

# Factors Affecting Maize Farmers' Participation In Agricultural Extension Education: A Comparative Analysis Of Farmers In Turkana And Uasin-Gishu Counties, Kenya

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*Abstract: The main purpose of the research was to investigate and compare the major factors influencing maize farmers' contribution in the agricultural extension education programmes in the two counties. Descriptive survey research design was used. Data was collected by the use of questionnaire, and semi-structured interview. Simple random and purposive sampling techniques were used to select the respondents. Frequencies, percentages and means, were used as statistical tools to analyze the data. Findings indicated that in both (Turkana and Uasin-Gishu) counties, about three quarters of the farmers had ever attended agricultural extension education programme, 244(74.2%) and 42(76.4%) for Uasin-Gishu and Turkana respectively. All the farmers in Turkana county are barely involved in the planning process of the training programme while in Uasin-Gishu county, more than half (55.6%) are fully involved. Farmers participate in the evaluation of the training programme, identifying the training needs, selection of the most urgent needs in the programme development. Participation in the agricultural extension-training programme was high in Uasin-Gishu but low in Turkana County and therefore the Government should set-up training centres close to farmers as a way of encouraging improve participation.*

## 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. The majority of the populations are smallholder farmers who account for 75% of the total agricultural output in the country (KARI, 2002). In addition to its role in the national economy, the agricultural sector is also a key source of livelihood to many Kenyans in food security and nutritional balance. It suffices to say, therefore, that agriculture remains the engine of the national economy and its performance in any one-year impacts heavily on nearly all other sectors.

Maize farmers' participation in these programmes is a crucial tool to bring voluntary behaviour change. There 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 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 and Uasin Gishu Counties.

## II. MATERIALS AND METHODS

This was a multistage cross-sectional descriptive survey design of 384 proportionately and systematically selected maize farmers. The principal tool of data collection for this study was the questionnaire. The questionnaire designed to collect information from the trainee maize farmers had three parts. The first part was about the respondents' demographic profile and some open-ended questions about maize farmers' participation in the planning process of the training programme. The second part dealt with phases at which maize farmers participate in extension education programme. The third part of the questionnaire dealt with major barriers to maize farmers' participation in the training programme. 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

### SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

The socio-demographic characteristic that were considered for respondent included gender, age and education background as shown on Tables 1 and 2

Characteristic	F	%
Gender		
Male	232	70.5
Female	97	29.5
Age-bracket (years)		
35-44	264	80.2
45-54	47	14.3
≥55	18	5.5
Level of education		
None	18	5.5
Primary	26	7.9
Secondary	144	43.8
Tertiary	141	42.9

Table 1: Distribution of socio-demographic characteristics of respondents in Uasin-Gishu County

As indicated on Table 1, among the 329 farmers that completed the questionnaire in Uasin-Gishu County 232 (70.5%) were male while 97 (29.5%) were female. This may imply that males dominate maize farming. According to Table 1, 264 (80.2%) of the respondent were aged between 35-44 years. This implied that the participants were a bit elderly, perhaps they had experience on maize farming, and thus they could be the appropriate participants from whom data was collected in order to achieve the stated objectives of the study. Data on Table 1 shows that 144 (43.8%) of the respondents in Uasin-Gishu County had secondary education whereas 141(42.9%) had obtained tertiary education and that only 18(5.5%) of the respondents had not attained primary education. This may imply that formal education is cherished in this County and members are encouraged to achieve higher levels. Further, it could imply that has the respondents' level of education increases, he or she is likely to participate in agricultural extension education programmes since perhaps the materials used may be in forms of leaflets and handouts that may require comprehension.

In order to make a comparison of factors affecting maize farmers' participation in agricultural extension education in Uasin-Gishu and Turkana Counties, the same characteristics on Table 1 were considered for the respondents in Turkana County as shown on Table 2

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 2: Socio-demographic characteristics of respondents in Turkana County

As indicated on Table 2, 42(76.4%) of the respondents who participated on this study, were male and 13(23.6%) were female. This implied that maize farming is dominated by males as is the case in Uasin-Gishu 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 extension education programmes. Table 2 shows that 43(78.2%) of the respondents who participated on this study in Turkana County were aged between 35-44 years. This implied that farmers within this age bracket were the ones who practiced maize farming alongside the keeping of animals.

