

**IMPROVED RURAL WOMEN POPULATION IN EDUCATION: PANACEA FOR  
COMBATING FOOD CRISIS IN EBONYI STATE**

**<sup>1</sup>DR. EDWIN IDENYI OTOZI**

**<sup>2</sup>DR. CATHERINE OKPARA MBANA**

<sup>1,2</sup>Department of vocational and technical education

Alex ekwueme federal university ndufu-alike, ikwo ebonyi state, nigeria

EMAIL: [otoziedwin@gmail.com](mailto:otoziedwin@gmail.com)

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**ABSTRACT**

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*The study investigated the roles of rural women in agricultural production, causes and strategies for combating food crisis in Ebonyi State. The population of the study was 213 respondents comprised of 15 lecturers from EBSCO1, 4 lecturers from EBSU and 194 extension officers of the Ministry of Agriculture Ebonyi State. The sample size of 131 was determined using Yaro Yameni formula and drawn through simple random sampling applied only on the extension officers, whereas all the 19 lecturers were involved in the study. Three research questions and one null hypothesis guided the study. Twenty-eight items questionnaire was constructed by the researcher, validated and its reliability coefficient of 0.81 was determined using Cronbach Alpha method and was used in generating data for the study. The data collected was analyzed using mean with standard deviation to answer the research question, whereas the null hypothesis was tested using ANOVA at 0.05 level of significance. The study found that the seven factors examined in this study were root causes of food crisis. It was therefore recommend that government should establish global fund to support micro finance to boost small scale farmers' productivity, among others.*

**INTRODUCTION**

Human resource is considered the most important input employed in production process and services, because it represent the resource that control and direct other resource in the continuum. These resources emanate from both male and female counter parts, but in agricultural enterprises women's role has not been

fully recognizes (Mgbada, 2007) even when they work longer hours and the work is more arduous than men's work. Therefore developing rural women capacities through educational process to enable them participate fully in all aspect of agro-enterprise is a viable strategy to fight food crisis, insecurity, hunger and poverty in Ebonyi State.

Education is the most important socio-economic variable in human resource development. It is a fundamental right of men and women in urban or rural area. The situation differs in Ebonyi State, where men and all people in urban areas have more opportunity to acquire formal and non-formal education. Even when farm education is more relevant in rural areas, the extension workers find it extremely difficult to penetrate the rural area where farmers operate. They prefer contacting men only whenever they have access to contact the rural people. Hence, robbing rural farmers especially women the opportunity of being exposed to better tools, better seeds, improved livestock and knowledge that will help in enhancing their production techniques.

Education has the potential of empowering rural women in several ways by equipping them with awareness and knowledge required in food production, processing and distribution to reduce food loss and waste (Anjali and Snigdharani, 2007). Therefore educating rural women will result in improved productivity, income and economic development as well as better quality of life in rural areas. Since the needed production skills are acquired through education and training, rural women farmers therefore, need the empowerment to enable them start their own small-scale agro business which is the most accessible enterprise in Ebonyi State.

Traditionally, a rural area is seen as a farm settlement (agrarian community) with villages surrounded by farms and forest, where majority of the inhabitants engaged in farming as their main occupation or means of livelihood (Ntunde, 2007). Therefore, a place is conceived as a rural area if 90-95% of the occupants are relatively farmers and the area is predominantly a farming area; Ebonyi State is not in exception. However, almost without exception, all people on earth today are sustained by agriculture, which we are aware that it is a rural phenomenon. It is pertinent to noted that in India women's work participation rate is high in rural areas, women make up one-third of the labour force of India (Anjali and Suigdharcuni, 2007). More so two-third of the women in rural area produces over 55% of the total food grown in developing countries (Naik, 2003). Therefore special importance has to be given to women's empowerment – politically, economically and socially particularly in food production and distribution process to promote their participation in solving the global food insecurity, hunger, and food crisis.

