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**EFFECT OF NATIONAL SPECIAL PROGRAMME ON FOOD SECURITY (NSPFS) PARTICIPATION ON SMALL SCALE FARMERS' FOOD SECURITY IN PIRO COMMUNITY OF GANJUWA LOCAL GOVERNMENT AREA, BAUCHI STATE, NIGERIA**

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**ABSTRACT**

*This study examined the effect of National Special Programme on Food Security (NSPFS) participation on food security among small holder farmers in Piro community of Ganjuwa Local Government Area of Bauchi state. Specifically, it described the socio-economic characteristics of beneficiaries of NSPFS in the study area. It also determined the effect of National Special Programme on Food Security on small scale farmers in the study area. Descriptive survey research design was adopted for the study and purposive sampling technique was utilized to select one hundred respondents for the study (50 NSPFS participants and 50 non-participants) used for the study. Data were obtained with the aid of structured pre-tested questionnaires, and analyzed using food consumption score, descriptive and inferential statistics (Logistic regression). The average age of the respondents is 45 years. Majority of the respondents (75%) were males with average household size of 8. The findings showed a food consumption score of 50 and 30 for participants and non-participants respectively. This indicated that the participants have an acceptable level of food security, while the non-participants have*

*a borderline food security. The major constraint faced by participants of NSPFS in the study area is the late disbursement of funds (83%). It is recommended that more farmers should be encouraged by the government to participate in the next phase of the National Special Programme on Food Security for increased food production, income and enhanced standard of living.*

*Keywords: Food Security, Participants, Piro, Food Consumption*

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## **INTRODUCTION**

Food security is access by all people at all times to enough food for an active healthy life. Food security at a minimum include the readily available nutritionally adequate and safe food and on assured ability to acquire acceptable food in socially acceptable ways, that is without having to resort to emergency food supplies, scavenging, stealing or other coping strategies (Fomyol and Tata, 2019) The Federal Government of Nigeria with assistance from FAO introduced the National Special Programme on Food Security (NSPFS) in 2002. It is an integrated agricultural production programme seeking to increase household food security for poor farming communities in Nigeria.

The main objective of the NSPFS was to help Low Income Food Deficit Countries (LIFDCs) improve national and household food security in an economically and environmentally sustainable way. It advocates a participatory approach through demonstrating better ways of increasing production and identifying and resolving the range of constraints which are technical and institutional.

The main objective of this study is to assess the effect of NSPFS participation on small holder farmers' food security in the study area.

## **RESEARCH METHODOLOGY**

The study was conducted at Firo community of Ganjuwa LGA using descriptive survey research design. Purposive random sampling technique was used to select 50 programme participants and 50 non participants

from Firo community which is one of the three sites of the programme in the state. This gave a sample size of 100 respondents drawn from the beneficiaries and non-beneficiaries of the programme. Data were obtained with the aid of structured pre-tested questionnaires, and analyzed using food consumption score, descriptive and inferential statistics. (Logistic regression)

## **RESULTS AND DISCUSSIONS**

### **Socio-economic Characteristics of Respondents**

Table 1 shows that majority (35%) of the respondents fall within the age range of 40-49 years. Age to a large extent determines whether the farmers are still in their productive age or not. Age determines the willingness to assume greater risk in anticipation of increased income or profit. Table 1 also shows that (76%) of the respondents were males while 24% were females. Majority (55%) of the respondents have a household size of between 1 and 10 members, followed by those with between 11 and 20 members making up 34%. Large household size is a proxy for available labour.

Table 1 also reveals that majority (84%) of the respondents were married. This shows that most of the respondents were having responsibilities which make it necessary for them to participate in food security activities in order to cater for the needs of their dependents in terms of health, food education and shelter. This conforms with the finding of Ayinde et al., (2017) which reported that married people were more involved in Food security than other categories of different marital status.

