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Factors Affecting Maize Farmers' Participation In Agricultural Extension Education In Turkana County, Kenya

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Abstract: ***The main objective of this research was to investigate the major factors influencing maize farmers' contribution in the agricultural extension education programmes in Turkana County. Data was collected by the use of questionnaire, and semi-structured interview. To select the respondent groups, simple random and purposive sampling techniques were used. Frequencies, percentages and means, were used as statistical tools to analyze the data. Findings indicated that about three quarters 42(76.4%) of the farmers had ever attended agricultural extension education programme. All the farmers in Turkana County are barely involved in the planning process of the training programme. Since participation in the agricultural extension-training programme was low in Turkana County, the Government should set-up training centres close to farmers as a way of encouraging improve participation.***

Keywords: Maize farmers' participation, extension education in turkana, agricultural extension education

I. INTRODUCTION

Agriculture is an important sector in the economic development and poverty alleviation drive of many countries. The role which agriculture has played in the industrial growth and development of most of the industrialized countries in the world cannot be over emphasized. The importance of this sector is more pronounced in the developing countries including Kenya where it is the main thrust of national survival, employment and food (Muhammad, 2009). Agriculture in Kenya is the way of life of the rural people. Despite its declining importance as a contributor to the gross domestic product (GDP), agriculture still represents an important input to the national economy and to rural livelihoods in Kenya (Ephrem 2009,).

Kenya's economy is heavily dependent on the agricultural sector that also provides the basis for the development of the other sectors (Republic of Kenya, 2002). Its direct contribution to Gross Domestic Product (GDP) is 25% and indirectly contributes a further 27% through linkages with agro-based and associated industries (KARI, 2002). The sector employs about 75% of the total labour force, generates 60% of export earnings, and provides 75% of industrial raw materials and 45% of Government revenue (KARI, 2002). About 80% of Kenya's population live in the rural areas and are engaged in agricultural activities including maize farming.

Maize farmers' participation in these programmes is a crucial tool to bring voluntary behaviour change. Their contribution in programme planning, implementation and evaluation process has remained very low in most parts of the country in general and in the study region in particular (Rola, 2001). None of the studies reviewed has tried to show the factors that are impeding maize farmers' active participation in the training programmes in Turkana. Belay (2002) points out that the maize farmers make a very marginal contribution in designing and formulating extension activities. He also notes that neither the maize farmers nor the frontline extension agents are consulted in the course of policy formulation. Thus, this study was expected to investigate the extent to which maize farmers participate in the development of the training programmes and the major factors influencing their active participation in extension educational programmes in Turkana County.

II. MATERIALS AND METHODS

This was a multistage cross-sectional descriptive survey design of 55 randomly selected maize farmers. Turkana has been noted as a county with the lowest literacy level (Kenya National Adult Literacy Survey, 2007). A pretested semi-structured questionnaire and an interview schedule were used as data collection instruments.

Permission to conduct the research was sought from National Commission for Science, Technology and Innovation (NACOSTI) the local administration. Written informed consent was sought from the farmers and participation in the study was on voluntary basis and any farmer was free to withdraw from the study anytime. Trained research assistants and the researcher, as the coordinator, visited the maize farmers at their homes accompanied by the guide (village elder) and interviewed them. The researcher also scheduled data collection in such a way that it would include appointments with various agricultural extension officers (trainers) to be able to capture key information with regard to the research topic through the interview schedule

III. STATISTICAL ANALYSIS

Completed questionnaires were coded and entry done in a computerized database designed in Epidata V.3.1 data entry software. It was later exported to statistical package for social sciences (SPSS) V.17 for analysis. Descriptive statistics (Frequencies, percentages, means) was used to summarize the data. The qualitative data was described as themes emerged and interpreted to supplement the quantitative data.

