Full Length Research Paper

Capacity of agro-input dealers in advisory service delivery to maize farmers in Kwara State, Nigeria

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Abstract

This paper addressed the capacity of Agro-input dealers in advisory service delivery to maize crop farmers in Kwara State, Nigeria. Specifically, it examined the personal characteristics of the agro-input dealers, determined the extension related activities of the dealers, and investigated the technical capacity of input dealers in maize production. This study was carried out in Kwara State, because of its prominence in the production of maize in Nigeria. A total of 50 agro-inputs dealers were sampled from Ilorin, Omu-Aran and Offa through snow ball technique. The dependent variable for the study was technical capacity of input dealers in maize production. A knowledge test of 22 items was conducted on maize production. It consists of 6 items on seed management, 6 items on fertilizer and 10 items on agrochemical. All the items were placed on 2 point Likert type scale of yes or no. Yes was assigned the score of 1 and no was scored zero for positive questions and vice versa for negative questions. The independents variables include personal characteristics of agro-input dealers, extension related activities performed by them. The personal characteristics include age, education, language used in business, membership of registered agro-input association and source of information on the business. A 24 item scale of extension related activities placed on a three point Likert type scale of always =3, occasionally=2 and never=1 was used to elicit information from the respondents. The data were analyzed by using frequency, percentages, mean, and multiple regression model. The findings show that most (66%) input dealers were males, 28 years mean age, with at least secondary school education and have the ability to express themselves in both English and Yoruba language (68%). Seventy two percent of the input dealers perform extension activities most especially on seed management and appropriate choice of agro chemicals. They seldom advise farmers on use of equipments. There is a weak linkage with Extension Agents, Research Institute and Credits Institutions. They had high technical capacity in maize production. The regression model showed that level of education, membership and level of business operation contributed 75% to agro-input dealers' technical capacity. It was concluded that agro-input dealer perform extension activities. The study recommended that education and size of agro-input business be considered for effective programme development on advisory deliver by agro-input dealers.

Keywords: Agro-input dealers, Advisory service delivery, Maize farmers, Nigeria.

INTRODUCTION

Maize, which is about 9% protein is a very important raw materials for the food industry. It is used either fresh or dried, and generally preferred for industrial uses. Maize can be processed into grits (brewers grits, coarse and medium grits), corn meal, flour, germbran, offals, oil, food glutton, animal food stock and starch. Principally, maize products are used in the production of baby weaning foods, alcoholic beverages and adhesive (Federal Ministry of Agriculture and Natural Resources, 1993).

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Apart from the market potentials of maize in Nigeria, the study by Ogunsumi, Ewuola and Daramola (2005) show that internal rate of return of 62% was estimated from investment made into maize technology, which added values to the use of the technologies.It therefore concluded that maize technology has contributed significantly to some dimension of farmers' well-being. It was recommended that adoption of maize technology could only alleviate problems of peasants farmers with full use of recommended inputs.

Maize production is handled by small scale farmers in Nigeria. In Kwara State, Nigeria, the yield per hectare of maize have been put at 1.2 metric tones /ha contrary to 3 metric tones/ha from research results. There are about eleven varieties of maize available for cultivation in Nigeria as found below:

The grains that could have accrued to farmers through research have been reduced by ineffective agro input service delivery. For example, for good growth and high yield, the maize plant must be supplied with adequate nutrients particularly nitrogen, phosphorus, and potassium. The quality required of these without particularly nitrogen depend on the pre-clearing vegetation, organic matter content, linkage method and light intensity (Kang, 1981). The nutrient requirement, is satisfied by the application of the right form of fertilizer containing the requisite combination of the elements. Timely procurement, availability, accessibility and fair price had been the constraint to the use of fertilizer by small-scale farmers.

Another important aspect of maize farm management is weed control. The increase in wages of the government employed personnel has motivated youths and farm labourers to migrate from rural to urban areas in search of employment or further studies to qualify them for white collar jobs, which resulted into a drift in the labour availability and price. Weed control has become an expensive operation in traditional maize farming since it is procured manually, farmers tend to reduce the frequency of controlling weeds or avoid it. This results into poor yield. Herbicides appear to be an appropriate technology for timely and cost effective weed control.

