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The Extension Capability of Benue State Agricultural and Rural Development Authority

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ABSTRACT

The study was undertaken to investigate the extension capability of Benue Agriculture and Rural Development Authority, BNARDA. One hundred Village Extension Agents (VEAs) and twenty headquarters and zonal management staff participated in the study. A structured questionnaire was used to collect data from management and field extension workers. Percentage and ratio were the statistical tools employed in analyzing the data. The findings of the study show that the agency has not met the recommended agent to farmers ratio. The agency had inadequate subject matter specialists who also lacked specialty training. The agency had more middle level extension workers with all graduate and post-graduate extension staff. Extension service was male dominated. Also, all the agency's extension workers were middle level trained staff. It was noted that first, the agency faced the problem of acquiring and allocating these resources and secondly, the extension organization faced the problem of financial allocation for extension service. Furthermore, only five computer units existed for the seven sub-programmes. Also print media and electronic media were used in reaching farmers with information, knowledge, skills and innovations. Majority of the agents were provided motorcycles to reach farmers in the nooks and crannies. The study recommends employment of more agents to narrow the ratio between agents and farmers, an increase in the number of computers in the agency to meet the ICT challenges and training of middle level manpower to graduate and post-graduate levels so that these extension staff could be utilized in upcoming programmes.

Key words: Extension Capability, Benue State Agricultural and Rural Development Project.

INTRODUCTION

Agricultural extension is an educational process that informs, advises and educates farmers in a practical manner and has been organized in different ways (Ayichi, 1995). The organization of extension takes the form of either a system or strategy (Madukwe, 1995). It is designed to teach farmers the best methods to improve the standard of living through agriculture (Ononamadu, 2004).

In Nigeria, these systems and strategies have been introduced at one time or the other to disseminate research findings and promote their use. For the past two decades, the Agricultural Development Project Extension system takes full administrative control of the entire extension services covering crops, livestock production, fisheries, forestry and farm demonstration (Bukola, 1994).

In Benue State, this system of extension was established by Benue State edict number 7 of 11th July, 1985 as an extension of the enclave Ayangba Agricultural Development Projects. Being one of the Multi-Stage Agricultural Development Projects; it came into formal operation in January 1986 with three core components and four supportive components. The core components are made up of Agricultural (where extension is housed), commercial and engineering and administration, finance, manpower development, training and planning, monitoring and evaluation. It is operated on the basis of three agro-development zones, namely: Central, Eastern and Northern Zones (Ajayi and Allagenyi, 2001).

The objectives of BNARDA are among others: to promote increased agricultural production in the State; and raise the income and standard of living of farmers; focus on agricultural potentials in effectively utilizing intensive programmes of on-farm adaptive research; develop an effective unified Training and visit agricultural extension system in the state (BNARDA, 1986); establish and operate a workable input procurement and distribution system capable of serving farmers at the right time, and provide rural infrastructure for sustained development (BNARD Extension Bulletin, 1986).

To achieve these objectives an extension organization needs to develop human, logistics and financial capability (Misra, 1997). Capability is the command an extension organization has over physical, financial and human resources enabling it to serve its clients ó the farmers (Misra, 1997). Specifically, capability in this paper relates to issues such as extension coverage, intensity, the quality and quantity of staff, distribution of farmers by gender, budgetary provision for extension compared to other areas of agriculture and governance.

Available research reports have shown that the ADP extension system is constrained by inadequate funding, dearth of well trained and experienced staff, and inadequate communication and dissemination of research results to farmers (Madukwe, 1995; Obiechina, 1999; Agbamu, 2005). It is therefore, incumbent on an extension organization to develop human, physical and financial command to be able to perform effectively; this is pertinent because at the conclusion of the World Bank assistance the programme is saddled with the execution of other projects such as the National Special Food Security Programme, the Root and Tuber Expansion Programme and the Third National FADAMA Development Programme. The question is: Over the years, what capability did Benue State Agricultural and Rural Development Authority (BNARDA) develop to serve its farmers? Specifically, what is the extension intensity of the

BNARDA? What is the human resource position in BNARDA? What is the gender ratio of farmers served by BNARDA? Finally, what is the percentage budgetary allocation to extension in BNARDA?

This study concentrated on determining these capability indicators in BNARDA. The measurement of extension capability is important because its performance depends directly upon it.

The overall purpose of this study was to determine the extension capability of Benue State Agricultural and Rural Development Authority.

