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Ratification of the footprint of agricultural extension services on grain storage dropping in Nigeria

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Abstract

The research work studied the impact of extension services on grain storage loss in Bama Zone of the Borno State Agricultural Development Programme (BOSADP). The instrument for data collection was questionnaire. Respondents were sampled from farmers and extension agents of the zone. Fifty (50) farmers and ten (10) extension agents were used for the study. The results presented were analyzed statistically using percentage and t-test. The result shows that extension service has reduced grain storage loss by 73%. Finally, the implications of the findings were highlighted and recommendations were made based on the findings.

Keywords: Impact, extension services, grain storage.

INTRODUCTION

Extension from agricultural point of view can be defined as a service or system which assists farmers through educational procedure, in improving farming methods and techniques increasing their levels of living and uplifting the social and educational standards of rural life. The above definition embraces the whole environment in which a farmer lives and operate as a legitimate field of extension activity. It recognizes that standard obtained are usually different from level of achievements (Savile 1985).

Godom (1970) found that planning in extension organization was from top to bottom, with little or no consultation between senior and junior staffer with fanners. The internal causes of failing of extension programme was found to be planning and also failure causes of effective extension was adequate credit facilities for farmers. Therefore, in order to improve their effectiveness there was need for integrated rural development programmes.

Furthermore, it is obvious that the Objectives of effective rural development cannot be Accomplish by agricultural extension alone. Most of the inputs and infrastructure facilities necessary for the achievement of the development of rural areas like water supply, education and health facilities, reliable market, rural electrification, good networks of road and transportation are outside the scope of agricultural extension services.

Since the agricultural development programme were started in 1972 up to 1985 so much money were spend on the programme. For instance, as at 1985, the statewide programme covered 2.5 million fanning equipments in 92 local government areas with 3,5 million kilometer and the total cost of these programme was estimated at $1.372 million with foreign exchange values of $783.8 million (Okorie, 1984).

Since the end of Second World War many governments in various parts and corners of the world have seen the need for agricultural extension or agricultural advisory services. Such services prior to the era of world war II was limited to move food from one nation to another, then come the war and food shortage were experienced all over the world. This necessitated the need for increase in food production with improved communication. The rural people were no longer satisfied

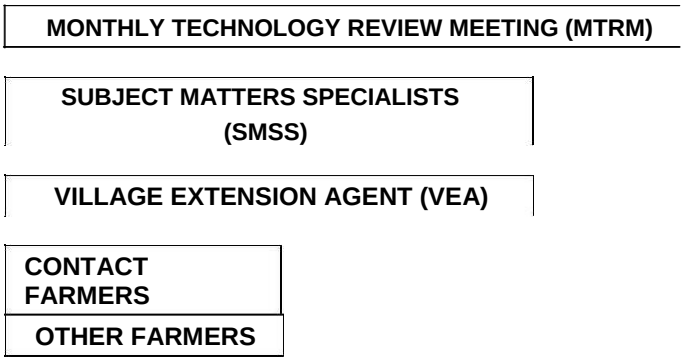

Figure 1. Flow chart of extension message

with the food they are producing. They demanded from their government, assistance in obtaining economic and social equality with their more fortunate segment of the population in urban areas.

The contribution of extension services to agricultural development in Nigeria is not felt. It can be said to be non-existence in some states because its impact is not felt. Extension is not entirely a technical task of helping people to plant trees. It is rather a combined technical psychological, sociologically institutional and political task (Charangi adn Zimmermann, 1987).

Obibua (1974) attributed the extension problem to the concentration of older fanners who generally have low level of education, dominant city influence and high migration rate of young people.

Chantran (1974) also asserted that the efficiency of agricultural extension also depend on the knowledge of the motivation of the farmers. There are varieties of human needs which if they are known can easily be manipulated to affect the maximum contribution of people towards organizational goals.

