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# Agricultural Extension as a Strategy to Boost Food Production in Nigeria

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By

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## **Abstract**

*This study was carried out in 'order to determine the strategies of agricultural extension to boost food production in Nigeria. Adams (1984) said that agricultural extension refers to assistance given to farmers, to help them identify and analyze their production problems and to become aware of the opportunities for improvement. The findings from the study shows that agricultural extensions have contributed positively towards the welfare of rural farmers such as increase in food productivity, help farmers to adopt new technology and innovations systems, help to raise farmers' income and improve farmers' literacy. Although there are many problems militating against the delivery of agricultural extension service such as- poor communication skill, late adopters and never adopters, transportation problem and lack of finance. It was recommended among others that: Farmers should be provided with adequate education to equip them properly on the use of fungicides, insecticides, fertilizers etc; Farmers should be made to have positive attitude towards agriculture; Extension agents should be trained and be funded, so that farmers problems can easily be executed and boost food production; and local farmers should be involved in decision making.*

The necessity for educating and for raising the productive capacity of the rural farmers' population in Nigeria is great. This is because extension education is the only rural development process known to reach the individual farmer and teaches him how to manage his own unit of land, labour and capital efficiently. So the major task in food production is the transfer of improved technologies to farmers. Therefore agricultural research and agricultural extension services are essential components for food production. This is because the agricultural researchers identify problems and opportunities for farmers. They also seek practical improvement at the level of farmers' technology and since research is designed for a technology out of reach of most Nigerian farmers, a link between farmers and research information is very important (Omoruyi, 1990).

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In Nigeria, over 80% of the populations are engaged in agriculture and yet food production is at lowest level because agriculture is still at the subsistence level. The ratio of extension agents to farmers' family is 1:2,000 and this makes extension efforts highly inefficient in having no significant effect on subsistence agriculture in this country (Adeyanyu, 1992). Several studies have shown the potency of information dissemination approach such as face to face, mass media and even posters to each farmers of varying personalities because they are easily accessible to them (Omoruyi, 1999).

### **The Meaning of Agricultural Extension**

According to Olaitan (1988), it is the duty of all extension workers to teach rural people on how to raise their standard of living with the minimum assistance from government and by their own efforts using their own resources. The broad function of extension is to provide people with scientific knowledge so that they may solve their own problems. Adam (1984) suggested that agricultural extension refers to assistance given to farmers, to help them identify and analyze their production, problems and to become aware of the opportunities for improvement. Akinsanmi (1975) describes extension service as an organization set up by government, commercial organization or group of individuals with the aim of disseminating information to the people for which it is meant. In agriculture, such information may include material or the techniques for applying fertilizers, insecticides and fungicides to crops; on introduction improved methods of cultivation and soil conservation and of planting, maintaining, harvesting and of storing crops and on improved techniques of animal husbandry as well of processing and marketing agricultural products.

### **Objective of Agricultural Extension**

The fundamental objective of agricultural extension is to improve the efficiency of the farmers by persuading him to apply improve methods so that he may better his own standard of living and his general welfare (Omoruyi, 1999). The basic philosophy of agricultural extension education is to teach people how to think and not what to think. Such education should teach a farmer to be self-reliant, the skill acquired should enable him to move away from ignorance and become self responsible (Omoruyi, 1999).

### **Functions of Agricultural Extension Agents**

The functions of agricultural extension agents as cited by Williams (1978) include to improve the productivity of agriculture and also pay attention to the acquisition of skills, knowledge and attitude of farmers, which are favourable to their welfare. In this respect, the function of agricultural extension is also to make available to farmers the benefits from research and technology and its ultimate ambition is to raise efficiency and this achieve high level of living.

According to Williams (1978), extension workers carryout the following functions:

- 1) Persuade the farmers on the value of change in Nigeria, most of the farmers are subsistence farmers; the farmers are understandably afraid of cost risk and will

