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EFFECT OF NATIONAL SPECIAL PROGRAMME ON FOOD SECURITY ON INCREASED YAM PRODUCTION IN SOUTH- EAST, NIGERIA

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Abstract

The study evaluated the effect of National Special Programme on Food Security on yam production in South East, Nigeria. Multi-stage random sampling technique was used for the selection of the sample of 360 farmers. Three South East states, Ebonyi, Enugu and Imo were randomly selected. Two extension blocks were randomly selected from each of the agricultural zones of the states selected, giving a total of 18 blocks. Two circles were randomly selected from each of the 18 blocks, giving a total of 36 circles. Five participants and five non-participants in the programme were selected from each circle. Thus, ten farmers were selected from each circle, giving a total of 360 farmers, comprising 180 participants and 180 non-participants respectively. The data collected through the use of questionnaire were analyzed using both descriptive (the mean) and inferential statistic (the z-test for independent samples). The Z- test of significance of difference between means showed that there was a significant difference between the mean yam yields of farmers, who participated in the programme and those who did not participate. The paper concluded that the National Special Programme on Food Security delivered on its mandate to help increase yam production towards food security in the study area, which contributes to reducing poverty at the grassroots. It recommended, among others, the expansion of the programme to include more famers for incremental food production in the study area.

Key words: National, special, programme, food, security, yam, production

Introduction

Previous governments have formulated and implemented various food security and agricultural extension programmes to enhance agriculture and rural development. The programmes included: National Accelerated Food Production Programme (NAFPP) in 1972; Agricultural Development Projects (ADP) in 1975**;** Operation Feed the Nation (OFN) in 1976; River Basin Development Authorities (RBDAs) in 1976; Green Revolution (GR) in 1980. Others were the Directorate for Food, Roads and Rural Infrastructures (DFRRI) in 1986; Better Life Programme (BLP) for Rural Women in 1987; National Agricultural Land Development Authority (NALDA) in 1992; National Fadama Development Project (NFDP) in early 1990s; National Economic Empowerment and Development Strategy (NEEDS) in 1999; and National Special Programme on Food Security (NSPFS) in 2002.

The Federal Government of Nigeria renewed its commitment to promoting growth in the agricultural sector, and with assistance from the Food and Agriculture Organization (FAO), implemented the Special Programme for Food Security (SPFS) as a pilot programme in Kano State. The SPFS is an integrated agricultural production programme seeking to increase household food security for poor farming communities in Nigeria. The programme's objectives include identifying, adapting, testing and promoting intervention packages that promote growth in the agricultural sector. According to United Nation's Food and Agricultural Organization (2012), the Special Programme on Food Security (NSPFS) began operations in Nigeria in 2002 following the Director-General's review of FAO priorities, programmes and strategies. This review concluded that there was an urgent need to focus on improving food security; increasing food production; improving stability of supplies, and generating rural employment, and by extension reducing poverty among grassroots.

The major thrusts of food security are to bring about a significant increase in agricultural production in a sustainable way, and to achieve a substantial improvement in people's entitlement to adequate food and culturally-appropriate food supplies (Onugu, 2007).The National Programme on Food Security was implemented in a stepwise fashion, starting with production activities initially at a few locations, which were progressively scaled up with the aim of gaining pilot experience in all major agro-ecological zones of the country. The pilot phase

focused on household and community level food security and livelihood issues, while the first phase tackled these issues at national level so as to open the way for more scaling-up. The first phase was up-scaled into a five-year, nation-wide Special Programme for Food Security (SPFS) between 2002 and 2006, covering the 36 states of the country (109 sites) (one site for each senatorial district in the country), with a total programme cost of USD 45.2 million exclusively funded by the Federal Government of Nigeria. The nationwide SPFS programme was completed in June 2006, and has already demonstrated very positive impact (Dauda and Ajayi 2009). Realizing the need to improve small-scale production and sustainable agriculture for food security to reduce hunger rapidly, the Government expanded the programme to six additional sites in each of the 36 states and two sites in Abuja, from 2007 to 2014. At this expansion phase, the programme was renamed National Special Programme on Food Security. The broad objectives of the programme included: increasing food production and eliminating rural poverty; assisting farmers in increasing their output, productivity and income; strengthening the effectiveness of research and extension service training; educating farmers on farm management for effective utilization of resources; supporting governments efforts in the promotion of simple technologies for self-sufficiency; consolidating initial efforts of the programme on pilot areas for maximum output and ease of replication; consolidating gains from the pilot phase of National Special Programme on Food Security for continuity of the programme; and consequent termination of externally-assisted programmes and projects.

