

Full Length Research Paper

Famers perceptions on effectiveness of extension delivery approaches to Mbororo female livestock farmers in North-West Region Cameroon

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The purpose of the study is to determine farmers' perception on agricultural extension delivery approaches on Mbororo female livestock farmers in North-West Cameroon. Primary data was collected using structured questionnaires established to Mbororo women. Interviews guides were used to get more information on the perception of Bororo female livestock farmer on effectiveness extension services delivery. Secondary data was collected from books, journals, research projects and articles and internet search. The study made use of simple random sampling method. 400 questionnaires were distributed randomly to Mbororo women in Mezam, Momo, Boyo, Donga-Mantung divisions of the North-West region of Cameroon. Data analysis was done using statistical package for social science (SPSS). Results revealed that farmers perception on participation in extension delivery services is 76.6% not effective, organisation of field days is 63.35% not effective, farm visit by extension agents is 53.3% not effective, holding field meetings with farmers is just 30.3% effective. Generally the Mbororo female livestock farmers have a negative perception on the quality of extension services delivered to them in livestock farming. They believe that the qualities of extension services are not effective at all level of implementations. Thus extension agents should strive well to develop strategies that can improve on service delivery to female livestock farmers of North-West region Cameroon.

Key words: Farmer's perception, extension, delivery approaches, livestock farming.

INTRODUCTION

Perception is the process by which individuals or a group of people receive information or stimuli from the environment and transform it into psychological awareness (van den Ban and Hwakins, 1996). Perception is also seen as awareness, comprehension or an understanding of something. For example, the way farmers perceive effectiveness of extension delivery

mechanism or, how effective extension personnel are in the accomplishment of extension activities (Nji, 2008). In this study perception is defined as the beliefs of farmers regarding extension training program, methods of dissemination, type of technology and field visit given to farmers. It constraints prevent them from reaching their full potential should be noted that positive perception

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will promote the adoption of technology while negative perception will hinder the adoption of modern technologies (Parminter and Wilson, 2003). This is a useful dimension to understand farmer's characteristics and look for ways to facilitating the adoption of new technologies by the farmers. Benjamin (2013) define effectiveness as a tool that is used to determine the level of awareness of extension services created among the farmers, number of visits paid by the village extension worker, percentage of scheduled meetings held between farmers and extension workers, number of field meetings held, regularity of meetings held by village extension worker, number of field days organized by village extension worker ,monthly or quarterly and number of demonstrations organized by the village extension worker within specified time frame (monthly, quarterly, annually). However, awareness of agricultural knowledge and information play a major role in agricultural development, particularly in food production (Amungwa and Nji, 2015). The main challenge in transferring agricultural knowledge and information to farmers is influenced by the environment in which farmers and the agricultural extension system operates. According to Ajala et al. (2013) there are numerous problems facing the transmission of agricultural extension services such as high illiteracy rate among farmers which sometimes make it difficult for them to understand all the ideas being communicated to them. Even after communicating the ideas, some of the farmers cannot subsequently translate the ideas to practice. In the same vein, most of the farmers are conservative and are not ready to accept any positive changes. The case of the Mbororo women is not so different. Generally, it is believed that Bororo women have high illiteracy level that prevents them from expanding in most domain of life and most especially in livestock activities (Aeisatu, 2012).

Livestock is seen as a key asset for rural households and it is a principal source of revenue for rural communities. It widens and sustains three major pathways out of poverty namely: (1) securing assets for the poor, (2) improving pastoral productivity and (3) increasing market participation by the poor. In most rural areas, livestock farming is greatly controlled by women. They make an average of 43% of the agricultural labour force in most developing countries (FAO, 2011). Rural women comprise two-thirds of low-income livestock keepers. They are engaged in activities related to small livestock production like poultry, sheep and goats (Thornton et al., 2003). Despite the high level of involvement in livestock activities, extension education which is intended to provide training to encourage large scale production among farmers is given mostly to men leaving the women with little or nothing to show (Ajaga, 2008). Women continue to face greater constraints than men in accessing natural resources, extension services, marketing opportunities and financial services. These within the agricultural sector (Ajaga, 2008). When rural

women have access and control over livestock or livestock products, positive impact is felt on overall well-being of the occupants particularly, in nutrition (FAO, 2012). Thus the quality of livestock is influenced by the perception of famers on extension delivery services. If extension agents devote more time in service delivery to women, the impact is seen on the quality of livestock produced by the female livestock farmers.