- not take change until they are convinced that the new methods are safe, and valuable. This is where the' extension agent comes in; it is not his business to plant new seeds or to harass the farmers but it is his duty to educate and guide the farmers to the realization of the new innovation that will benefit him and his family and Nigeria in general; once a farmer comes to the realization he would accept the change and try the innovation.
- 2) Transmit the result of research to farmers and equally to transmit problems of the farmers to researchers. To carryout this function effectively will require effective communication between the research organizations, the extension workers and the farmers.
  - 3) Reflect a major change in the national economy, and therefore its extremely important is to help the farmer to learn how to make wise decision in farm management. For the subsistence farmer, this is a major change indeed; he has had no decision to make, he simply did as his father and forefathers had done. But in modem commercial economy, prices and factors of production must be considered in order that the farmer will make decision many ways which will bring a new experience for new experience for him and increase his farm production.
  - 4) Bring to the farmers, the knowledge and help that will enable them to farm more efficiently and improve their standards of living and increase income.
  - 5) Promote efficient agricultural production and the development of institution to ensure the proper financing, assembly of these commodities produced for the welfare of both the producers and the consumers.
  - 6) Help rural people develop their talents so that they can assume a leadership role in the village and the division or area where they live. -
  - 7) Act as a connecting link between the researchers and the farming communities.
  - 8) Help to change people's attitude towards their problems and difficulties.
  - 9) Provide assistance to farmers in the acquisition and utilization of agricultural loans.
  - 10) Help farmers in producing farm inputs such as fertilizers, seeds and chemical etc.
  - 11) Act as a channel of communication between government and the farmers in a two way communication system.
  - 12) Teaching farmers how to keep accurate records of farming activities.
  - 13) Help to educate rural women in home management.
  - 14) Serve as guidance and counsellor to farmers.
  - 15) Liaise with other organizations such as local government, and health organization that may have influence on rural environment and the farmers.
  - 16) Help farmers to identify proper marketing channel to sell their products.
  - 17) Teach improved farming practices to farmers in the cultivation, rearing and processing of crops and livestock.

### **Principles of Effective Extension**

Some principles of effective extension as summarized by Morshen (1997) are:

- i. Extension services must help farm families acquire new knowledge and skills based on their current interests and needs which are closely related to increasing farm production and improving the physical level of living of the farmer's families.
- ii. Extension activities must be taken to rural families where they reside.
- iii. Extension agents should treat all farmers and rational adults equally.
- iv. The new practice disseminated to farmers must be technically profitable and socially desirable.
- v. Demonstration of a change practice is important to convince the farmers to use it.
- vi. Extension teaching should deal with one practice or method at a time.
- vi. A wide variety of teaching methods ensure good extension education programme.
- vii. All necessary inputs must be available and should be applied
- viii. All necessary inputs should be performed when the farmers are not too busy to participate.

### **Extension Methods of Giving Information to Farmers**

According to Omoruyi (1999); extension methods of disseminating new ideas and techniques to farmers includes:

#### **i. Mass Media**

The mass media of disseminating information to farmers includes the radio, television, newspaper, cinema, vans and magazines. New ideas and techniques are passed to farmers through these media.

#### **ii. Pamphlets**

Pamphlets, bulletins, circular, leaflets and posters are brought to the rural farmers.

#### **iii. Demonstration Plot**

This is an effective way in which new techniques are brought to rural farmers. In this method, improved farming practices and results are demonstrated to the farmers' right in their farm and home. They therefore, see things for themselves.

#### **iv. Group Meeting with Farmers:**

This method of disseminating new ideas to farmers create opportunity for face-to-face contact between the extension work and the farmers; during the meeting new ideas are passed to farmers and they also express their problems and ask question.

#### **v. Farmers Cooperative Societies**

New ideas and techniques with other relevant information can be passed to the farmers through the cooperatives societies in which they are members; this

method is cheap in passing information to target group of farmers; ideas are shared easily among the farmers.

**vi. Agricultural Shows and Farm Festival**

In these exhibitions, farmers are invited to show of their produce with other farmers for prize; they provide learning and rewards for farmers.

**Effective Strategies Needed by the Agricultural Extension Service in Boosting Food Production**

The strategy of agricultural extension as cited by Claire (2002) in boosting food production includes:

- i. Develop a suitable organization set up for teaching improved agricultural technology to farmers.
- ii. Provide adequate facilities for travelling to farmers' villages and carrying on an effective education programme for better farming.
- iii. Establish sound administration forgetting the work done on schedule.
- iv. Extension worker must have confidence in farmers so that they will understand their situation. Farm guidelines and recommendations must be acceptable to farmers and should not threaten their livelihood. Most importantly, they need to be in language they understand.
- v. Farm inputs must be available on time to the farmers and at reasonable price.
- vi. Agricultural extension is educational; farmers and their families are taught in an informal setting such as in a farm, under the tree or meeting room; teaching materials should be in terminology farmers' use and understand, with illustrations.
- vii. Extension workers should help the farmers to have positive attitudes towards agriculture by encouraging the farmers who live in the areas. Provision of social amenities in the area will persuade the local farmers to stay in the rural area and join hand in programme implementation, which will uplift the living standard of the members of the rural community; in this aspect farmers will be encouraged to produce more food.
- viii. Agricultural extension workers should educate the farmers and equip them properly on the use of fungicides, insecticides, fertilizer application and latest agricultural techniques.
- ix. Extension worker should involve the local farmers in decision making so that all will feel a sense of belonging and contribute meaningfully to the programme.
- x. The quality of an extension service is only as good as the quality of its recommendations to farmers, extension subject matter specialist and researchers working together with the involvement of farmers must carefully develop these recommendation that are difficult to understand or that may not be followed for some reasons, why farmers do not choose to follow the recommended practice can be identify and then improvement can be made.

