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Assessment of Factors Affecting the Acceptance of Agricultural Innovations in Zurmi Local Government Area, Zamfara State Nigeria

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Abstract- The aim of this paper is to assess the factors affecting acceptance of agricultural innovations in Zurmi Local Government Area of Zamfara State of Nigeria. The researcher investigated why new innovations were rejected and the role of government in motivating farmers to accept new innovations. A total sample of 80 respondents was selected out of the selected six wards, to represent the entire local government. Data was analysed using various statistical tools like frequencies, percentages and direct response. The major conclusions drawn from this paper were data regarding responses to new innovations have shown that 28 (35%) of the respondents accepted new innovations while 52 (65%) rejected the idea. Survey results regarding why new innovations were rejected revealed that 27 (33.7%) of the respondents reported poor roads is responsible, while 13 (16.2%) were not interested in accepting new innovations at all. Similarly, 40 (50%) reported financial constraints is responsible for not accepting new innovations revealed that majority of the farmers 48 (60%) agreed that government should give loans to them. Similarly, 22 (27.5%) agreed that more extension advice should be delivered. Only 10 (12.5%) would want government to sell inputs at subsidised rates. Finally, this paper recommends some strategies aim at motivating farmers to accept new agricultural innovations.

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Assessment of Factors Affecting the Acceptance of Agricultural Innovations in Zurmi Local Government Area, Zamfara State Nigeria

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Abstract- The aim of this paper is to assess the factors affecting acceptance of agricultural innovations in Zurmi Local Government Area of Zamfara State of Nigeria. The researcher investigated why new innovations were rejected and the role of government in motivating farmers to accept new innovations. A total sample of 80 respondents was selected out of the selected six wards, to represent the entire local government. Data was analysed using various statistical tools like frequencies, percentages and direct response. The major conclusions drawn from this paper were data regarding responses to new innovations have shown that 28 (35%) of the respondents accepted new innovations while 52 (65%) rejected the idea. Survey results regarding why new innovations were rejected revealed that 27 (33.7%) of the respondents reported poor roads is responsible, while 13 (16.2%) were not interested in accepting new innovations at all. Similarly, 40 (50%) reported financial constraints is responsible for not accepting new innovations. Perception of respondents regarding what should government do to encourage farmers to accept new innovations revealed that majority of the farmers 48 (60%) agreed that government should give loans to them. Similarly, 22 (27.5%) agreed that more extension advice should be delivered. Only 10 (12.5%) would want government to sell inputs at subsidised rates. Finally, this paper recommends some strategies aim at motivating farmers to accept new agricultural innovations.

I. INTRODUCTION

Some people adopt something new simply for the sake of change. The bag of innovations that an extension worker carries is generally presented as full of potential benefits to its recipients.

However, research institutes were established in different parts of the country to develop new innovations in agriculture. The primary responsibility of Extension Workers therefore is to carry these innovations to the farmers. The process of acceptance and use of ideas or innovations follows a successful pattern such as (a) awareness of the innovation (b) interest of the farmers (c) trail of the innovations through demonstrations and (d) adoption of new innovations.

For these to be successfully done, there must be an effective communication between the Extension Workers and farmers and a good working relationship must be maintained in order to make the farmers understand the innovations. However, the following factors affects the acceptance of innovations such as cultural influence, educational level, attitudes of the extension staff, bulkiness of the innovations, low income levels by the farmers etc.

Adoption of agricultural innovations if forced under authoritative or social pressure may not yield the expected results. Secondly, the objective for which an innovation has been diffused may very well be achieved but its side effects may be ignored. Professional agricultural extension cannot in isolation solve all agricultural development problems among other things, the whole range of agricultural support services from provision of improved seeds, fertiliser, credit and other inputs and to transport, communications and marketing must be improved to achieve a real sustainable impact on agricultural production, when the is the most appropriate time to introduce adoption and diffusion of agricultural innovation. The answer is it is never too early for the introduction of the above techniques organised along professional lines.

