



Research Article

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ACEFA Participatory Programme and It's Impacts on the Livelihood of Farmers in the Nkambe Municipality, Donga-Mantung Division, North West Region of Cameroon



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Abstract

The principal aim of this study was to examine the impacts of ACEFA Participatory Programme on the livelihood of farmers in the Nkambe Municipality. Data was generated from primary and secondary sources and were analysed through the descriptive and inferential statistical technique using Statistical Package for Social Sciences and Micro Soft Excel. The results indicated that the main socio-economic activity of the population in the Nkambe Municipality is farming (80.4%). Study also revealed that 62.7% of farmers in the study area were aware of the ACEFA participatory programme, with 41.2% farmers benefiting from the programme through projects funding. Also, results indicated that there was a significant difference between beneficiaries and non-beneficiaries of ACEFA participatory programme on medical care, school needs and clothing affordability amongst farmers in the study area. The study strongly recommends that in order to improve on the livelihood of rural farmers, this must involve the collaboration of the state, agricultural organizations, rural farmers and other development stakeholders; who must participate effectively at different levels in order to improve on the productivity of especially family farms size enterprises as well as livelihood of rural farmers in Africa.

Keywords: ACEFA; Participatory; Livelihood; Farmers; Nkambe

Introduction

Agriculture is the main source of income for around 2.5 billion people in the developing world. It remains the backbone of many African economies, accounting for 57 percent of total employment, 17 percent of GDP and 11 percent of export earnings on the continent [1]. In Cameroon, agriculture is the corner stone of the Cameroon's economy. It generates the highest number of employments (more than 60% of both skilled and unskilled), ensures national food security, contributes to Cameroon's GDP, and foreign earning, among others; provide raw materials to the industrial sector, which is still in its infant stage [2].

According to the World Bank [1], in 2002, three out of four poor people in developing countries lived in rural areas, with the majority of them relying, either directly or indirectly, on agriculture for their livelihoods. Agriculture plays an important role in both poverty reduction and economic growth. The impact of the agricultural sector is wide-ranging and extends to economic growth, food security, poverty reduction, livelihoods, rural development and the environment. Moreover, the poorest half

of the population benefits significantly more from agricultural growth than growth in other sectors of the economy [1].

Agricultural extension has long been seen as a key element for enabling farmers obtain information and technologies that can improve their livelihoods and is recognized as an important factor in promoting agricultural development [3,4]. Hence, from a development policy perspective, investments in extension services are considered as potentially important tools for improving agricultural productivity and increasing farmers' incomes. Consequently, Sub-Saharan African (SSA) countries have been implementing various agricultural extension programmes to improve agricultural production and productivity, farm income and rural livelihoods [5].

However, the tide has begun to change after decade of underinvestment in agriculture, and particularly in extension, with more funding available for agricultural extension. The current interest in agricultural advisory services is emerging as part of a broader shift in the thinking that focuses on enhancing

the role of agriculture for pro-poor development [6]. The role of extension has increased, responding to the challenges for more information and ideas and strong organizational capacities to develop agricultural systems that will meet the complex demand pattern, reduce poverty, and preserve and enhance ecological resources [7].

Furthermore, Extension services in Cameroon can be traced to the MIDENO project which began in the early 1970s. In the early stages of the MIDENO project in the Cameroon, extension agents were encouraged to meet with farmers' groups but individuals could also request that extension agents (EAs) visit their farms. Also, farmers who purchased inputs were often visited. Analysis indicated that farmers who experienced farm visits and group meetings understood the recommendations better and were more likely to adopt them than those who only attended group meetings. Although assistance was supposed to be the same for men and women, men in the survey received eight times more individual farm visits than did women. Male farmers had little reluctance to ask for farm visits. Many women indicated that they did not think they could nor should ask or were "too far away" to rate a visit. Others thought visits were reserved for farmers who purchased inputs, something which fewer women did than men. For their part, the EAs concluded that women did not ask for visits because they were not interested. It was evident that the strategy of asking farmers to step forward to request visits was not as appropriate for women as for men [8]. The situation improved under later project initiatives for expanded extension delivery to women farmers [9].

However today, agricultural extension services are received both by men and women involved in agricultural activities. Organizations from both public and private sectors such as IRAD, MINPIA, and MINADER with ACEFA programme among others have helped in the improvement of rural farmers' livelihoods through increased agricultural productivity by giving agricultural input on time such as new varieties of seeds, fertilizers and agricultural training facilities. These activities have helped reduced rural poverty in some villages in Nkambe such as Njap, Tabenken, Nkambe and Njema who are beneficiaries of these agricultural services. This however called for the study on agricultural extension services and its impact on the livelihood of rural farmers in the Nkambe municipality.