Rural women contribution to agricultural production and distribution in terms of number of task performed and time spent is greater than men (Panneer, 2010). But extension education tends to reach only men, which perpetuate the existing division of labour in the agricultural sector with women continuing to perform unskilled task which does not promote food security. Mgbada (2002) revealed that women play vital role in agricultural production such as bush clearing, planting, weeding, harvesting, transportation to market and home, processing and marketing. These engage over 70% of the rural dwellers in Nigeria (Njoku, 1995). Lee (1992) in Idenyi, Nwambe and Elechi (2011) reported that united nation's figure showed that women make up 50% of the world population dominant in rural areas and they produce close to 80% of food in Asia, 40% in Latin America and 80% in Nigeria. Rural women contribute more than half of the agricultural workforce and dominate the marketing and processing sectors of agricultural production in Nigeria. They are mostly small scale farmers characterized by low income, poor access to improved seeds and tools, little or no access to farm credit with poor education background; this is due to poor exposure to relevant farm education geared toward improving farmers' production techniques. This usually result to low agricultural production, hence emergency of food insecurity, hunger, poverty and food crisis.

Food crisis therefore, refers to a situation in which there are a lot of food demand and supply problem that must be dealt with quickly so that the situation does not get worse or more dangerous that may result to

food supply emergency. This may arise from crop failure, natural disaster growing global demand and unfair world trade rules. Food and agriculture Organization FAO (2011) announced that world food prices had reached a new historic peak above the level seen during the global food price crisis of 2007/2008, when the number of hunger people rose from 850million to 1billion and the world poorest people are struggling to cope.

This sharp increases in food prices indicated drastic fall in food supply and subsequent demand which represent serious erosion of progress toward meeting many of the millennium development Goals (MDGs) including those aiming at reducing poverty and hunger. Hence, helping rural women farmers to gain access to knowledge, tools/equipment and capital in order to enhance their production and avoid encroachment of food crisis is viable strategy.

### **Statement of problem**

It is a disturbing scenario to witness that the rural dwellers and beyond are facing considerable problem in maintaining and enhancing food supplies for the teaming population in an attempt to improve their wellbeing. Obesity, malnutrition and other growing problems related to dietary issue poses huge economic and health implication in rural areas of Ebonyi state. This is occasioned by the sharp increases in food and fuel prices over the past few years. HOWEVER THE SITUATION GOT WORST AS A RESULT OF THE REMOVAL OF FUEL SUBSIDE BY FEDERAL GOVERNMENT ON MAY 2023WHICH eroded the purchasing power of poor household and raised serious concern about food insecurity and malnutrition in many rural areas OF THE STATE AND BEYOUND. The crisis has pushed poor rural dwellers below poverty line. According to Aja (1998) a person whose 80% of his/her total income is spent on food alone is living below poverty line. This is the actual situation of rural women farmers in Ebonyi State. Therefore, ways of making them improve on their food supply capacity is **being** investigated for combating food crisis.

### **Purpose of the study**

The central purpose of the study was to examine ways of combating food crisis. Specifically, the study sought to:

1. examine the causes of food crisis.
2. examine the role women in achieving food security.
3. determine strategies for combating food crisis in Ebonyi State.

### **Research questions**

The study answered the following research questions.

1. What are the causes of food crisis?
2. What are the roles of women in achieving food security?
3. What are the strategies for combating food crisis in Ebonyi State?

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## Hypothesis

One null hypothesis guided the study.

There is no significant difference in the mean responses of lectures from EBSCOEI; EBSU and extension officers from ministry of Agriculture on the strategies for combating food crisis in Ebonyi State.

## Methodology

The study adopted survey research design. The design is considered appropriate for the study because it permit the use of questionnaire, field observation and interview in generating data for a study of this kind. Moreover, it involves collection and analyzing data obtained from a part of the population considered to be true representative of the entire population or entire population (Chukwuemeka, 2002).

The area of the study was Ebonyi State, with emphasis on Ebonyi State College of Education Ikwo (EBSCOEI) Ebonyi State University Abakaliki (EBSU) and extension officers in the ministry of agriculture Ebonyi State.

## Population of the study:

The population the study was 213 respondents comprising 15 lecturers from EBSCOEI, 4 lecturer form EBSU and 194 extension officers.

## Sample for the study:

The entire lecturer from EBSCOEI and EBSU was involved in the study because of their small and manageable size, whereas simple random sampling was used in selecting 131 extension officers. This number (131) was determined using Yaro Yameni formula. Therefore, sample size of 150 respondents was used for the study.

## Instrument for Data collection:

A structured questionnaire was used as the instrument for data collection. The items in the questionnaire were generated based on the information gathered from the review of related literature. The questionnaire was structured on four point rating scale of strongly agree (SA) = 4, Agree (A) = 3, Disagree (DA) = 2 and strongly disagree (SD) =1.

