

## Ekiti State Social Security Scheme (ESSSS) and its Effect on Food Security in Ekiti State, Nigeria

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Abstract

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This study was carried out to evaluate the Ekiti State Social Security Scheme (ESSSS) in Nigeria. Specifically, the study estimated the food security status of the beneficiaries and non beneficiaries of the scheme, assessed the effect of the social security scheme on households' food security status, and identified the constraints to the implementation of the scheme in the state. A three stage random sampling technique was employed to select 200 respondents for the study using a well structured questionnaire. Descriptive statistics, Head Count Ratio (HCR), Food Insecurity Gap (FIG) and Squared Food Insecurity Gap (SFIG) indices, T- test analysis, 5- point Likert type scale and the logistic regression model were the major analytical tools employed for the study. The result of the analysis showed that income from cash transfer make up about 45% of the total income of the benefiting households. Whereas about 39% of the sampled benefiting households were food insecure, the proportion of the non-beneficiaries that were food insecure was as much as 60%. The result of the logistic regression model revealed that access to the social security scheme, gender, marital status and total monthly income of the household were statistically significant and in explaining the food security status of the household. Corruption and political interference were identified as the most important constraints to the programme in the study area. The study recommends that the government should try as much as possible to increase the number of old people benefiting from the programme. [Babatunde, R. O et al. Ekiti State Social Security Scheme (ESSSS) and its Effect on Food Security in Ekiti State, Nigeria. *International Journal of Agricultural Science, Research and Technology in Extension and Education Systems*, 2013; 3(1):45-52]

**Keywords:** ESSSS; Food Security; Head Count Ratio; Logistic Regression Model; Likert type scale, Ekiti State

### 1. Introduction

With more than 160 million inhabitants, Nigeria is Africa's most populous country constituting about half of West Africa's population. It is one of the world's largest oil producers and ranks fifth globally in natural gas reserves (IFAD, 2012). Agriculture is the mainstay of the Nigerian economy, despite the strategic importance of the oil sector, accounting for approximately 40 percent of Gross Domestic Product (GDP) and providing employment to over 60 percent of the labour force and 90 percent in rural areas (Babatunde and Oyatoye, 2005; IFAD, 2012). With its wealth of resources Nigeria has the potential to build a prosperous economy, reduce poverty significantly, and provide health, education and infrastructure services its population needs (IFAD, 2012).

Paradoxically, despite its rich endowment of human and material resources, plentiful agricultural resources and oil wealth, Nigeria continues to experience severe and worsening income disparity and widespread poverty which has increased since the late 1990s (United Nations Development Report, 2001). Nigeria's poverty rate had moved from 54.4

percent to 69 percent between 2004 and 2010 in spite of strong growth in the country's Gross Domestic Product (GDP) which had little impact on the poverty situation (NBS, 2011). While recent forecasts suggest that poverty may be reducing slightly, of most concern is the fact that the poverty rate has doubled in the past 20 years (Ortiz and Cummins, 2011).

Poverty is especially severe in rural areas and among older people. While most advanced countries have some kind of social security mechanism in place, including a number of private initiatives; unfortunately the same is not true for most developing countries, including Nigeria (Kakwana, and Subbarao, 2005). Large numbers of older people in the developing world, and especially women, live in extreme poverty. Those over 70 years face greater poverty than any other age group and those over 80 years, who are predominantly female, are at even greatest risk of chronic poverty (Kakwana, and Subbarao, 2005). Halving the rate of poverty and hunger by 2015 without seriously considering older people will affect the success rate of the otherwise well-conceived Millennium Development Goals programme. In Nigeria, poverty and the lack of liquid

assets is seen as the major factor causing food insecurity and vulnerability to hunger.

Food is one of the most basic needs for human survival according to Food and Agricultural Organization (FAO, 2010). There are more than 925 million people suffering from chronic food hunger globally (FAO, 2010). Sub-Saharan Africa (SSA) has a bigger share of those facing hunger i.e. from 168 million in 2000 to more than 239 million by 2010 (FAO, 2010). Food security is a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (Lemke, Jausen, Voster and Ziche, 2002). Food insecurity on the other hand refers to limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (Tollens, 2002).

