



Agricultural Extension as Catalyst for Food Security in Nigeria: An Overview

Daneji, M.I,* I.P. Vosankaand U.C. Undiandeye,*****

**Department of Agricultural Economics & Extension, Bayero University, Kano, Kano State*

*** Dept. of Agric. Ext. & Management, College of Agric., Jalingo, Taraba State*

****Department of Agricultural Economics & Extension, University of Maiduguri, Borno State*

ABSTRACT

This paper examined the agricultural extension service as catalyst for food security in Nigeria. It reviews the role of agricultural extension in agricultural production among which are disseminating technologies to farmers and facilitating the adoption of innovations. The paper also assess the role of extension service in improving food security to be the application of appropriate information and communication technologies (ICTs) in agricultural information dissemination, the application of biotechnology and organizing farmers into groups that will assist in credit acquisition and use in agricultural production. The paper equally highlights some of the problems that pose a threat to agricultural extension in attaining food security to be the high ratio of extension agent and farmer, funding of extension agency, weak research-extension-farmer linkage system and policy instabilities. Therefore, it recommends among others things that the extension agent-farmer ratio be reduced (about 1:250), improvement in research-extension-farmer linkage system and maintain policy consistency together with the involvement of extension agents in all agricultural programmes at the grass root level.

Key words: Agricultural Extension, Food Security, and Catalyst.

INTRODUCTION

It seems one of the greatest concerns now around the globe in this millennium is for nations to be food secured. According to Braun (1991), a food secured world is not simply one in which food demand trends are matched by supply trends. It is a world in which people do *not* suffer from food insecurity. Hence, the focus needs to be on food security among nations to reduce food deficit in the households of the poor.

In terms of food security, Braun (1991) said that the world's population can be divided into three groups: the first group comprises those who can be sure of having enough to eat

to enable them to live an active and healthy life. These are the food secured. The second comprise those who are vulnerable to changing economic conditions and thus may not always have enough to eat, their food security is at risk. In the third group are the absolute poor, those who frequently consume less than the amount needed for healthy living.

They are food deficient. Most low and middle-income countries including Nigeria contain these three population groups in different proportions. It is in realization of the rising demand for food in growing populations among nations that food security is included in the Millennium Development Goals (MDGs)

to sensitize government and people to take practical and concrete steps towards food security. Therefore, food security is considered a priority goal because of the belief that people who cannot feed themselves are not in control of their destiny (Opio-Odongo, 1988). Food is a basic substance needed for the sustenance of life. In order to maintain good health and optimal performance, food has to be provided in adequate quantity and quality (Iheanacho and Abdullahi, 2006).

Food security has been viewed differently by scholars. In a World Bank Policy Study (1996), food security is defined as access by all people at all times to enough food for an active healthy life. Food security involves not only food availability through domestic production, storage and/or trade, but also more importantly, food access through home production and purchase in the market. According to the World Food Summit (1996), food security is supposed to mean among other things, the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger (Idachaba, 1993). According to Iheanacho and Abdullahi, (2006), food security is therefore not only the availability, but also the accessibility, procurement and intake of adequate food (in both quantity and quality) by individual, household, community or region.

Ogiji (2004) views the concept of food security as traversing various spectra of the nation. It transcends individual, household, local and state government and even national levels. Food security is embedded in agriculture, which traditionally is the mainstay of the Nigerian economy. To achieve food security in a rapidly growing population, Iheanacho and Abdullahi (2006) assert that enough food has to be made available through domestic production and/or import. To them, for a predominantly agrarian society such as

Nigeria, food security can be achieved through increase in agricultural production to meet the food demand of the ever-increasing population. In other words, food security is extricably linked to agricultural production. Improving and raising agricultural production in Nigeria with an estimated 80% of its population involved in agriculture will contribute significantly to food security.