Zurmi Local Government Area of Zamfara State of Nigeria is located in the southern part of the State. Majority of the population are predominantly farmers. Guinea-corn, millet, maize, groundnut and cotton are the major food and cash crops they cultivate.

a) Problem Statement

There have been a number of criticisms regarding acceptance of agricultural innovation generally in developing countries. These includes (a) a pro-innovation and the sources of failure of unsuccessful innovation (b) a tendency to blame the farmers or the peasant for failure to adopt rather than question the appropriateness or profitability of innovation (c) inadequate attention to the interrelated process involved in innovation generation and utilisation (d) failure to develop the appropriate technology for adoption by farmers. Most of the people in |Zurmi Local Government Area are peasant farmers only few of them are large scale farmers, because of the land tenure system being practiced in the area; it is very difficult to adopt any agricultural innovation brought to the farmers.

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b) Objectives of the Study

i. Overall Objectives

The overall objectives are to assess the factors affecting the acceptance of agricultural innovation in Zurmi Local Government Area.

ii. Specific Objectives

- 1. To investigate how farmers manage both crops and livestock.
- 2. Examine why farmers still go by traditional method.
- 3. Assess if farmers have access to agricultural extension services provided by Agricultural Development and if they receive any new technology.
- 4. To investigate why new innovations were rejected by the farmers in the area.
- 5. To highlight the role of government to motivate farmers to accept new innovations and the problems being faced by farming community.

iii. Research Questions

- 1. Is there any benefit that farmer's derive acceptance of agricultural innovation?
- 2. What is the attitude of farmers to the acceptance of agricultural innovation to improve their farming operations?
- 3. Is there any relationship between acceptance of agricultural innovations and development in Zurmi Local Government Area?
- 4. Are farmers making effective use of agricultural innovation?

II. REVIEW OF LITERATURE

The review of literature relevant to the above study is presented as follows.

Despite the fact that government is trying its best to introduce new innovations, there are forces which resist change. Certain force like education, industrialisation, with its innovation tends to encourage change while socialisation and social control which try to maintain status quo tend to resist change (Money, 1976).

According to Bankang 1981 no matter how smoothly we may feel an innovation can be adopted, there will be underlined forces which can slow down or completely block the intended change.

Jabe, 1992 stated that cultural resistance occur when an idea which proposes change comes in conflict with existing cultural element such as norms values and believes.

Eze, 1972 stated his reason as economic resistance. This relates to technological innovation, without the necessary economic ability to purchase technology, there will be resistance to change. Poverty or lacks of capital are the main sources of economic resistance to change.

Bila, 1977 identified his reason as economic resistance. This relates mostly to technological innovation, one may be confident but without the necessary economic ability to purchase technology there will be resistance to change.

Abbot, 1981 stated that vested interest in social system where stratification is fairly strong and entrenched, there will be resistance to change. Any time there is a change some people benefit while others don't benefit. If some one perceives what he will lose in change process, he will do his best to sabotage such a programme.

Ovjobi, 1973 stated that one of the effective ways of communicating, new innovation to rural areas is by inviting innovations and early adopters to agricultural firms so as to enlighten them of a new package with the advice of extension officers, the innovation will be implemented to improve farming skills.

Omokere, 1989 concluded that if an innovation is found it needs to be treated, analysed and blends carefully to suit our new innovation in rural areas. Agricultural loan can help in raising the financial position of these early adopters and innovators. The role of extension officer is to guide the innovators in implementing the new package.

Anka and Khooharo, 2010 stated that the level of extension visit to farming families was not encouraging in Zamfara State of Nigeria. The numbers of visit recorded were low particularly during the year 1998 and 1999. But some improvement could be attributed to 32 additional Village Extension Agents (VEA) recruited by the Management of ZADP. In addition, small plot trials, management training was restricted to crops while demonstration was used for technology transfer.