The instrument was subjected to face validation by three experts from Department of Technology and Vocational Education, Enugu State University of Science and Technology, Enugu. Each of validates was served with a copy of the instrument for validation. They were requested to check its content coverage, suitability of the items, errors, and possible ambiguity. Amendments were made on the instrument based on their constructive criticism and suggestions before the final copy used for study was produced.

The reliability of the instrument was determined by carrying out a pilot test using 20 agricultural education lecturers and 10 extension officers in Enugu state University of science and Technology Enugu and Ministry of agriculture Enugu state respectively. Data generated from the pilot study were analyzed using Cronbach alpha which yielded a reliability coefficient of 0.81, which indicated internal consistency of the instrument.

A total of 150 copies of the questionnaire were distributed to the respondent by hand with the help of one research assistant trained for the purpose and collected back by hand after completion, thereby achieving 100% return rate.

### Data collection Techniques:

The data collected were analyzed using mean and with standard deviation in answering the research questions, whereas one-way analysis of variance (ANOVA) was used in testing the null hypothesis at 0.05 level of significance and 147 degree of freedom (df). Decision regard the research questions was reached based the means of 2.50. Any item with the mean of 2.50 and above was accept as agree whereas any item with mean less than 2.50 was regarded disagree. The null hypothesis was rejected when the calculated F-ratio is equal or more than the table value, otherwise do not reject.

### Results

The results of the analysis of the data collected were presented in tables according to the research questions and hypothesis.

**Table 1: Mean and standard deviation of the responses of lecturers and extension officers on causes of food crisis .N=1**

Causes of food crisis		EBSOCIEI Lecturers		EBSU Lecturers		Extension officers		Overall		Dec
		$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	Agree
1.	Global push for biofuel crops polices	2.81	0.91	2.73	0.86	2.70	0.76	2.75	0.84	Agree
2.	Global supply and demand pressure	2.68	0.86	2.84	0.84	2.74	0.72	2.75	0.81	Agree
3.	Increasing unpredictable weather pattern	2.72	0.73	2.68	0.92	2.80	0.75	2.73	0.80	Agree
4.	High fuel prices	2.69	0.81	2.92	0.82	2.77	0.78	2.79	0.80	Agree
5.	Unfair world trade rules	2.85	0.77	2.81	0.87	2.68	0.90	2.78	0.85	Agree
6.	decline in yield and cereal stock	3.53	0.90	3.02	0.6 9	3.40	0.85	3.32	0.81	Agree
7.	Unequal access of women to extension education/inputs/or credits	2.59	0.70	2.61	0.73	2.76	0.82	2.68	0.75	Agree
<b>Grand mean (<math>\bar{x}</math>)</b>		<b>2.83</b>	<b>0.81</b>	<b>2.80</b>	<b>0.82</b>	<b>2.84</b>	<b>0.80</b>	<b>2.82</b>	<b>0.81</b>	<b>Agree</b>

The result of the analysis on table 1 regarding the causes of food crisis indicates that the factors examined in this study were all causes of food crisis. This was revealed by the mean responses of lecturers and extension officers which ranged between 2.68 and 3.53, 2.61 and 3.02 and 2.68 and 3.40 for lecturers from EBSCOEI, EBSU and extension officers respectively with overall mean range of 2.68 – 3.32. The overall SD range between 0.75 and 0.85. The grand mean of 2.83, (SD=0.81), 2.80 (SD=0.82) and 2.84 (SD=0.80) for the three groups of the respondents were all above the mean benchmark of 2.50 for accepting an item. Also the respective mean range for three groups of respondent were all above criterion mean of 2.50 hence suggesting agreement to the entire seven items investigated. Therefore, all the items were considered as root causes of food crisis. The closeness of the SD indicates homogeneity in their responses.