As shown on Table 2, 12 (21.8%) of the respondents were aged between 45 and 55 years. This implied that farmers of this age bracket hardly practiced maize perhaps because they believed that people of Turkana society are pastoralists. According to Table 2, 10(18.2) of the respondents in Turkana County had obtained primary education while 45 (81.8%) had not obtained primary, secondary or Tertiary education. This implies that the rate of illiteracy is high in Turkana County as compared to Uasin-Gishu 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 attribute to this high level of illiteracy could be that people in Turkana County are pastoral based and perhaps parents prefer to assign their children the responsibility of looking after the animals to going to school. 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.

#### EXTENT OF MAIZE FARMERS' PARTICIPATION IN DEVELOPMENT OF EXTENSION EDUCATIONAL PROGRAMMES IN UASIN-GISHU AND TURKANA COUNTIES

The first objective sought to find out the extent of maize farmers' participation in development extension educational programmes. The respondents were asked to items of planning and development of extension programmes on the questionnaire that were summarized on Figures 1 and 2 and the responses were supported by data from interview schedules administered to agricultural extension officers.

#### EXTENT OF PARTICIPATION IN PLANNING OF AGRICULTURAL EXTENSION PROGRAMMES IN UASIN-GISHU AND TURKANA COUNTIES

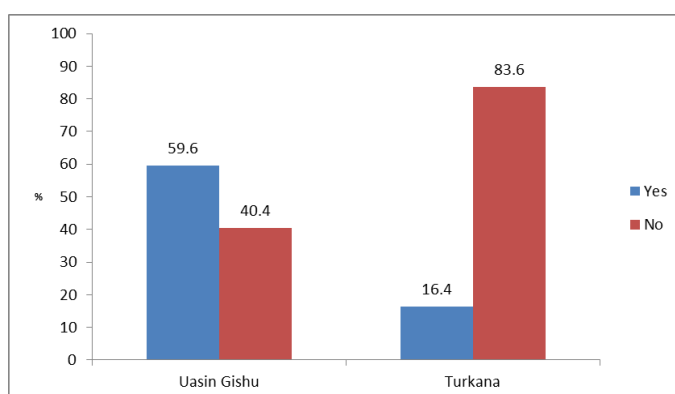


Figure 1: Participation in the Planning Process of the Extension Education Programme

Figure 1 shows that 196(59.6%) of the respondents in Uasin-Gishu County reported that they have ever attended agricultural extension education programmes as compared to 46(83.6%) of the respondents in Turkana County who reported that they have never attended. This high number of respondents in Uasin-Gishu County may be attributed to the fact that this County has a high number of maize farmers (160,000) as evidenced by (Saina, Kathuri, Rono & Sulo, 2012). According to these authors, farmers who have practiced in the production of a certain crop for a long time can easily constitute groups that can be used to plan for any project meant to increase production.

The other reason that may be attributed to this high number of participants from Uasin-Gishu County may be that the farmers have attained basic and higher education as shown on Table 1 and perhaps they are aware of the importance of education and thus they may be seeking new ways which could improve maize yields. This finding is in line with Mwangi (2004), who established that there is a positive relationship between planning of any project, level of education of the planners and the anticipated production.

However, on Figure 1, 9(16.4%) of the respondents in Turkana County have ever attended agricultural extension education programmes. (World Bank, 2004) may attribute this to the fact that maize farming is minimally practiced 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 other reason may be that due to migration of people in Turkana County in search of water and grass for their animals, it may be difficult for the agricultural officers to reach out for them. Further two interviewed agricultural extension officers said that "it is difficult to convince maize farmers in this County to participate in agricultural extension education because they hardly settle in one place.