Empirical evidences on the effectiveness of agricultural extension in boosting food production from different parts of the world exist. In Kenya, agricultural extension has helped in bringing about increased farm yields on several crops. In India, the Training and Visit (T and V) system of agricultural extension has been effective in raising agricultural output. Similar evidences were reported of Uganda and Burkina-Faso (Blindish and Evenson, 1993; Appleton and Balihuta, 1996). Therefore, any form of scientific research, which would be of use to the ordinary man must mean the establishment of extension services to interpret and carry the results in a very practical form to the smallholder farmer who produces the food needed by the ever-growing population. It is regrettable, however, that since the last two decades, there has been a decline in extension services to Nigerian small holders who incidentally constitute the bulk of actors in the sector (Okpanachi, 2004). Lending credence to this assertion, Quisumbing (1994) said the low agricultural production and productivity were partly due to the relatively inadequate agricultural extension system in the country.

Based on this premise, the general objective of the paper is to examine the role of extension services as a catalyst for food security in Nigeria. Specifically the paper addressed the following:

- a) Review of the roles of extension services in Agricultural production;

- b) Assessment of the importance of agricultural extension service towards food security and
- c) Highlighting of the major problems of agricultural extension to food security.

Roles of Extension Services in Agricultural Production

Agricultural extension is a service or system which assists farmers, through educational procedures, in improving farming methods and techniques, increasing production efficiency and income, bettering their levels of living and lifting their social and educational standards (Maunder, 1973). Extension is an on going process of getting useful information to people and then assisting these people to acquire the necessary knowledge, skills and attitudes to utilize effectively this information and technology. According to Adams (1982), agricultural extension is assistance to farmers to help them to identify and analyze their production problems and to become aware of the opportunities for improvement. Extension involves the conscious use of communication or information to help people form sound opinions and make good decision (Van den Ban and Hawkins, 1996).

Therefore, extension education is an informal out-of-school system of education designed to help rural people satisfy their needs, interest and desires and to bring about change in people. The extension service as an educational process communicates with farmers as individuals and groups to help them learn and adapt to knowledge, technologies, skills and attitude that brings about positive changes in their behaviors which tend to increase crop and animal production, standard of living and rural development (Olomola, *et al.*, 2006).

What is derived from all these definitions is that agricultural extension

services involve communication, education, helping farmers form opinions, adoption of new knowledge and technologies, which enhance agricultural productivity and ultimately improves the standard of living of the farmers.

According to Wapmuk and Bwala (2005) few countries have experienced sustained economic development without growth of the agricultural sector. But sustained high levels of agricultural production and incomes are not possible without an effective agricultural extension service that is relevant to the needs of the farmers. Drawing inference from meanings and concept of agricultural extension, the specific roles of the extension service are briefly enumerated as follows:

- Farmers need improved technology to sustainably increase food production. However, the inability of majority of the farmers to benefit from such technology through their own initiatives is partly due to the high cost or lack of knowledge associated with the use. For a technology to be meaningfully used by farmers, extension services must interpret and carry the research results in a very practical form to the small holder who produce the bulk of food for the nation.

- Another important role of agricultural extension education in increased agricultural productivity lies in the fact that it facilitates the adoption of improved production innovations. Several studies have shown that the adoption of innovations by an individual is not a sudden event but rather gradual (Mundi, 2005). Since farmers generally do not accept and use innovations at the same time or rate, it is extension that should encourage the adoption of innovations among individuals. Thirdly, communication is an important role in agricultural extension service.

According to Ani (2006), agricultural extension service delivery throughout the world is concerned with communicating research findings and improved agricultural practices to farmers. The efficiency with which these information and practices are conveyed to farmers to a large extent would determine the level of agricultural productivity. It is a new challenge to the service to explore appropriate means and methods of getting information to farmers, especially with the current revolution in information and communication technology.

Agricultural Extension Service and Food Security

Improving food security is a challenge which is not simply about producing more food, but also other areas such as access to available food, insufficient economic development outside agriculture, bad governance, detrimental trade relations and inadequate functioning of agricultural institutions (Leeuw and Van den Ban, 2004). Food insecurity in Nigeria has appeared in many shapes and guises. According to Odey (2004), studies on the characteristics of poor households in urban and rural Nigeria shows that most families spend over two-third of their earnings on food alone. The poorest households even spend up to 90% of their incomes on food. The scenario is almost boundless with high rate of inflation and gross in-balance between food supply and population growth.

Adesina (1996) in a review of food production index in Nigeria shows that food production rate was growing at one percent (1%) per annum and that the nation's food demand was increasing at the rate of 3.5 % per annum, giving short fall in food production.

