

*Full Length Research Paper*

# Evaluation of T&V and Participatory Agricultural Extension Approaches as Strategies to Improve on Women Livestock Farmers in the North West Region of Cameroon

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## Abstract

This study focused on the evaluation of training and Visit (T&V) Approaches and Participatory approaches (PA) to agricultural extension as strategies to improve women livestock farmers in the Northwest Region of Cameroon. Primary data was collected through the use of structured questionnaires, observations, focus groups and interview guides. Secondary data were obtained from books, journals, research projects and scientific articles. Multistage sampling techniques was used for the selection of farmers included in the study. Results from the study reveals that, Farmer Field School (37%), participatory approach (47%) and Training and Visit approaches are the most used extension approaches. Despite the use of these approaches, women livestock farmers continue to have limited extension information and innovations to help them improve on livestock activities. Also, it was noted that, there exist limited extension staff to assist women in the rural area thus leading to lack of information. We realized that, both T&V and PA approaches can be very effective in providing livestock information. This can be through provision of extension workers with enough inputs to permit effective dissemination of extension information and innovations. We therefore, encourage policy makers and educators to ensure the provision of train extension workers should reach out to rural areas and should be accompanied with inputs and infrastructures that can permit workers stay and work with these rural women who are doing livestock as their main activity.

**Keywords:** Evaluation, Participatory, Extension, Approaches, Livestock Farmers.

## INTRODUCTION

The agricultural sector is fundamental to rural development and contributes significantly to any initiative to alleviate poverty. Therefore, there is a great need for strong extension and advisory services that can be led by

government's operations in partnership with relevant role players. Britain has played major roles in the history of agricultural development in most countries of the world. In Swaziland for example, agricultural extension approaches was first organized in the 1930 (Akinloye, 2019). It was known as British type of extension where extension officers were specialized based on the commodity promotion and the supply of raw material for industries in Europe (Musa, 2019). Today it has been proven that agricultural extension register 100% success

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in Swaziland agriculture (Jimoh et al, 2019).

### **Training and Visit (T&V) System:**

T&V is one of the earlier approaches to agricultural extension that focused on transfer of technology using a top-down approach system. The approach is based on a set of managerial and organizational principles that are broadly applicable which, when applied together constitute an extremely powerful managerial tool. Under T&V system in Cameroon like other countries centered on the functions of transfer of technology which were clearly delineated and separated from supply functions such as the provision of inputs. Technology transfer was kept with agricultural extension in public sector and the functions pertaining to supply of inputs and services were handed over to private sector or commercial corporations. The extension service was established in Cameroon by the Germans, French, and British. Since the early 1980s, institutional changes have taken place in an effort to set up an efficient system of extension to promote the expansion of cash crops and livestock, in order to improve the living standards of rural dwellers.

The T&V system was perceived as a solution to extension problems in Cameroon (Amungwa, F.A, 2018). The main objective of the T&V system was to support government efforts to alleviate the major constraints hampering the effectiveness of the extension services and to achieve sustained increases in both agricultural production and farm incomes.

The approach was based on a set of managerial and organizational principles that were broadly applicable which, when applied together, constitute an extremely powerful managerial tool. The approach emphasizes more on learning and ownership of the learning process (Therault et al., 2017). This approach came as a result of some criticisms in the Structural Adjustment Program in Cameroon that had increased rural poverty, provoking a new emphasis on decentralization (Amungwa F.A & Francis Menjo Baye, 2014). The T&V approach was implemented in the North West Region through the North West Development Authority. T&V approaches focused on transfer of technology using a top-down approach. The training and visit approach to extension is noted to have failed in many counties due to the high level of authority that was involved in its management. However, the T&V system could not continue because the governments did not provide the operational budget as per the project. There was no proper facilities for regular backup training to agricultural staff, funds for traveling and daily allowances were drastically reduced thereby limiting the mobility rate of staff, adaptive research farms discontinued and the morale of extension staff was affected.

On the other hand, we have the Participatory Agricultural Extension Approaches which also came as a result of the weakness of the T&V Approach.