The specific objectives were to:

- (1) Assess the intensity of BNARDA i.e. number of farm families per extension worker.
- (2) determine the status of human resource capability within BNARDA,
- (3) assess the budgetary allocation and percentage devoted to extension
- (4) assess the logistic support level to BNARDA.

THEORITICAL FRAMEWORK

The failure of the Ministry ó based extension system gave rise to the World Bank Part-Financed Agricultural Development Programmes. The ADPs have laid the necessary foundations for a dependable extension system. Farmers have been sufficiently sensitized and mobilized (Madukwe, 1995).

However, Van de ban and Hawkins (1988) hold that extension systems operate in an environment which provides extension with a budget and manpower, which in turn influences its goals and those of the farmer it serves. Similarly, Frank and Williams (1978) are of the same view that extension organizations are faced with the problem of acquiring and allocating financial, human and physical resources to carry out their mandate. Moreover, Obiechina (1999) reported that some decades after implementation of the ADP extension system, there have been cases of inadequate and well trained, experienced extension staff, inadequate funding of research and extension activities as well as inadequate communication and dissemination of research results.

Thus whether ADP extension system has been found very effective, it still responds to environmental-technological factors, nature of participants, stage of development and complexity which are important determinants of capability requirements (Frank and Williams, 1978).

This explains why Swanson (1997), insists that extension capability indicators be monitored regularly not only to know the status of extension's capability at a certain point in time but also to determine changes in it over time.