The results in table 1 further shows that majority (43%) of the respondents had a farming experience of between 11 and 20 years. This indicated that most of the respondents are experienced farmers. Bamire *et al.*, (2010), reported that longer years of being exposed to farming could reduce farmer's uncertainty level in their production and may also likely enhance the probability of adopting new technologies.

Table 1 also reveals that majority (70%) of the respondents cultivated between 1-3 hectares. This indicated that they are small scale farmers,

which is a characteristic of most farmers in the developing countries. This finding is in line with the report of a study by World Bank (2008), where it was reported that small scale farming is a characteristics feature of farmers in developing countries.

Table 1: Socio-economic characteristics of respondents

Variables	Frequency	Percentage
Age (years)		
20-29	9	9.0
30-39	21	21.0
40-49	35	35.0
50-59	23	23.0
60 and above	12	12.0
Gender		
Males	76	76.0
Females	24	24.0
Level of formal education		
Primary school	14	14.0
Post primary	26	26.0
Tertiary	5	5.0
No formal education	55	55.0
Marital status		
Married	84	84.0
Single	16	16.0
Household size		
1-10	55	55.0
11-20	34	34.0
21 and above	11	11.0
Farming experience (years)		
1-10	11	11.0
11-20	43	43.0
21-30	26	26.0
Above 30	20	20.0
Major occupation		
Civil servant	9	9.0
Farming	72	72.0

Fishing	3	3.0
Hand craft/Artisan	6	6.0
Trading	10	10.0
Farm size (Hectares)		
Less than 1	5	5.0
1-3	70	70.0
4-6	25	25

Source: Field survey (2021)

### Influence of National Special Programme on Food Security on Farmers Food Security

Tables 2 shows that the NSPFS participants have a higher level of food consumption score of 50 which is in the acceptable level (>35) compared with the non-participants who recorded a food consumption score of 30 which is in the borderline of food security (21.5-35).The higher score indicates better food security. This finding is in line with the findings of Oruche et al., (2012) who reported that after participating in National Special Programme for Food Security (NSPFS) farmers were living more comfortable life as a result of increase in their level of productivity.

In a related study, Tijani and Thomas (2011) also found that introduction of intervention programme better the lots of the participants in terms of output when compared with what they use to obtain before the intervention. Taiwo and Omifolaji (2015) reported that Positive changes in production were observed after respondents' participation in NSPFS, even though the changes were not very high. This implies the programme had positive impact on respondents' food security.

Table 2: Food Security Indicator

Food group	Food consumption score ( Participants )	Food consumption score (Non participants)
1. Cereals and tubers	14	14
2. Legumes	12	6
3. Vegetables	4	2
4. Fruits	3	1

5. Meat and fish	12	4
6. Dairy products	0	0
7. Sugar/ honey	3	2
8. Oils (palm oil, groundnut oil)	2	1
Total score	50	30

Source: Field survey (2021)

The Food Consumption Score was developed by the World Food Programme as a frequency of weighted dietary diversity score (FAO, 2007). The FCS is the sum of the number of times a food group from the household dietary score was eaten in the previous seven-day period

The food consumption scores is classified into three categories

Poor (<21.5),

Borderline (21.5–35)

Acceptable (>35). Higher scores are indicative of better food security.

### **Constraints to Participation in the NSPFS**

Table 3 shows the different constraints faced by the participants of the NPFS in order of severity. The most severe constraint faced by the farmers is late disbursement of funds which ranked first with (83%), this agrees with the finding of Gajda, and Jezewska-Zychowicz, (2021) who reported that lack of timely fund disbursement affect improving household food security status. Poor extension contact was found to be another major constraint affecting household food security achievement. It is ranked the 2<sup>nd</sup> most severe constraint with 72%. This finding agrees with the findings of Danso-Abbeam *et al.*, (2018) who reported that poor extension service delivery affect household food security status.