Table 2: Mean and standard deviation of the responses of lecturers and extension officers on the roles of women in achieving food security in Ebonyi State .N=

Roles of women in achieving food security.		EBSOCIEI Lecturers		EBSU Lecturers		Extension officers		Overall		Dec
		$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	Agree
8	Active in bush clearing operation	2.86	0.98	2.85	0.74	2.81	0.74	2.84	0.82	Agree
9	Active in planting operation	3.04	0.86	3.09	0.89	2.91	0.89	3.01	0.87	Agree
10	Active in weed control operation	2.88	0.79	2.83	0.87	2.85	0.87	2.85	0,84	Agree
11	Active in harvesting of produce	2.95	0.70	2.90	0.99	2.71	0.86	2.85	0.85	Agree
12	Active in transportation of produce to market and home	2.89	0.87	2.70	0.92	2.80	0.97	2.80	0.94	Agree
13	Involve actively in marketing surplus produce	2.96	0.69	3.05	0.78	2.97	0.95	2.99	0.81	Agree
14	Involve actively in produce process operation	2.72	0.75	2.76	0.85	2.86	0.89	2.78	0.83	Agree
15	Involve actively in storage of produce	2.84	0.81	2.88	0.96	2.90	0.78	2.87	0.85	Agree
16	Active in the formation of farmers' co-operative	2.91	0.91	2.890.7 9	2.80	0.82	2.87	0.84		Agree
	<b>Grand mean (<math>\bar{x}</math>)</b>	<b>2.89</b>	<b>0.82</b>	<b>2.88</b>	<b>0.87</b>	<b>2.85</b>	<b>0.86</b>	<b>2.87</b>	<b>0.85</b>	<b>Agree</b>

In table 2, the analysis of the data for items 8-16 shows the mean responses ranging from 2.72 to 3.04, 2.76 to 3.09 and 2.71 to 2.97 for lecturers from EBSCOEI, EBSU and extension officers respectively. The overall mean for the three groups range between 2.78 and 3.01. These mean ranges were all above the cut-off point of 2.50 for accepting an item. This implies that the nine factors investigated were all accepted as viable roles of women in achieving food security in Ebonyi State. The overall SD range between 0.81 and 0.94. this range is closes enough, hence this donates homogeneity in their responses to the items investigated. Therefore, if rural women farmers are properly exposed to relevant farm education they will improve in their roles to combat food crisis.

**Table 3: Mean and standard deviation of the responses of lecturers and extension officers on the strategies for combating food crisis =**

Strategies for combating food crisis		EBSOCIEI Lecturers		EBSU Lecturers		Extension officers		Overall		Dec
		$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	Agree
17	Reduction in food loss and waste	2.95	0.69	2.66	0.81	2.86	0.73	2.82	0.74	Agree
18	Expansion of investment in agriculture	2.83	0.71	2.73	0.88	2.89	0.86	2.82	0.82	Agree
19	Acceleration of effort to adopt agriculture to climate change	3.10	0.83	2.71	0.67	2.68	0.97	2.83	0.82	Agree
20	Conservation of scare soil nutrient and water	2.97	0.68	3.04	0.77	2.70	0.95	2.90	0.80	Agree
21	Supporting domestic production	2.75	0.74	2.84	0.71	2.93	0.73	2.84	0.73	Agree
22	Stabilizing and guaranteeing fair prices to farmers and consumers	2.81	0.90	2.80	0.69	2.82	0.77	2.81	0.79	Agree
23	Establishing living wages for workers on farm, in processing unit and in supermarket	2.89	0.85	2.75	0.78	2.85	0.84	2.83	0.81	Agree
24	Halting agro fuel expansion	2.68	0.81	2.74	0.87	2.65	0.70	2.69	0.79	Agree
25	Curbing speculation in food	2.75	0.75	2.88	0.90	2.70	0.78	2.77	0.80	Agree
26	Promoting a return to small holder farming	2.76	0.78	2.72	0.80	2.83	0.84	2.76	0.81	Agree
27	Supporting agro ecological production	2.86	0.75	2.86	0.69	2.82	0.84	2.82	0.76	Agree
28	Food sovereignty	2.79	0.75	2.86	0.69	2.82	0.84	2.82	0.76	Agree
	<b>Grand mean (<math>\bar{x}</math>)</b>	<b>2.84</b>	<b>0.78</b>	<b>2.80</b>	<b>0.78</b>	<b>2.80</b>	<b>0.89</b>	<b>2.81</b>	<b>0.82</b>	<b>Agree</b>

The result as shown in table 3 indicates that the 12 factors examined in the study regarding the strategies for combating food crisis were agreed by the respondents as viable enough to combat food crisis. This could be observed from the mean which range from 2.68 to 3.10, 2.66 to 2.91 and 2.65 to 2.92 for lecturers in EBSCOIE, EBSU and extension officers respectively, with overall mean range between 2.69 and 2.90. These mean ranges were all above the mean benchmark for accepting an item. The overall SD range between 0.74 and 0.83. The closeness of the SD shows that responses were homogenous. This further strengthened the mean of 2.84, 2.80 and 2.80 which donates agreement to the 12 items investigated.