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- xi. Linkage between research and farmers cannot be made without well-qualified, highly trained extension subject matter specialists. These subject matter specialists should work with researchers in their subject matter field, and with farmers; they should develop guidelines and recommendations for farmers to consider.
- xii. There should be a communication section that prepares leaflets, bulletins, slide, shows, flip, charts and posters, all prepared in required languages for effective teaching of these guidelines and recommendations to farmers by extension workers.
- xiii. If agricultural extension programme are redesigned to fully include the training of women farmers in agriculture and other productive activities and not just home and family welfare, it will go a long way to boosts food production.
- xiv. Each farmer should make the final decision and as to whether a recommended practice will be followed. Results of the practice must obviously be of advantage to the farmers.
- xv. Provision of adequate training for the extension agents. Extension workers should be trained in specific skills needed in various localities to provide the needed manpower, suitable for extension service.
- xvi. Patience and consistent financial support overtime by government is essential if the objectives are for gradual improvement of agriculture and the lives of farmers.

## **The Role of Government through Agricultural Extension Strategies to Boost Food Production**

These are extensions efforts which aim at introducing change in the farming behaviour of rural farmers, however, they lack one or more of the necessary characteristics of a true extension system; while these strategies usually serve as interim measures to correct specific differences in an existing extension system in Nigeria.

Some Agricultural Extension Strategies, as role played by the government, according to Omoruyi *et al.* (1990) in Nigeria for rural development includes:

### **1. National Accelerated Food Production Programme (NAFPP):**

The primary objective of the National Accelerated Food Production Programme (NAFPP) was to increase the production of major food crops—maize, rice, millets, sorghum, cassava and wheat through Transfer of available improve agricultural research, finding to farmers. The programme which started in 1973 was aimed at developing a comprehensive package of technology that farmers could adopt to ensure high yields.

To achieve this objective, mini-kit trails-local demonstration plots were to be established side by side where the farmers can learn by doing and sharing their experience with government trained extension agents; although the NAFPP achieved some successes with regard to transformation of traditional agriculture, late arrival of

proper supervision, poor staff motivation, inadequate transportation system late arrival of farm inputs hampered the programme.

### **Green Revolution Programme (GRP)**

The green revolution programme was launched in 1980 by the Shagari Administration. This followed the report of the World Bank food strategies mission to Nigeria:

The objectives of the programme were:

- a. To increase food production and other materials to meet the needs of the growing population.
- b. To increase the production of livestock and fish to meet domestic needs and create surplus for export.
- c. To increase the production and processing of export crops with a view to expanding and diversifying the country's foreign exchange earnings with the aim of restoring export capability in about seven years. To achieve the objectives, there was provision of extension programme for the supply of credit and other input to farmers; but the programme failed because of corruption among the programme executors undue bureaucratization, unnecessary creation of job for political party.

### **Agricultural Ministries**

These are organizations set up by government to carryout agricultural activities. The ministry grant credit facilities and subsidies, finance research, established farm settlements and supply vaccines and quarantine services; the extension unit/division of the ministry provides information to farmers on the techniques of applying fertilizer, insecticides and soil conservation and of planting, maintaining, harvesting and storing of crops; information is also given on improved techniques of animal husbandry as well as on processing and marketing of agricultural products.

### **Farm Settlement Scheme**

These were agricultural extension projects established immediately Nigeria gained independence.

The objectives of the programme include:

1. To test and demonstrate carefully planned farming system designed to attract young educated persons to farming.
2. To, develop infrastructures in the villages. These include rural roads, schools, health facilities, water, supply and residences.

This programme failed because the mechanical equipment used and the capital needed to buy improve materials were beyond the reach of small scale farmers.

### **Operation Feed the Nation (OFN)**

This scheme was established in 1976. The objective was that of mobilizing the entire nation to increase domestic food production and thus reduce the raising food import bill.

