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The Activities of Agricultural Inputs and Services Units (AISU) in Egbedore Local Government of Osun State

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Abstract

Agro-service centres which house Agricultural Inputs and Services Units (AISU) function to offer such services as technology i.e. fertilizers and improved seeds. Its other activities includes offering marketing facilities, storage, crop protection chemicals, credit, equipment hiring and other farm supplies to farmers at village level. This study intends to evaluate the performance of the scheme in Egbedore Local Government.

The study reveals that much of the activities of AISU in the area are geared towards increasing maize production. The scheme offer tractor services, sell improved maize seeds, provide grain storage facilities, and distribute fertilizer. The farmers' response was quite commendable in adopting fertilizer use and tractor hire service. However, the study concludes that AISU has not contributed positively to the production of other crops like yams and cassava in the area of the study.

Introduction

It is generally accepted that the inputs and services required for increased agricultural production in Nigeria have not been getting to our farmers on time. Even when they get to the farmers the quantities are insufficient because of the weakness in the organization and institutional arrangement for the input delivery. Without an effective input delivery system the efforts of the farmers and the government will not yield the desired result.

The essential inputs and services meant for improving agricultural productivity are fertilizers both chemical and biological, labour, herbicides, pesticides, supply of seeds and availability of credit. Axium and Thorat (1972) argued that inputs could not transform agriculture, no matter how effective their supplies. They however, offered a solution that "the additional inputs - the crucial input that converts the peasant farmer to a scientific business manager; that converts the nation from food deficit to food export, and brings dignity to farm" - is the intergration of research and education with governance, with supply, with production and with marketing. Mosher (1966) also classified these inputs and services into "essentials" and accelerators" of agricultural developments, arguing that factors such as development oriented education, production, credit, group action by farmers, expansion and improvement of agricultural land and national planning accelerators of agricultural development.

The problems of agricultural production in Nigeria today, has been with us for quite sometime. Most of the problems centred around whether to adopt partial or total mechanization of farm operations.

The Agricultural Inputs and Services Unit was established in 1977, by the Oyo State Military Government. The function as stated by the State Government are:

(1) To arrange procurement of production inputs and services in line with the requirements projected in the 1975 - 1980 plan for the agricultural sector of the state.

(2) To arrange storage and transportation of various inputs (fertilizers, seeds, chemicals, etc.) to sales points, that is, the agro-service centres.
(3) To establish and operate workshop services, storage and marketing facilities.
(4) To establish and manage agro-service centres, which are designed to provide farmers all the necessary farm inputs.

Gamble (1977) in his contribution says that (AISU) is part of a total system of infrastructure necessary for accomplishing the goals of national Accelerated Food Production Programme. While Taylor (1977) says that the Agro-service centre concept itself constitutes a landmark in implementation of the requirement that could usher in a new era of modern technological agriculture. Oyaide (1977) says that the Agro-service system is a co-ordinated body of methods set out in an orderly manner to serve farmers as part of an overall goal of the National Accelerated Food Production Programme, the objective of which is to generate increased food production to such an extent as to make the country self-sufficient in the shortest possible time. Furthermore, local production inputs, improvement in transportation, improved technology and market for farm produce are absolutely necessary and must be provided for before agricultural development would take place.

Therefore, agro-service centres, if well established, could bring about the breakthrough in food production. This could come about by interaction of agro-service centre staff and the farmers. The staff should inculcate in the farmers improved techniques of production. Specifically, agro-service centres should utilize input, research and extension in bringing about agricultural development.

Materials and Methodology

The area of interest is Egbedore Local Government area of Osun State. This area is chosen for two reasons. The first is that the Obafemi Awolowo University Integrated Rural Development has established its extension services in the area. The second reason is the nearness of the area to the Agricultural Inputs and Services Units (AISU) in Ede town which is only eight kilometres away.

Three villages were randomly selected from the list of villages comprising the Local Government area. In each village every household was included in our sample but within each household only the head of the unit was interviewed, making a total of one hundred and sixty-five respondents.

The questionnaire used was pre-tested elsewhere to ensure and the impart of the questions. The original questionnaire was thus revised version of the questionnaire was approved and administered among the selected farmers. The study was conducted between March and September, 1989.