The term participation is interpreted and used in different ways. It ranges from passive participation, where people are involved merely by being told what is to happen, to self-mobilization, where people take initiatives independent of existing institutions (Festus M., 2019). In this approach, the duty of the extension agent is to facilitate a detailed situational analysis by the farmers themselves at the onset of their working relation. Once farmers have become aware of the causes of their problems and have identified the most pressing ones, the extension agent then provides technical knowledge and technologies, which may be useful to address the problems identified. For this approach to work effectively, extension agents need not only agricultural knowledge, but also good analytical, pedagogical, and facilitating skills. In Ukraine for example participatory model of extension activities include farmers associations, non-governmental organization and commodity farmers groups. Government agencies are also represented. To ensure effectiveness of this approach, centers were created across the country under the umbrella of the ministry of agricultural policy and food. The national association of advisory services in Ukraine was the leading provider of extension services. It failed after a period of time due to lack of funding (Obinne, C.P., 2016).

In Cameroon, participatory approaches depend strongly on a conducive political and administrative environment. This approach was first implemented in the North West Region through the Grassfield Participatory and Decentralized Rural Development Project (GP-DERUDEP) between 2004-2010. The Grassfield Participatory and Decentralized Rural Development Project (GP-DERUDEP) was implemented as an anti-poverty programme. Within the context of Cameroon's Poverty Reduction Strategy, the objectives were to:- Increase the incomes of small-scale farmers through increased agricultural output, - Promote food security - and Improve the socio-economic milieu of the rural population (MINADER, 2009). The expected outcomes of the project were assembled into three mechanisms including: agricultural development; capacity building; and rural infrastructure. A loan agreement of CFAF 15,726 million was ratified in 2004 between the Cameroon Government and the African Development Bank (ADB) (MINADER,2009), which provided 85% of the funds while the Government contributed 10%, and the local communities, 5% (ADB, 2008). The project constitutes one of the contributions of the African Development Fund to the implementation of the rural development strategy adopted by the Cameroonian Government. The strategy adopted under this project particularly hinged on decentralized rural development, notably community development at village level. It gives a central role to partnership, dialogue, consultation, empowerment and the participation of village communities, producers, develop-

ment partners, governmental services and private operators (Agrovets Consultancy, 2015). A decentralized funding approach was accepted through a Local Development Fund (LDF), which lay emphasis quick on channeling of funds to improve extension service delivery in project communities. Agriculture needs and community needs were assessed and formalized into community development plans to guide the choice of projects for funding (MINADER, 2010).

Notwithstanding, extension approaches have undergone intense changes within the past 20 years both in Africa and in Europe. Owing to the difficulty in acquiring knowledge, skills and inputs, new technologies often do not spread easily. This paper on evaluation of T&V and Participatory extension approaches is intended to make important contributions to improve the quality of services offered to women livestock farmers in the North West region of Cameroon.

## METHODOLOGY

### Presentation of Study Sites

This study was done in North West region of Cameroon which is situated in Central Africa, the North West region is one of the ten regions in Cameroon found between Latitudes 5°40' and 7° North of the prime Meridian, with a surface area of 17 300 km<sup>2</sup> (Manu, 2008). The regions are bounded by neighboring countries like Chad in the North of the country, Central Africa Republic in the East, bounded on the South by Congo, Gabon and Equatorial Guinea and Nigeria in the West (Bime and Manu, 2014). It has seven administrative units namely; Boyo, Bui, Donga-Mantung, Menchum, Momo, NgoKetunjia and Mezam. It is also made up of 34 subdivisions and 35 councils. There is abundant rainfall in the area that contributes to the development of agriculture. According to the National Institute of Statistics (2015) the population of North West Region is estimated to be 1,968,578 inhabitants. This population is made up of variety of people from different ethnic groups who also speak different languages.

### Procedure for sampling size

Sampling size was calculated using the Yamane, (1967) Formula for Calculating a Sample size to ensure maximum variability in the study. The formula is assumed to be;

$p=0.5$  which is maximum variability which states that if a population is greater than one hundred thousand (<100,000) the sample size is taken at four hundred (400) which will give a degree of confidence level which could be  $\pm 5\%$  precision.

In this case the formula is;

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

$n$ = the sample size

$N$  = the size of population and

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

$$n = \frac{<100000}{1+100000(0.05)^2} = 400$$

Therefore, sample size for the study was 400 hundred assuming that female women in the North West region are more than 100,000 distributed within seven divisions.