In recent years however, the government of Nigeria and its development partners have sought to develop social protection instruments as a mechanism to tackle high rates of poverty and food insecurity in the country and to support progress in both the economic and the social spheres. This is particularly more important in the wake of the apparent decline in the adequacy of material family support that has occurred in recent times and the rising deprivation and poverty to which growing numbers of older people are exposed (Aboderin, 2006). The lack of a social security system for older people has rendered them extremely vulnerable. Social protection is emerging as a policy objective to solve the problem of poverty and food insecurity (Farrington et al., 2004).

A common definition of social protection is one which includes all public and private initiatives that provide income or consumption transfers to the poor, protect the vulnerable against livelihood risks and enhance the social status and rights of the marginalised. Such interventions may be carried out by the state, non-governmental actors or the private sector, or through informal individual or community initiatives (Holmes et al., 2012). The concept of cash transfer (also sometimes referred to as income transfers or cash subsidies) is that a recipient is given cash (often in the form of cheques, money orders, or sometimes vouchers) as a safety net to not only improve their ability to purchase sufficient amounts of food but also enable them to retain productive assets or continue to make productive investments (Sheffrin, 2003). Cash transfers have been identified at the federal level and to some extent the state level as a potentially important social protection instrument to achieve the millennium development goal of reducing poverty (Hagen-Zanker and Holmes, 2012).

Cash transfers are direct transfer payments of money to eligible people. The cash or money transferred can be used to purchase current inputs such as fertiliser or to invest in physical and human capital, thereby alleviating the seasonal liquidity constraints that the poor face everywhere (Sadoulet et al., 2001).

The Ekiti State Social Security Scheme is cash transfer programme for all the Elderly of 65 years and above in all the 16 Local Government areas in the State. The programme entails that the beneficiaries are given monthly stipend of Five thousand naira (₦5000). More than 52,000 elderly indigenes were enumerated out of which, 10,084 beneficiaries were selected for the first batch of the programme. For the second batch exercise, out over 34,000 elderly enumerated, 9,186 elderly citizens in the State were selected as beneficiaries of the Social Security Scheme. The programme beneficiaries in excess of 20,000, who have been duly registered, stay in their homes, and are paid by local government officials (Ekiti State Government., 2012). The objective of the programme is to address adult poverty and food security challenges in the state. The enumerators who are well trained are charged to ascertain the profession and economic status of the children of the proposed beneficiaries of the scheme towards ensuring that elderly people from poor homes benefit more. Payment of the stipend is made regularly on the 25th of the month when all workers are being paid. The scheme costs the government a sum of ₦1 million monthly (Ekiti State Government, 2012).

Social protection as a tool for tackling poverty and food insecurity in low income countries has been around for a long time, however, studies assessing its welfare, food security and asset building effects are generally limited. Very little has been done to ascertain the effect of such programmes on the welfare and food security status of the beneficiaries. The financing and affordability of the programme in relative to the welfare of the beneficiaries also calls for a source of concern as there are a lot of developmental projects in the country calling for attention.

While debates over the potentially adverse consequences of cash transfer have a long history in developed countries, there has been little study of these issues in developing countries as there are no rigorous studies that explain the effect of cash transfer programmes on food security. Hence, this study empirically evaluated the effect of the Ekiti State social security scheme (ESSSS) on the food security status of its beneficiaries. The specific objectives of this study are to:

(i) estimate the proportion of the cash transfer in households' total annual income am;

(ii) estimate the food security index of the beneficiaries and non-beneficiaries of the scheme; and to

(iii) assess the effect of the social security scheme on the households' food security status;

## 2. Materials and methods

**2.1 Study Area:** This research work was conducted in Ekiti State, Nigeria. Ekiti State is one of the six states constituting the south-western region of Nigeria. It is located between longitude  $4^{\circ} 45^1$  and  $5^{\circ} 45^1$  East of the Greenwich Meridian and Latitude  $7^{\circ} 15^1$  and  $8^{\circ} 5^1$  North of the Equator (National Bureau of Statistics, 2011). The population of the state is about 2.4 million and covers a total land area of 543,500sqkm. It is predominantly agrarian with a population density of about 375 per square kilometer (National Bureau of Statistics, 2011). Although some parts of the state are fairly urbanized, the greater majority of the population still lives in rural areas. Agriculture provides income and employment for more than 75% of the population of the State.

