cooperative societies are food insecure, while 70 out of 82 (85.4%) of the male
207 headed households and 34 out of 38 (89.5%) of the female headed households that do not belong to cooperative
208 societies are food insecure. This implies that respondents who participate in cooperative society are more food
209 secure than nonmembers of cooperative societies. This might be due to advantage of economies of scale that
210 members of cooperative societies enjoy like access to production input at a cheaper rate and ability to secure
211 credit for various income-generating activities and also for consumption purposes from members of such societies.
212 This section presents the result of the determinants of household food insecurity among rural households in the
213 study area. The relationship between household food security status and various socioeconomic variables and
214 institutional factor was examined. The probit model was employed to identify the factors influencing household
215 food insecurity among households.

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217 Table ?? summarizes the result of the probit model. In estimating the determinants of food security among the
218 households, regression model made of 10 regressors were specified. The factor that influences food security status
219 of households are gender, age, household size, years of formal education, membership of cooperative societies and
220 level of asset ownership. Gender of the household head significantly ($P < 0.05$) and positively influences household
221 food security status. The result revealed that empowering the female folk enhances the household food security
222 status.

223 Age significantly (P?0.1) but negatively influence household food security level at 10% level irrespective of
224 gender. This might be because household heads that are young are more agile and active thus enhancing their
225 productivity level, rate of adoption of new technology and level of diversification, which helps them to engage
226 in other income generating activities thus enhancing their purchasing power and invariably their food security
227 status.

228 Years of formal education also significantly (P?0.1) and positively affect the food security status of households,
229 hence households with more years of formal education are more food secured compared with households with
230 others having none or few years of formal education. This might be due to the fact that years of formal education
231 are a major factor in wage determination especially in Nigeria where the higher the academic qualification, the
232 higher the wage. In addition, formal education improves human capacity and technical know how which aids
233 rate of adoption thus improving the productivity level of such households and consequently their food security
234 status.

235 Ownership of asset (P?0.05) significantly and positively affects food security status of households. Households
236 that have access to key assets are more food secured since they are able to use such asset to secure loans which
237 can be invested in other productive enterprises which they can translate into cash if such households experiences
238 shock. This can be used to smoothing their consumption pattern then.

239 Participation in cooperative societies (P?0.05) significantly influences household food security positively. This
240 is probably due to the fact that cooperative society members have access to information dissemination, new
241 technology, economies of scale, access to credit and other input dissemination that help to improve their standard
242 of living.

243 Marginal effects as presented in table 10 were estimated for continuous variables only, because they may not
244 be meaningful for binary variables. It therefore means that 1% change in the positive and significant variables
245 will increase the probability of households being food secured. Reverse is the case for negative and significant
246 variables. The marginal effect for the probit model revealed that for household size and age of the respondents,
247 a 1% change in the size of the households and age of the household head will decrease the probability of the
248 household to be food secured by 0.

249 11 Conclusion

250 The study examined the effect of gender on household food security status among rural and urban households
251 in Oyo State. The study revealed that female-headed households are more food insecure than male-headed
252 households and that the incidence of household food insecurity is higher among the rural populace than the
253 households in urban centers.

254 The result of the analysis indicates that age and household size have negative effects on the food security of
255 households while educational level, membership of cooperative societies, asset ownership have positive influence.
256 The type of occupation that household head is engaged in also has a significant influence on the food security
257 status of household size.

258 The result of the analysis further shows that advancing in age, non-membership of cooperative societies, asset
259 ownership and largeness in the size of household are the factors that determine the food insecurity level among
260 households.

261 Due to high incidence of food insecurity among rural farming households, they should be encouraged to adopt
262 new improved production practices in order to increase their yield and also they should be encouraged to diversify
263 their source of livelihood in order to enhance their income.

264 Therefore, for any successful food security programmes, households should be encouraged to build their
265 capacity through training by enhancing their skill acquisition process. Also household heads should be encouraged
266 to join cooperative societies and build up their asset base. The female gender group should be involved in the
267 implementation area and this should also start from the grassroots levels that are the most vulnerable group.

268 12 VII.

269 13 Policy Implications and Recommendations

270 1. Rural dwellers should be encouraged to improve on their literacy level so as to enhance their human capacity.
271 There is need for adult literacy class, extension services and other forms of informal education especially for the
272 female gender group who have low literacy level compared to their female counterpart. This is expected to help
273 the rural populace to improve their food security level 2. Investments in capital goods have been shown to have
274 significant effect on the food security status of households. Household heads should therefore be encouraged to
275 invest in capital goods in order to develop their asset base, which they can use as collateral to obtain loan or
276 dispose off to overcome shock. 3. Household heads should be encouraged to participate in cooperative societies
277 in order to have improved access to productive resources such as seed input, information dissemination and credit
278 facilities so as to enhance their productivity level which will invariably improve their household food security
279 status. 4. Household head that are old should learn means of income generating activities that are not too energy
280 demanding for their age so as to enhance their purchasing power especially for rural dwellers where farming is
281 the primary occupation.