There are disease and pests influencing maize production in Nigeria. The pests are grouped into three categories which are (i) the field pests (ii) The field to store pests and (iii) Store pests. Use of chemicals is presenting a popular control measure. However, these chemicals are very expensive and not easily available. Also the danger posed by incorrect application of these chemicals demand that users possess adequate knowledge of its handling. Hybrid varieties have been developed to address issues of diseases such as downy mildew, stem borer (Olaoye and Ogunlade, 2006) and maize parasite weed, known as striga. Currently the draught resistant varieties have been introduced to take care of dry season maize cultivation. The level of informedness of agro-input dealers on problems and plausible solution through research such as in the right choice of chemicals and hybrid seed is needful to transform farmers from small scale to commercial production.

In Nigeria, Oladele (2005) reported farmers' propensity to discontinue adoption of improved maize varieties. The Tobit analysis identified three exploration variables contributing the discontinuance, these are: lack of adequate extension visits, provision of feedback on adopted technology and lack of input required for the implementation of the technology package.

Similarly, Oladele and Kareem (2003) reported that 60% of arable crop farmers have stopped using fertilizer due to its unavailability and untimely delivery. Recently, Nwangwuma and Okorongwo (2007) reported misapplication of agricultural input by farmers in Nigeria. The authors attributed this to lack of knowledge on the correct use of the agro-chemicals. The need for increase in production of small holder farmers to commercial level demand for the use of agrochemicals. Also, the efficient use of the agrochemicals becomes imperative for the safety of the farmers, consumers, and the environment. The government agency for agricultural extension could not reach all the farmers as it operate on a ratio 1:1.800. Agro-input dealers serve as the closest body to small-scale farmers. The African Agricultural market Information Network (AFAMIN) (2006) described agricultural inputs in form of improved seeds, seedlings, brood stock, feed, vaccines, fertilizers, agro-chemicals, machineries, implements etc as essential ingredients for high productivity.

It identified the delivery systems of input as a problem and emphasized the need for an effective and sustainable private sector led input delivery system. The role of agro-input dealers in agricultural development go beyond input distributions. Since there is insufficient extension agents to provide technical information on the use of input for optimum production. The dealers need to stand in capacity of imparting knowledge. It is the application of this knowledge that will propel traditional farming into commercial.

This study therefore attempted to provide answers to the following questions:

a.   What are the personal characteristics of agro-input dealers in Kwara State, Nigeria?

b.   What extension related activities do the agro-input dealers perform?

c.   What technical capacity do agro-input dealers have on maize production?

d.   What are the variables that influence agro-input dealers technical capacities on maize production?

Objectives of the Study

The main objective of this study was to determine the capacity of agro-input dealers in advisory service delivery

to maize farmers in Kwara State, Nigeria.

The specific objectives are to:
1. examine the personal characteristics of the agro-input dealers in Kwara State, Nigeria.
2. determine the extension related activities of the agro-input dealers.
3. investigate the technical capacity of agro-input dealers in maize product.
4. analyze the influence of selected independent variables in explaining the technical capacity of the agro-input dealers on maize production.

Justification of the study

This study is very important as it unveils the strength of agro-input dealers in advisory seminar.
This could serve as basis for their training by development donor agency and agro-chemical manufacturers.

Theoretical framework

Advisory service delivery

An advisor service delivery is an extension service delivery. The evolution of National Agricultural advisory service delivery has created great demand and awareness of improve technologies through advisory service provision demonstration and promotional activities, while farmer are now aware and interested in these technologies.

Concept of capacity building

Capacity building refers to training, which can be operationalized according to the intellectual calling and background of different authors.

According to Patel (1981), training specifically refers to "To drill" it also encompasses the development of simple skill, complex technical knowledge, administrative and managerial skill and the attitude toward intricate and controversial social issue on the other hand and a consensus in the work of Reilly and Clarke (1990) indicate that training is a process through which knowledge, skill and attitude is develop for a purpose of specific job, task or vocation through institution and practice.

Also by definition capacity building is the process by which individual, organization institution and societies develop abilities (individually or collectively) to perform functions to solve problem and set achieve objectives (Dongle H. et al, 2003).