IV. FINDINGS

Characteristic	F	(%)
Gender		
Male	42	76.4
Female	13	23.4
Age-bracket (years)		
35-44	43	78.2
45-54	5	9.1
≥55	7	12.7
Level of education		
None	45	81.8
Primary	10	18.2
Secondary	0	0.0
Tertiary	0	0.0

Table 1: Socio- demographic characteristics of respondents

Forty two (76.4%) of the respondents were male. This implied that maize farming is dominated by males as is the case in Turkana County. The other reason could be that in Turkana County, the females are believed to be caregivers (Muhammad, 2009) and perhaps this might hinder them from participating in agricultural. Forty three (78.2%) of the respondents were aged between 35-44 years implying that farmers within this age bracket were the ones who practiced maize farming alongside the keeping of animals. Similarly, 45 (81.8%) had not obtained primary, secondary or Tertiary education implying that the rate of illiteracy is high in Turkana County. This is evidenced by a report by Kenya National Adult Literacy Survey (2007) which established that Turkana County has the highest illiteracy levels. The other reason may be that since Turkana County experiences prolonged drought most times of the year, the families are may be compelled to move from their homes in search of water and pasture for their animals and thus learning in schools is disrupted.

V. EXTENT OF MAIZE FARMERS' PARTICIPATION IN DEVELOPMENT OF EXTENSION EDUCATIONAL PROGRAMMES

The respondents were asked to respond to items of planning and development of extension programmes that were summarized on Figure1. Majority 46(83.6%) of the respondents in the County reported that they have never attended. (World Bank, 2004) attribute this to the fact that maize farming is minimally practices in this County. This finding is supported by an assertion by (Belay, 2002 & Ephrem, 2009) who established that farmers from arid and semi-arid areas make a very marginal contribution in designing and planning agricultural extension programmes. The responses were supported by data from interview schedules administered to agricultural extension officers.

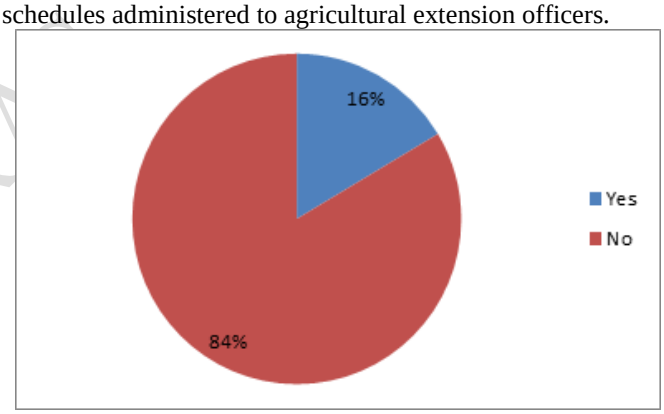

Figure 1: Participation in the Planning Process of the Extension Education Programme

VI. EXTENT OF PARTICIPATION IN DEVELOPMENT OF AGRICULTURAL EXTENSION PROGRAMMES

100% of the respondents hardly get involved in the development of agricultural extension education programmes. This finding may be attributed to the fact that since the participants were hardly involved in the planning process as shown on Figure1, perhaps it would be equally difficult to involve them at development of a programme that they might be unaware of. This finding is in support of a report by (World Bank, 1993) which pointed out that lack of participation in the planning process of a programme is a reason for the failure of proper development of projects in developing countries. Further two interviewed agricultural extension officers said that,

"*it is extremely difficult to develop new technologies in Turkana County because people of this society have a negative attitude towards maize farming*".

Phases of Farmers' Participation in Agricultural extension education Programmes

Area of participation	Agree		Uncertain		Disagree	
Farmers' participation in identifying needs	f	%	f	%	f	%
	0	0	13	23.6	42	76.4
Farmers' participation in selecting the most urgent needs in the programme development	0	0	13	23.6	42	76.4
Farmers' participation in deciding the location of the training centre	7	12.7	13	23.6	35	63.6
Farmers are willing to contribute money to the training programmes during implementation	0	0	0	0	46	83.6
Farmers are encouraged to comment on the training methods and content of courses	8	14.5	19	34.5	28	50.9
Farmers are encouraged to evaluate whether the programme was effective	32	58.2	15	27.3	8	14.5
Farmers know the Sources of resources for running the programme N=55	0	0	9	16.4	35	63.6