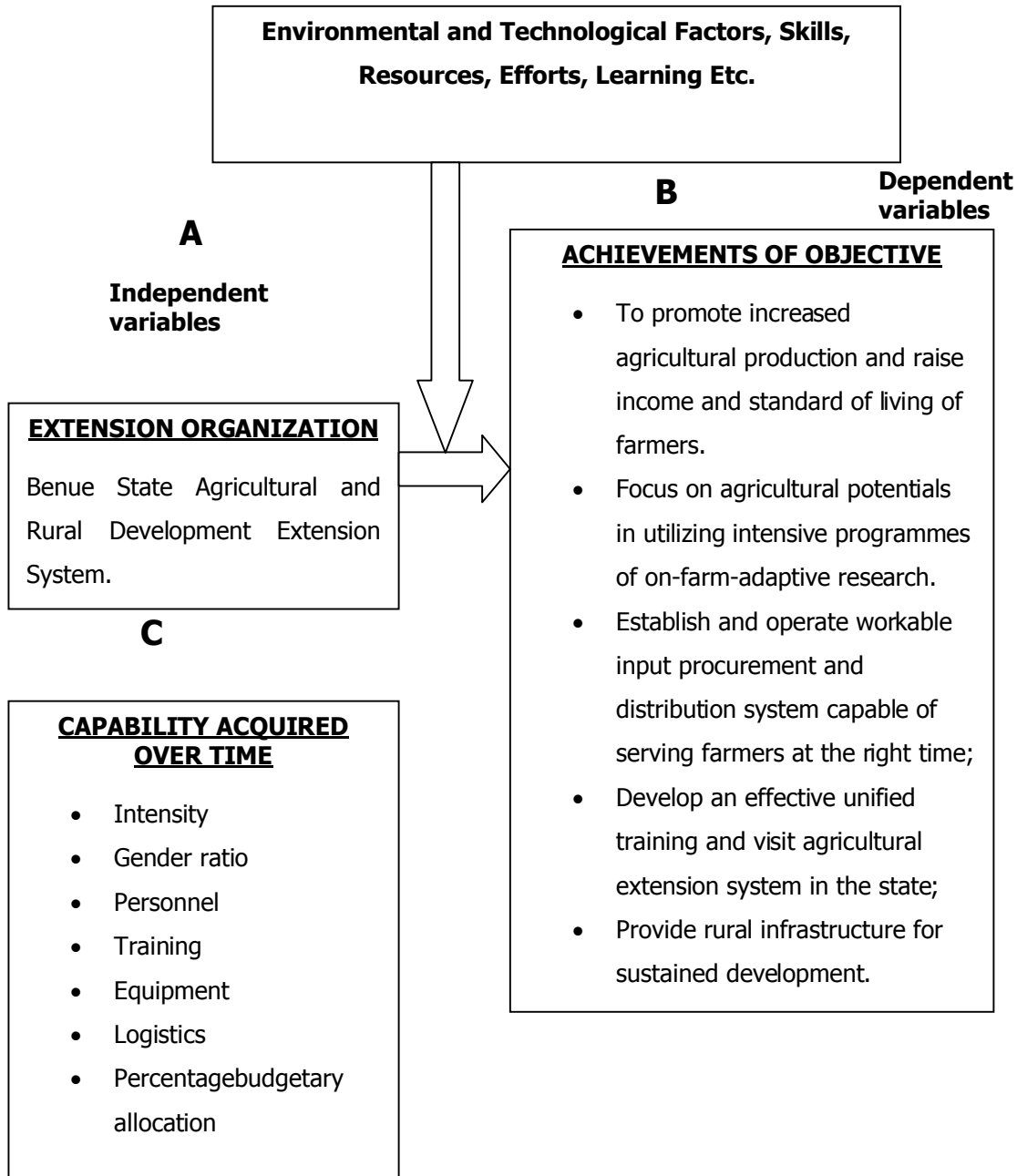


Figure1: Conceptual frame-work for extension capability of ADP extension system

As shown in Figure 1; Benue State Agricultural and Rural Development Authority as an extension organization (square A) has been developing skill and acquiring learning as well as possessing resources and efforts to meet the objective (square B) for which it was established. In addition, BNARDA has acquired capability over time to achieved these objectives. Over the years, it has become possible to measure the capability indicators to determine the extent to which it has acquired the capability to perform as an extension system.

Based on Misra (1997) intensity was operationalized as farm family per extension worker; gender ratio is the number of female extension personnel out of total number of extension personnel; subject matter specialist is the number of subject matter specialist per 100 extension workers; training is number of extension personnel out of the actual number of extension personnel to attain specialized courses in a year; Audio visual equipment e.g. Audio Visual Media refers to number of audio-visual cinema, radio show, organized per month per extension worker in a year. Logistic e.g transport refers to number of bicycle, motor bikes, and 4 wheel drive vehicles per 100 extension workers. Equipment e.g. computerization: number of personal computers in extension organization per thousand extension personnel and budgetary allocation i.e. actual figure released to sub-sector and percentage allocation devoted extension

METHODOLOGY

The study was conducted in Benue State of Nigeria. Benue State is one of the twelve states created in 1976. The State is located between longitude $6^{\circ} \text{ ó } 10^{\circ}$ East and Latitude $6^{\circ} \text{ } 8^{\circ}$ North. The State has a population of 4.2M persons (2006 Population Census) and occupies an area of 30,955 Km².

Benue State is divided into 3 agricultural zones, viz: Northern Zone: comprising of Burukum Makurdi, Gwer-West, Gboko, Guma, Gwer East and Tarka Local Government Areas.

Central Zones: Comprise of Ado, Obi, Agatu, Apa, Ogbadibo, Ohimini, Okpokwu, Oju and Otukpo Local Government Areas.

The population of the study was made up of management and field extension staff of the agency. Specifically, headquarters and zonal management staff; heads of monitoring and evaluation, finance, manpower development and extension unit at the state headquarters and zonal managers, ZEOs and SMS were purposively selected for the study. The data source for all the indicators could only be obtained from them.

The BNARDA is made up of three zones: Northern, Eastern and Central zones. Northern and Eastern Zones were purposively sampled for the study, as they constitute the most active farming zones of the state. In the two zones, there are eight blocks in each zone. Five blocks from each of the zones were randomly selected. From each block, Ten VEAs were randomly selected using the list of agents in those zones thus, on

the whole, 100 VEAs, 4 headquarters staff and 16 zonal staff were sampled totaling 120 respondents altogether.

One set of instrument was constructed for collecting information from the respondents. Each category of respondents namely: Headquarters and Zonal Management staff and the village extension agents provided information as related to them.

Information on: Intensity of the agency's extension activities, determination of the human resource capability within the agency, budgetary and percentage devoted to extension and the logistic support level of the agency was sought from the respondents.

The study was dominantly descriptive using percentage and ratios. Ratio was used to analyze the intensity of BNARDA i.e. number of farm families per extension worker, and number of subject matters specialists per hundred extension workers.

Percentage were used to analyze the status of human resource within the agency, budgetary allocation and percentage devoted to extension and the logistic support level of BNARDA.