Many studies have been conducted on the impact of livestock farming on the livelihood of women but none has focus on the perception of female livestock farmers on the quality of extension services rendered to them. It is against this background that this study is undertaken to examine farmer's perception on extension delivery approaches. Therefore this study is intended to find out how Mbororo women feel about new technologies being implemented to improve on the livestock production and to lay a framework on which extension agents should focus on when delivery extension services to the women.

METHODOLOGY

Study area

The North-West region has seven administrative units namely: Boyo, Bui, Donga-Mantung, Menchum, Momo, Ngo Ketunjia and Mezam. The region is made up of 34 subdivisions and 35 councils. Mezam division is the head quarter of North-West region. The region is found between Latitudes 5°40' and 7° North of the prime Meridian. The population is estimated to be 1.8 million in 2010 National Institute of Statistics (NIS, 2010). The surface area is 17,300 km² and a population density of 60 km². Almost all the lands are located in altitudes above 900 m. Its hydrology is made up of plateaus that are big water catchments, various water sources, large rivers, waterfalls and artificial lakes with high potential to generate hydroelectricity and enhance economic activities. Abundant rainfall contributes to the development of agriculture and forest regeneration. Three kinds of vegetation are present in this region: lowland forest, mountain forest and afro-alpine vegetation. They are mostly made of wildlife, crop production, medicinal plants, fertile soils, and non-Timber Forest Product and fishing points (Manu, 2014) (Figure 1).

Sampling procedure

The random sampling method was used to select respondents in different communities which gave us the chance to interview every female that was seen in the Mbororo communities since it was not possible to identify women who are in livestock farming directly. To select the sample size, the (Yamane, 1967) formula which Assume $p=0.5$ (maximum variability) was used. The formula state that if a population is greater than one hundred thousand (>100,000) the sample size should be four hundred which will give a degree of confidence level which could be $\pm 5\%$ precision. In this case the formula for calculating the sample size of the study was:

$$n = \frac{N}{1 + N(e)^2}$$

n= the sample size



Figure 1. North-West Region (Cameroon).
Source: [https://fr.wikipedia.org/wiki/RégiunduNord-Ouest\(Cameroun\)](https://fr.wikipedia.org/wiki/RégiunduNord-Ouest(Cameroun)).

N = the size of population

e = the margin of error (0.05) when the confidence level is 95%

Primary data was collected through structured questionnaires, interviews guides, observation guides while secondary data was collected through books, articles, journals.

Data collection

Data was collected with the use of structured questionnaires and interviews guides. Considering the fact that the women are not very educated, most of the data were collected using Pidgin English, a “lingual Franca” language commonly spoken in the North-West region. In some cases translations were made from English to “fulfude” to those who were unable to understand the English language well. The questionnaires were filled by the researcher for purpose of efficiency. The questionnaires contain both open and close ended questions. The research design used for the study was both quantitative and qualitative method. A combination of these methods in this research was to achieve a deeper level of insight of the research in addition to statistical evidence to support facts. The statistical instrument used in analyses was the Statistical Package for Social Science (SPSS) version 20. The Spearman correlation coefficient test was used to test the hypothesis. Correlation is a bivariate analysis that measures the strengths of association between two variables.

RESULTS AND DISCUSSION

Results of the study are presented in the form of various charts. Farmer’s perception on effective services delivery was test using modalities like “effective” and “not effective”. Indicators examine were; organization of field days, farmers participation in extension services, field visits, demonstration methods, creating awareness

(Figure 2).