Figure 1:

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1

| Variables | Values | |
|--|----------------|--------|
| Cost of calorie equation | Ln x = a+ bc | |
| Constant | 4.655 | |
| Slope coefficient | 0.00003753 | |
| Recommended daily calorie intake | 2700Kcal | |
| Food security line (Z): Cost of recommended calorie intake | N117.10per day | |
| Food insecurity indices: | Male | Female |
| Incidence of food insecurity | | |
| Head count ratio | 0.55 | 0.53 |
| Depth of food insecurity | 0.37 | 0.55 |
| Severity of food insecurity | 0.17 | 0.37 |
| V. | | |

Figure 2: Table 1 :

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| Variable Location | Male headed | | | Female headed | | |
|----------------------|----------------------|----------------|-------|----------------------|----------------|-------|
| | Non Food se- cure | Food secure | Total | Non Food se- cure | Food secure | Total |
| Rural | 87 | 35 | 122 | 36 | 20 | 56 |
| Urban | 4 | 38 | 42 | 6 | 14 | 20 |
| Total | 91 | 73 | 164 | 42 | 34 | 76 |

Figure 3: Table 2 :

Figure 4: Table

3

| Variable Age | Male headed | | | Female headed | | |
|-----------------|--------------------|---------------------|-------|--------------------|---------------------|-------|
| | Non Food secure | Food se- cure | Total | Non Food secure | Food se- cure | Total |
| < 31 yrs | 2 | 19 | 21 | 3 | 5 | 8 |
| 31-60 yrs | 61 | 53 | 114 | 30 | 23 | 53 |
| > 60 yrs | 28 | 1 | 29 | 9 | 6 | 15 |
| Total | 91 | 73 | 164 | 42 | 34 | 76 |

c) Distribution of household food security status by Household Size
Table

Figure 5: Table 3 :

4

| Variable | Male headed | | | Total | Female headed | | |
|----------------|-------------|-------------|-------------|-------|---------------|-------------|-------------|
| | Non secure | Food secure | Food secure | | Non secure | Food secure | Food secure |
| Household Size | | | | | | | |
| < 6 | 30 | 62 | 92 | 14 | 21 | 35 | |
| 6-10 | 54 | 10 | 64 | 23 | 12 | 35 | |
| >10 | 7 | 1 | 8 | 5 | 1 | 6 | |
| Total | 91 | 73 | 164 | 42 | 34 | 76 | |

d) Distribution of Household Food security status by educational level

Figure 6: Table 4 :

5

| Variable | Educational level | Male headed | | Total | Female headed | | Total |
|----------|-------------------|-----------------|-------------|-------|-----------------|-------------|-------|
| | | Non Food secure | Food secure | | Non Food secure | Food secure | |
| | No formal | 25 | 2 | 27 | 23 | 1 | 24 |
| | Primary | 37 | 7 | 44 | 10 | 3 | 13 |
| | Secondary | 22 | 26 | 48 | 7 | 14 | 21 |
| | Tertiary | 7 | 38 | 45 | 2 | 16 | 18 |
| | Total | 91 | 73 | 164 | 42 | 34 | 76 |

Figure 7: Table 5 :

6

| Variable | Male headed | | | Total | Female headed | | |
|-------------|-------------|----------------|-------------|-------|---------------|----------------|-------------|
| | Non secure | Food se-secure | Food secure | | Non secure | Food se-secure | Food secure |
| Primary | | | | | | | |
| Occupation | | | | | | | |
| Farming | 52 | 12 | 64 | 27 | 4 | 31 | |
| Non-farming | 39 | 61 | 100 | 15 | 30 | 45 | |
| Total | 91 | 73 | 164 | 42 | 34 | 76 | |

Figure 8: Table 6 :

7

| Variable | Male headed | | | Female headed | | |
|-------------|-----------------|--------------|-------|-----------------|--------------|-------|
| | Non Food secure | Food se-cure | Total | Non Food secure | Food se-cure | Total |
| < 10 years | 35 | 10 | 43 | 21 | 8 | 29 |
| 10-20 years | 37 | 21 | 51 | 15 | 11 | 26 |
| > 20 years | 19 | 42 | 60 | 6 | 15 | 21 |
| Total | 91 | 73 | 164 | 42 | 34 | 76 |

g) Distribution of Household food security level by membership of cooperative societies

Table

Figure 9: Table 7 :

8

| Variable | Male headed | | | Female headed | | |
|------------------------|-----------------|-------------|-------|-----------------|-------------|-------|
| | Non Food secure | Food secure | Total | Non Food secure | Food secure | Total |
| Cooperative membership | | | | | | |
| Yes | 12 | 70 | 82 | 8 | 30 | 38 |
| No | 79 | 3 | 82 | 34 | 4 | 38 |
| Total | 91 | 73 | 164 | 42 | 34 | 76 |

h) Factors influencing Food insecurity in the Study area

Figure 10: Table 8 :

10

| Variable Specification | Coefficient | SE | t-value | P (/Z/>Z) |
|-----------------------------------|-------------|----------|---------|-----------|
| Constant term | -0.212 | 85.389 | -0.002 | 0. |
| Location | 0.844 | 13.383 | 0.063 | 0.9497 |
| Gender | 0.001 | 0.008 | 1.200 | 0.2300 |
| Household size | -0.628 | 0.484 | -1.299 | 0.1938 |
| Marital Status | -5.335 | 2613.685 | -0.002 | 0.9984 |
| Primary Occupation | -0.482 | 1.226 | -0.393 | 0.6942 |
| Educational level | 0.456 | 0.246 | 1.852 | 0.0640 |
| Asset Ownership | 5.704 | 2.896 | 1.969 | 0.0463 |
| Membership of cooperative society | 6.159 | 3.091 | 1.992 | 0.046 |
| Age | -0.215 | 0.117 | -1.832 | 0.067 |
| Non-food expenditure | -0.190 | 1.377 | -0.138 | 0.890 |

VI.

Figure 11: Table 10 :

.1 Acknowledgements

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