Table 2: Distribution by phases of participation in Agricultural extension Education

Forty two (76.4%) of the respondents disagreed that they participate in identifying the training needs This may be an indication that perhaps the agricultural extension officers fail to make prior consultations with farmers of this area before making visitations. This finding is in agreement with an earlier finding by (Macdonald & Hearle, 1994) who established that rural farmers mistrust outsiders who take ready plans to them without prior consultations. Further, one interviewed agricultural extension officer reported that

"*it is not easy to incorporate maize farmers of Turkana County in identifying ways of improving maize production because they fear strangers as they associate them with people who might be spying on them so that they may come to steal their livestock*".

Forty six (63.6%) of the respondents disagreed that they know the sources of resources for running the training programmes. This may be due to the fact that these farmers hardly participate in identifying the training needs and thus they may not be aware of the required resources. Data on Table 2 shows that 28(50.9%) of the respondents in the County agreed that they are encouraged to comment on the training methods and content of the courses underwent. This finding may be attributed to the fact that most of the respondents are illiterate as it was established on the demographic information on Table 1. Further, two interviewed agricultural officers reported that

"*for any agricultural programme to succeed in Turkana County, one should use proper translation of the local language, choice of words, and use of culturally acceptable gestures*".

In addition, 32(58.2%) of the respondents agreed that they are encouraged to evaluate whether the training was effective or not. This may be due to the fact that the agricultural extension officers are aware that programme evaluation is very important as it is one of the measures taken to establish whether programme objectives were achieved or not.

VII. BARRIERS TO MAIZE FARMERS' PARTICIPATION IN THE AGRICULTURAL EXTENSION EDUCATIONAL PROGRAMMES

Institutional Barriers to Maize Farmers' Participation in Agricultural extension education

Barrier	Agree		Uncertain		Disagree	
Institutional barrier	F	%	f	%	F	%
The training programme is need based	23	41.8	14	22.5	1	0.9
The training centre is far for many farmers	35	63.6	7	2.7	13	23.6
The training centres lack adequate physical facilities	37	67.3	14	25.5	4	7.3
The facilitators have good co-coordinating ability	31	56.4	13	23.6	11	20
N=55						

Table 3: Distribution of Respondents Responses on Institutional Barriers

As indicated in table 3, 23(41.8%) of the respondents agreed that the training programmes is need based. This may mean that the farmers in Turkana County are aware of the training of offered by agricultural extension officers is of great importance as the knowledge gained may contribute to increased maize production as well as increased food security in this County. This finding is in agreement with a finding by (Sen, 1996) who reported that scientific studies have shown the existence of need based programmes as the only ways of increasing food production per capita through use of improved technologies. Further, this author reports that any household in maize deficit has to seek for improved technology to increase production.

Thirty five (63.6%) of the respondents in the County agreed that training centres are far from the farmers. This may be attributed to the implementation of agricultural reforms stemming from the introduction of the Structural Adjustment Programme that involves among others massive cuts in government expenditure in agriculture thus resulting to lack of enough funds for setting up training centres nearer to the farmers (World Bank, 1994). The other implication of training centres situated far away from the farmers reach could be that farmers are not motivated to attend agricultural seminars or workshops because of perhaps lack of transportation and even time.

In addition, 37(67.3%) of the respondents agreed that the training centres lack physical facilities. This finding may be attributed to fact that The Kenyan agricultural extension service is severely resource constrained and is characterized by limited operating funds as pointed out by (Kodhek, 2005). Thirty one (56.4%) of the respondents agreed that the facilitators have good coordinating ability. This may imply that the farmers are not categorized into social groups which as reported by (Mignouna, Mutabazi, Senkondo & Manyong, 2010) enhance motivation and communication among individuals within groups. These authors further established that it is easier to coordinate social groups and that social groups have a higher likelihood of searching for more information necessary for improving crop production.

