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Participation of Local Leaders in Agricultural Development : A Case Study of Kgatleng District of Botswana

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Abstract: The study was conducted to determine the extent of participation of Local Leaders in agricultural development in Kgatleng district of Botswana. This is a descriptive census study in which a questionnaire was used to collect data .The target population of the study was all the fourty- one (41) local leaders who attended a training course at Sebele Farmers' Training center, Gaborone on October 25-30, 2004. The questionnaire administered was developed by the researcher with the help of some literature to capture the objectives of the study. The questionnaire was validated and the reliability coefficient determined using Crombach alpha formula and was found to be between 0.78-0.93. The data collected were analyzed using frequencies and percentages to interpret the personal characteristics of the respondents. Means and standard deviation and rankings were used to interpret the responses of the local leaders regarding their participation in agricultural development. Results revealed that only few areas covered by the local leaders during their training sessions were put to use in their respective farms; while the knowledge and skills gained as a result of their training sessions were rarely taught to other farmers as expected of them. The personal characteristics of the local leaders did not influence their responses towards their training activities. The problems hindering the local leaders from transferring the knowledge and skills acquired during their training sessions to their colleagues included lack of resources on the part of the local leaders and their colleagues, illiteracy, long distances between the location of residences of the local leaders and other colleagues and lack of interest on the part of the farmers.

Key words: Local leaders, Extension work, Training, Agricultural development

INTRODUCTION

Botswana is a large country in size (582 000 km^2) with a small population (1.7 million) and about half of live in rural areas and derive their subsistence from agriculture and other rural activities[1]. The transformation of the agricultural sector from low productivity to highly dynamic and competitive industry has been the focal point of all the stakeholders in agriculture through out the country. Disseminating technologies for improving the productivity of the agricultural sector is highly recognized as a strong tool for agricultural development. Therefore one of the areas being pursued is an effective participation of local leaders in the development of agriculture in the country, four training centers and short course centers scattered throughout the country provide courses on various agricultural techniques to local farmers with the aim that the local leaders would put into practice what they have learnt in the Farmers Training Centre (FTC) and on the other hand teach their colleagues the new technology. It is expected that this could result to a multiplier effect of many farmers being conversant with new technology usage after learning or observing from their colleagues. According to Benorand Harrison[2] Bembridge[3], no government can afford to employ a number of extension workers needed to each the whole rural population. To be able to perform the above function very well, local leaders need to undergo training on all aspects of agriculture.

Local Leaders are normally chosen from the progressive farmers who can be classified among the innovators in the adopter's category. They perform various functions in Extension work such as adding local strength to the extension program, increasing the volume of extension teaching in their local areas, legitimizing extension programs and contributing resources such as land for extension demonstrations in their local areas.

Purpose and objective of the study: The purpose and objective of this study was to determine the level of participation of local leaders in agricultural development in Botswana. The following specific objectives were developed:

- To determine the demographic characteristics of the local leaders.
- To identify the various dimensions of training received by local leader

- To determine the aspects of training received which were put into practice on their own farms and those which were taught other farmers.
- To find out the major problems encountered by local leaders in passing on the training received to other farmers.

MATERIALS AND METHODS

The descriptive census study in which a questionnaire was used to collect data was employed in this research. The target population of the study was all the forty-one (N=41) local leaders in Kgatleng district of Gaborone. This district was chosen because it has the largest number of local leaders out of the twenty-seven (27) agricultural districts in Botswana. The list of the local leaders in Kgatleng District was obtained from the District Director of Extension to control frame error. The list was thoroughly checked for duplications of names to avoid selection error. Sampling error was not a threat because this was a census study.

