Farmers Perception of the Relevance of Agriculture Technologies in South-Western Nigeria

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ABSTRACT This study was focused on farmers' perception of the relevance of technologies generated by research institutes in south-western Nigeria in the area of agroforestry , land evaluation, improved varieties and machinery And equipment. A multistage random sampling technique was used to select the sample size. Two zones were purposively selected (Ogbomoso and Oyo) for they are the food basket of the state. The existing total numbers of farmer groups was obtained (120), out of this; ten percent was randomly selected (12). The membership strength of the selected group was compiled (1209) and ten percent of these were selected to give a sample size of 120 farmers. Descriptive and inferential statistical tests were used to analyse the data. The study showed that farmers are well aware of agricultural technologies, for instance snailery (99.17%), fadama development (75.00%), improved variety of cassava (95.83%), and soyabean thresher (95.83%). Correlation analysis was used to test the significant relationship of awareness and perception. It was discovered that machinery equipment fabrication (r = 0.38 p <0.05 improved varieties of arable crops (r = 0.42, p < 0.05) and agroforestry technologies (r = 0.62, p <0.05) are significantly related to their perception. However, the awareness, the land evaluation techniques was not significant (r = 0.003, p > 0.05).

INTRODUCTION

To improve the agricultural production, some form of appropriate technogy is necessary. Appropriate technologies in this context is defined as the latest scientific and technological development that have been adjusted to suit the local conditions to the highest possible degree (FAO, 1996). In this regard, farmer involvement in technology development has generated a lot of models through several studies (Biggs and Clay, 1981; Byerlee et al., 1982; Chambers and Ghildyal, 1985; Chambers and Jiggings, 1987; Biggs, 1989). Technology have defined as all the methods of production which has been developed n the basis of existing state of scientific knowledge (Roy, 1990).

The last twenty years have witnesses great investment in agricultural research and development of new technologies in Nigeria. The national and international research centers have reported significant yield increase in many crops: insect pest and disease damage to plant, animal and crops have been brought under substantial control. Yet farmers remain unaware and skeptical to taking full advantage of these technologies (Ekpere, 1995). As in the case with agriculture in general, Nigeria agricultural research has suffered a significant set back in the area of perception of research results by farmers. This has made it imperative that farmers' perception of research results specifically agricultural technologies be considered.

Technologies, are viable only when they are used by farmers. No matter how well new technologies work on research stations, if farmers will not have them for use, their development would have been in vain (Sandra et al., 1989). But more terrible will it have been if the farmers perception of these technologies is not only low but wrong. Agricultural research system must, therefore, conceptualise an effective mechanism and capacity to implement the transfer of results and measure farmers perception of these technologies.

Scientists' understanding of farmers perception about technology is often clouded by misleading metaphor by which the process of technology development and delivery are described. Farmers tend to be seen as passive recipients, users of technology developed by other people. At best, it is acknowledged that some feedback on farmers reaction to a new technology, is desirable in order to refine that technology; but this is likely to be regarded as a need for mere fine tuning. These metaphors are misleading, as well as condescending; farmers are not passive consumer but active problem solver who in fact develop for themselves mot so the technologies they use. For many hundreds of years before toady's National Agricultural Research systems were set p, farmers did their own research; integrating technology from different sources and continuing to adapt it on

their farm. They still do it today. The technology used by farmers is a complex product undergoing constant changes.

Research institutions have developed technologies and disseminated through the Agricultural Development projects. Sandra et al. (1989) noted that the goal of agricultural research is the development of technologies are developed and used, the production system changes, a new constraint becomes the most limiting and new technology must be developed or adjusted to suit farmers needs. There s need to develop a new way of making these technologies acceptable to farmers so as to increase farmer perception and invariably their adoption levels.

OBJECTIVES OF THE STUDY

The general objective of the study was to analyse the perception of farmers with respect to the relevance of technologies generated by research institutions in Oyo state for farmers in this state. The specific objectives of the study are: to determine the level of perception of farmers to the relevance of agricultural technologies and ascertain the level of awareness of agricultural technologies by farmers.

METHODOLOGY

The study population consists of farmers in Oyo state. These are formed into farmers group by the Agricultural Development project due to limited number of extension agents owing to final withdrawal of funds by the World Bank. A multistage random sampling technique was used to select the sample size. The existing total numbers of farmers group was obtained (120), out of this, ten percent was randomly selected (12). The membership strength of the selected group was compiled (1209) and ten percent of these were selected to give a sample of 120 farmers.

Data for this study were obtained from primary source using interview schedule for the sampled farmers. The data collected from the questionnaires were analysed using the statistical tools; (i) Frequency distribution and percentage were used to indicate the proportion of responses to certain variables. (ii) Pearson Product Moment Correlation was used for testing relationship between awareness and perception.

RESULTS AND DISCUSSIONS

This section is organized into categories namely, awareness of technologies, perception of technologies and relationship between awareness and perception of technologies.