UNDP (1997) defined capacity building as a continuing learning and changing process. It emphasizes better use of empowerment of individual and organiza-

tions and it requires that systematic approach to be considered in devising capacity building strategies and programmes.

Capacity building or training is to help explain various roles and relationship and provide a way to defined interrelated activities to improve the use and sustainability of individual, farmers organizations and society at large.

Training can be viewed from three angles
2 Attitude
3 Knowledge and
4 Skill

Attitude

Attitude are evaluative statement either favourable or unfavourable concerning objects people or event they reflect how one feel about something (Ogunbumeru, 2004). If the attitude of a person is known towards a given situation, object or picture, it can be used in addition to other intervening variables to predict and explain reactions of the person to that class of picture or object.

Knowledge

Knowledge is technically complex. It is derived as a result of intensified, careful and systematic scientific investigation on natural phenomenon. Rogers and Shoemaker (1991) classified knowledge into: Innovation (awareness) knowledge, How-to knowledge and Principle knowledge.The Innovation knowledge: commence when the individual is expose to new idea and gain some under standing of how it functions.The how-to knowledge consist of information with and quantity necessary to use an innovation properly.Principle knowledge for example association/connectionist theory of learning biology of plant growth, which underlies fertilizer knowledge (Ogunlade, 2002).

Skill

Skill implies an understanding of and proficiency in a specific kind of activity, particularly one involving methods, processors, procedures or technique. Skills involve specialized knowledge analytical ability within that specialty and competence in the use of the tools and technique of the specific discipline (Ogunbameru, 2001).

Modes of Capacity Building

Capacity building is best done by people organization institutions or countries for themselves. It can be classified into two dimensions: Direct or indirect and

internal or external.

Direct capacity building is when the activity if focused on the actors whose capacities need to be developed and provides the training directly to the actors.

Indirect capacity building is when the activity involves supporting the activities of a capacity developed from organization institution or country.

Need for capacity building

Needs can be defined as a condition or state of incompleteness in the sense which suggest that a gap exist between where one (a person or a group) is and where one ought to be as measured by some scale of value (Oludase, 1998). Leagan (1961) in his own definition state that a need represent an imbalance or a gap between the present situation or "*status quo*" and a change set of condition, which assumed to be more desirable. Need may be view as a different between what is and what ought to be.

With reference to educational needs, needs may be defined as a discrepancy or gap between a person's present level and the preferred level of capabilities for effective performance or society. Armstrong and Dawson (1971) noted that gap cast between skill, knowledge and altitude necessary for effective performance on the job and that possessed by the person who will be doing job. Therefore, capacity building need exist anytime an actual condition different from desire condition.

Alassan and Amdissa (1993) said that capacity building need may exist when change in present human knowledge skill or altitude can bring about the desired performance. In other word, capacity building exists when all other needs such as materials, good management and money cannot produce desired conditions.

Type of capacity building

The basic type of capacity can be classified broadly into two types, which are resource and management (UNDP, 2005).

Resource: this includes things that traditionally thought of as "hard" capacities such as infrastructure, technology, finance and staffing.

Management: is concerned with creating the condition under which appropriate objectives are set and achieved. Managerial activities include good setting, leading allocating resources, motivating and supervising staff maintaining relationship with shareholders. The various activities can be grouped into three, which are:Networking and linkages, Strategic leadership and Programme and process.

Fig. 2: Type of Capacity Building

Strategic leadership is the capacity to assess and interpret needs and opportunities outside the organization to influence and align other towards a common aim and to make them responsible for their performance program.

Programme management is concerned directly with the production and delivery of service for client or target groups.

Process management: is concerns with the management of resources and internal process that support research and development programmes rather than the direct production of outputs.

Networking and linkages: Organization and their staff are often linked to other organization and individuals. Increasingly diverse stakeholders and partners are pressing organization to involve them in all aspect of their work, ranging from priority setting and fund raising to delivery of programme and the value of results.

Reason for capacity building

There are many advantages that capacity building offers to people or individual.
1. Through the support of capacity building, farmer could more effective access to input and output market.
2. It improves knowledge skill and attitude of individual.
3. Capacity building provide better understanding of the technology being transferred (Meldley, 1995).
4. It enhance the use of tools and machines
5. It will improve the use of appropriate technique to embark on in agriculture.
6. It prepares the beneficiaries for achievement
7. It increase productivity and improve the quality of work
8. It improve the quality and quantity of output (Hassan et al., 1993).