The instrument for data collection was developed by the researcher with the help of relevant literature. The instrument was divided into four parts to satisfy the main objectives of the study. In section A, the respondents were asked to provide their demographic information. Sections B, C and D consisted of closed ended questions on a 5-point Likert scale ranging from 1=Strongly disagree to 6 =strongly agree, aimed at soliciting information on the dimensions of training received by the local leaders, the aspects of training received that were put into practice by the local leaders and the aspects of training received that were taught other farmers in their areas. Section D asked the respondents to state the major problems they encounter in performing their roles as local leaders and possible solutions to them. Content validity of the instrument was established by three lecturers in Agricultural Extension/Education department of Botswana College of Agriculture. Reliability of the instrument was determined by pilot testing, using 30 local leaders from the central and South East District of Botswana. The reliability co-efficient was determined using Crombach alpha (X) formula and was found to be 0.78-0.93. Data were gathered using the self- administered questionnaire, at the end of a training session that was held on October 25-30, 2004. An immediate follow up was made to those who omitted some questions to ask them to complete the omitted portions satisfactorily. Frequencies and percentages were used to describe the personal characteristics of the respondents while means and standard deviations and the appropriate correlation coefficient formula were used to describe the objectives relating to the participation of local leaders in agricultural development. To interpret the data, means of 3 and above were used to denote agreement with a statement, while means below 3 were used to denote disagreement. In the same vein, to describe the coefficient of relationships among the variables in the study, Davis[4] descriptors as indicated below were used.

Coefficient	Descriptors
.70 or higher	Very strong association
.50 -.60	Substantial association
.30 – 49	Moderate association
.10 - .29	Low association
.01 - .09	Negligible association

An alpha level of 0,5 was established prior to data treatment.

RESULTS AND DISCUSSIONS

Table 1 presents the personal characteristics of the local leaders in Botswana. The total number of respondents were 41 local leaders in Kgatleng district of Botswana. Out of the 41 respondents, 9 (22%) were male while 32 (78%) were female. Also 23 (56%) of the respondents were single while 18 (44%) were married. The age classification revealed that none of the respondents was less than twenty years old (8 (20%) were between the age bracket of 21-25; 9 (22%) between the ages of 26-30 years; 11 (27%) were between the ages of 31-35; 3 (7%) were between the ages 36-40 years; and 10 (24) were over fourty years. The data on level of education revealed that 13 (32%) had primary school education, 16 (39%) had secondary school education, 3 (7%) had some form of tertiary education while 3 (7%) had some other type of education such as adult education. Regarding farming experiences 23 (56%) of the respondents had 1-5 years of farming experience, 8 (20%) had 6-10 years farming experience , 3 (7%) had 11-15 years of farming experience, 3 (7%) also had 16-15 years of farming experience, while 4 (10%) had more than 21 years of farming experience.

The respondents had 3 (7%) growing cereal crops on their own farms, 7 (17%) growing vegetables on their own lots 30 (73%) raising cattle while only 1 (3%) of them have been local leader for between 1-5 years, 3 (7%) have been local leaders for between 6-10 years while 7 (17%) have been local leader for 10 years and above.

Table 2 shows the dimension of training received by the local leaders in Kgatleng district of Botswana: The respondents were asked to indicate their level of agreement with some statements in the domain of

Table 1: Personal characteristics of local leaders in Botswana

Personal characteristics	Frequency	Percentage
Gender		
Male	9	22
Female	32	78
Total	41	100
Marital status		
Single	23	56
Married	18	44
Total	41	100
Age		
> 20 years	-	-
21-25 years	8	20
26-30 years	9	22
31-35 years	11	27
36-40 years	3	7
< 40 years	10	24
Total	41	100
Level of education		
Primary	14	32
Secondary	16	39
Tertiary	9	22
Others	3	7
Total	41	100
Farming experience		
1-5 years	23	56
6-10 years	8	20
11-15 years	3	7
16-20 years	3	7
<-21 years	4	10
Total	41	100
Major crops grown		
Cereals	3	7
Vegetables	7	17
Livestock	30	73
Legumes	1	3
Others	-	-
Total	41	100
How long have you been a local leader?		
1-5 years	3	76
6-10 years	3	7
10 years and above	7	17
Total	41	100

dimension of training received from time to time, on a 5-point Likert rating scale anchored as follows 1-strongly (disagree), 2 =(disagree), 3 (undecided) 4 (agree), 5 (strongly agree). To interpret the data, a mean of 3 and above was used to denote agreement while a mean below 3 was used to denote disagreement. The results on (Table 2) revealed that the means of the 16 statements in this domain ranged from 3.20-1.50. Furthermore, the statements in the domain were ranked. It was found that the statement-the local leaders usually receive training courses on Vegetable production came 1st with a mean of 3.20. This was followed by cereals and cattle training courses which both came 2nd with a mean of 3.1,