The NSPFS mandate is to respond to these farmer-driven demands in a timely and coordinated fashion (**Ihekoronye, 2013). Farmers in South-East Nigeria engage predominantly in yam and cassava production.** Yam and cassava are among the major staple crops; they are widely grown and consumed in Nigeria, and are inclusive in food security crops in the country. Yam production in Nigeria has more than tripled over the past 45 years from 6.7 million tonnes in 1961 to 39.3 million in 2006 (FAO, 2007). This increase in output is attributed more to the large area planted with yam than increase in productivity (International Institute of Tropical Agriculture, 2010). Though the area used for yam cultivation is still being increased, production growth rate declined tremendously from average of 27.5% between 1986 and 1990 to 3.5% in the period between 1991 and 1999. The decline

in average yield per hectare has been more drastic, as it dropped from 14.9% in 1986-1990 to 2.5% in 1996-1999. The declining trend necessitated the NSPFS as an intervention strategy (CBN, 2002, Agbaje *et al.*2005 and FAO, 2007). This declining trend may be connected with inefficiency of resource use and allocation (IITA, 2010). However, the period between 2001 and 2006 recorded 23.4% increase in the average yield (Ike and Inoni, 2010). The area harvested in the world for yam has increased from 1.15 million (Ha) in 1961 to 5.04 million (Ha) in 2012. Yield (Hg/Ha) in the world also increased from 72.35 thousand metric tons in 1961 to 116.65 thousand metric tons in 2012. Over 58. 8 million tons of yams were produced in the world in 2012, out of which 92.2% were from West Africa. Nigeria accounted for over 65% (38 million metric tonnnes) of the world yam production valued at $7.75 billion and cultivated on about 2.9 million hectares of land in 2012 (FAO, 2013).

The implementation of National Special Programme on Food Security in Nigeria was expected to have improved yam and cassava production in South-East Nigeria, among other objectives. However, the programme with all the laudable objectives ended in 2014, but the extent of achievement of its mandate relative to yam production in South East Nigeria, which is unclear is worth investigating. It is therefore the objective of this study to determine whether the programme has realized its objective relative to improving the yield of yam in South East Nigeria.

Methodology

The population of the study included all the yam farmers that participated in the National Special Programme on Food Security (NSPFS) and those that did not participate in South-East Zone. The Zone has a total farming population of 11.34 million people (NBS, 2014). The respondents for the study were selected through stratified random sampling techniques. There are four States that participated in the National Special Programme on Food Security in the Zone. Three states, namely, Ebonyi, Enugu and Imo States were randomly selected from the four states that participated in the programme. Three agricultural zones were purposively selected from each of the selected states. This gave a total of nine agricultural zones. They were Okigwe, Orlu, Owerri in Imo State; Nsukka, Enugu, Awgu in Enugu State; Ebonyi North, Ebonyi Central and Ebonyi South in Ebonyi State. Two blocks were randomly selected from each of the selected agricultural zones; two circles were randomly selected from each of the blocks selected. Five participants of NSPFS were randomly

selected from the list of participants in each of the selected circles, while five non-participants were randomly selected from the list of non-participants in the thirty-six selected circles. The lists of farmers were obtained from the respective circle extension agents. The sample consisted 180 NSPFS participants, 180 non-participants. The data for the study were collected through the use of a questionnaire. The data were analyzed using the mean for determining the level of adoption of NSPFS recommendations, while the effect of NSPFS recommendations on yam production in the study area, was determined by comparing the mean yields of participants to non-participants using z-test for large independent samples.

Results and Discussion

On the level of adoption of NSPFS extension recommendations for yam, the results in Table 1 show that the grand mean score was1.94 on a three point rating scale. This revealed that there was low level of adoption of NSPFS extension recommendations for yam production by farmers in South-East, Nigeria although there was high level of adoption of three recommendations that were part of the package for yam production namely, yam/maize/fluted pumpkin as intercrop with a mean of 2.70. Other recommendations had the following means: soil fertility improvement, 2.52; early planting of yam, 2.34. There was low level of adoption of the following recommendations with the following means: herbicides application, 1.78;fertilizer application, 1.73;soil sampling, 1.65; book keeping, 1.65; yam mini-sett, 1.60; and improved yam varieties production, 1.58).Generally, the results indicated low level of adoption of NSPFS recommendations for yam production by farmers in the area.