Problem statements

Agricultural extension plays a pivotal role in most developing countries and it is responsible for promoting the latest agricultural technologies among the people of the farming community in order to ensure sustainable agricultural growth. The agricultural extension services operate from the backdrop belief that increased agricultural productivity depends primarily on the acceptance of improved cultural and technological change at the rural farm level and that small holder farmers can achieve high farm yield only if they adopt recommended scientific farming technique in place of their traditional practices [10]. They further mentioned that for farmers of different agricultural areas or places to adopt

a technology, they must be aware of that technology, have valid and up-to-date information about that technology, apply the technology to their farming system and received the technical assistance necessary for their technology. The process must be achieved by the agricultural extension services.

ACEFA Participatory Programme as an extension services aim at empowering farmers with knowledge and skills, sensitizing farmers in new ways of thinking and problem solving, shaping their ability to make critical and formal decisions, encourage the participants to adopt the practices most suitable to their farming systems, provide opportunities for farmers to practice, test/evaluate sustainable land use technologies and introduce new technologies by comparing their conventional technologies developed with their own tradition and culture [11].

Despite these objectives of ACEFA Participatory Programme to improve on the livelihood of the rural population, rural farmers in Cameroon at large and Nkambe in particular are still faced with several agricultural problems and challenges such as inadequate agricultural extension agents, poor management of cooperatives and farmers groups, inadequate professional farmers training and promotion of adult capacity building programmes in rural areas (Njema-Nkambe, Tabenken, Njap) to promote self-reliant Development. Agricultural activities here are still carried out in small scale mostly for home consumption and only the surplus is sold in the markets in order to acquire household needs. These problems have however rendered many families poor, children unable to get quality education, medical services and their living standards are very poor due to low yields since majority of the people depend only on farming as their main source of survival. This is typically of Tabenken, Njap and Njema-Nkambe in the Municipality as many young girls and boys have dropped out of school due to financial constraints. The above problems called for concern to examine the impacts of ACEFA Participatory Programme on the livelihood of farmers in the Nkambe.

Methodology

Geographical location of the study area

The study was conducted in Nkambe Municipality. Nkambe Municipality is found in Donga-Mantung Division, North West Region of Cameroon. It is bordered to the west by Misaje, to the north by Ako, to the North East by Nwa Subdivision, to the south-east is Ndu Subdivision and to the southwest is Noni Subdivision. It has a surface area of 487.4 km². The Municipality is situated between latitudes 6°00' and 6°01.13' north of the equator and longitudes 10°01.03' and 10°01.45' east of the Greenwich Meridian Nkambe municipality falls within the Nkambe Central Subdivision and is the divisional headquarters of Donga-Mantung Division. There are 5 subdivisions in the division, comprising Nwa, Ndu, Nkambe Central, Misaje and Ako.

Site selection and sampling techniques

The first stage was the selection of villages benefited and non-benefited from ACEFA participatory programme in the

Municipality using a purposive sampling technique, which ensured that samples were spread over the selected villages. The three villages were such as Njap, Tabenken and Nkambe. Secondly the researcher used a random sampling technique to sample members from each farmer's groups in the municipality. 120 questionnaires were taken to the field (see appendix), 50% of the questionnaires were administered to beneficiaries and 50% to non-beneficiaries. 102 questionnaires returned answered as shown in Table 1 below.

Table 1: Returned answered questionnaires.

Villages	Beneficiaries	Non-Beneficiaries
Tabenken	16	20
Njap	10	20
Nkambe	16	20
Total	42	60

Research design and sampling procedure

The main Research Approach adopted for the study was Qualitative Research Design. This research design is a non-experimental approach concerned with the understanding of social phenomenon from the actor's perspective through participation and qualitative analysis. The research approach was adopted because it enabled the investigator to employ ethnographic description of the process and allowed her to be immersed in the investigation.

However, a case study research method was used. This method was adopted because it guided the investigator to observe a group of farmers at a single point in time, subsequent to the intervention of agricultural extension services that produced change in farm yields and living standards. Nachmias has pointed out that a case study permits in-depth investigation of the object using a variety of data gathering techniques to produce evidence that leads to understanding of the "case" and answers the research questions.

In carrying out this study, quantitative and qualitative data were collected in accordance with the set objectives.