Proper achievement of agricultural extension depends on good relationship with farmers. Women who participate (by take part in decision making, identify problems and propose solutions) in extension activities will have better access to knowledge and technology than those who do not take part in extension services. Taking part in extension work by female farmers will improve satisfaction and raise their level in livestock production. Figure 2 show that 76.6% of the respondent hold the believe that the livestock farmers themselves are not participate effectively in extension activities while only 23.4% feel that farmers contribute to effective extension services. These results are not different from that conducted in Ethiopia which realized only 42.2% perception of female farmers’ participation in effective service delivery (Berhanu et al., 2014). Generally the results confirm that female livestock farmers in North-West region do not participate fully in extension services. In an interview with the sub-divisional delegate for livestock in Bamenda 1 up station who is also a Bororo woman herself confirm that Bororo women have a lot of limitations when it comes to taking part in extension services. They are more focused on child bearing and other social activities. According to this source of information, there is need to sensitize the Bororo women on the importance of taking full participation in extension services (Pelican 2012). To enhance participation of female farmers in extension and livestock services in the North-West region Bureau of Agriculture and Rural Development need to properly mainstream gender,

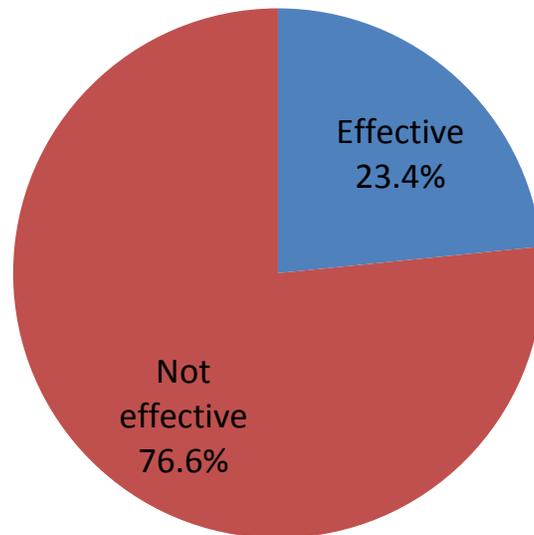


Figure 2. Farmer’s perception on effective participation in extension services.

— effective — not effective

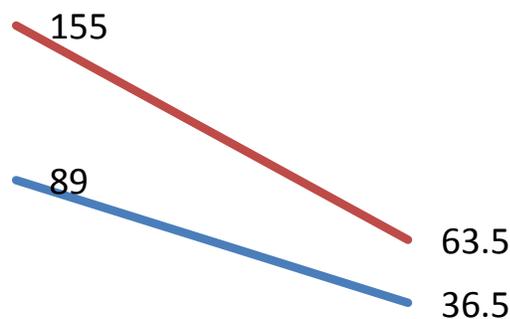


Figure 3. Farmers perception on the organization of field days by extension agents.

combine pro-poor development strategies and integrate literacy programmes into the routine extension activities (Figure 3).

An effective extension approach is based on close cooperation between farmers and extension staff (Birrerr et al., 2006). This close cooperation with farmers will encourage better supervision and understanding the need of the farmers in order to identify their problems. Better results could be achieved by organizing more field days by extension agents through effective planning, proper and frequency in organizing field visit by extension staff and training programs in close collaboration with

farmers. Results on Figure 3 show that 63.3% of the respondents believe that organization of filed days by extension agents is not effective. Yet 36.5% of the livestock farmers believe that the organization of field days by the extension agents is effective. However, the distance does not lead to the conclusion that extension work is effective, as extension agents are expected to spend more days with the livestock farmers so that they can become more acquainted to new technologies to improve on their livestock activities (Figure 4).

