

RELATIONSHIP BETWEEN FARMERS KNOWLEDGE ABOUT IMPROVED CASSAVA PRODUCTION TECHNOLOGIES AND ADOPTION

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ABSTRACT

This paper examines the relationship between farmers knowledge about improved cassava production technologies and adoption in Imo State. Data were collected from 450 randomly selected respondents with the aid of questionnaire. Data analysis was by the use of Ordinary Least square (OLS) multiple regression technique. Findings of the study revealed significant relationship between knowledge about improved cassava production technologies and adoption. It was therefore recommended that adequate awareness campaign be made for increased adoption among cassava farmers.

INTRODUCTION

An efficient and successful transfer of improved agricultural technologies from its source (such as research) to the ultimate unit of utilization is important so that the end-users clearly understand, accept and apply them in their farm practices. Scholars like Hewins (1990), Rogers and Shoemaker (1971), Carter (174), Pontius (1978) agree that this process is accelerated by effective communication and information transfer. Little (1970) describes two essential components of the act of communication. A channel exists when access to the receiver (Rx), is provided for the transmitter (Tr) or sender. When the channel is used, the message has to be transmitted by some medium; verbal language. Feedback must be provided from the Rx to Tr. To be fully effective, communication must be two-ways such that Rx can ask questions from

the Tr to clarify the message further and also immediately respond to Tr.

The information transfer process crucial to successful innovation adoption, and effective communication between agricultural advisers and or change agents and their clients is basic to efficiency (Pontius 1978). Certain variable such as homophily, language compatibility and meaning have been identified as crucial in the process of communication. Transfer of technologies cannot occur unless the farmer attaches the correct and intended meanings to the received messages. Even when this is done, the farmer still needs to be assisted by change agents to decide intended meanings of messages, a factor which among others implicates language compatibility, meaning compatibility, etc (Obinne 1989). He must also help to create conducive situations for adoption. Part of the conducive environments needed for effective knowledge utilization relates to attributes of the message, in addition to the channel used to communicate the message.

Information on improved agricultural technologies are made available to farmers so that they can use the technologies to fulfill their agricultural intents. Information must come from somewhere to the farmers so that utilization of agricultural technologies will be complete. Rogers (1983) posited that integration into local information and assistance network can facilitate the adoption process. Dervin (1976) postulated that unless there is information from external sources, little change can be expected in farmers knowledge, attitude and behaviour. He stressed that urban contacts and exposure to "exogenous influences act as trigger mechanism" for such change to occur in the individual. According to Williams and Williams (1971) socio-cultural and economic characteristics of farmers are important in the use of certain sources of information. In their study of the relationship between farmers' characteristics and their sources of information on improved farm practices, Williams and Williams (1971); Mutewara (1991) found significant relationship between extension agents and fellow farmer

contact, and farmer characteristics. One obvious implication of the observations is a behavioural change in farmers and is a consequence of multiple interacting variables. The relationship between these variables and adoption may either be direct or inverse. This study examines the relationship that exists between knowledge gained as a result of exposure to improved cassava production technology information source and farmers adoption of the technologies.

METHODOLOGY

This study was carried out in Imo State of Nigeria. Data was obtained from 450 respondents selected from 6 randomly chosen autonomous communities namely Nsu, Oguta, Mgbidi, Lagwa, Okigwe and Egbeada. These communities were drawn from the 3 Agricultural zones which include Okigwe, Orlu and Owerri zones. Stratified sampling technique was used to select the respondents involved in this study with the aid of structured questionnaire.

Adoption was measured using a composite adoption index computed by summing responses for the various categories as applicable to each respondents for the eight technologies identified. The adoption scores ranged from 0 to 39 points over the 8 technologies out of a maximum of 40.

Four functional were fitted for the model. These are Semi-log, Linear, Exponential and Cobb-Douglas. However, the linear form was chosen as the as Lead equation for further analysis. The choice of this form was based on the value of the coefficient of multiple determination (R^2), the signs of the coefficient of the independent variables in conformity with *a priori* expectations, and the level of significance of the variables. The degree of relationship between the identified variables (explanatory and predictor) was determined by the use of Ordinary Least square (OLS) multiple regression technique. The model is specified implicitly thus:

$$Y = f(ATIS, PCTIS, FUTIS, PUTIS, ITIS, e)$$

Where Y = Adoption of improved cassava production technologies

ATIS = Availability of Technology Information Source

PCTIS = Perception of Credibility of Technology Information Source

FUTIS = Frequency of Use of Technology Information Source

PUTIS = Perception of the Usefulness of Technology Information Source

ITIS = Interest in Technology Information Source

e = Error term

RESULTS AND DISCUSSION

Table 1: Multiple regression

Explanatory

<i>variables</i>	<i>coefficients</i>	<i>Standard error</i>	<i>t-ratios</i>
ATIS	0.5104	0.2218	2.301**
PCTIS	0.8597	0.3735	2.302**
FUTIS	0.5429	0.2264	2.398**
PUTIS	0.8468	0.2108	4.016*
ITIS	0.6971	0.2103	3.314*
Constant	= 3.212		
R ²	= 0.767		
F	= 51.42		
N	= 450		

* Significant at 0.01 level

** Significant at 0.05 level

Table 1 reveals a positive relationship between availability of technology information source and adoption of the technologies. The relationship is significant at 0.05 level. This implies that availability of technology information source is a significant factor influencing the adoption of the recommended improved cassava production technologies. Perception of the credibility of the technology information

source showed a positive and significant relationship with adoption at 0.05 level. This suggests that farmers perception of the credibility of the technology information source is a significant factor influencing the adoption of recommended improved cassava production technologies. Farmers' frequency of use of technology information source also showed positive and significant relationship with adoption at the 0.05 level implying that this variable is significant for adoption. Farmers' perception of the usefulness of technology information source and Farmers' interest in technology information source showed positive and significant relationship with adoption at 0.01 level, suggesting that these two variables are significant in the adoption of improved cassava technologies.

The findings above show that all the identified variables such as Availability of Technology Information Source, Perception of Credibility of Technology Information Source, Frequency of Use of Technology Information Source, Perception of the Usefulness of Technology Information Source, and Interest in Technology Information Source are significantly related to adoption of improved cassava production technologies. Thus, the more the farmers are exposed to the improved cassava production technology information sources, the more they gained knowledge and adopted them. Similar findings have been reported by Akinbode (1968); Williams (1971); Monu and Omole (1982); Akinola (1983).

CONCLUSION/RECOMMENDATIONS

The study found that significant relationship exist between knowledge about improved cassava production technologies and adoption in the study area. Based on the findings of this study it is recommended that adequate awareness be made available to cassava farmers in the study area. It is also recommended that information on improved cassava production technologies should be made readily available to relevant cassava farmers to further enhance their level of adoption.

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