Agro-Inputs

Agro-inputs which are agricultural component that aids increase in agricultural component that aids increase in agricultural production include the following fertilizer, improved seed channel, farm machinery and equipments. They are crucial in production cycle. Therefore, they should be available at the right time in the right quantity and affordable price.

Agro-input distribution in Nigeria

Ogunlade (1987) reported the government effort to increase agricultural production through improved agricultural input delivery system. This led to the establishment of agro-service centers which was located in each local government of every state of Nigeria. The centers had a farmers conference hall, fertilizer ban and tractor hiring unit with a mechanic workshop.

The farmers hall was to be used for participatory

discussions and decision among researchers, extension agents and farmers with a view to improving the production practices. The ban are for storage of fertilizer and workshop for repairs of both government and privately own vehicles. Unfortunately, this infrastructures were not utilized to the point that most of them especially the farmer hall have their roofs blown off without repairs. The author of this paper happened to be an officer in Agro-input service unit in 1981 designated to handle fertilizer distribution. His experience show untimely delivery of fertilizer and inadequate supply which marked the distribution.

Farmers relied on agro-input dealers for agro chemicals and tractor hiring service. The number of villages to be served within 16km radius was a mirage. Fagbamiye (2007) traced the agricultural input distribution in Nigeria to about 50 years with agrochemical in cocoa farming from ICI. The author asserted that fertilizer and seed become viable products, in agricultural input market for years ago. These agro-input shops are mostly located in the cities, which are far away from the farmers. The organization of agro-input dealers into a strong association is still in the process.

METHODOLOGY

The study Area

This study was carried out in Kwara State, Nigeria. Kwara State has a land area of 32,500km^2 and is situated between latitudes 6.5^o and 7.5^o a North of the equator and longitudes 2.8^o and 7.5^o east. It shares common boundaries with Oyo, Osun and Ondo States in the South, Niger and Kebbi States to the North, Kogi State to the East and Kebbi State to the West. It enjoys both wet and dry seasons. The wet season begin towards the end of March and ends in October with a short space of drought of about 2 weeks in late August and or early September (KWARA STATE, 1990). Kwara Agricultural Development Project (1992) reported that the state can be divided into three rainfall zones namely:
i.   high rainfall sub-zone represented by Offa, Igbaja and Omu-Aran with annual rainfall range of 125-140cm.
ii.   medium rainfall sub-zone represented by Ilorin, Malete, Edu with annual rainfall of 110-125cm
iii.   low rainfall sub-zone represented by Kaiama, Baruteen Local government Areas with annual rainfall of 95-110cm.

The study area falls within the southern guinea savannah zone of Nigeria. It can be designated the food basket of Nigeria.

The climate, vegetation pattern and soil make the state suitable for cultivation of a wide variety of crops of which maize take the lead (Ayanda, 2002). The state has an estimated 214,153 farm families and less than 100 extensions agents.

Population for the Study

All the agro-input dealers in Kwara State form the population for this study. There is no accurate record of their numbers.

Sampling procedure and sample size

Snow ball technique was used to source fifty (50) agro-input dealers in Ilorin, Omuaran, and Offa. Most of the agro-input shops are situated in the major cities of Kwara State.

Instrument for Data Collection

Interview scheduled was used to elicit information from the respondents based on the stated objectives.

Measurement of Variables

The independent variables were
a)   personal characteristics of agro-input dealers
b)   extension related activities of the agro-input dealers.
    The personal characteristics includes:
Age: measure by asking respondents their actual age in year.
Gender: respondents were asked to put a (X) against the option that best represent them
Education: respondents were asked for the highest education attained.
Professional Discipline: the professional discipline include general agriculture, Agricultural extension, agricultural economics and agronomy.
Language used: information on the language used to communicate with customer was elicit.