### Sampling techniques

A multistage sampling technique was used in the selection of sampling size. This is a technique where in sampling was carried out in several stages to get the sample size reduced at each stage. The multistage sampling technique was used because the research was done in several areas and in each of the areas one or more sampling techniques was applied to select the population of study.

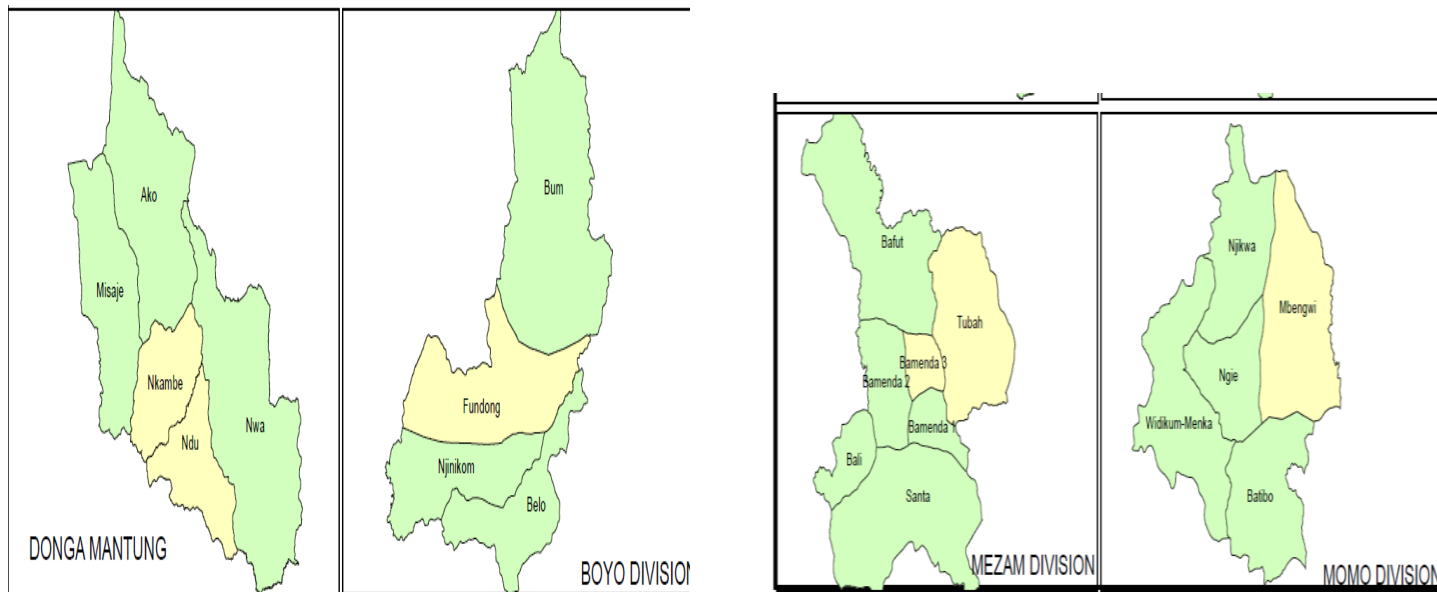
### Methods of Data Collection

Both Quantitative as well as qualitative methods were used in data collection. The quantitative method used was the sample survey. The qualitative methods used were the in-depth interview, focus group discussion (F.G.) and participant observation. The quantitative and the qualitative methods were used because the two methods match each other that is; the quantitative approach enable the measurement of the situation based on numeric numbers, with this method one is able to count the numbers of frequencies using modalities like "how many" and "how often". While the qualitative research answered the question "why" which provided an in- depth understanding of situations which are not base on numeric counting of observations. For the quantitative method the main tool used for data collection was the questionnaire while interview guides were used to get qualitative data. The quantitative method was used because it helps to present data with clarity and precision. The use of such analysis was beneficial because it saved space by reducing explanation and descriptive statements to a minimum. The use of quantitative analysis enabled the data collected to be presented in the form of relations making it easier to remember the data. It facilitated the summary of data and allowed for comparison of findings with other studies.