Emphasis on large-scale farming is also found to be a constraint affecting food security among farmers as indicated by 64% of the respondents. It is ranked the 3<sup>rd</sup> most severe constraint. This conforms with the findings of Shete and Rutten (2015) who reported that emphasis on large scale farming affects food security of small scale farming household. High cost of farm input was perceived as another constraint to food security status

by the respondents. This agrees with the findings of Lindawati *et al.*, (2018) who reported that high-cost of input affect food security status. The problem of incompatibility is another constraint a indicated by the respondents. The problem of incompatibility of an innovation affects its adoption. This in turn become a constraint to food security of the farmers. This conforms with the findings of Juma, (2015) who reported that compatibility of an innovation help to improve food security of household. Problem of poor storage facilities was also found to be a constraint affecting household food security status which ranked 6<sup>th</sup> most severe constraint faced by the respondents.

**Table 3: Constrains to the adoption of NSPFS Extension Packages**

Constrains	Percentage Response	Rank
Incompatibility of innovation	46	5 <sup>th</sup>
Poor credit utilization	34	7 <sup>th</sup>
Lack of appropriate storage technologies	41	6 <sup>th</sup>
High cost of farm input	54	4 <sup>th</sup>
Late disbursement of funds	83	1 <sup>st</sup>
Emphasis on large scale farmers	64	3 <sup>rd</sup>
Poor extension contact	72	2 <sup>nd</sup>

### Effects of Socio-economic Factors on Food Security

The result of the logistic regression model fitted is summarized in table 4. The logistic model explains 70% of total variable in food security status of respondents. The Chi- square statistics shows that three of the parameters included in the model were significantly different from zero at 5% level. At this level, all specified variable namely, gender, major occupation and level of education significantly affected the food security level of the participants.

This result of the linear regression revealed that gender of the household head statistically and positively affects household food security status. Implying a male headed household is found to be more food secure than

their female headed counterpart by 0.459%. This agrees the findings of Ogunniyi et al., (2021) who reported that a male headed household is more food secure than a female counterpart. The occupation of the household head affects their food security status positively by 0.0418%. Implying the occupation of a household head will determine his income and affect his food security status.

The result of the linear regression revealed that farmer's level of education was statistically and positively significant to household food security status. Implying that an increase in farmer's level of education will increase household food security by 1.387%. This agrees with the findings of Kehinde et al., (2021), Gebru et al. (2020); and Herrmann *et al.*, (2018) who reported that increase in farmer's level of education improve household food security. Expected  $\beta$  statistics suggested that odds in favour of food security which increase by 0.459 for farm size, 0.418 for occupation and 1.387 for level of education.

Table 4: Parameters Estimated for the Logistic Regression Model

Variable	$\beta$	SE	Sig.	Exp $\beta$
Sex	-0.7787	0.467	0.096*	0.459
Marital Status	0.003	0.220	0.986	0.997
No of dependents	0.047	0.054	0.388	0.954
Major Occupation	0.872	0.521	0.094*	0.418
Level of education	0.327	0.157	0.037*	1.387
Age	0.007	0.034	0.847	1.007
Farm size	0.040	0.097	0.678	1.041
Constant	0.777	1.462	0.595	2.176
Model Chi- square 17.214				
2log likelihood for the model 138.173				
Overall case correctly predicted 70.0%				
* Co-efficient significant at 5%				

## CONCLUSION

The NSPFS participants have an acceptable level of food security while the non-participants have a borderline food security. From the findings of



this study, it can be concluded that the national special programme for food security had significant effect on the participating farmers' food security despite the constraints facing the programme.

## **RECOMMENDATIONS**

More farmers should be encouraged by government to participate in the next phase of the national special programme on food security for increased food production, income and enhanced standard of living. Efforts should be made to ensure that inputs associated with the extension packages reaches the farmers at cheaper price and on time. There should be prompt disbursement of funds to enable the beneficiaries use it appropriately. Efficient extension services should be put to ensure smooth implementation and supervision of extension packages.

## **SUGGESTION FOR FURTHER STUDY**

Based on the study findings, it is also suggested that further studies should be conducted on food security on small holders farmers.

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