Table 2: Dimensions of training received by local leaders

Activities	Mean	SD	Rank
Vegetable training course	3.20	1.55	1
Cereal training course	3.1	1.51	2
Cattle training course	3.1	1.50	2
Farmers leadership training logistics	2.61	1.59	4
Field demonstration training course	2.61	1.58	4
Pig training course	2.31	154	7
Planning agricultural programme course	2.20	152	8
Technique of securing loans from agencies	2.11	1.63	9
Soil conservation training course	1.91	1.61	10
Poultry training course	2.40	1.50	10
Marketing course	1.96	0.97	11
Evaluating farmers projects	1.95	0.82	12
Farm and home visits	1.92	0.95	13
Irrigation course	1.79	0.96	14
Executing farming plans	1.60	1.59	15
Small stock training course	1.50	1.61	16

Table 3a: Determination of the aspects of training received by local leaders

Activities	Mean	SD	Rank
Vegetable training course	3.99	0.95	1
Poultry training course	3.77	1.19	2
Farmers leadership training logistics	3.72	1.10	3
Field demonstration training course	1.92	1.05	4
Cereal training course	1.85	1.01	5
Soil conservation training course	1.78	0.99	6
Cattle training course	1.72	1.02	7
Pig training course	1.68	1.17	8
Marketing course	1.67	1.03	9
Small stock training course	1.55	1.08	10
Technique of securing loans from agencies	1.55	1.09	10
Irrigation course	1.55	1.01	10
Executing farming plans	1.45	1.06	13
Farm and home visits	1.42	1.02	14
Evaluating farmers projects	1.35	1.05	15
Planning agricultural programs course	1.25	1.04	16

respectively. The other training programs in the domain received a mean between 2.61 and 1.50.

Using the mean of 3 and above as a cut-off point for interpreting the data, the local leaders agreed that only three training programs (vegetable, cereals and cattle production courses) were normally mounted for them from time to time while they disagreed in varying degrees that all other training programs were rarely held with them.

Results in this domain also revealed that training programs were normally held on cereal crops, vegetable crops and cattle production three times in a year while all other training programs ranged between 1-2 times in 3 years. The duration of training was normally for 5 days.

Table 3a shows the aspects of training received by the local leaders and put to practice on their own farms. The local leaders agreed that firstly they normally make use of the training received on vegetable production (mean= 3.99) secondly, they make use of the training received on poultry production (mean = 3.77) and thirdly, they make use of the training received on leadership

Table 3b: Determination of the aspect of training received by the local leaders and taught to other farmers

Activities	Mean	SD	Rank
Vegetable training course	2.61	1.09	1
Cattle training course	2.50	1.81	2
Poultry training course	1.19	1.07	4
Small stock training course	1.82	1.06	5
Soil conservation training course	1.60	1.08	6
Cereal training course	1.50	1.05	7
Farmers leadership training logistics	1.41	1.30	8
Field demonstration training course	1.41	1.32	8
Irrigation course	1.30	1.53	10
Pig training course	1.29	1.23	11
Technique of securing loans from agencies	1.25	1.02	11
Planning agricultural programme course	1.24	1.08	12
Executing farming plans	1.24	1.05	12
Evaluating farmers projects	1.22	1.25	15
Farm and home visits	1.20	1.75	16
Marketing course	2.00	1.07	31

Table 4: Relationship between selected personal characteristics of the local leaders and their responses towards their training activities