The scheme set out to encourage farmers, private individuals, public institutions, such as schools, colleges, polytechnics and university to produce food by assisting them with the supply of subsidizing farm inputs such as fertilizers, improve seeds, pesticides, and implements; training was also organized at different centres for private individuals especially in the areas of poultry production and management. Other objectives of the programme involve increase opportunity for research, marketing and processing of agricultural products. The problem of the programmers was inefficient supply and distribution of arm inputs.

### **Agricultural Development Project (ADP)**

The Agricultural Development projects in Nigeria were established during the third national Development Plan (1975-1980) to enhance agricultural and food production. These are World Bank assisted projects consisting of an inputs delivery and credit supply systems.

The objectives of the projects are:

- a. To increase agricultural productivity
- b. To improve the living standard of the rural people in the project area.

The problem facing ADP's include poor funding, ineffective inputs delivery system, lack of manpower and misplaced priorities among the project executors.

### **Agro Service Centres**

The agro service centres are located in local government headquarters. The objective of the centres is to provide all the necessary inputs like seeds, fertilizers, tools, pesticides and others to farmers; like the agricultural development projects, the agricultural service centres were established to increase income and high standard of living.

### **River Basin Development Authorities**

The River Basin Development Authority was established under decree 25 and 27 of 1976, under these decrees eleven Rivers Basin Development Authority were established throughout the country. They were set up primarily to undertake comprehensive development of both surface and under ground water resources, for multi-purpose use. Control total floods and erosion for watershed management.

### **Problems Hindering the Progress of Agricultural Extension Services in Nigeria**

According to Williams (1978), the problems that hinder the progress of extension service in Nigeria includes:



- a. **Staff Training and Turnover:** Lack of trained personnel, both in quality and quantity has long been militating against the effective execution of the programme. The field overseers who are at the nerve end of the extension organization receive training only in a specific skill, which have been found generally inadequate to enable them cope with farmers' problem. Moreover, their number fall far short of the desired target, ration of one is to about three thousand (1: 3000) families.
- b. **Inadequacy of Service Amenities:** Inadequate office accommodation and especially lack of transport facilities and essential equipment ate perennial problems seriously undermining the efficiency of the service, since they restrict communication and limit the scope of operation. A basic complaint of agent is that they are unable to get essential requisites to the farmers they served, at the right time and at a reasonable cost, they therefore, do not meet their obligations towards their clients (farmers).
- c. **Lack of Credit Facilities:** As is true to any business, credit and investment are important for the growth of agriculture. It lacks credit facilities, that makes many farmers not to adopt improve practice, since most of them lack tangible collateral which could be acceptable in place of the loans. Unless adequate institutions are set up to correct this situation, most farmers simply will not be able to take advantage of the improved practice into which development is making possible.
- d. **Lack of Effective Evaluation Techniques:** Many of the extension services are based on mockery evaluation studies. Williams (1972), indicated that very few agents attached any importance to that, they were more concerned with administration, for example forty percent (40%) in the consultation with other agents as a form of evaluation, thirty seven percent (37%) consultation with farmers, and twenty-three percent (23%) consultations with supervisors were frequently carried on by telephone and at conferences at headquarters. If so, formal evaluation techniques are available, it may be desirable for agents and supervisors to meet more frequently.
- e. **Inadequate Subject Specialist:** Inadequate subject matter specialist to handle extension matter is one of the factors militating against the delivery of agricultural extension services. Where the specialist exist, they are often not properly involved, there is therefore, the need to train and improve specialist in major area of agriculture to support extension agents who are in direct contact with .the farmers.
- f. **Problem of Farm Input:** Inadequate quantity of inputs, such as - seeds, livestock, implements, chemicals, available to farmers retard the development of agriculture. Also, poor quality of input generally lead to low production; a lot of farm inputs needed in West African agriculture are not produced locally, but has to be imported; this make such input very costly and unaffordable by the local farmers. Often time, farm inputs are not made available to the farmers in time for beneficial use on their farms while some farmers do not have the

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technical know-how to apply or use farm input that are available to them as recommended by agricultural extension agents.