Farm visits are the most common form of personal contact between the agent and the farmer and often

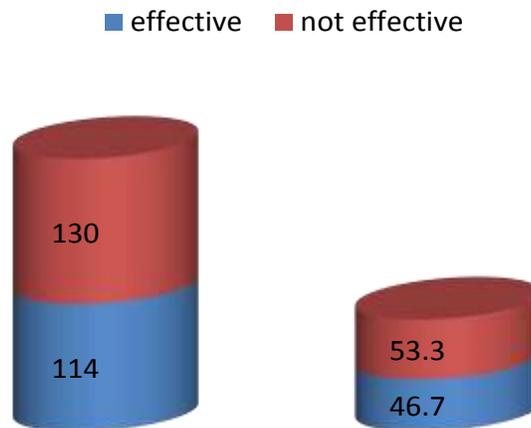


Figure 4. Farmers perception of farm visit.

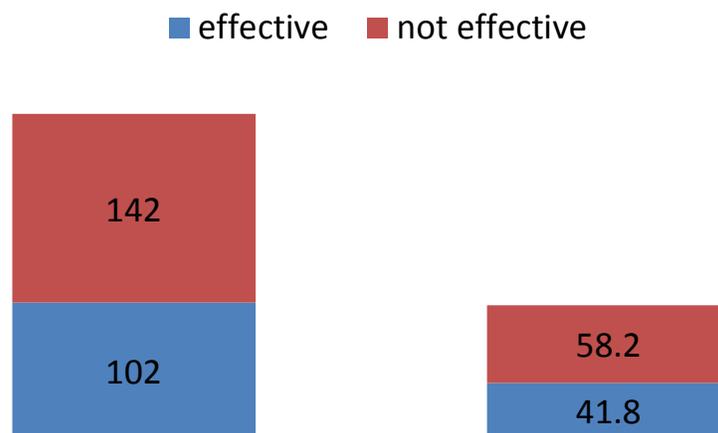


Figure 5. Perception on creating awareness of extension services.

constitute over 50% of the agent's extension activities as it takes much of the agent's time. It is important to be clear about the purpose of such visits in order to schedule them with care. Results from Figure 4 indicate slight different perceptions of farmers on farm visit by extension agents. From these results 46.7% of the respondents feel that farm visit by extension workers is effective while 53.3% of the respondents feel it is not effective. These results are contrary to the one obtained by (Maoba, 2016) in South Africa that realized only 24.36% effectiveness on extension workers in field visit. Also, in cross river state Nigeria, extension effectiveness on farmer's perception on farm visit was noted to be 65.55%. Agbarevo (2013) states that there are variations on effective farm visit in different countries depending on the availability of extension agents. These variations can be influence of hinder effective extension delivery services. For instance, if there are limited extensions agents in Cameroon than in Nigeria, farmers in Nigeria may have more access to extension agents than in

Cameroon. However, lacks of effective farm visits can lead to farmers complain about invisibility of agricultural advisors and that could impact negatively on extension activities. (Singh et al., 2013). It is important for agricultural advisors to visit farmers often. Visits should be meaningful and have a purpose in order to have a positive impact to the farming community. More attention is needed to reduce the current percentages of 53.3% of not effective visits to increase the percentage of farm visits by extension agents in Cameroon in general and North-West region in particular (Figure 5).

Extension agents provide advice and information to assist farmers in making decisions and generally enable them to take action. This can be information about prices and markets, for example, or about the availability of credit and inputs. (Amungwa and Nji 2015) Creating awareness to the farmers about these services by extension agent is an important factor for effectiveness. Respondents were asked to express their views by indicating effective or not effective on the level of

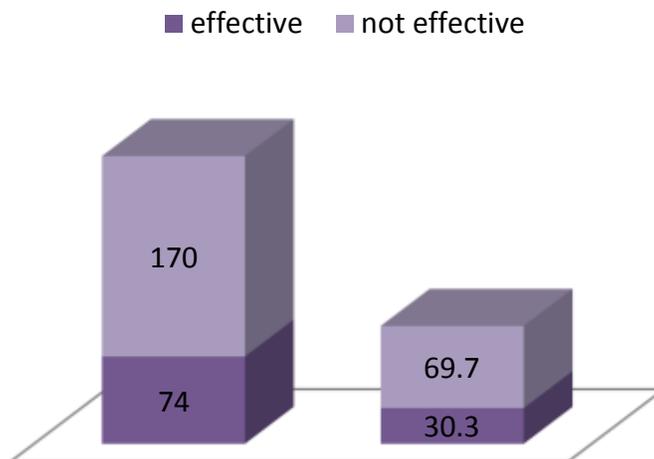


Figure 6. Perception on holding field meeting with farmers.