RESULTS AND DISCUSSION

Extension – Farm Families Ratio

The number of farm families reached with extension services per extension worker was determined. From Table 1, the result indicates that the ratio of extension worker to number of farm families was 1:1,686. This implies that the agency is yet to meet the standard recommended in this regards. Obiechina (1999) found that VEA ó farmer ratio was often overstretched and ranging from 1:2000 to 1:3000 instead of the Federal Department of Agriculture's recommended 1000 farm families to one extension work. Similarly, the extension-farm ratio in the agency is too low for extension work of an intensive nature to be put into practice.

Table 1: Ratio Distribution of Respondents by Capability Indication

| Capability Indication | Frequency | Ratio |
|--|-----------|-------|
| Extension Intensity (VEA-Farmer Ratio) VEA | 245 | 1 |
| Farmers | 413157 | 1686 |
| Subject Matter specialists per 100 Extension workers SMS | 15 | 1 |
| Extension | 245 | 6 |

Number of subject Matters specialists per 100 extension workers:

Table 1 indicates the number of subject matter specialists per 100 extension workers. The results show that SMS/VEA ratio was 1:16 Swanson (1997) in their reports established that the ratio of SMS to VEA was low in Asian, African and Latin

American. Countries varying from about 1:11 to 1:14. The ratio for countries of Europe and North America is about 1:2 to 1:16. The worldwide ratio of SMS to field staff is approximately 1:12.

From the study, it is noted that the ratio of SMS to field staff in the agency is yet to be at the desirable level. This implies therefore, that the agency is faced with the problem of critical human resource to carry out its mandate.

Qualification of Extension Staff

Entries in Table 2 show that the majority (58.7%) of the extension staff of the BNARDA had the Ordinary Diploma Certificate and 36% had the High Diploma Certificate. Only 1.9% and 0.9% had Bachelor of Science and Master of Science Certificates respectively. Swanson (1997) stated that there are lots of variations in the basic academic qualifications of the frontline extension workers and that in Africa, most frontline extension workers still have only secondary school certificate. Obiechina (1999) indicated that some ADPs had resorted to using contact farmers and lowly educated persons to extend their reach.

In the present study, OND certificate is the least qualifications of the agents in the agency. The agency need to embark on its agents' training to graduate level to be better able to interpret research results to farmers.

Table 2: Percentage Distribution of Respondents by Capability Indication

| Capability Indicator | Percentage (%) |
|--|-----------------------|
| Academic Qualification of VEA (n = 245) | 3.0 |
| Ordinary National Diploma | 36.0 |
| Higher National Diploma | 58.7 |
| Post-graduate Diploma | 2.5 |
| Bachelor of Science Degree | 1.9 |
| Master of Science degree | 0.9 |
| Academic qualification of SMS(n=15) | |
| Bachelor of Science Degree | 93.3 |
| Master of Science Degree | 6.6 |
| Gender ration (sex) of VEA (n = 245) | |
| Male | 81.6 |
| Female | 18.4 |
| Number of VEA provided means of mobility (n = 83) | |
| Motor Cycle | 97.5 |
| Not provided | 2.5 |
| Number of Extension agents trained (n=245) | |
| Trained | 100% |
| Not Trained | 0% |

Qualification of Subject Matter Specialists in BNARDA

Table 2 shows that 93.3% of the subject matter specialists available in the agency are Bachelor of Science Degree holders while 6.6% had Masters of Science Degree. Van Den Bans and Hawkins (1996) suggested that an extension service should have SMS in the service who are aware of research findings in their specialty as well as farmers' problem. Benor and Baxter (1984) suggested that SMS should be college graduate, but that M. Sc. would be the best. Subject Matter Specialists in the agency possessed graduate training and experience but were yet to possess relevant specialty qualification for imparting knowledge of research findings to field agents and farmers.

Percentage of Female Extension Agents out of Total Extension agents

Table 2 summarizes the percentage distribution of extension agents in BNARDA by gender. A majority of the agents (81.6%) were male and only 18.4% were female. This means the agency is yet to involve many females as agents who would act as extension agents for women programme. This finding confirms Van Dan Bans and Hawkins (1996) who indicated that women did a large proportion of agricultural work in many countries and that in most of these countries, only a small proportion of extension agents were females. The imbalance, they maintained could make it difficult to reach such an important target group (women)

Number of Extension staff with some training in Extension

Table 2 shows that all the agency's agricultural staff had had some training in agricultural extension. This means the agency has extension staff who can communicate and disseminate research results to farmers. It clears the fear expressed by Obiechina (1999) of cases of inadequate and well-trained extension staff in the ADP extension system.