The extension related activities

There were 24 items of extension activities which agro-input dealer could perform on maize production:
i.   Five plausible areas of advice on seed which covered seed quality, seed dressing, seed rating, method of planting and the whole plant.
ii. Four aspects on chemical which covered application rate, choice of chemical, its side effect, and method of application.
iii. Four areas, of fertilizer such as choice of fertilizer, rate of application method of application and its effect.
iv. 3 items on equipment which include use, maintenance and choice.
v.   7 items on linkage of farmers with other farmers, agro-input dealers, credit institutions, extension agents,

Table 1. Maize varieties available for cultivation in Nigeria.

No.	Variety Name	Grain Type	Major Strength	Major Weakness	Recommended Target Area/Season
1.	WESTERN YELLOW NARZO-17NEW (FARZ 7) OLD	Y.SF	High yielding widely adapted	Tall, susceptible	First season planting only. Forest ecology only
2.	096EP6 NARZO – 18 (FARZ-23)	F.F.	Fairly high yielding prolific	Fall, susceptible to streak and downy mildew	First season planting only. Forest ecology only
3.	TZPBSR NARZO-30 New (FARZ 27) Old	W1D	High yielding widely adapted streak resistant	Susceptible to downy mildew	Early season planting across the country
4.	TZBSR NARZO 29-New (FARZO-34)Old	W1SF	High yielding, widely adapted streak resistant	Susceptible to downy mildew	Early season planting across the country
5.	TZSR-W-1 NARZO-20	W1SF	High yielding, widely adapted streak resistant	Susceptible to downy mildew	Country wide
6.	TZESR-20	W/Y	Fairly high yielding	Susceptible to downy mildew	Country wide
7.	EV9043SR	W1D	Fairly high yielding	Susceptible to downy mildew	Country wide
8.	DMR-LSRW	W1SD	Late Fairly high yielding resistant to both streak and down mildew	None	Downy mildew affected zones
9.	DMR-LSR-Y	Y1SD	Lat, -do-	None	Downy mildew affected zones
10.	TZMSR-W	W1D	Late, High yielding resistant to streak high land rust and blight	None	High land areas (over 100m above sea level)
11.	Kewesoke	W1F	Inter, Upright leaves. Suitable for intercropping	Susceptible to streak and downy mildew, low yield	Intercropping

Source: Iken, J.E. and Amusa, N.A. (2004) Maize Research and Production.

research institute, input manufacturers, produce market and processors.

The respondents were to rate the 24 items on a point Likert type scale of Always = 3, occasionally = 2, Never = 1.

The dependent variable was Technical Capacity of agro-input dealers on maize production. In order to elicit information on the technical capacity of the dealers, knowledge test was needed. It consists of 21 items on maize production. Agro-input dealers scores in the test represent their capacity to advice on maize production. There are 6 items on seed, 6 items on fertilizer choice, use and application, and 10 items for pre and post harvest use of chemical for maize production. Each of the items attracts 1 mark for correct answer. A respondent could score a maximum of 22 marks and minimum of zero.

Data Analysis

The data were analyzed by using frequently count, percentages, mean, rank and stepwise regression analysis.

RESULTS AND DISCUSSIONS

Table 2 shows the socio-economic characteristics of agro-input dealers in Kwara State, Nigeria. It is obvious from the table that 66% of the agro-input dealers were males while 24% were females. This suggests that the business was male dominated. The age distribution shows that 54% of the agro-input dealers were young, 34% were of middle age while 12% were old age. It could be inferred from this distribution that agro-input dealers in Kwara State are people who could give in to development, as their mental set is still fresh and full of vigour. The education level of these agro-input dealers shows that 48% had secondary education, 46% had tertiary education while 6% did not disclose their level of education. The level of literacy of these dealers point to the fact that they could readily read and correctly interprets manufacturers instructions and precaution in English Language. The atom of education possessed by these dealers place them at advantage over the farmers who are mostly without formal education. The agro-input dealers communicate more (60%) with farmers in English and Yoruba languages, while each of 20% claim to better in either English or Yoruba. On their membership with

Table 2. Socio-economic characteristics of agro-input dealers in Kwara State, Nigeria.