## RESULTS AND DISCUSSIONS

### Identification of Agricultural Extension Delivery Approaches

At the focus of international debates, agriculture is recognized as an important driver of economic growth and poverty reduction for many developing countries and



a priority area for investment. A typical area of revival of the agriculture sector has been the recognition that past efforts have failed. Part of the failure is because women’s roles are being ignored in the sector and the role of gender inequalities in reducing agricultural productivity. According to report of FAO (2010-11), the State of Food and Agriculture, “Women comprise an average,43

percent of the agricultural labour force in developing countries, ranging from 20 percent in Latin America to 50 percent in Eastern Asia and Sub-Saharan Africa” (FAO,2011). The report argues that reducing gender inequalities in access to productive resources and services could produce an increase in yields on women’s farms of between 20 percent and 30 percent, which could

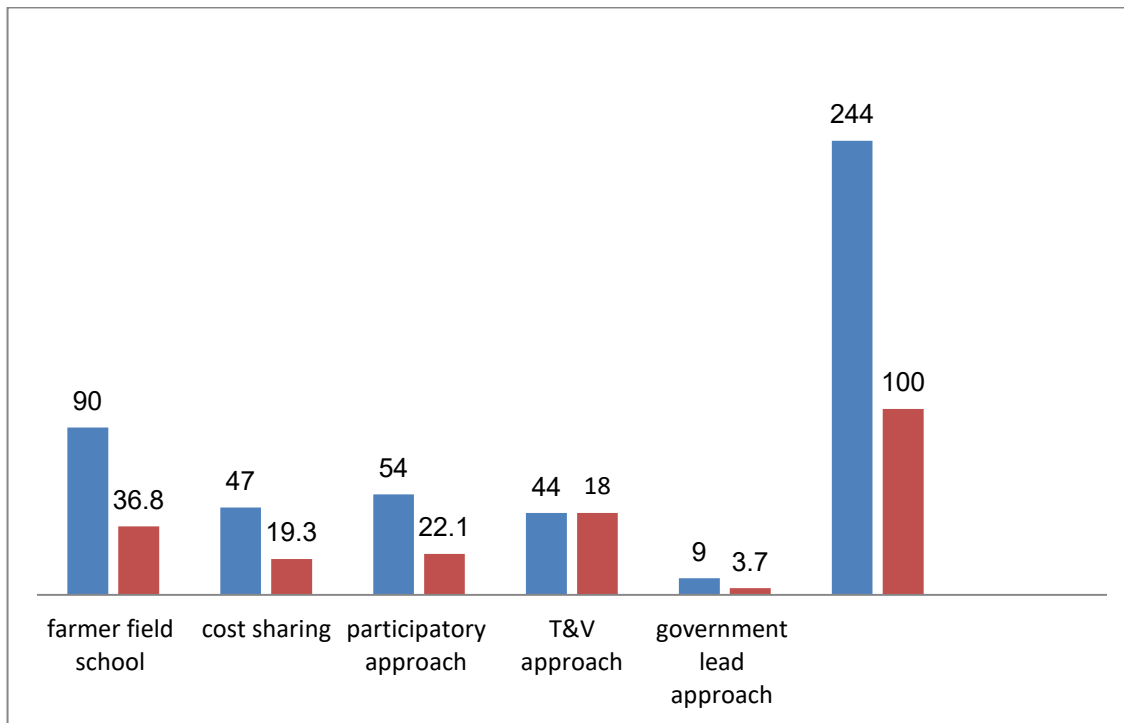
Map showing Study Areas

**Table1:** Identification of types of Agricultural Extension Approaches by respondents.

Categories of Extension approaches	Frequency	Percentage
Training & visit	44	18.0
Farmer field school	69	27.9
Cost sharing	41	16.8
Participatory approach	47	19.3
Commodity approach	11	4.5
None of the above	6	2.5
All of the above	32	13.1
Total	244	100.0

raise agricultural output in developing countries by 2.5 percent to 4 percent (Farinde, A. J. (2014). Realizing these gains requires men and women farmers to have access to the information, skills, and tools they need to improve their yields. This, in turn requires

reforming the institutions involved in the delivery of those services (Okafor, C., 2006). A fundamental aspect of this process is recognizing that agriculture command large extension services, and specifically, the processes of providing effective extension and advisory services (EAS),



**Figure1:** Commonly Used Extension Approaches.  
**Source:** Computed Data from Field Survey (2018).

involve much more than technical solutions. For this to be effective it was important to identify the categories of extension services that are available to women livestock farmers in the North West Region of Cameroon. Then went forward to investigate the sources of information and the types of livestock farming practiced by the women of the North West region. There are about eight types of agricultural extension delivery approaches as outline by Gemo et al., (2005) but the women were evaluated only on five types of extension approaches as illustrated on the table 1 below.