A U. Patel (1974) in his study stated that faction in a village cause problem to extension workers, the village factions which may be due to a variety of reasons such as social, religions, domestics, cash etc which are the centre of the power decision making and create compartmentalized situation in the village which makes the extension worker for executing a programme. If they work directly for removal of the faction they may not succeed their in remaining of the faction or in setting the villagers to accept improved practiced.

F.S. Idachaba (1980) while describing several techno-economic policy ensures constraining food production in Nigeria has pointed out the failure of the national agri-cultural research system to generate new technologies and management practices that are adopted to particular agro-climatic and socio-economic environment. This does not only applies food production but also to the storage of food grains. He has further elaborated the adequacy and ineffectiveness of the extension system to cooperate with research in developing need based and trained technologies linkage between research and extension is imperative and without this two-way link, the latter quickly runs out of material to extend while the research institute lacks feedback, progress to more academic and has relevant research work

The aim of all extension agents is to teach people living in rural areas (farmers) how to raise their standard of living by their own effort using their own resources of manpower and materials, with minimum assistance from government. One of the most remarkable features of extension services has been its rate of expansion in programme like agricultural development programme (ADP). The programme has identified and tested a sound and productive approach to agricultural and rural development (Oyaile, 1982). Extension is dependence upon the ability for a limited staff of advisers to inspire rural people and to create a desire for more efficient production and better living in rural community.

The main objective is to determine the impact of extension services on grain storage losses. The specific objectives are;

1. To find out the extent to which farmers receive extension services relating to grain storage.
2. To find out the level of adoption of storage methods disseminated by extension agents to farmers.
3. To find out the effect of adoption of the methods in (2) above on grain storage losses.

METHODOLOGY

The study deals mainly with the impact of extension services on grain storage losses in Zone II of the Borno State Agricultural Development Programme (BOSADP). The major source of information used in this study is the primary source. The primary source of information were through the use of questionnaire and personal interview held with farmers and extension agents. The collection of data was done by the researchers and some trained extension agents of BOSADP Zone II.

The specimen of the questionnaires is attached as

appendix. Data were also collected from secondary sources such as books, journals and government publications.

Small Plot Adoption Technique (SPAT) - It is one of audio-visual aids to facilitate effective disseminations of information to fanners. It is initial implementation of improved technology by farmers on a small piece of farm land which is normally 10m x 10m for varied crops and 5m x 5m for irrigated crops. This is done on the farmer's farm and manage by the farmers. The results obtained from this is compared with the result obtained from farmer's local practice of some plot size with the SPAT under the same management practice.

The extension component of BOSADP over the years had established a strong network of extension infrastructure within it well demarcated cells, blocks, subzones and zones, with different categories of staff from village extension agent (VEA) in the cells to zonal agric officer in charge of the zone.

Data Collection

Data which was used for this research project were gathered from two basic methods, namely; Primary sources and Secondary sources.

Data from the primary source are those which were obtained first head. This is the result obtained by the use of questionnaire. Two categories of questionnaire were used one dealing with fanners and the other dealing with extension agents. The specimen of the questionnaires was provided in the appendix.

Data from the secondary sources included those obtained from the review of write ups and publications, these include text books, magazines, journals, seminar papers and other selected literature. These were obtained from the State library Maiduguri, the Polytechnic library and Ramat library, University of Maiduguri.

Sample Size

For the purpose of this research work 50 questionnaires were used for farmers and 10 for the extension agents. The sample of the farmers were taken from Jakana, Auno and Konduga villages in Konduga Local Government area (25 questionnaires) and five extension agents from the area. The remaining 25 samples of the farmers were taken from Adamari, Maimusari and Maduganari villages of Jere Local Government area and five (5) extension agents were also sampled from the area.

RESULTS AND DISCUSSION

This chapter deals with presentation, interpretation and discussion of the research findings. The results of the study are presented below:

The storage methods used by the fanners (local storage) before they receive extension services were; mud rhumbu storage, bag storage drum storage and underground pit storage. While the methods introduced by extension were; storage structures (such as improved rhumbu, poly lyaged pit and silo), storage containers (oil drum, polytene bags and air tight containers) andpest control methods (dusting and fumigation).