**Table 4: ANOVA on the responses of lecturers from EBSCOIE, EBSU and extension officer on the strategies for combating food crisis.**

Source of variation	Df	Sum of squares	Mean squares	F-cal	Critical value	Significance	Dec
Between groups	2	0.185	0.09	0.21	3.00	NS	Do not reject
Within groups	147	255.7	0.44				
<b>Total</b>	<b>149</b>						

Table 4 presents the summary of one- away analysis of variance (ANOVA) of the difference among the mean responses of lecturers from EBSCOIE, EBSU and extension officers on the Strategies for combating food crisis. The result shows that the calculated F-ratio of 0.21 is less than the critical value of 3.00. Therefore the null hypothesis was not rejected. This implies that significant difference does not exist in the mean ratings of the three groups of the respondents regarding the strategies for combating food crisis in Ebonyi State.

### Summary of major findings

The following principal findings were made:

1. It was found that the seven factors investigated were root causes of food crisis.
2. The study found that the nine items statement examined were all essential roles of women in achieving food security in Ebonyi State
3. It was also found that the strategies identified as shown on table 3 were all viable enough in combating food crisis in Ebonyi State.

### Discussion of results

The study found that growing global demand, unfair world trade rules, climatic changes, and decline in yield and cereal stock, biofuel polices and high fuel prices are root causes of food crisis. This finding is in consonance with the findings of FAO (2011), who reported that the causes of food crisis are complex and interlocking, but biofuel policies, high fuel prices, growing global demand , unfair world trade rules and climatic change are playing a part. The push for biofuel crops takes food crops out of production and the growing to meet global demand for products like meat and grain and a corresponding lack of supply has made food crisis worse. This coupled with increase in unpredictable weather pattern affects poor farmers' crops.

The study found that women farmers engage fully in bush clearing, planting, weeding, harvesting, transportation, marketing, processing and storage of produce. This is in agreement with findings of Dikwal and Jirgi (2000) and Mgbada (2002), where it was reported that women play a vital role in agricultural production such as in food processing, marketing, harvesting and in provision of labour. They further explained that women are involved carrying out agricultural activities to great extent and their work are more arduous than that of men. More so, women constitute about 80% of the farmers in the rural areas (Tawiah, 2000).

The study identified 12 strategies necessary for combating food crisis as indicated in table 3 of this study and they were found viable enough. This finding is in conferment with finding of Eric (2009) who identified similar factors as ways forward for combating food crisis in developing countries. However these factors stressed the various ways of empowering rural dweller, (women farmer) through relevant farm education approach. In similar development, Mgbada (2000) noted that agricultural production roles of women in rural area can only be felt when there are fully recognized as potential production partner by giving them equal access to necessary production inputs and knowledge. This can only be made possible through appropriate education

### **Conclusion**

Education is an instrument for equipping of individual with skills and confidence they needed to help themselves. Through this, women farmers can be equipped with the needed skills for improving their production capacity. Hence possible root causes of food crisis were identified which paved way for determining appropriate strategies for increasing food supply thereby reducing food crisis.

However, rural women position in agricultural production was examined. Despite the high engagement of women in agriculture production, they were not always given equal access to production inputs and knowledge with men counterpart. Nevertheless, education is a sine qua non for human empowerment for sustainable production and distribution of agricultural produce. Therefore exposing rural women farmers to relevant farm education is a key in adoption of the strategies identified in this study.

### **RECOMMENDATION**

The following recommendations were proffered based on the findings of the study.

1. Rural women farmers should be given equal access to extension services and right to acquire and own land/other agricultural resources.
2. Government should establish global fund to support micro-finance to boost small scale farmers' productivity.
3. Rural women farmers should be supported TO develop diversified and resilient eco-agricultural system that provide critical ecosystem services.
4. Government should advocate at all levels adoption of climate-friendly agricultural production system and land policies at a scale to help mitigate changes.
5. Utilization of cereal, fish and other food crops in formulating animal feed should be-emphasized through appropriate legislation.

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