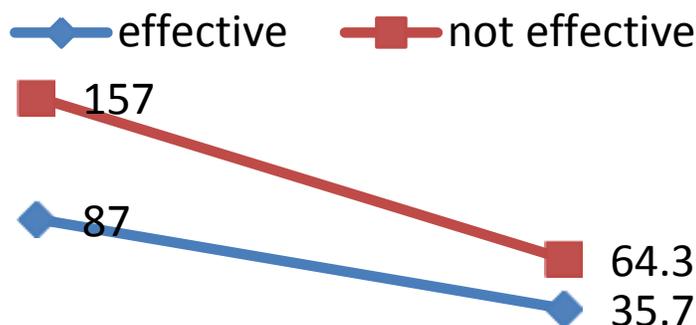


Figure 7. Farmer's perception on organization of demonstration methods.

awareness created by extension agents in their respective communities. From results in Figure 5 it is clear that extension agent still have a lot to do to create more awareness on extension activities to the livestock farmers. According to the result, 41.8% of respondents holds that awareness is effective while 58.2% believe that extension agent are not doing well to create awareness. According to UN (2005) lack of awareness of information related to livestock farming to farmers in remote villages is restricted due to the lack of infrastructure. However, most Bororo women live in remote areas that are often difficult to access by extension agents. In addition, Kaushik and Singh (2004) noted that if there is efficiency of farm information and the entrepreneurial innovation among farmers, economic and social change will be improved. It is mandatory for extension agents to improve on creating awareness among female livestock farmers as it will equally help the farmers to improve on productivity and quality of livestock produce by the women (Figure 6).

Extension effectiveness is determined by percentage of

meetings held between farmers and extension workers, number of field meetings held, regularity of meetings held by community extension worker. Farmers were allowed to determine their Perception about meeting schedule by extension workers by showing if the meetings are effective or not effective. Figure 5 reveal that the meetings schedule by extension workers to the livestock farmers is not effective as 69.7% hold to this believe while 30.3% of the farmers feel that the meeting schedules are effective. This result is contrary to that carried out by Agbarevo and Machiadikwe (2013). In cross river state in Nigeria which revealed that farmer's perception on meetings scheduled by extension workers to farmers was 87.93% effective. However, we noticed on Figure 5 that extension agents do not create awareness of their activities to the farmers. There is need for extension agents to improve on the meetings schedules to farmers especially with female livestock farmers in North-West region of Cameroon (Figure 7).

According to the results above farmer's perception on the organization of demonstration methods by extension

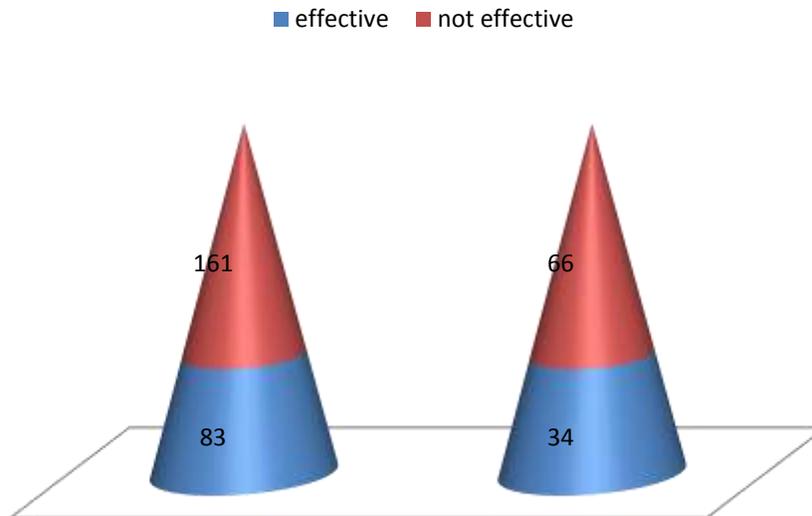


Figure 8. Farmers perception in the organization of farmers training groups.