Food inadequacy in Nigeria has also consistently manifested in the level of food imports. It is clear that a greater proportion of the population has over the years been dependent on the importation and/or smuggling

of food items such as rice, vegetable oil and animal products to make for domestic production. In practical terms, the global food shortages being witnessed now triggering crisis and protest in some countries of the world has forced the country to import rice to avert similar crisis happening in the country. These are directly or indirectly evidences of food insecurity which the extension service should see as a challenge to make giant strides to enhance food production in this millennium.

In concrete and practical terms, the extension service should radically pursue the following to act as catalyst for food security:

1. In this decade of revolution in information and communication, there is need for the application of information and communication technologies (ICTs) in agricultural extension. Extension should avail itself of this opportunity. The appropriate communication tools such as computer, Internet, CD-Rom and the GSM should be employed to speedily disseminate information. Farmers need to be educated on how to assess and use ICTs in for example, marketing their farm produce, latest technology to improve their production and/or productivity, weather and climatic conditions to guide their production practices and having a full grasps of trends and development in agriculture in general around the globe.
2. Another area in which agricultural extension should adequately utilize to assure food security is in the application of Biotechnology. According to Iheanacho and Abdullahi (2006), biotechnology consists of a cluster of commercial techniques which use living organisms to make or modify a product. It is one important way in which advances in human knowledge is employed in agriculture to raise productivity.

3. For farmers' productivity to increase, they need inputs which are obtained only if agricultural financing is available. However, lack of credit facilities has been identified as an important constraint to food production. Farmers need cash credit to purchase farm inputs such as organic fertilizers, herbicides and insecticides. It is the responsibility of the extension service to organize farmers into groups, liaise with credit institutions and assist farmers in credit acquisition and usage.
4. The extension service needs to liaise with other agencies and/or organizations such as health institutions, water agency and electricity to provide essential services and infrastructures that enhance farm productivity and welfare. Farmers need to be educated on where and how to assess medical facilities, especially the vulnerable (e.g. those living with HIV/AIDS), sources of obtaining better and portable drinking water in their communities, alternative source of energy, all could help enhance rural life and living in general.

The Problems of Agricultural Extension in Attaining Food Security

Some of the problems affecting agricultural extension that is likely to affect agricultural production, leading to food insecurity include inter alia:

1. The extension agent-farmers ratio is as low as 1:2500. Consequently, only 29.5% of the farm-households in the country received agricultural extension services (Adewale, 2002). This makes it difficult for extension agents to reach many more farmers with messages.
2. Funding is another problem for agricultural extension in Nigeria, especially with the withdrawal of external financing for the ADPs, the primary extension agencies in the country. Finances provided by the state governments to the ADPs are increasingly inadequate. Thus, extension work seems to be at low ebb in most states of the country.
3. There are very weak research-extension-farmer-input linkages in Nigeria. This is common with most developing countries and is a major limiting factor to increased food productivity and sustainability.
4. Added to the problems are inconsistencies and frequent changes in agricultural policies. These impediments result in abnormal food and fibre shortages in Nigeria. Most government policies suffer neglect at the level of implementation. The real farmers are marginalized. Often, there are duplications of functions in agricultural programmes which hamper clear-cut extension work and mass food production.
5. The non-involvement of extension in agricultural programmes that touch the lives of people who depend mainly on agriculture for sustenance can limit food production. For example, the neglect of extension component in the concluded Fadama-II project has necessitated the inclusion of extension component in the proposed Fadama III project.
6. Finally, in many developing countries like Nigeria, the extension system has become inefficient. Critical to this is the fact that the extension agents are inadequately trained and poorly remunerated.

Conclusion and Recommendations

Since food insecurity is now a global crisis, food security is considered a priority goal and a challenge to most developing nations like Nigeria with rapidly growing populations in the millennium. The concern now is access by all people at all times to enough food for active healthy life. Since food security is tied down to increased agricultural production, agricultural extension is *sine qua non* to agricultural development could favourably speed up the food security situation.

Expectedly, the extension service should facilitate this process through availing itself with the use of information and communication technologies (ICTs), Biotechnology and effective linkages with researches, other agencies and organizations that enhances farm productivity. This ostensibly could be pursued through greater involvement of extension agencies in agricultural policies and programmes bearing on the small scale farmers

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