Because of the assumption for predicting the effect of improved inputs and services offered by AISU at sub-sidized prices for the production of crops especially maize in the area of the study the following two hypothesis were tested:

1. There is no correlation between the hectarage of land cultivated and maize production.
2. There is no correlation between the supply of inputs like improved maize fertilizers, tractor hiring and maize production.

Results and Discussion

The following tables show certain characteristics of the study area and how the patronize the Agricultural Inputs and Services Unit.

Table 1: DISTRIBUTION OF FARMERS ACCORDING TO FARM SIZES

Size (Ha.)	Frequency	Percent	Cumulative Percent
0.5 — 1.99	33	20	
2.0 — 3.99	91	55	75
4.0 — 5.99	23	14	89
Above 6.0	18	11	100

Source: Field Survey, September 1989

From the survey conducted as shown in Table 1, 80 percent of the farmers interviewed were of the opinion that their farm sizes are getting larger than before. It also shows the larger the sizes of the farms the fewer the number of the farmers. This is evidenced by the table above that 14 percent of the farmers interviewed operate 4.0 to 5.99 hectares of farm. The number of farmers decreases as the size of farm increases. Only 18 farmers of 165 farmer respondent operate farms of 6 hectare and above.

Table 2 CULTURAL PRACTICES ON MAIZE AS USED BY FARMERS IN EGBEDORE LOCAL GOVERNMENT

Cultural Practice	Frequency	Percent
Use of improved seeds	84	51
Use of fertilizer	152	92
Use of tractor services	126	76
Use of storage facilities	6	4

Source: Field survey, September, 1989.

In the study area, the table above showed that 51% of the respondents use improved seeds, 92 percent apply fertilizers to crops; 126 (76 percent) use tractors for cultivation and only 6 farmers use the modern storage facilities for their harvested crops.

The response from the use of fertilizer is very convincing, 152 of 165 (92%) farmers interviewed apply fertilizer to their crops.

Table 3: A. I. S. U. PATRONAGE BY FARMERS

Agricultural Practices	Source of Supply		
	A.I.S.U.	Non A.I.S.U.	Do not Use
Use of fertilizers	130	27	8
Use of tractor	102	32	34
Use of Improved seeds	89	—	76

Source: Field survey, September, 1989.

Relatively, the impact of mechanization as a result of inputs services has been felt more as shown on Table 3 above because of AISU patronage by the farmers in the study area. Table 3 above shows that 130 of farmers interviewed used AISU as a source of fertilizer supply, while 102 farmers also hired tractors for their farm operations from AISU and 89 farmers got improved seeds for planting from the centre.

Table 4: DISTRIBUTION OF FARMERS BY SIZE OF MAIZE

Size of Farm (Ha)	Frequency	Percent	Cumulative percent
0.5 - 1.99	36	22	
2.0 - 3.99	91	55	77
4.0 - 5.99	20	12	89
6.0 and above	18	11	100

Source: Field survey, September, 1989.

The above table 4 shows that 55% of the farmers cultivate between 2.0 and 3.99 hectares each of land for maize production. About 89 percent of the farmers said that there were remarkable increases in maize production on their farms; they were of the opinion that generally, in the area, maize production was on the increase. The increase was attributed mostly to the use of tractor for clearing and more importantly to the application of fertilizer. Tractors were only used for land preparation, while the planting, weeding and harvesting were done by manual labour.

Statistical Analysis of Data

To actually reflect the impact of Agricultural Inputs and Services Unit specifically on maize production in Egbedore Local government area, north of Ede in Osun State, multiple regression analysis was employed. The mathematical model is of the form:

$Y = f(x_1, x_2, x_3, x_4)$ where

Y_1 = output of maize in kg.

X_1 = Hectarage of maize cultivated
X_2 = Hired Labour in man - days
X_3 = Fertilizer input in kg.
X_4 = Tractor expense (N)

Based on usual criteria, the Cobb-Douglas function was chosen as the best among the fitted functional forms. The result is summarized below:

Table 5: REGRESSION COEFFICIENT: BETA COEFFICIENT STANDARD ERROR AND T-RATIOS OF EXPLANATORY VARIABLES

Calculations	Explanatory Variables			
	Hectarage X_1	Hired Labour X_2	Fertilizer X_3	Tractor Expense X_4
Regression Coefficient	0.76	0.13	0.15	0.04
Beta Coefficient	0.56	0.18	0.21	0.08
Standard Error	0.095	0.045	0.046	0.026
t-ratio	8.0	3.25	3.75	2.0

R^2 = 0.80
R^{-2} = 0.79
Standard Error of estimate = 0.36
F - ratio = 97.37
Coefficient of Multiple Determination (R^2) = 0.80

The R^2 had a value of 0.80. That is, the explanatory variables in the fitted equation, explained up to 80 percent of variations in output of maize. The remaining 20 percent is explained by variables such as seed expense, weather, management factor etc., not included in the function.