workers are 35.7% effective and 64.3% not effective. In comparison with the study of (Machiadikwe, 2013) in cross river perception rate of farmers on demonstration methods by extension agents is (77.58%). It will be crucial to ensure that methods regarded to be effective are mainly used to deliver extension messages. Officials should be encouraged to do away or minimize the application of extension methods perceived not effective. Persistence with such methods may result in non-participation of farmers to extension activities since it has been considered to be non-effective. According to Aphunu and Otoikhian (2008) there is the need for regular training for extension agents so that reasonable knowledge and experience in adult learning principles could be acquired to enhance their effectiveness (Figure 8).

Rapid changes are taking place in farming worldwide as a result of globalization and speedy urbanization. Farmers are intensifying existing patterns of production and diversifying their farm enterprises in an attempt to improve their livelihoods. Technical know-how seems not to be enough. Farmers need some form of organization both to represent their interests and as a means for taking collective action. Extension, therefore, should be concerned with helping to set up, structure and develop organizations of local farmers. Based on the results on Figure 7, farmer perception on organization of farmers training groups is not effective as 66% of the farmers have the perception that organization of training groups are not effective and 34% feel that the organization of training groups is effective. These results are not so different from that of Benjamin (2013) which registers (39.65%) effectiveness on training groups organized by extension agent in Nigeria. Therefore, in order to be competitive and take advantage of the new opportunities

farmers have to strive to increase to adapt their farm business to market changes and improve efficiency, profitability and income. Farmers' skills and capacity can only be built through a process of learning and practice. The Farm Business School (FBS) has been developed by the Food and Agriculture Organization of the United Nations to help farmers learn how to make their farming enterprises and overall farm operations profitable and able to respond to market demands. The learning takes place at the village level and farmers' capacity in entrepreneurial and management skills is built through a "learning by doing" method. Through this, extension officers and pilot farmers are trained as facilitators and then organize seasonal training courses, where farmers work in small groups at their own rate using materials that have been specially designed for the schools. (Amungwa and Nji 2015) If extension agents in Cameroon are able to adopt these techniques then female livestock farmers will be able to improve their profitability in both quantitatively and qualitatively.

CONCLUSION AND RECOMMENDATIONS

When farmers view extension delivery approaches to be effective, the impact is felt on the quality of products produced by the farmers as they will be able to apply learned technology on their farms. Results of the study indicated that the applications of the extension methods are perceived by the female livestock farmers not to be effective at all categories of extension services tested. It should be noted that effective agricultural extension delivery approaches can contribute drastically towards an improved livestock production leading to sustainable

agriculture thus reduce food security and mitigate poverty. Weak agricultural extension can result in low or poor yield, leading to susceptibility that can cause economic depression (Amungwa and Nji 2015). Women suffer the consequences of inadequate extension delivery approaches because they are not given proper attention when it comes to policy formation. The results have shown clearly that the female livestock farmers have poor perception about the quality of extension services rendered to them. Most of the farmers hold the believe that, the extension services are not effective at the level of creating awareness, demonstration, organizing filed visit to name a few. The reason for none effectiveness can be seen both at the levels of livestock farmers on the one hand as seen on Figure 2 where about 72.3% of the farmers do not participate in extension activities and on the other hand the extension agents because there is limited awareness on extension services rendered by the agents in the communities. Therefore extension agents should foster to improve on developing more effective principles to ensure effectiveness in services delivery to the Bororo female livestock farmers especially the Bororo female livestock farmers in North-West region.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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