It is important that farmers have up-to-date knowledge about new technology available to influence agricultural production. This will help them improve on the quality of agricultural production. From the study, it is clear that the women are open to a variety of agricultural extension approaches that can enable them promote livestock farming in the North West Region of Cameroon. Table above shows the different extension approaches that are available which the women were able to identify. They are; Farmer Field School (27.9), Participatory Approach to contribute to agricultural productivity of female livestock farmers. Growth in livestock production depends on functioning input distribution. In addition, if farmers are aware of appropriate extension techniques, they will be able to provide feedback to researchers. These results are different from the one that was published by FAO (1993) on women’s role in agriculture and agricultural extension programs which saw that out of 24 agricultural extension programs studied in Africa, Asia, and Latin

(19.3%), the Training and Visit (18.0%) approach and the cost sharing approach (16.8%). We can therefore conclude that the women who are in livestock farming are open to a number of extensions approaches as indicated by the study.

*“...The simple truth is that most of them may not understand what is happening in the community due to their limited education level. The idea of extension requires a certain level of education; thus, low literacy level is a hindrance to the women in the adoption of extension procedure that can influence production. Also, even if the extensions agents are there our communities are inaccessible to most extension agents, thus, they find it difficult to reach out to the women quite often even. Notwithstanding, from time to time some of the agents, come to work with the women but men are the ones highly involved during most trainings”.*

Awareness of existing technologies generates effective demand which consequently provides a critical indicator to input dissemination methods. There is need to reinforce extension approaches and distribution of inputs America, rural women’s awareness of agricultural extension approaches was still very poor and the number of women extension personnel was also extremely low. Similar situations prevail in Cameroon with this present study, though the result shows a high level of awareness on extension approaches. It is generally accepted that agricultural extension approaches have proven to be effective to both male and female farmers but women are still facing lots of discrimination from men. It is therefore

important that policy makers should create facilities to assist these women to get more access to technology. The figure below is a representation of the most used agricultural extension delivery approaches. The success of any agricultural extension delivery process depends largely on the approaches selected thus it was important to identify what works for the women farmers in order to ensure effectiveness in the delivery of services.

From in figure, the most common extension approach used to transfer agricultural technology to women farmers in the North West Region are; the Farmer Field School (36.8%), the participatory approach (22.1%), Cost sharing approach (19.3%) and the Training T&V(18%). There is no doubt about these results because a number of private and public sectors are using most of the above extension approaches to disseminate new technologies to farmers. Some of these approaches are used to facilitate training among women. The T&V and participatory approach have been used by extension agents in the North West Region since 2004 till date to reach the farmers.

The participatory approach replaced the T&V approach which was an old approach that was used by the government to reach their farmers but failed due to its top-down approach which was accompanied by high operational costs and lack of findings. The approach was non-responsive to farmers' needs of economic, social and institutional (Anderson et al. 2006; Birner et al., 2009).

Despite the increasing number of actors offering diversified options for extension delivery services, substantial challenges still remain in terms of adopting the full potential of agricultural extension systems (Christoplos, 2010). Women continue to face multiple challenges like low literacy level and family challenges. Government agencies are therefore faced with the challenge to regulate and effectively coordinate extension services to make sure that the women should benefit.

## CONCLUSIONS AND RECOMMENDATIONS

It is evident that both participatory (PA) and Training and Visit T&V) approaches are the most used agricultural extension delivery approaches by the extension agents to deliver services to women livestock farmers in the North West Region of Cameroon. However, inadequate numbers of extension staff in general continue to pose difficulties in the delivery of technological knowledge. Considering the low educational levels of the women livestock farmers, the government should develop strategies to attract and retain qualified extension staff. This can be done by establishing staffing and training plans. The staffing plan identifies staffing gaps, and projects staffing needs over a specified period of time. The training plan identifies specific types of training (in-service and formal) required to fill skill gaps in human resources and to cover staffing needs for planned

operations. Field staff needs to be trained in gender analysis and gender-needs assessment. The extension service network which extends to village level should be the main focus for training in gender-role assessment.

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