**2.2 Study Population:** The population of the study consists of all older persons resident in Ekiti State. Older persons aged 65 years and over in Ekiti State are about 120,000 of both sexes, representing 5% of the total population of Ekiti State (NPC, 2006).

**2.3 Sampling Technique:** The sampling frame for this study is the list of beneficiaries and non-beneficiaries of the Ekiti state Social Security Scheme. In selecting respondents for the study, a three-stage random sampling technique was employed. The first stage involves a random selection of 5 local government areas from the 16 local government areas in the state. The second stage involves a random selection of 2 villages from each of the selected local government areas. For the Program participants, 10 households each were randomly selected from the lists of beneficiaries for each selected village obtained from the program administrators. To select the sample for the non-beneficiaries, a three stage random sampling technique was also employed as was the case for the beneficiaries. 10 Control households (who met beneficiary selection criteria but did not participate in the programs) were then randomly selected from the villages. A total number of 200 questionnaires were therefore administered out of which 175 (82 beneficiaries and 93 non beneficiaries) contained adequate information used for analysis.

**2.4 Analytical Techniques:** Descriptive statistics was used to describe the socioeconomic characteristics and estimate the proportion of cash transfer in household total income while the 5-point Likert type scale was used to assess the constraints to

the implementation of the programme in the study area. Head Count Ratio (HCR), Food Insecurity Gap (FIG) and Squared Food Insecurity Gap (SFIG) were used to capture the food insecurity status of the households as used by Maharjan and Chhertri (2006) while the Logistic regression model was used to analyse the determinants of food security among households in the study area. Food balance sheet and aggregate household calorie consumption was constructed for the purpose of this research, and food security status was calculated based on calorie requirement according to gender and age of household members as recommended by FAO (2004). T- Test analysis was used to verify the statistical difference between the means of beneficiaries and non-beneficiaries.

**2.5 Measuring Food Security:** Daily per capita calorie consumption was estimated by dividing the estimated daily calorie supply to the household by the household size adjusted for adult equivalence using the equivalent male adult scale weights while household calorie availability was estimated using food nutrient composition.

A daily recommended level of 2500kcal per capita per day was adopted as the food security line for the study (FAO/WHO 2005). In line with this, a household in which per calorie intake is found to be equal or greater than their demands was regarded as food secured while household experiencing a deficit was regarded as food insecure. The following measures of food insecurity were adopted:

**Head Count Ratio (HCR):** This is a measure of food security status and it is expressed as:  
 $HCR = (FIH/TH) 100 \dots \dots \dots (i)$

Where:

FIH = Number of Food Insecure Households

TH = Total Households under study

**Food Insecurity Gap:** This measures the depth of food insecurity and it is expressed as:

$FIG_i = (TCR_i - TCC_i) / TCR_i 100 \dots \dots \dots (ii)$

Where:

FIG<sub>i</sub> = Food Insecurity Gap of ith food insecure household

TCR<sub>i</sub> = Total Calorie Requirement for ith food insecure household

TCC<sub>i</sub> = Total Calorie Consumption by ith food insecure household

Hence, the total food insecurity gap or the shortfall index is expressed as:

$TFIG = 1/FIH \sum (TCR_i - TCC_i) / TCR_i \dots \dots \dots (iii)$

The Surplus index can also be calculated when number of food insecure households (FIH) is replaced with number of food secure households (FSH).