Number of VEA provided with mobility in the Agency

Table 2 indicates the number of VEAs provided with mobility. The results show that 97.5% of the VEAs had motorcycles. Only 2.5% had no mobility at all. The result confirms the FDA (1991) reports, which indicated that ADP provided up to 70% mobility to staff. In the present study, the agency was found to have provided means of mobility to majority of its VEAs and could reach to the nooks and crannies to disseminate knowledge of research finding to farmers.

Budgetary Allocation and percentage allocation to agricultural extension

Table 3 indicates the amount allocated to BNARDA in the last three years: 1999, 2000, 2001 and percentage allocation to agricultural extension for those years. The results of the analysis show that in the last three years, agricultural extension received its highest allocation of 23% in 2001 out of the total allocation to the agency. This was followed by 12.2% in 1999. While the least allocation of 10.6% out of the total allocation in 2000. The result show that the agency has no fixed percentage allocation to extension. This confirms the views expressed by Frank and Williams

(1978) that extension organizations face the problem of financial allocation to extension services.

Table 3: Budgetary and Percentage allocation to agricultural extension

| Year | Total allocation BNARDA NM | Amount allocation to agricultural extension NM | Percentage allocation to extension (%) |
|------|-------------------------------|--|--|
| 1999 | 198,632,300 | 24,350,200 | 12.2 |
| 2000 | 28,439,000 | 30,000,000 | 10.6 |
| 2001 | 195,102,000 | 45,250,200 | 23 |

Audio-visual media organized per month in a year

Table 4 indicates the audio-visual media organized per month in 2001. It showed that the agency organized four radio and two cinema shows per month and distributed 1,274 leaflets and pamphlets per month. This means in addition to interpersonal channels; farmers could receive information about farming through mass media channels of the agency and use in solving their farm problems. Mass media channels are useful in reaching a wide audience at a very fast rate and serve as source of initial information to farmers.

Many agencies employing them have tried to influence the course of agricultural development with different results. Anaynwu (1999) reiterated Rogers and Shoemaker (1971) who posited that the media are important for making farmers aware of innovations and for stimulating their interest.

Table 4: Audio-visual media organized per month in 2001

| Audio-visual media organized per month | Number organized/distribution per month |
|---|--|
| Cinema | 2 |
| Radio | 4 |
| Leaflets/pamphlets | 1,274 |

Available computers in the agency

The agency had five computers. Out of the seven sub-programmes, extension, which is subsumed under agricultural sub-programme, had no computer. This implies that the agricultural sub-programme with its extension components cannot own data bank and process information on extension programme activities. Ramesh et al. (1997)

indicated that: in view of the requirements of extension system; an integrated database for the entire state be supported by a mini computer at the state headquarters.

CONCLUSION

The agency is yet to meet the recommended ratio of agent to farmers. The agency had subject matter specialists who possessed graduate training but did not possess specialty qualifications. It was discovered that more middle level extension workers existed without adequate graduate and postgraduate extension staff. The agency had not yet involved many females to work in women related programmes as the male population still exceeds the female. However, all the agency's extension staff had had some training in extension. There were computers in all sub-programmes except agricultural sub-programmes which needed it most for information processing and data bank. Both the print and electronic media were employed in reaching farmers with information, knowledge, skills and innovations. However majority of the agents were provided motorcycles as transportation to reach farmers at their contact points.

RECOMMENDATIONS

Based on the results of this study the following recommendations are made: More extension agents should be employed. The Federal Department of Agriculture recommended one extension agent to one thousand farm families (1:1000). Other African countries (Tanzania, Kenya etc.) have extension-farmer Ratio of 1:800. Government should second staff of the Ministry of Agriculture to the agency or recruit directly from the labour market. The lesser the number of farm families the easier and more effectively and efficiently will the agents perform in their extension work.

The agency should provide more computers especially, to agriculture sub-programme and extension, which at the moment have got none. This is imperative in view of the requirements of extension system where data base for information are needed by decision makers. Provision of computers in the agency should support an integrated database for the entire state.

Training the agents from middle level manpower to graduate and postgraduate level should be a matter of deliberate policy to motivate staff. This will help the agents develop analytical skills necessary for interpreting research findings to farmers and reduce losses of information that are important to farmers. The implication is that more budgetary allocation and release should be extended to BNARDA to enable it meet the desired extension capability.

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