The mean percentage loss and standard deviation of the old methods of storage are 41.71% and 10.50 respectively, and the values for the new methods are 11.32% and 6.46. The result gives trial = 13.41 while t -tab
= 2.00 The percentage reduction in loss as a result of adoption of new methods of storage is 73%. The problems facing extension agents in the course of their assignment are lack of mobility, language barrier, lack of incentives and inability of farmers to understand instructions.

DISCUSSION

Table 1, show that three quarters of the farmers in the study area receive extension service on grain storage. Although the table shows that number of farmers receiving extension reflect the distribution of farmers in the range of 30-39 age group, the highest percentage is in the age group 50 and above (100%). This is probably due to their small number in the sample (only 2) but runs counter to expectation that the extension agents, most of whom are likely to be between 30-39 would feel most comfortable contacting the farmers in their age bracket.

Table 2 shows highest percentage of males than females who receive extension service. This is expected because the extension agents, who are mostly male, would be in difference to the socio-cultural life of the people, feel free findings have shown that male adopt new practices than female.

Table 3 shows higher percentage of literate farmers receiving extension service. This is probably because the extension agent, some of whom put forward language barrier as a problem, feel that their effort would pay higher divided among the literate farmers, than among the illiterate ones. Hence they visit all the literate farmers but only about three fifths of the illiterates' ones. Beside this past findings have indicated that literate farmers adopt innovation faster than illiterate ones.

Table 4 shows higher percentage of cooperation receiving extension service than non cooperators (a ratio of 2:1 is percentage). This is likely due to the fact that the extension agents probably make contact through the cooperative societies. More farmers are reached in this way than through individual contacts. Furthermore, a member of cooperative society would be influence by others in the society.

Table 5, although not showing a definite pattern of

Table 1. Level of Extension Service and Adoption for New Methods According to Age

Age Group	No. Farmers	No. Receiving Extension Service	% Receiving Extension Service	No. adopting New methods	% Adopting New methods
20-29	5	4	80	3	75
30-39	36	25	69.4	24	96
40-49	7	6	85.7	6	100
50 and above	2	2	100	0	0
TOTAL	50	37	74	31	83.6

NB: (1) Column 4 = $\frac{\text{Column 3} \times 100}{\text{Column 2}}$

(2) Column 6= $\frac{\text{Column 5} \times 100}{\text{Column 3}}$

Table 2. Level of Extension Service and Adoption of New Methods according to Gender

Gender	No. Farmers	No. Receiving Extension Service	% Receiving Extension Service	No. adopting New months	% Adopting New Methods
Male	42	33	78.6	30	91
Female 8	4	50	1		25

Table 3. Level of Extension Service and Adoption of New Methods According to Literacy

Edu. Level	No. Fanners	No. Receiving Extension Service	% Receiving Extension Service	No. adopting New method	% Adopting New Methods
Literates	18	18	100	18	100
Illiterates	32	19	59.4	13	68.4

Table 4. Level of Extension Service and Adoption of New Methods Based on To Membership of Cooperative Society

Membership of Co-operate.	No. Farmers	No. Receiving Extension Service	% Receiving Extension	No. adopting New method	% Adopting New Methods
Co operators	36	31	86	28	90.3
Non Cooperators	14	6	42.9	i J	50

Table 5. Level of Extension Service and Adoption of New Methods Based on Production Level

Production Bags/year.	No. Fanners	No. Receiving Extension Service	% Receiving Extension Service	No. adopting New M£&#f/,	% Adopting New Methods
MO	15	11	73	10	90.9
11-20	15	9	60	8	88.9
21-30	5	4	80	O J	75
31-40	3	3	100	2	66.7
41-50	6	5	83.3	3	60
51-60	5	4	80	4	100
61-70	1	1	100	1	100

Table 6. Reasons for non-adoption of new methods introduced

Reasons	Number of Farmers	Percentage
Too expensive	12	70.6
Inviolability of facilities	3	17.6
Not specified	2	11.8
Total	17	100

percentage contact against production level, shows however that the two highest percentage correspond to the two lowest production level. This indicates some level of bias in favour of the higher production level groups.