#### EXTENT OF PARTICIPATION IN DEVELOPMENT OF AGRICULTURAL EXTENSION PROGRAMMES (UASIN-GISHU AND TURKANA COUNTIES)

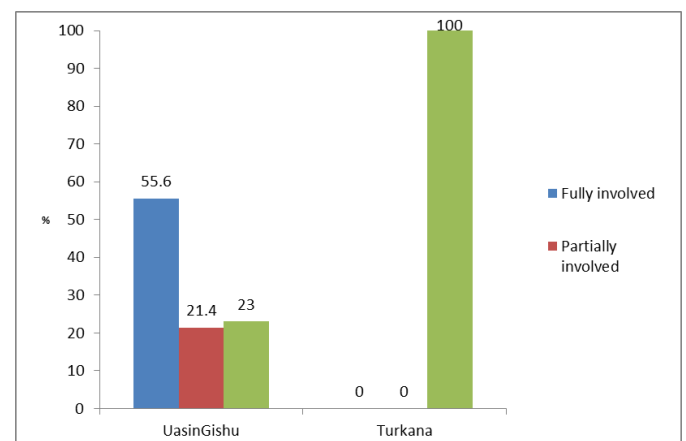


Figure 2: Extent of Farmers' Involvement in the Development of Agricultural Extension Education Programmes

As indicated on Figure 2, 109(55.6%) of the respondents in Uasin-Gishu County were fully involved in the development of the agricultural programme. This finding

could be attributed to the fact that these respondents were involved at the planning process of the agricultural extension programmes as shown on (Figure 1). This finding is in agreement with an earlier finding by (Hassen & Amdissa, 1993) who established that for any programme to be fully developed, the beneficiaries need to be central and actively participate in planning and goal setting. Further; two interviewed agricultural extension officers said, “For an agricultural programme to be implemented, one should involve the participants at the planning process because they will feel that you are being responsive to their needs and thus they will be responsible for providing resources which will enhance programme development”.

The other reason that may be attributed to this finding could be that implementation of agricultural extension programmes is important as it is one of the major ways of motivating the human labour in agriculture. It also motivates the farmers to embrace modern farming innovations that in turn will enable the maize farmers to realize high yields as asserted by (MOA, 2010).

Data on Figure 2 indicates that only 7(23%) of the respondents in Uasin-Gishu County are hardly involved in the development of agricultural extension education programmes. The reason this finding may be that these respondents might be engaged in other income generating activities and thus they lack enough time to participate in the development of agricultural extension education programmes. One interviewed agricultural extension officer who said, “It is difficult to be in contact with farmers who are professionals such as teachers, doctors in this County because to them, maize farming is not as valued as their official jobs”, supported this finding.

When compared to Uasin-Gishu, the case of Turkana County is different because 100% of the respondents hardly get involved in the development of agricultural extension education programmes as indicated on Figure 2. 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.

From the fore discussed findings, there is evidence that only a few farmers in Turkana County participate in the planning process of agricultural extension programmes but none of them participate at the development stage unlike those in Uasin- Gishu County who get involved at the planning and development of the agricultural extension programmes.

### PHASES OF FARMERS’ PARTICIPATION IN AGRICULTURAL EXTENSION EDUCATION IN UASIN-GISHU COUNTY

The respondents were asked to indicate the various phases they get involved in agricultural extension education programmes on items presented on the questionnaire and the results are as shown on Table 3

Area of participation	Agree		Uncertain		Disagree	
	f	%	f	%	f	%
Farmers’ participation in identifying needs	200	60.8	120	36.5	9	2.7
Farmers’ participation in selecting the most urgent needs in the programme development	199	60.5	123	37.4	7	2.1
Farmers’ participation in deciding the location of the training centre	182	55.3	138	41.9	9	2.7
Farmers are willing to contribute money to the training programmes during implementation	109	33.1	59	17.9	161	48.9
Farmers are encouraged to comment on the training methods and content of courses	219	66.6	102	31	8	2.4
Farmers are encouraged to evaluate whether the programme was effective	215	65.3	103	31.3	11	3.3
Farmers know the Sources of resources for running the programme	264	80.2	44	13.4	21	6.4

Table 3: Distribution of Respondents’ Responses on phases of participation in Agricultural extension Education (Uasin-Gishu County)

According to data on Table 3, 200(60.8%) in Uasin-Gishu County of the respondents agreed that they participate in identifying the training needs that should be addressed to improve on maize production. This may imply that it will be easy for the agricultural extension officers to define the scope and requirements of the training skills that the farmers may require (Hassen & Amdissa, 1993).The other implicative could be that the farmers will be able to establish the objectives of the agricultural extension programmes against which the results will be evaluated.