Activities	Gender rpb	Age r	Edulevel rs
Farmers leadership training logistics	.03	.02	.02
Field demonstration training course	.12	.01	.01
Cereal training course	.20	.31	.23
Cattle training course	.14	.03	.02
Vegetable training course	.16	.02	.11
Soil conservation training course	.02	.29	.22
Small stock training course	.08	.29	.15
Pig training course	.16	.22	.25
Poultry training course	.10	.08	.02
Technique of securing loans from agencies	.16	.04	.42
Planning agricultural programme course	.09	.03	.10
Executing farming plans	.0.0	.10	.13
Evaluating farmers projects	.15	.23	.14
Farm and home visits	.01	.25	.03
Irrigation course	.38	.10	.20
Marketing course	.08	.34	.10

(mean = 3.72). All other training received attracted the means between 1.92-1.23 indicating that they make little or nor use of the training received on other areas of agriculture.

Table 3b shows the aspects of the training received and taught to other farmers. The data revealed that all the training courses they have attended were rarely taught to other farmers as expected of them, as the means of all the statements were between 2.6 and 1.20 indicating that they disagreed that they normally impart the training received during their training programs to other farmers.

Relationships between selected personal characteristics of the local leaders and their responses towards their training activities.

The information contained in Table 4 presents the relationships between selected personal characteristics of the local leaders and their responses towards the training activities held for them. There was a low to negligible association between the local leaders' selected personal characteristics (gender, age and educational level) and their responses towards their training activities. This implication of this is that the selected personal characteristics had no influence on the responses of the local leaders towards their training activities.

Local leaders were asked to state the problem they encounter in transferring innovation to their colleagues. The following problems were stated.

1. Lack of resources and facilities on the part of other farmers such as irrigation, tractors, improved seeds and planters.
2. Most farmers are still illiterates thereby making communication very difficult.
3. Long distance between the local leaders and other farmer in respect of where they live and where their farms are locate.
4. Lack of associations that could enable the farmers present their cases as a body to government.
5. Lack of transport by the local leaders which could help them to visit the farmers regularly on their farms and homes.
6. Difficulties in persuading farmers to adopt the latest technology as they are not prepared to leave their traditional ways of doing things.
7. Many local leaders said they are not oblige to transfer the training to ther colleagues as they are not paid for this.
8. Some local leaders complain that farmers are too slow in understanding innovations.
9. Many farmers seem not be interested in the innovations as they consider them too expensive.

CONCLUSION

Majority of the local leaders were females, single and between the ages of 31-35 years. Also majority of the local leaders had some secondary school education and 1-5 years of farming experience. Most of them have livestock and have been local leaders for between 1-5 years. Apart from vegetable, cereals and cattle which were normally held three times a year, all the other training activities identified were rarely held for the local leaders. The local leaders agreed that they make use of the training received on vegetable production, poultry production and leadership training on their own farms while the training received on other areas identified were rarely put to use on their own farms. All the training programmes attended by the local leaders were rarely taught to other farmers as expected of them. The personal characteristics of the local leaders did not influence their responses towards their

training activities. Lack of resources on the part of the local leaders and their colleagues, illiteracy, long distance in location of residence of local leaders and some farmers and lack of interest on the part of farmers are among he problems identified by the local leaders as being responsible for their inability to transfer their training skills to other farmers.

Educational importance and implications of the study: One important approach to agricultural development in the developed and developing countries has been the teaching of farmers improved agricultural practices through the Extension divisions of the Ministry of Agriculture. There are often too few extension workers especially in the developing countries to make an appreciable impact in agricultural development. The fact is that no government can afford to employ the number of extension workers needed to teach the whole rural populace. Nowadays that most governments are faced with high deficit and can no longer maintain or recruit additional staff to work in their extension systems, many people have proposed the use of local leaders in technology transfer. It is expected that if this is done, there would be a kind of multiplier effect in the adoption of new agricultural technologies. Unfortunately, this study seems to imply that training of local leaders in Botswana may not be a panacea that could be used to complement technology transfer when Extension workers are in short supply. It would appear from this study that the use of local leaders can only be efficient if the umerous problems hindering their performance are critically looked into by the extension system with a view to solving them. This study implied that it is an assumption to think that any training skills acquired by the local leaders would automatically trickle down to their colleagues.

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