**Squared Food Insecurity Gap:** This indicates severity of food insecurity among the food insecure house hold and it is given as:

$$SFIG = \sum (FIG_i)^2 / FIH \dots \dots \dots (iv)$$

**Determinants of Food Insecurity:** To assess the effect of social security scheme on household food security status, a logistic model of the determinants of food security was estimated. The Logistic Regression model in its implicit form was stated as:

$$W_i = \alpha_0 + \alpha_1 Sp + \alpha_2 H + \varepsilon \dots \dots \dots (vi)$$

Where;

W<sub>i</sub> = Food Security Status (Food secured household = 1, Food insecure household = 0)

Sp = Access to cash transfer from Ekiti State Social Security Scheme (Access =1, No Access =0)

H = Socioeconomic and household Characteristics

ε = Random error term

The Variables included in the model are:

X<sub>1</sub> = access to social security scheme (1= access, 0 = no access), X<sub>2</sub> = household size (number), X<sub>3</sub> = monthly household income (naira), X<sub>4</sub> = educational level of household head (years), X<sub>5</sub> = Gender of

Household head (1, if male and 0, if female)  
 X<sub>6</sub> = Marital status of household head (married =1, single = 0), X<sub>7</sub> = Age of household head (years)  
 X<sub>8</sub> = Dependency ratio (number), X<sub>9</sub> = Savings, X<sub>10</sub> = Remittances, e = error term, α = constant

### 3. Results and discussion

#### 3.1 Socio-Economic Characteristics of the Beneficiaries and Non-Beneficiaries of ESSSS

A summary of the socioeconomic characteristics of the respondents is given in table 1. The modal age for the beneficiaries was 85-94, while that of the non-beneficiaries is 65-74. The average age of the beneficiaries is 80.6 while that of the non beneficiaries is 72.96. For both groups, only one-third of the respondents were males. The results are similar to other studies that show that females live longer than their male counterparts (Nyanguru 2003; Croome, Nyanguru and Molisana, 2007). This is also an indication that women are the more vulnerable groups in the study area; this also is in line with Kakwana, and Subbarao (2005).

Table 1. Socio-economic Characteristics of the respondents

Characteristics	Beneficiaries N= 82		Non- Beneficiaries N=93		Pooled N= 175	
	f	%	f	%	f	%
Age						
65- 74	24	29.3	63	67.7	87	49.71
75- 84	17	20.7	17	18.3	34	18.86
85- 94	41	50	13	14.0	54	31.43
Total	82	100	93	100	175	100
Gender						
Male	29	35.4	32	34.4	60	34.29
Female	53	64.6	61	65.6	115	65.71
Total	82	100	93	100	175	100
Educational Status						
No Education	63	76.8	79	84.9	142	81.14
Quranic Edu.	4	4.9	8	8.6	12	6.86
Primary Edu.	15	18.3	6	6.5	21	12.00
Total	82	100	93	100	175	100
Marital Status						
Married	35	42.7	51	54.8	86	49.14
Divorced	5	6.1	7	7.5	12	6.86
widowed	42	51.2	35	37.6	77	44.00
Total	82	100	93	100	175	100
Household size						
1-5	71	86.6	74	79.6	139	79.43
6-10	11	13.4	19	20.4	36	20.57
Total	82	100	93	100	175	100
Primary. occupation						
Null	43	52.4	35	21.5	78	44.57
Farming	23	28.0	28	46.2	51	29.14
Trading	2	2.4	8	8.6	10	5.71
Handicraft	2	2.4	1	1.1	3	1.71
Others	12	14.7	21	22.6	33	18.86
Total	82	100	93	100	175	100
Dependency ratio						