VIII. SOCIAL-CULTURAL BARRIERS TO MAIZE FARMERS, PARTICIPATION IN AGRICULTURAL EXTENSION EDUCATION PROGRAMMES

Barrier	Agree		Uncertain		Disagree	
Social- cultural	F	%	f	%	F	%
Maize farmers have no interest to be trained	22	40.5	8	14.5	25	45.5
Maize farmers have expectation about the benefit of training given to them	26	47.3	6	10.9	23	41.8
Maize farmers have social responsibility and have no time to be enrolled	43	78.2	6	10.9	1	0.7
There is a significant age-gap among maize farmers' trainees in class	36	65.5	13	23.6	6	10.9
N=55						

Table 4: *Frequency Distribution of Respondents' Responses on Social-Cultural Barriers*

According to data in Table 4, 25(45.5%) of the respondents disagreed that they have no interest to be trained. This may be attributed to the fact that Turkana County experiences severe famine and thus the people of this society maybe willing to be taught new innovations to use in order to improve on maize production. However, 22(40%) of the respondents agreed that they have no interest to be trained. This may imply that some people in Turkana County have not embraced maize farming perhaps because they believe in livestock farming. Further, two interviewed agricultural extension officers said that the maize farmers who seem to be attending seminars and workshops are those from Turkana south sub-County where maize farming through irrigation is practiced. Forty three (78.2%) of the respondents agreed that they have social responsibilities and have no time to be enrolled. This finding may mean that the farmers in this region accord maize farming less value. This is perhaps because they practice pastoralist and much of their time is spent on taking care of the animals. Data on in addition, 36(65.5%) of the respondents in Turkana County agreed that there is a significant age-gap among trainees in class. This may imply that some trainees are not comfortable learning with people of different ages.

IX. POLITICAL BARRIER AS A HINDRANCE TO MAIZE FARMERS, PARTICIPATION IN AGRICULTURAL EXTENSION EDUCATION

Forty three (78.2%) of the respondents agreed that the planning of the agricultural extension programmes and their implementation is highly centralized. This finding may imply that there is likely to be no genuine participation as pointed out by (Oakley, 1991) yet, in agricultural extension programmes, farmers need to be organized in order to influence the policy in terms of participation in planning, implementation and evaluation (UNDP, 1992). Further, this body established that a centralized political system that neglects local capacity for self-administration and decision-making can greatly reduce the potential for authentic participation. Kenyan political system was highly centralized before the promulgation of the new constitution in August 2010.

The findings show that the institutional barriers that hinder farmers' participation in agricultural extension education are long distance to the training centres, lack of physical facilities in the training centres and that of facilitators lacking good coordinating ability. Thus, institutional barriers were established to be a hindrance to farmers' participation.

The other barriers that were identified to be hindering farmers were those classified as social- cultural. It was established that the farmers show interest to be trained perhaps because they experience famine most times in the year and thus they want to improve on food security within the County. It was also established that social responsibility that falls under social-cultural barrier contributes to the farmers' lack of time to be enrolled and therefore it is a barrier. Age-gap among the trainees was identified as social-cultural hindering farmers' participation. The other factor that hinders farmers is political as farmers agreed that planning and implementation of the agricultural programmes is highly centralized.

X. CONCLUDING REMARKS

On the basis of the above findings it is concluded that a few farmers in Turkana County participate in the planning process of the training programmes. Institutional barriers such as; training centres being far away, lack of physical facilities and facilitators lacking good coordinating ability affect

farmers from the County. The study concluded that socio-cultural barriers that affected farmers were that: the farmers had socio responsibilities thus they lacked time to participate and that there was a significant age-gap among the farmers and this hindered active participation. The government through the Ministry of agriculture should device ways of constructing agricultural training centres in places easily accessible to the farmers as way of motivating the farmers to attend the extension training programmes. In addition, the Ministry of education, collaboration with the County governments, should consider re-introducing agriculture as a subject to be taught right away from primary schools as a way of creating awareness among its citizens who will be future farmers the methods to be used to improve crop yields.

DECLARATION OF CONFLICTING INTERESTS

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