- g. **Late Adopters/Laggards and Never Adopters:** The late adopters constitutes 13.5% of the population, they are below average in all consideration, they love little or no education and are poor, they are therefore afraid to make change in farming techniques.
- h. **Transportation Problem:** Most rural area or family communities are not easily accessible due to the bad nature of roads leading to them, it therefore becomes evidently impossible to reach this rural area for necessary information for improvement. In some cases, roads are completely absent. Vehicles plying the road in farming communities are often limited or not available at all and cost of transportation is therefore very high.
- i. **Poor communication** Poor information service is one of the factors militating against efficient delivery of agricultural extension services. Lack of adequate information, media, such- as radio, cinema and television which might be used to inform the farmers on time and methods of planting high quality seedlings or prices and markets for his products also adversely affect agricultural productivity.
- j. **Lack of Education:** The poorly educated tend to be conservative i.e. unwilling to accept new ideas which do not seem to give immediate gain, they tend to mistrust the use of fertilizers, insecticides, fungicides and new tools simply because they are unfamiliar.
- k. **Insufficient Motivation of Extension Workers** The extension workers are poorly motivated; hence they find it difficult to put in their best in the face of poor salaries, poor offices, accommodation and lack of bush allowance.
- l. **Corruption Among Education Personnel:** This is one of the most serious problems facing agricultural extension service in Nigeria due to greed and the urge to get rich quickly; some extension agents converts materials like fertilizers implements and even cash meant for farmers to their personal use. The information to farmers are usually delayed and distorted as a result of poor training of the extension workers.
- m. **Inappropriate Content:** Adams (1982) indicates high ratio of extension workers to families is however a little practical value, for the extension message is inappropriate. Farm implement not well adopted to surplus labour, unsophisticated skills and inadequate capital are generally available. That setback have been caused by inappropriate technology and institutions borrowed from economically advanced countries. A lot of money has been wasted on the promotion techniques which were of little help to poor farmers.

## **Summary**

The major aims of carrying out this research were to find out the strategies used by agricultural extension to boost food production in Nigeria. Attempt was made in the introductory part to create awareness of the need for agricultural

extension service, through which farmers can be taught systematically in order to improve productivity, since the entire population depends on food for a living.

Following the introductory section is the objective and philosophy of agricultural extension which declared that the fundamental objectives of agricultural extension is to improve the efficiency of the farmers by persuading him to apply improve methods so that he may better his own standard of living and his general welfare.

Furthermore, the philosophy of agricultural extension is based on education to teach people how to think and not what to think, learning how to think and make the farmers to be self reliant.

Many factors are responsible for poor delivery of agricultural Extension service in Nigeria. They include: Late Adopters/Laggards and never Adopters, lack of communication skill, poor transportation, problem of finance, among others.

Major strategies needed by agricultural extension service to boost food production include the following:

- i. Local farmers should be involved in decision making.
- ii. Farmers should be made to have positive attitude towards agriculture.
- iii. Farmers should be provided with adequate education to equip them properly on the use of farm inputs.

Other strategies of extension service provided by government through extension service include: Agricultural Development Project (ADP), Agro-service centre, farm settlement scheme, operation feed the nation (OFN), and so on.

Furthermore, from the findings, it was observed that extension services have contributed positively to rural farmers, such as increase food production, help farmers to adopt new technology and - innovations system; help to raise farmers' income and improve productivity, and improve farmers' literacy.

## **Conclusion**

The necessity of educating and raising the production capacity of the rural farmers' population in Nigeria is great, this is so because, extension education is the only 'rural development process known to reach the individual farmers and which teaches him how to manage his own unit of land, labour and capital efficiently. Therefore agricultural extension holds the key for the successful implementation of agricultural production, which will go a long way to boost food production in Nigeria.

## **Recommendations**

1. After a thorough review of the weakness and problems of agricultural extension services in Nigeria, coupled with their prospects and their needs for effective services, the following are recommended to ensure that these needs are met or satisfied.
2. Agricultural extension in Nigeria does not expect to develop fully without government investment. Continuous effort by the government to make needed farm inputs available and also at a cheaper rate including the provision of a comfortable means of transportation should be ensured. Government should

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also called upon the most qualified and experienced in extension education for advice and counsel on how to best meet the crisis and develop a sustainable system of agricultural extension education.

3. Adequate extension subject matter specialists who are well qualified and trained are essential for an effective system of extension and therefore should be introduced.
4. Improving farm practices takes time therefore farmers must have an opportunity to think through recommendation. They must feel accepted and rewarded by their peers for their accomplishment. Efforts should also be made to improve the life of farm families. Extension home economics specialists need to be in an organizational structure similar to the one in the past where they can plan programmes together to meet the needs of farm families.
5. Women farmers access to extension service should be programmed in such a way that it must lead to concrete improvements for the rural women both in farm and home aspects. It should enhance the productivity of the agricultural sector and natural food security through increasing marketed output.

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