Anka, 2000 identified some important competency areas that will help Extension Workers improve their performance in maintenance of professionalism and understanding human behaviour in transfer of new agricultural innovations to farmers.

Roseboon etal, 2004 recommends that ASARIECA and its members promote the adoption of an agricultural innovation perspective in their policy analysis. This will help them identify weak or missing components and linkages within their agricultural innovation system and take measures accordingly.

Anderson and Feder, 2004 stated that critical to adoption of new innovations are the availability of improved technology, access to modern inputs and resources and profitability at an acceptable level of risk. Farmers get information from many sources. Public extension is one source but not necessarily the most efficient. Much need to be done to bring appropriate extension services to poor farmers around the world because most of the extension services will remain largely publicly funded. Rajalahti, 2009 concluded that the ability to innovate is often related to collective action and having in place conditions that enabled adoption of innovation. Thus promoting innovation in agriculture requires coordinating support to agricultural research, extension and education fostering innovations partnerships and linkages along and beyond agricultural value chain.

CGIAR, 1998 identified factors limiting adoption is that seed availability is not dependable. Adoption has been more extensive among large scale farmers in the wet zones because they have capital to invest in seeds. The rate of adoption of sorghum varieties has been reduced because during time of their development subsidy was removed. Farmers were dissatisfied with the yield of the new cultivars in the absence of fertiliser.

III. METHODOLOGY

a) Location and Population of the Study

The study area is located in Zurmi Local Government Area in Zamfara State of Nigeria. The study covers six (6) wards that constitute the Local Government. The target population of the study were farmers, peasants and some civil servants working for the Local Government Area of Zurmi.

b) Sampling Techniques and Sample Size

A sample of six wards out of 10wards was selected. Eight respondents were selected out of the selected six wards to represent the entire Local Government. The questionnaire was formulated by the researcher based on the research questions.

c) Techniques of Data Analysis

The data collected from the field via questionnaire were analysed using the quantitative method. The variables in the questionnaire were coded on a code sheet and a code book respectively. Information was analysed using various statistical tools like frequencies, percentages and direct response. This was used to show variations between a variable.

IV. Results and Discussions

a) Section A: - Field Staff Questionnaire

This section describes how the data was analysed using various statistical techniques. The results were interpreted as follows: -

Responses	Frequency	Percentage (%)
10 – 20Years	25	31.2
25 – 30Years	38	47.5
40 – 50Years	17	21.2
60 – 70Years	-	-
Total	80	100%

Source: Survey Results, 2011

Data presented in Table 4.1 shows that 25 (31.2%) of the respondents are in the age range of 10 - 20years, while 38 (47.5%) are in the age range of 25 - 30years. Similarly,17 (21.2%) of the respondents are in

the age range of 40 - 50years. Those who are between 60 - 70years are too old to remain in farming business, they have zero percentage.

Table 4.2 : Types of Farming Being Practiced

Responses	Frequency	Percentage (%)
Livestock Production	32	40
Crop Production	17	21.2
Fish Production	25	31.2
All of the above	6	7.5
Total	80	100%

Source: Survey Results, 2011

Survey results presented in Table 4.2 shows the major business of farmers in the study area. Majority of the respondents 32(40%) are livestock farmers, while

17(21.2%) are crop farmers. Similarly about 25(31.2%) are engaged in fish farming to sustain themselves.

Responses	Frequency	Percentage (%)	
Guinean-corn	14	17.5	
Millet	12	15	
Maize	23	29	
Cattle	10	12.5	
Sheep	6	7.5	
Beans	15	18.5	
Total	80	100	

Table 4.3 : Crop/Livestock Cultivated in the Area

Source: Survey Results, 2011

Perception of respondents regarding types of crop/livestock cultivated in the area revealed that 14(17.5%) of the respondents area cultivating guineacorn, while 12 (15%) and 23 (29%) are cultivating millet and maize. The results further shown that 10 (12.5%) and 6(7.5%) are livestock farmers rearing cattle and sheep respectively. Lastly, 15(18.5%) are those cultivating beans in the study area.