Adoption of New Methods

Table 1 show that 31 farmers out of 37 that received extension service adopt the new method of storage. This represents 83.6% of the farmers that received extension. In the table, age group 30-39 and 40-49 have the higher numbers of adaptors constituting 96% and 100% respectively But it does not means that age group 40-49 have highest one of adopters but highest percentage due their small number in the sample.

Table 2 shows that male represent 91% of farmers that received extension service who adopt the new methods of storing grain. This indicates that more male adopt to new practice than female.

Table 3 in which level of adoption were related to literacy or educational levels indicates that all the literate fanners that received extension service adopt to the new method of storage (100% of the literate that received extension).

Table 4 relates adoption with membership of cooperative society. It shows that 90.3% of the cooperators that received extension service adopt to the new practice of grain storage while it is only 50% of the non cooperators that received extension adopt to the new storage methods. This indicates that membership of cooperative society influence adoption,

Table 5 relates adoption level to production level. It shows that farmers that produce 51 -60 and 61 -70 bags in year adopt the new methods more than the other categories. The table shows that the higher the level of production, the more the adoption level. Table 6 shows reasons for non-adoption of new method introduced to the farmers by extension agent. The result shows that 70.6% of the respondents did not adopt to the new methods because of the cost involved. Other reasons for non-adoption includes unavailability of facilities.

Adoption of new methods of storage have reduced grain storage losses by 73%. The mean percentage loss due to adoption of new storage method is 11.32% which is less than that of the old methods (41.71%). This shows that much loss is incurred in the old storage methods.

SUMMARY, CONCLUSION AND RECOMMENDATION

The study was an assessment of the impact of extension services on grain storage losses in Zone 2 of the Borno State agricultural development programme (BOSADP). The research work was done under the following specific objectives.

1. To find out an extent to which farmers receive extension services relating to grain storage.
2. To find out the level of adoption of storage methods disseminated by extension agents.
3. To find out the effect of the adoption of the methods in (2) sets of questionnaires.

For this work two (2) sets of questionnaires were used. One for the farmers, were 50 samples collected from three villages each of Konduga and Jere Local Government areas were used. And other questionnaire is for the extension agents in which ten (10) sample from the same area as for the farmers were used. The scope of the study covers mainly Zone 2 of the Borno State agricultural development programme (BOSADP). For the data analysis, data collected were tabulated and percentages taken were used in discussion of the results.

The research findings indicated that out of the 50 farmers interviewed 37 receive extension service, out of which 31 adopt to the new methods of grain storage introduced to them by extension agents.

The findings also reveals that factors such as age, gender, literacy (educational level), membership of cooperative society and production level influences both the rate at which farmers receive extension service and adopt to new methods of grain storage. The study also indicates that cost is the main factor that prevent farmers from adopting the new methods grain storage introduced to them by extension agents.

The study further reveals that extension services has reduced grain storage loss by 73%.

The study also shows lack of mobility as the main factor bring set back to extension agents duties.

CONCLUSIONS

From this study it can be concluded that extension service had achieved it stated objective that is "to improve productivity and standard of living of rural farmers. This is

seen from the fact that 83.6 percent of the respondent (farmers) receiving extension in relation to grain storage is found adopting new methods of storing gram.

The performance of extension service in relation to grain storage is impressive and commendable because it greatly reduced grain losses hi course of storage by 73%. Extension service has therefore maintained food availability in Zone 2 of the Borno State agricultural development programme (BOSADP).

RECOMMENDATION

Based on the findings in the previous chapter, I recommended the following:

1. That government should provide loan to the farmers for them to acquire innovative facilities for storing their grains.
2. The government should strengthen its mass Literacy programme to reach all fanners in the rural areas
3. Fanners should be encourage to join cooperative society.
4. Extension agents are to be provided with mobility for them to carry out their duties effectively.

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