Source: Field Survey, 2013

More than 60% of the respondents in both groups have no formal education and the highest level of education attained by both groups was primary education. Majority of the beneficiaries (51.2%) were widowed, whereas for the non-beneficiaries only about 38% were widowed. This is a justification to the fact that the programme is targeted at the very indigent and vulnerable people in the state. (Adamachak et al, 1991; Wilson et al 1991) found similar results in Zimbabwe. Nyanguru (2003 and 2005) also found similar result elsewhere in Lesotho. The mean household size was three for the beneficiaries and five for the non-beneficiaries and the modal household size for both groups were 1 to 5. The household size for the beneficiaries ranged from 1 to 7 while that of the non-beneficiaries ranged from 1 to 8. About 52% of the beneficiaries claimed their only source of livelihood was the cash transfer they received from the state government and some little assistance from friends and relatives, whereas, for the non-beneficiaries, only about 22% claimed they have no specific occupation. About 28% of the beneficiaries had farming as their primary occupation while for the non-beneficiaries, it was 46%. The scheme beneficiaries had more dependants than the non-beneficiaries. On the average, the beneficiaries have three dependants while that of the non-beneficiaries was two.

### 3.2 Sources of Income

About 18% of the beneficiaries claimed their only source of income was the ₦ 5000 they received from the government monthly. The monthly income for the beneficiaries ranged from ₦ 5000 to ₦ 21000, while that of the non-beneficiaries ranged from ₦ 2000 to ₦ 18000. The average monthly income for the beneficiaries was ₦12091.17 while that of non-beneficiaries was ₦6852.27 (Table 2).

### 3.3 Analysis of Food Security among respondents

Based on the identification and aggregation procedures adopted for this study, food security index; the headcount ratio, the food insecurity gap and the squared food insecurity gap have been summarized in Table 3 for both the benefiting and non-benefiting households.

As shown in table 3, the results revealed that the incidence of food insecurity was higher among the non-beneficiaries compared to the beneficiaries. About 39% of the sampled benefiting households are food insecure whereas, the proportion of the non-beneficiaries that are food insecure is as much as 60%. The daily per capita calorie consumption for the beneficiaries was 2956.24 Kcal while that of the non-beneficiaries was 2135.01 Kcal, hence; do not meet the daily energy requirement recommended for subsistence. This implies that more than half of the non-benefiting households are subsisting on less than the daily per capita calorie requirement. The food insecurity gap implies that while the beneficiary households consumed 29% less than their daily calorie requirements the non beneficiary households consumed as much as 49% less than their daily calorie requirements. The result of the paired t-test for the difference in means of food insecurity gap index showed that it is statistically significant at 1 percent level of significance. The severity of food insecurity among the Scheme beneficiaries was obtained as 22% while that of the non –beneficiaries were found to be 30%. This is an indication that food insecurity is more severe among the non-beneficiaries compared to the beneficiaries. On the overall, half of the population (50.29%) is food insecure and they consume 40% less than their daily calorie requirement and the severity of food insecurity in the population is 26%.

Table 2. Composition of Monthly Income by Income type

Income Type	Beneficiaries		Non-Beneficiaries	
	Average Amount	Percentage	Average Amount	Percentage
Cash Transfer	5000	41.35	0	0
Farm Income	4573.17	37.826	3541	51.7
Remittances	2432.63	20.12	3118.27	45.5
Non-farm Income	85.37	0.71	193.54	2.8
Total	12091.17	100	6852.27	100

Source: Field Survey, 2013

Table 3. Indices of Food Security of the programme

Variables	Beneficiaries	Non-Beneficiaries	All
Household per Capital calorie Consumption(Kcal)	2956.24	2135.01	2519.81
Head Count Ratio (HCR)	39.02%	60.22%	50.29%
Food Insecurity Gap/Surplus index	0.29	0.49	0.40
Squared Food Insecurity Gap	0.22	0.30	0.26

Source: Field Survey, 2013

### 3.4 Determinants of Food Security

Table 4 shows the result of the determinant of household food security. The logistic regression model was employed to access the determinants of food security among the respondents in the study area. However, before fitting the model the hypothesized explanatory variables were tested for multicollinearity. The multicollinearity of the independent variables ranges between 0.0 and 0.7 and hence, there was no multicollinearity problem among all the hypothesized variables included in the model. The result of the logistic regression model estimate revealed that out of the 11 factors hypothesized to influence food security of the households, four variables were statistically significant and found important in explaining the food security status of the household. These variables include access to the social security scheme and gender which were significant at ( $p < 0.01$ ), while marital status and total monthly income of the household were significant at ( $p < 0.1$ ). The remaining six variables, namely, age of the household head, years of schooling of the respondents, household size, remittance, savings and overall dependency ratio were not statistically significant. The discussion and interpretation of the significant explanatory variables in the model are presented as follows.