CHARACTERISTICS	Frequency	Percentage	Mean
Gender	12	24.0	
Male	33	66.0	
Female	5	10.0	
No Response			
AGE	**Frequency**	**Percentage**	**Mean**
Young (< 30yrs)	27	54	28yrs
Middle age (30-50yrs)	17	34	
Old age (> 50yrs)	6	12	
EDUCATIONAL LEVEL	Frequency	Percentage	Mean
Secondary	24	48.0	
Tertiary	23	46.0	
No response	3	6	
LANGUAGE USED			
English	10	20.0	
Yoruba	10	20.0	
Yoruba and English	30	60.0	
DO YOU BELONG TO ORGANIZATION			
Yes	20	40.0	
No	30	60.0	
SOURCE OF AGROCHEMICAL			
Manufacturer	12	24.0	
Bulk Purchase	37	74.0	
Retail Purchase	1	2.0	
AVERAGE SALES PER DAY			
<10,000	23	46.0	
11,000 – 20,000	18	36.0	N13,500
>20,000	8	16.0	
No Response	1	2.0	
AVERAGE SALES PER WEEK			
<50,000	20	40.0	
51,000 – 100,000	21	42.0	N65,000
>100,000	8	16.0	
No Response	1	2.0	
AVERAGE SALES PER MONTH			
<140,000	14	28.0	
141,000 – 320,000	22	44.0	N242,840
>320,000	13	26.0	
No Response	1	2.0	

agro-input dealers association, 40% claim to be members, while 60% were non-members. This situation is a serious one that demand development agents' intervention. The reasons for their status were not asked. However, the more united they are in association, the better might be the procurement of agro-input as well as the possibility of mobilizing them for developmental programmes. Majority (74%) of the respondents purchase their agro-chemicals in bulk, 24% had direct link with the manufacturers from where they made their purchases. On the average, an agro-input dealers makes N13,500 per day, N65,000 per month and

N242,840 per annum. These turn out appears to be made on the low side as payment has to be made for accommodations and sales agents. However, the amount may not be the exact for security reason. If the business has not been profitable many of them would have quit it.

Section B: Extension Related Activities of the agro-input dealers

Indicate if your provide information and advice on the

Table 3. Extension related activities of agro-input dealers in Kwara State, Nigeria.

A. SEED	Always	Occasionally	Never	Mean	
1. Information on seed quality	83%	5%	12%	2.71	12th
2. Information on seed dressing	86%		14%	2.72	11th
3. Information on plant	94%		6%	2.88	5th
4. Seed rating	72%	16%	12%	2.60	15th
5. Method of planting	96%	2%	2%	2.94	2nd
B. CHEMICAL					
6. Appropriate rate of application	94%	6%	-	2.94	2nd
7. Appropriate choice of chemical	96%	4%	-	3.00	1st
8. Side effect of chemical	85%	9%	6%	2.79	9th
9. Method of application	96%	2%	2%	2.94	2nd
C. FERTILIZER					
10. Choice of fertilizer use	80%	20%	-	2.80	7th
11. Appropriate application rate	80%	20%	-	2.80	7th
12. Method of application	88%	12%	-	2.88	5th
13. Side effect of fertilizer	71%	22%	6%	2.65	13th
D. EQUIPMENT					
14. Use of equipment	73%	19%	8%	2.65	13th
15. Maintenance of equipment to use	73%	19%	8%	2.65	13th
16. Choice of equipment to use	86%	4%	8%	2.74	10th
E. LINKAGE					
17. With other farmers	51%	31%	18%	2.33	16th
18. With other agro-input dealers	23%	31%	46%	1.77	19th
19. Credit institution	13%	40%	47%	1.6	21st
20. Extension agent	16%	12%	75%	1.47	22nd
21. Research institute	10%	12%	78%	1.32	23rd
22. Input manufacturer	24%	34%	42%	1.82	18th
23. Produce market	18%	42%	40%	1.72	20th
24. Processor	14%	60%	26%	1.88	17th

Table 4. Technical capacity of agro-input dealers on maize production

Knowledge score	Frequency	Percentage (%)
Low (<35)	14	28
High above 35	36	72
Total	**50**	**100**

Source: Field survey (2006)

extension related activities you carried out if Yes, please tick.

The extension related activities of agro-input dealers were examined with a view to determining their strength and weakness.