Awareness of Technologies: Table 1 shows the awareness of agricultural technologies by the respondents. All the technologies recorded high awareness among the respondents except the came rat domestication technology. Plausible reasons for this high awareness could be traced to the high intensity of extension services provided by the Agricultural Development Programmes (ADP). This is coupled with the involvement of the Agricultural research institutes in the preparation of extension materials such as posters, bulletins and radio, programmes among others. However, technologies on land evaluation were not as popular as agroforestry technologies and the improved variety technologies. The technically of these practices could be responsible for these percentages.

Perception of Technologies: Farmers' perception of the relevance of agricultural technologies shows a high degree of variation. This has the potential to affect the eventual adoption of these technologies. Also, that some of the technologies are not in the current interest and needs of the farmers could be responsible for their perception as at the time of this study. The perception of farmers on these technologies, therefore, emphasizes the need for a demand-driven technology generation and not supply-driven of the publish or perish syndrome.

Agroforestry technologies are perceived relevant by the farmers except the cane rat domestication. The consciousness of the need to preserve the ecology for sustainable agricultural production might be responsible for this. Also, the alternatives to soil management created by these technologies would have enhanced their perception of the farmers. Technologies on improve varieties of some arable crops are also perceived to be relevant by the farmers. This may be attributed to the fact that all these crops feature prominently in the farming systems in the study area.

Relationship Between Awareness and Perception of Technologies: Table 2 presents the correlation analysis of the awareness of the technologies with their perception. The result show no significant relationship between the

Table 1: Respondent perception and awareness of the relevance of agricultural technologies.

Technologies	Awareness		Perception	
	Aware	Not aware	Relevant	Not relevant
Agroforestry Technologies				
Utilization of Wood waste	110 (91.67)	10 (8.33)	112 (93.33)	8 (6.67)
Utilization of lesser known timber species	111 (92.50)	9 (7.50)	112 (93.3)	8 (6.67)
Snailery	119 (99.17)	1 (0.08)	12 (10.00)	108 (90.00)
Cane rat domestication	8 (6.67)	112 (93.33)	8 (6.66)	112 (93.33)
Organic fertilizer	90 (75.00)	30 (25.00)	90 (75.00)	30 (25.00)
Land Evaluation Technologies				
Fadama development	90 (75.00)	30 (25.00)	15 (12.50)	105 (87.50)
Land Evaluation System	57 (47.50)	63 (52.50)	8 (6.67)	112 (93.33)
Soil mapping techniques	52 (4.33)	68 (56.67)	6 (5.00)	114 (95.00)
Land evaluation techniques	78 (65.00)	42 (35.00)	11 (9.17)	109 (90.83)
Improved Varieties Technologies				
Improve varieties of maize	114 (95.00)	6 (5.00)	63 (52.50)	57 (47.50)
Improve varieties of cowpea	104 (86.67)	16 (13.33)	76 (63.33)	44 (36.67)
Improve varieties of Cassava	115 (95.83)	5 (4.17)	95 (79.17)	25 (20.83)
Improve varieties of Tomato	110 (91.67)	10 (8.33)	108 (90.00)	12 (10.00)
Improve varieties of Egg plant	111 (92.50)	9 (7.50)	113 (94.17)	7 (5.83)
Improve varieties of Okro	113 (94.17)	7 (5.83)	99 (82.50)	21 (17.50)
Machinery and Equipment				
Cassava fryer 9400kg per day	112 (93.33)	8 (6.67)	93 (77.50)	27 (22.50)
Multipurpose Grain planter(10 hectare per day)	116 (96.67)	4 (3.33)	89 (74.17)	31 (25.83)
Feed mixer (300 kg per hour capacity)	116 (96.67)	4 (3.33)	89 (74.17)	31 (25.83)
Feed Grinder (500 kg per hour)	114 (95.00)	6 (5.00)	81 (67.50)	39 (32.50)
Maize Sheller (manually operated 200kg hr)	108 (90.00)	12 (10.00)	89 (74.17)	31 (25.83)
Maize Sheller engine and tractor operated 100kg hr	109 (90.83)	11 (9.17)	85 (70.83)	35 (9.17)
Soybeans Thresher (250kg hr)	115 (95.83)	5 (4.17)	94 (78.33)	26 (21.67)
Pneumatic Grain Cleaner (500kg hr)	111 (92.50)	9 (7.50)	94 (78.33)	26 (21.67)

Table 2: Relationship between farmers awareness and perception of technologies.

Technologies	Correlation coefficient r	P
Agroforestry	0.62	p<0.05 (S)
Land evaluation	0.003	p>0.05 (NS)
Improved varieties	0.42	p<0.05 (S)
Machinery and equipment	0.38	p<0.05 (S)

S = significant at P<0.05; NS = Not significant.

awareness of land evaluation techniques, improved arable crops, use of agrochemical and machinery and equipment fabrication. In other words, the awareness of farmers on these technologies, does not in any form affect the perception of their relevance. This may be because of the newness of these technologies, expertise involves in their operations, and the initial capital outlay needed for take-off.

CONCLUSION

From the result of the study it was observed that perception of farmer of the relevance of technologies is affected by awareness of the technologies. It was also discovered that the inherent characteristics of the technologies itself affect their perception and their relevance. It was found that land evaluation technologies, improved varieties of arable crops have no significant relationship between perception and awareness.

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