#### 3.4.1 Access to Social Security Scheme:

This variable was significant at 1% probability level and has a positive influence on food security status of households. This meets the A priori expectation. This could be expected since credit serves as consumption smoothing mechanism which gives households temporal relief against the effects of food insecurity. The result of the study implies that households with access to the scheme had greater chances of being food secure compared to those who do not have access, all things being equal. The value of marginal effects indicates that when a household obtains the cash transfer the probability of that household to be food secure will be increased by 2.79.

#### 3.4.2 Gender of Household Head

Gender of household head is defined in terms of the role played by the individuals in

providing households' needs including acquisition of food. The result of the study shows that gender of the household head has positive and significant correlation to per capita kcal availability. Other variables being constant, having a female as the head of a household decreases the per capita kcal consumption by a factor of 1.43. This result is in line with previous study by Babatunde, Adejobi and Fakayode, 2010.

#### 3.4.3 Total Monthly Household Income

This variable has positive influence on food security status of farming households. The variable has the expected sign and is significant at 1% probability level. This indicates the higher the income of households, the greater the probability of being food secure. This could be expected because increased income resulting from cash transfer has the tendency of increasing food security status of the benefiting households all things being equal. The value of the marginal effect implies that if households' income increase by One naira, the probability of the household being food secure will be increased by 0.001, holding all other things constant, though negligible. This result is consistent with Babatunde, Omotosho and Sholotan (2007); Adenegan and Adewusi (2007); Arene and Anyaeji (2010) who revealed positive and significant relationship between household income and food security Mitiku, Fufa and Tadese (2012) also had similar results in their study.

#### 3.4.4 Marital Status

The coefficient of marital status is positive indicating that married respondents have the tendency of being more food secure than, divorced or widowed respondents. This is linked to the fact that couples are likely to assist each other to augment households' needs. This finding is similar to that obtained by Kaloi et al, (2005) in their study of food security status of households in Mwingi District, Kenya. However, the result is in contrast to that obtained by Tshediso (2013) in which marital status was found to have a negative relationship with marital status.

Table 4. Determinants of Food Security of Respondents

Variables	Coefficient	Standard Error	P -values
Constant	-5.6815	2.6233	0.030**
Access to Cash transfer	2.7988	0.9371	0.003***
Gender	1.4330	0.5503	0.009***
Age	0.3168	0.2832	0.263
Marital Status	0.4457	0.2333	0.056*
Years of Schooling	0.1186	0.1741	0.496
Household Size	-0.1102	0.1427	0.440
Remittance	-0.0017	0.0012	0.178
Savings	-.00018	0.0020	0.385
Total Monthly Income	0.0010	0.0006	0.081*
Dependency Ratio	0.2232	0.2026	0.271

\*\*\*significance at 1%, \*\*significant at 5%, \* significance at 10%

Source: Data Analysis, 2013

#### 4. Conclusion and Recommendations

The study has shown that a well planned and executed social security scheme can significantly contribute to food security in the country. In line with the findings of this study, the following recommendations are outlined to improve the food insecurity situation in the country through social protection programmes:

- It is important for the government to increase the amount of the cash transfer, so that the beneficiaries can fully meet up with the continued increase in the cost of living and possibly invest the money in petty trading where they can get more income.
- The government should try as much as possible to increase the number of old people benefiting from the programme. This will help to reduce the number of food insecure old people in the state.
- Special attention should be paid to the welfare of women being the most deprived group

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