Table 3 shows the extension related activities carried out by the agro-input dealers.   Out of the twenty four items listed for the respondents, 16 items which have direct link with inputs usage were always handled by them. However, in the areas of information dissemination for maximum benefit of research, the agro-input dealers seem to lag behind, they advise farmers regularly on appropriate chemical choice, and method of application,

rate of application, method of planting, choice of fertilizer, rate of application etc. The background of those agro-input dealers in Nigeria secondary schools where agriculture is made a compulsory subject as vocational course might have prepared them for the technical experience, exhibited to farmers.

These dealers were not able to link up farmers with other relevant institutions. This may be due to ignorance of the functions of these institutions. Also, it might be attempt to shy away from competitions with other agro-input dealers. These institutions are very important for the growth and development of farming business.

Table 5. Technical Capacity of Input Dealers

Knowledge of Maize Production	True	False
Seed		
Maize seed is planted 3 per hole mechanically	41(82.0)	
Mize seed is planted 2-3 per hole manually		4(8.0)
Spacing for mechanically planted maize is 90cmx20cm	46(92.0)	
Maize seed is planted manually is spare 90x40cm	46(92.0)	
Spacing per mechanically planted maize is 90cmx40cm		
Maize is planted at the rate of 28kg/ha	34(68.0)	
Plant density of maize is 55,000 per ha	41(82.0)	
Maize fertilizer requires 2 bags of NPK 15:15:15	46(92.0)	
Fertilizer per ha at 1st dose		
Fertilizer is broadcast over	36(72.0)	
Maize requires 4 bags/ha of NPK 15:15:15	34(68.0)	
Apply 4 bags/ha of fertilizer NPK as second dose 10-15 weeks after planting	41(82.0)	
Apply 4 bags of sulphate of Ammonia /ha as second dose 5-6 weeks after planting	41(82.0)	
Soil testing is not required before fertilizer application		20(40.0)
Chemical		
Weed could be controlled on maize farm with gramazone	22(44.0)	
Weed could be controlled with atrazine	42(84.0)	
Gramozone should be applied not later than two days after planting		26(52.0)
4-6kg per 1ha of atrazine should be applied in 50 gallons of water	33(66.0)	
Apply 3.0kg of atrazine in 50 gallon of water		
60kg of gamaline should be applied in 100 gallon of water		
Maize is stored with aldrin		

Table 6. Regression analysis of agro-input dealers' technical capacity and selected independent variables

Model	Standardized coefficient (β)	t	Sig
Constant	-	1.527	0.136
Age	0.080	0.640	0.527
Education	0.567	5.276	0.000
Size of business	0.430	3.131	0.004
Sales	0.159	1.334	0.192
Information sources	0.004	0.038	0.970
Professionalism	0.181	1.236	0.226
Use of language	0.257	1.432	0.162
Membership of Agro-input dealers association	0.242	1.437	0.161
Extension related activities	0.043	0.278	0.783

R = 0.870 R^2 = 0.758   F = 5.380 $P \leq 0.05$

Section C: Technical capacity of input dealers.

The technical capacity of the farmers was limited to their knowledge on maize production. Majority (72%) had high knowledge of maize production while 28% had low knowledge. The mean score was 35 points. These respondents scores were dichotomized on the mean.

From Table 5, the distribution of respondents on each of the items on maize production shows that agro-input dealers were not familiar with the manual planting rates,

the importance of soil testing to fertilizer application and application of gramozone as a pre-emergence herbicides.

The results of the regression analysis of independent variable (Age, Education, size of business, sales, information sources, professionalism, use of language, membership of agro-input dealers association and extension related activities) on technical capacities of agro input dealers shows that strong correction (R = 0.870) exist between technical capacity and independent variables. This variables were able to explain 75% of the variation in technical capacity of agro-input dealers.

CONCLUSION AND RECOMMENDATION

It is obvious from this study that agro-input dealers are capable of advising farmers on maize technologies. However, their link with an information on agriculture related institutions were weak.

Based on the survey, the following recommendations are made:

1. All agro-input dealers should be motivated to join agro-input associations for easy networking.

2. Development agency need to organize workshop for the input dealers on available agricultural related institutions in Kwara State, Nigeria.

3. The topics such as seed planting rate, application of pre-emergence herbicides and influence of soil testing on fertilizer application could be taught to improve agro-input dealers' knowledge on fertilizer usage.

4. Level of education and size of business may be important factors in the choice of the facilitators for agro input dealers programme.

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