Data on Table 3 shows that 199(60.5%) of the respondents agreed that they participate in selecting the most urgent needs to be addressed during the implementation of



agricultural extension education programmes. This may imply that the intended outcomes would be achieved at the end of programme implementation. This finding concurs with a report by (FAO, 2002) which established that if a need or a problem is identified as important, it is easy to obtain its set objectives. 182(55.3%) of the respondents agreed that they participate in deciding the location of the training centres. This may mean that accessibility to training centres is made easy and thus the farmers are motivated to attend.

According to Table 3, 264(80.2%) of the respondents agreed that they know the sources of resources for running the agricultural extension programmes. This may indicate that the learning materials are locally available and therefore this is likely to sustain the programme for a longer period of time. The other implication of this finding could be that due to availability of learning materials, the programme objectives may be achieved as pointed out by (Gboku & Lekoko, 2007). Further, these authors claimed that the easiness with which learning materials are obtained helps to build local managerial and leadership capacities within the participants of a programme.

According to data on Table 3, 161(48.9%) of the respondents disagreed that they contribute money towards the training programme implementation. This may indicate that the respondents were suspicious of anyone trying to collect money from them to run the programme. Further, interviewed agricultural extension officers said that “farmers in Uasin-Gishu County fear that their money may be diverted to personal use and thus it is not easy for them to remit any money even if you coerce them”.

As indicated on Table 3, 219(66.6%) of the respondents in Uasin-Gishu County agreed that they are encouraged to comment on the training methods and 215(65.3%) of the respondents agreed that they are encouraged to evaluate whether the training programme was effective or not. This may mean that the agricultural extension officers are aware that evaluation is important in any programme implementation as it is the only way to know whether objectives have been achieved or not. This finding is in line with an earlier finding by (Knowles, 1998 & Oakley, 1991) who observed that adult learners should be allowed to evaluate their own learning process since evaluation helps in assessing whether the programme being implemented met its set objectives.

Area of participation	Agree		Uncertain		Disagree	
	F	%	f	%	f	%
Farmers' participation in identifying needs	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	0	0	9	16.4	35	63.6
N=55						

Table 4: Distribution of Respondents' Responses on phases of participation in Agricultural extension Education (Turkana County)

As indicated on Table 4, 42(76.4%) of the respondents in Turkana County disagreed that they participate in identifying the training needs as compared to 200(60.8%) of respondents in Uasin-Gishu County who get involved. This disparity in Turkana County 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”.

According to Table 4, 46(63.6%) of the respondents in Turkana County 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 4 shows that 28(50.9%) of the respondents in Turkana 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 2. 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.

As shown on Table 4, 32(58.2%) of the respondents in Turkana County as those in Uasin-Gishu County 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.

INSTITUTIONAL BARRIERS TO MAIZE FARMERS' PARTICIPATION IN AGRICULTURAL EXTENSION EDUCATION (UASIN-GISHU COUNTY)

Barrier	Agree		Uncertain		Disagree	
	F	%	F	%	F	%
Institutional barrier						
The training programme is need based	36	10.9	35	22.8	218	66.3
The training centre is far for many farmers	308	93.6	5	1.5	76	4.9
The training centres lack adequate physical facilities	208	63.2	53	16.1	68	20.7
The facilitators have good co-coordinating ability	10	3.0	101	30.7	218	66.3
N=329						

Table 5: Frequency Distribution of Respondents' on how Institutional Barriers Hinder Farmers' Participation in Agricultural Extension Education

As indicated on Table 5, 218(66.3%) of the respondents in Uasin-Gishu County disagreed that the agricultural training programme is need based. This implies that the agricultural extension officers design programmes without considering the needs of the farmers and this may hinder the farmers from actively taking part in the programme. This finding is in agreement with an establishment by (Kowalik, 2009) which stated that adults typically seek educational opportunities that enable them to "solve problems" that is they are willing to invest their time and energy in educational pursuits which prepare them to address their perceived areas of need.