Table 4.4 : Management of Crops and Livestock

Description	Frequency	Percentage (%)
By Traditional Method	55	68.7
By Improved Method	25	31.2
Total	80	100%

Source: Survey Results, 2011

Opinion regarding management of crops and livestock is presented in Table 4.4. The results revealed 55(68.7%) of the respondents adopt the traditional

method of farming and livestock rearing. While 25(31.2%) prepare to adopt the improved method which if done properly better results will be achieved.

Table 4.5 : What Discourage You to Accept New Innovation

Responses	Frequency	Percentage (%)
Financial Constraint	50	62.5
Lack of Understanding	10	12.5
Lack of Access to Agric. Dev Project	25	25
Total	80	100%

Source: Survey Results, 2011

Data presented in Table 4.5 indicates that 50(62.5%) of the respondents reported lack of finance is responsible for acceptance of new innovation. Similarly 10(12.5%) and 25(25%) of the respondents reported lack of understanding of what innovation is and lack of access to services offered by Agricultural Development Project in the area respectively discourage them to accept new agricultural innovations.

Responses	Frequency	Percentage (%)
Yes	64	80
No	16	20
Total	80	100%

Table 4.6: Do you receive new Technology from Extension Workers?

Source: Survey Results, 2011

Table 4.6 indicates that 64(80%) agreed that Extension Officers implemented new packages of innovation to them, while 16(20%) did not receive any package. It was discovered during the interview that majority of them are not aware of the new packages. The results show that farmers receive new technology from Extension Workers.

Responses	Frequency	Percentage (%)
By giving improved seed	19	23.5
By giving technical advice	40	50
By giving fertilizer	14	17.5
By giving chemicals	7	9
Total	80	100%

Source: Survey Results, 2011

Data presented in Table 4.7 summarises opinion regarding the type of extension technology delivered to the farmers. About 19(23.5%) of the respondents reported that improved seed was giving to them, while 40(50%) benefited from technical advice. Furthermore, 14(17.5%) and 7(9%) received fertilisers and chemicals respectively. The results conclude that majority of the farmers received technical advice from Extension Workers. This helped them increase yield in this cropping season.

Responses	Frequency	Percentage (%)
Accepted	28	35
Not Accepted	52	65
Total	80	100%

Table 4.8 : Response to New Innovations

Source: Survey Results, 2011

Perception of respondents regarding acceptance of new innovations is presented in Table 4.8. The results have shown that 28(35%) accepted new agricultural innovation, while majority 52(65%) rejected new innovations delivered to them by Extension Workers. This shows that there is a need for awareness campaign from Agricultural Development Project in the study area.

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Responses	Frequency	Percentage (%)	
Poor Rodas	27	33.7	
Not Interested	13	16.2	
Financial Constraints	40	50	
Total	80	100%	

Source: Survey Results, 2011

Data presented in Table 4.9 shows that 27(33.7%) of the respondents revealed that poor roads discourage to accept new innovation, and about

13(16.2%) were not interested. Majority 40(50%) of the respondents reported financial constraints is responsible for not accepting new innovations.

Table 4.10 : What should Government do to encourage farmers to Accept new innovations

Responses	Frequency	Percentage (%)
By giving loan	48	60
More extension advice	22	27.5
Selling inputs at subsidised rates	10	12.5
Total	80	100%

Source: Survey Results, 2011

Survey results in Table 4.10 have shown that sending more Extension Workers to deliver new innovations to farmers will not solve the problems of accepting new innovations rather majority of the farmers 49(60%) suggested that by disbursing loans to

overcome their financial problems will motivate them to accept new innovations. About 22(27.5%) and 10(12.5%) believe that more extension advice and selling inputs at subsidised rates will motivate them to accept new innovations.