The regression coefficients for all the variables and their corresponding t-values are positive and significant. This implies that they all have significant positive effect on the variation in output. The regression coefficients represent the rate of transformation of the independent or explanatory variables into the dependent variable.

The Beta coefficient is used to differentiate effect or relative importance of each independent variable on the dependent variable. It shows the increase in the dependent variable (in standard deviation units) resulting from an increase of one standard deviation unit in each independent variable.

Therefore, with reference to Table 5 the hectarage cultivated has the highest influence on the level of production with a magnitude of 0.56 - therefore the first null hypothesis has to be rejected. The area cultivated as a factor of higher production is followed by fertilizer application with a magnitude of 0.21. This also shows that the 2nd null hypothesis should be rejected. The other two variables (labour input and tractor expense) have Beta values of 0.18 and 0.08 respectively.

The correlation matrix is shown below for supplementary explanation on the effect of

inputs firm agro-service centre on maize production.

Table 6: CORRELATION MATRIX ON MAIZE PRODUCTION

Correlation Matrix

	Y	X_1	X_2	X_3	X_4
Y	1.0000				
X_1	0.8853	1.0000			
X_2	0.6791	0.6023	1.0000		
X_3	0.8894	0.9028	0.5913	1.0000	
X_4	0.8715	0.9405	0.4355	0.8587	1.0000

The correlation matrix indicates that the level of maize production is generally highly correlated with the level of fertilizer input, hectarage of land cultivated, tractor expense, and hired labour in descending order. Moreover the highest relationship is between the hectarage of land cultivated and the tractor expense.

In conclusion, the study has revealed that there is clear tendency for farmers to cultivate maize on a large scale as a sole crop. The few heaps of yam and other crops would likely be restricted for home consumption.

Summary, Conclusions and Recommendation

This study has revealed that much of the activities of AISU are geared towards increasing crop production, especially maize. They offer tractor hiring services, sell improved maize seeds, provide grain storage facilities and distribute fertilizers, credit was still a function of the agricultural credit corporation.

The farmers' response was quite commendable in adopting fertilizer and use of tractor. The consequent patronage of AISU by the farmers in the study area was highly impressive.

From the regression analysis and the calculation done on maize production, the beta coefficient with a magnitude of 0.56 showed that the resource input - land, is the most important factor in maize production in Egbedore Local Government area. The mean marginal productivity also revealed that the resource input efficiency of fertilizer, labour and tractor use were still very low.

On the average, the area of land cultivated by the farmers (as shown on Table 1) was relatively small. Therefore, the impact on the use of fertilizer in increasing the productivity on such small parcels of land is very important.

When fertilizers are used effectively and efficiently in combination with other improved practices like adequate spacing, use of improved maize seeds, it is one of the most effective ways of raising crop yields.

One of the extension agencies that is operating in the area of the study is the Obafemi Awolowo Integrated Rural Development Project established by the Department of Agricultural Extension and Rural Sociology. It seems to have its own efficient personnel.

As an institution, AISU have been working in the area but had been handicapped by financial constraints and lack of adequate manpower. Hence, they have not lived to the expectation of the farmers, neither have they justified fully the purpose of their establishment.

From our observation we noted with great concern that other extension agencies are working in the area of the study. It is therefore, recommended that possible areas conflicts should be identified. It is also suggested that programmes should be planned to complement one another And area of cooperation should be sought for proper coordination.

References

Axinn and Thorat, (1972): Studies in Extension Education

Gamble, K., (1977): "An Address" delivered at the Opening of the First National Workshop on Agro-Service Centres Held at the International Institute for Tropical Agriculture, Ibadan.

Oyaide, O. F. J. (1977): Definition of Agro-service Centre Terms. National Workshop on Agro- Service Centres held at the International Institute for Tropical Agriculture, Ibadan.

Mosher A. I. (1966) *Getting Agriculture Moving* Agricultural Development Council, New York.