The other implication of this finding could be that agricultural extension officers perhaps do not carry-out a baseline survey which will form the basis of developing an agricultural extension suitable for the farmers. This finding is contrary to a report by (FAO, 2002) which indicated that an agricultural extension education programme should be related to a farmer's experience on the farm (a felt need) because a need that is identified as important will result in bringing out the intended programme outcomes.

According to data on Table 5, 308(93.6%) of the participants agreed that the agricultural training centres are far away for many maize farmers to reach. This may mean that farmers are unable to attend the training being offered and thus they may not be aware of new innovations concerning maize farming.

As indicated on Table 5, 208(63.2%) of the respondents agreed that agricultural training centres lacks adequate physical facilities. This may be attributed to the fact that the Kenyan agricultural extension service is severely resource constrained characterized by limited operating funds as reported by (Kodhek, 2005).The other implication could be that there is poor farmer and extension officers linkage and thus the training programmers' objectives are not realized (Nyoro & Muiruri, 2001).

Data on Table 5 shows that 218(66.3%) of the respondents disagreed that the facilitators have good coordinating ability. This may be attributed to fact that farmer to extension officers ratio continues to remain high as a result

of reduction of number of agricultural staff because of Structural Adjustment Programmes (World Bank, 1994 &Kodhek,2005). The other indication could be that the agricultural extension officers are unable to access new information to pass to the farmers and therefore some staff lack confidence in facing the farmers and the public. From these findings it can be adduced that institutional barriers hinder farmers in Uasin-Gishu County from participation in agricultural skill training programmes.

SOCIAL - CULTURAL AS A BARRIER TO MAIZE FARMERS' PARTICIPATION IN AGRICULTURAL EXTENSION EDUCATION (UASIN-GISHU COUNTY)

Barrier	Agree		Uncertain		Disagree	
	F	%	F	%	F	%
Social-cultural						
Maize farmers have no interest to be trained	156	47.4	45	13.7	128	38.9
Maize farmers have social responsibility and have no time to be enrolled	258	78.4	36	10.9	35	10.6
There is a significant age-gap among maize farmers' trainees in class	215	65.3	83	25.2	31	9.4
N=329						

Table 6: Frequency Distribution of Responses of Social-Cultural Barriers on Maize Farmers Participation in Agricultural Extension Education

As indicated on Table 6, 156 (47.4%) of the respondents in Uasin- Gishu County agreed that they have no interest to be trained. This may be attributed to the fact that Uasin- Gishu County is one of major areas where maize is produced and thus since the farmers have been practicing maize production activity for a long time, they may assume that they have accumulated enough knowledge on maize farming. This finding is in agreement with an earlier finding by (Mwangi & Onyango, 1998) who established that many maize farmers are based in Uasin- Gishu County.

Data on Table 6, indicates that 258(78.4%) of the respondents in Uasin- Gishu agreed that they have social responsibility and have no time to be enrolled in agricultural extension education programmes. This finding is consistent with (Oakley, 1991) who established that social and cultural aspects are key determinant factors that affect farmers' participation in agricultural education programmes. According to Table 6, 215(65.3%) of the respondents in Uasin- Gishu agreed that there is a significant age gap among farmers' trainees in class. This may mean that there is a mix of young and older farmers. The older farmers may have accumulated experiences from maize cultivation and could perhaps have negative attitudes towards the agricultural extension training. This finding is in agreement with an establishment by (Rao & Rao, 1996). Rao & Rao (1996) stated that experienced farmers are able to understand the process of production of different crops and thus they may defy attending seminars because they assume that the methods of farming they have used for a period are the only ones available and so they do not need new knowledge.