Table 4.11 : Which of this factors will help you in adoption of New Innovations

Responses	Frequency	Percentage (%)
Its relative advantage	12	15
Its compatibility	22	27.5
Its level of friability	13	16.2
Its level of observability	17	21.2
All of the above	16	20
Total	80	100%

Source: Survey Results, 2011

Opinion regarding factors that helps farmers in adopting new innovations is presented in Table 4.11. The results shows that 12(15%) of the respondents believe that its relative advantage will help them adopt new innovations. Similarly, majority of the farmers 22(27.5%) reported its compatibility, while 13(16.2%) and 17(21.2%) reported its level triability and observability. Lastly 16(20%) of the farmers believe that all of the above mentioned will help in better adoption of new agricultural innovations.

Responses	Frequency	Percentage (%)
Farmers neglect accepting advice from Extension Workers	38	47.8
Most of the farmers are too conservative	42	52.5
Total	80	100%

Table 4.12 : Problems farmers encountered while accepting New Innovations

Source: Survey Results, 2011

Table 4.12 above have shown that 38(47.8%) of the respondents neglect accepting advice from Extension workers, while majority 42(52.5%) of the respondents are too conservative. This attitude affects acceptance of new innovations in the study area. More awareness campaign is needed to change this attitude and traditional institutions should be involved in this campaign.

V. Summary, Conclussions and Recommendations

a) Summary

The purpose of this paper is to assess the factors affecting acceptance of agricultural innovation in Zurmi Local Government in Zamfara State of Nigeria. The study examines how farmers manage their crops and livestock and why traditional method is accepted by farmers. Furthermore, the researcher investigated why new innovations were rejected and the role of government in motivating farmers to accept new innovations. A total sample of 80 respondents were selected out of the selected six wards to represent the entire Local Government. Data was analysed using various statistical tools. The results of the study is presented as follows.

b) Conclusions

The major conclusions drawn from this paper were: -

- Results of the study regarding what discourage farmers to accept new innovations have shown that majority 50(62.5%) of the respondents reported lack of finance, while 10(12.5%) and 25(25%) reported lack of understanding of the concept of innovations and lack of access to services offered by agricultural Development Project in the area is responsible.
- Perception of respondents regarding new technology delivered by Extension workers revealed that majority 64(80%) of the respondents agreed new packages were delivered to them, while only 16 (20%) agreed new packages were not delivered to them.

- Data regarding responses to new innovations have shown that 28(35%) of the respondents accepted new innovations, while 52(65%) rejected the idea.
- Survey results regarding why new innovations were rejected revealed that 27(33.75) of the respondents reported poor roads is responsible, while 13(16.2%) were not interested in accepting new innovations at all. Similarly, 40(50%) reported financial constraints is responsible for not accepting new innovations.
- Opinion regarding problems farmers encountered while accepting new innovations have shown 38(47.5%) of the respondents neglected advice offered by Extension Workers, while majority 42(52.5%) of the respondents are too conservative.
- Perception of respondents regarding what should government do to encourage farmers to accept new innovations revealed that majority of the farmers 48(60%) agreed that government should give loans to them. Similarly, 22(27.5%) agreed that more extension advice should be delivered. Only 10(12.5%) would want government to sell inputs at subsidised rates.

c) Recommendations

On the basis of the above conclusions, the following recommendations are made: -

- Agricultural Development Project and Local NGOs should encourage mass literacy campaign to educate farmers on new agricultural innovations.
- Government should provide adequate infrastructural facilities like good roads, water, transport and accommodation for Extension Workers who are posted to work in rural areas.
- Agricultural inputs should be provided to the farmers by government agencies and NGOs at subsidised rate to enhance effective participation by farmers in the study area.
- Storage facilities should be provided to the farmers to enable them store their harvested crops for future use.

- Extension Agents should continue to visit farmers regularly so as to teach the farmers new innovations coming from Agricultural Research Institute.

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