

Factors Affecting Maize Farmers' Participation In Agricultural Extension Education In Uasin-Gishu County, Kenya

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Abstract: Agriculture is an important sector in the economic development and poverty alleviation drive of many countries. This research aimed at investigating the major factors influencing maize farmers' contribution in the agricultural extension education programmes in Uasin-Gishu County. It was a cross-sectional survey of 329 randomly sampled farmers. Key informants were purposively selected. Data was collected by the use of pretested semi-structured questionnaire, and an interview. Frequencies, percentages and means, were used as statistical tools to analyze the data. Findings indicated that about three quarters 244(74.2%) of the farmers had ever attended agricultural extension education programme. More than half 183(55.6%) in Uasin-Gishu county were fully involved in the planning process of the training programme. Participation in the agricultural extension-training programme was high in Uasin-Gishu County, however the Government should set-up training centres close to farmers as a way of encouraging and improving participation.

I. INTRODUCTION

Agriculture is an important sector in the economic development and poverty alleviation drive of many countries. The role which it 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. 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 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 Uasin-Gishu County.

II. METHODS

This was a multistage cross-sectional descriptive survey design of 329 systematically selected maize farmers. Uasin-Gishu County covers a total area of 3327.8 km² and projected population is about 771,536 people. It has approximately 2603.2 km² of arable land. Current total land under agricultural production is approximately 134,490 ha (Baraza et

al., 2008). The total number of maize farmers is approximately 166,635.

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

The rate of return (for the questionnaires) was 329(100%). As indicated on Table1, among the 329 farmers that completed the questionnaire 232 (70.5%) were male while 97 (29.5%) were female. This may imply that males dominate maize farming. Accordingly 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. Hundred and forty four (43.8%) of the respondents 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

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

Table1: Socio-demographic characteristics of respondents

EXTENT OF PARTICIPATION IN PLANNING OF AGRICULTURAL EXTENSION PROGRAMMES

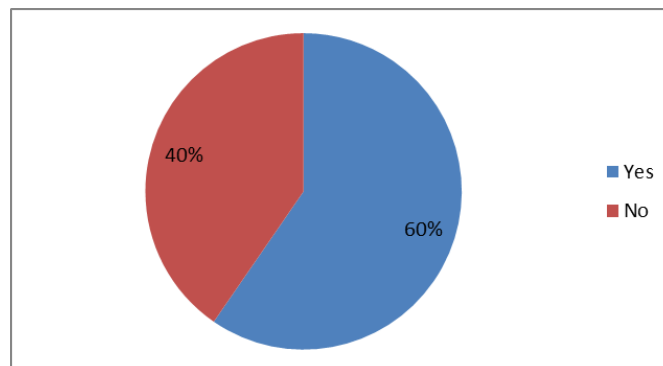


Figure 1: Participation in the Planning Process of the Extension Education Programme

Figure 1 shows that 196(59.6%) of the respondents reported that they have ever attended agricultural extension education programmes. This high number of respondents 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 Table1 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.

EXTENT OF PARTICIPATION IN DEVELOPMENT OF AGRICULTURAL EXTENSION PROGRAMMES

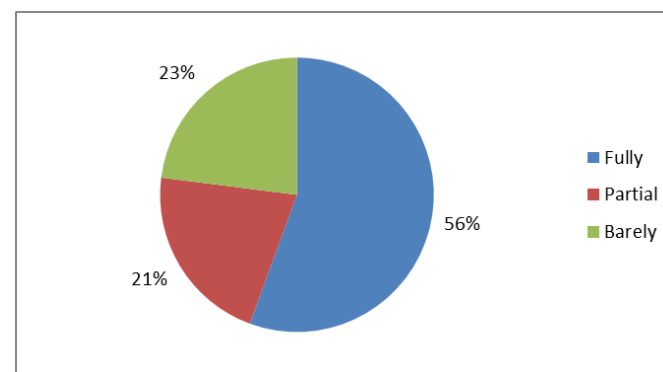


Figure 2: Extent of Farmers' Involvement in the Development of Agricultural Extension Education Programmes

As indicated on Figure 2, 109(55.6%) of the respondents 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 (Figure1). 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).

PHASES OF FARMERS’ PARTICIPATION IN AGRICULTURAL EXTENSION EDUCATION PROGRAMMES

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
N=329						

Table 3: Responses on phases of participation in Agricultural extension Education

According to data on Table 3, 200(60.8%) 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 also 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.

Hundred and sixty one (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”.

In addition, 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.

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	
	F	%	F	%	F	%
Institutional barrier	36	10.9	35	22.8	218	66.3
The training programme is need based						
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 4: Frequency Distribution of Respondents' on how Institutional Barriers Hinder Farmers' Participation in Agricultural Extension Education

As indicated on Table 4, 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.

Data also shows that 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.

It also show 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).

In addition, 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 added 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

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

As indicated on Table 5, 156 (47.4%) of the respondents 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 5, 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 4.6, 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.

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	%
Centralized planning(Uasin-Gishu) N=329	129	39.2	122	37.1	78	23.7
Centralized planning(Turkana County) N=55	43	78.2	12	21.8	0	0

Table 6: Distribution of Responses on Political Barrier as a Hindrance to Farmers' Participation

As indicated on Table 6, 129(39.2%) 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 on the barriers 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 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. 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 in both Counties. The other factor that hinders farmers 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 it is concluded farmers in Uasin-Gishu County were involved in the various phases of programme implementation. 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 institutional barriers identified to be affecting farmers was that the farmers in this County felt that the training programmes were not need based. 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.

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