INSTITUTIONAL BARRIERS TO MAIZE FARMERS' PARTICIPATION IN AGRICULTURAL EXTENSION EDUCATION (TURKANA COUNTY)

Barrier	Agree		Uncertain		Disagree	
	F	%	f	%	F	%
Institutional barrier						
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

Table 7: Distribution of Respondents Responses on Institutional Barriers

As indicated on Table 7, 23(41.8%) of the respondents in Turkana County 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.

Data on Table 7 shows that 35(63.6%) of the respondents in Turkana 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.

According to Table 7, 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). As shown on Table 7, 31(56.4%) of the respondents in Turkana County 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.

SOCIAL-CULTURAL BARRIERS TO MAIZE FARMERS, PARTICIPATION IN AGRICULTURAL EXTENSION EDUCATION PROGRAMMES (TURKANA COUNTY)

Barrier	Agree		Uncertain		Disagree	
	F	%	f	%	F	%
<b>Social- cultural</b>						
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

Table 8: Frequency Distribution of Respondents' Responses on Social-Cultural Barriers (Turkana County)

According to data on Table 8, 25(45.5%) of the respondents in Turkana County 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.

As indicated on Table 8, 43(78.2%) of the respondents in Turkana County 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 Table 8 shows that 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.

POLITICAL BARRIER AS A HINDRANCE TO MAIZE FARMERS, PARTICIPATION IN AGRICULTURAL EXTENSION EDUCATION IN BOTH TURKANA AND UASIN-GISHU COUNTIES

Barrier	Agree		Uncertain		Disagree	
	F	%	F	%	F	%
Political						
Centralized planning(Uasin-Gishu)	129	39.2	122	37.1	78	23.7
Centralized planning(Turkana County)	43	78.2	12	21.8	0	0

Table 9: Distribution of Responses on Political Barrier as a Hindrance to Farmers' Participation



As indicated on Table 9, 129(39.2%) and 43(78.2%) of the respondents in Uasin-Gishu and Turkana Counties 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 study 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 on the barriers in both Turkana and Uasin-Gishu Counties 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 in these two Counties, 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. In Uasin-Gishu County, it was established that maize farmers have no interest to be trained perhaps because of the assumption that they are experienced farmers and thus they are aware of what is required for maize yields to increase. However, in Turkana County, 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.

In both Counties, it was 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 in both Counties. The other factor that hinders farmers of both Counties is political as farmers agreed that planning and implementation of the agricultural programmes is highly centralized.

## V. CONCLUSION

On the basis of the above findings of the study the researcher concluded that a few farmers in Turkana County participate in the planning process of the training programmes as compared to those in Uasin-Gishu County who actively participate at the planning, development or implementation and evaluation of the programmes.

The study concluded that maize farmers in Uasin-Gishu County were involved in the various phases of programme implementation as compared to those in Turkana County. The study concluded that institutional barriers such as; training centres being far away, lack of physical facilities and facilitators lacking good coordinating ability to be affecting farmers from both Turkana and Uasin-Gishu Counties. However, the institutional barriers that was identified as

affecting farmers from Uasin-Gishu only was that the farmers in this County felt that the training programmes were not need based but in Turkana County this was identified not to be a barrier.

The study concluded that socio-cultural barriers that affected farmers in both Counties 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. However, the study revealed in Uasin-Gishu County the farmers had no interest to be trained but those in Turkana County agreed that they had interest to participate in the training. 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. The government, through the Ministry of agriculture, should increase funding for agricultural training programmes to enable the County agricultural officers to equip the training centres with the physical training facilities, as this will be one of the ways of motivating the farmers to attend the training programmes.

The agricultural extension officers should sensitize the farmers in Uasin-Gishu County on the importance of attending the training programmes since there is constant change in technology used in farming. Farmers from both Counties (Uasin-Gishu and Turkana) should be sensitized on the importance of maize growing as this will enable them create time to attend the training programmes.

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