This finding agrees with Agbarevo and Obinne (2009), who reported that there was low level of adoption of research-extension recommendations by resource-poor yam farmers in Cross River state. In addition, Ekwe and Amamgbo (2002) further suggested specialized training programme for farmers to improve adoption. Furthermore, Madukwe (2006) observed that, poor dissemination of information was responsible for poor adoption, and that if scientific research was to achieve real impact on farm productivity and livelihoods, new methodologies for dissemination of information have to be developed or adopted. The main direction of reform in agricultural extension is towards learning. This learning approach

should incorporate new methodologies and approaches that are demand-driven and increase the real, interactive participation of local people at all levels of

TABLE 1: LEVEL OF ADOPTION OF NSPFS EXTENSION RECOMMENDATIONS FOR YAM BY FARMERS.

	Mean Adoption Scores			
Recommendations	**Imo**	**Enugu**	**Ebonyi**	**Mean $\bar{x}$**
Improved yam variety production	1.77	1.43	1.55	1.58
Yam mini-sett production	1.65	1.40	1.38	1.48
Early planting of yam	2.02	2.43	2.57	2.34*
Yam/maize/telfairia	2.58	2.70	2.82	2.70**
Fertilizer application	1.80	1.85	1.55	1.73
Soil fertility improvement	1.72	2.85	3.00	2.52**
Soil sampling	1.95	1.67	1.33	1.65
Herbicides application	1.85	1.77	1.72	1.78
Book keeping	1.78	1.60	1.57	1.65
Grand mean	**1.90**	**1.97**	**1.94**	**1.94**

Source: Field Survey, 2016. **High level of adoption,*Moderate level of adoption.

TABLE 2: T -TEST ANALYSIS OF SIGNIFICANCE OF DIFFERENCE BETWEEN THE YAM YIELD OF PARTICIPANTS AND NON PARTICIPANTS

NSPFS	**N**	**($\bar{x}$)**	**SD**	**t- calculated**	**t- tabulated**
Participants	180	11.18	2.9668	1.96	527.44**
Non-participants	180	5.41	1.5468		

Source: Field Survey, 2016. **Significant at 5% level

Table 2 shows the result of effect of NSPFS on yam yield of farmers. The result shows significant difference ($p \leq 0.05$) between the mean yields of NSPFS participants and non-participants in yam production in South-East, Nigeria at 95% confidence level.

A yield difference of 5.77 tonnes/ha was recorded as shown in Table 2 in favour of participants in the NSPFS. The value of t-calculated (527.44) was greater than the critical value of t (1.96).Hence, the t-test rejects the null hypothesis and accepts the alternative hypothesis that, the National Special Programme on Food Security had significantly increased yield of yam in South-East, Nigeria. This implies that the National Special Programme on Food Security increased yam production in South-East, Nigeria.

The implication of the higher yield reflected higher income for the participants, and it is an indication of improved standard of living. This implies that the National Special Programme on Food Security has helped to increase the yield of yam in South-East, Nigeria. This finding tallies with Okorie *et al*. (2014) that National Special Programme on Food Security has increased crop yield in Akwa Ibom State, Nigeria. Considering the fact that food security is a major problem facing Nigeria, even when some African countries export food, the NSPFS, which has shown potential for incremental food production ought to be pursued with greater vigour for better results. The result of this study shows that government intervention through NSPFS to increase food production has been successful.

Conclusion

From the findings of the study, it was concluded that the National Special Programme on Food Security succeeded in increasing the yield of yam among participants. Hence, it has partly met its mandate of incremental food production, which is geared towards ensuring food security in South-East, Nigeria.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. More effort should be made by the government, research institutes and extension towards increasing the level of adoption of NSPFS extension recommendations on yam production.
2. Government needs to provide enough improved cultivars to encourage planting of improved varieties of yam in South-East, Nigeria since lack of enough improved cultivars was a major challenge.
3. More farmers should be encouraged by government/ extension to

participate in NSPFS programmes for increased food production, income and enhanced standard of living, thereby reducing poverty among grassroots.

4. More efforts should be geared towards accelerating the dissemination of yam production technologies in South-East, Nigeria by NSPFS and extension service.

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