Firstly, to identify the main socio-economic activities of ACEFA programme in the study area which generates income, household surveys to farmers were conducted using semi-structured questionnaires. The questionnaires helped in identifying the different ACEFA activities to farmers that generate income, the major farming systems and the impact of their income on household basic needs, health facilities and their general food security.

Secondly, to examine the contribution of ACEFA Participatory programme on the farmer's wellbeing, household interviews were carried with the help of semi-structured questionnaires. These questionnaires aid in identifying the different contribution made to farmers and the method of information dissemination. Thirdly, to examine the farmers' perception toward ACEFA project on farm management, household surveys were conducted using semi-structured questionnaires. These questionnaires assisted in identifying the different methods of managements, the different

farm implements, the household perceptions no fertilizer usage and the households' perception on pest and disease management. Direct field observations were further undertaken in order to verify the veracity and to confirm the responses obtained during the household surveys.

Data collection

With Primary Data, Questionnaires, direct interviews, Focus group discussions and field observation were used. These questionnaires administered exempted 0-14years of age because they were young to responses concerning agricultural activities and its impacts on the livelihood of the population in the study area. The essence of these questionnaires was to find out the perception of rural farmers toward services provided by the ACEFA Participatory Programme in the Nkambe Municipality. Field observation was also used to generate primary data. Through field observation, the researcher was able to observe the activities of those farmers benefiting and those who are not benefiting from the ACEFA Extension Services in the Municipality. On site photographs were also taken showing the various benefactors, their group members, animals reared and their farm sites.

Secondary data were gotten from textbooks, journals, articles, documented materials, past thesis and dissertations related to various agricultural extension services in the developing countries of Africa, university library, agricultural organizational officers found in the study area. Quantitative analysis was done using Micro Soft Excel for the imputing of information and bring up of histograms and pie charts, SPSS (Statistical Package for Social Sciences) statistical method for the formulation and interpreting of results. Also, Chi square was used to bring out the relationship between beneficiaries and non-beneficiaries of ACEFA extension programme.

Acefa Programme In Cameroon

The Programme for the Improvement of Competitiveness of Family Agro-pastoral Farms, known by its French acronym as ACEFA (Programme d'Amelioration de la Competitivite des Exploitations Familiales Agropastorales) was introduced in Cameroon in 2008 and was implemented by MINADER and MINEPIA. It was financed by Agence Francaise de Developpement in collaboration with the Cameroon Government. Their main goal is to increase the productivity of family farms size enterprises. Its headquarter is found in Yaounde. The programme is under the National Coordinator, Dr. Bouba Moumini. ACEFA assist farmers in three regions of Cameroon which are West Region, South West Region and the North West Region of Cameroon. In 2012/2013 the programme was introduced in Mezam Division, 2014 in Bui Division and 2015 in Donga Mantung Division [12]. The first ADOP and CODAC session of Bui Division was held on the 25th and 26 march respectively. This ADOP session objectives were to spread ACEFA to Donga Mantung Division. Internal rules and regulation were put in place and members were installed on their functions. This therefore permitted the election and installation of the executive members, as well as the election of 3 representatives in

to CODAC. For the CODAC, session, 69 producers' groups and two professional agro-pastoral organisations were selected to augment the portfolio of the Donga Mantung Division which was the third Division in the North West Region to receive the Programme [12].

Results and Discussion

Demographic information of the study population

Table 2: Demographic information of the study population.

Age (Years)	Frequency	Percentage
15 - 30	43	46.2
31 - 46	27	28.7
> 46	24	25.1
Total	94	100
Sex	Frequency	Percentage
Male	42	44.7
Female	52	55.3
Total	102	100
Experience (Years)	Frequency	Percentage
5 - 10	20	19.6
11 - 20	40	39.3
21 - 30	23	22.5
30 +	19	18.6
Total	102	100
Marital Status	Frequency	Percentage
Single	29	28.4
Married	53	52
Divorced	8	7.8
Widower/Widow	12	11.8
Total	102	100

From Table 2, the majority of the farmers were those aged > 46 years (42.1%), followed by those aged 31-45 years (32.4%), while the least were those aged 15-30 years with a valid percentage of 25.5%. Those of the aged group 15-30 year had the least percentage due to the fact most of those in this age group in the Nkambe municipality have left the villages for greener pastures in the cities and urban towns. This therefore agrees with the work of Kurekova Lucia, where she pointed out reasons why people especially youths moved from one geographical location to another and in this case, rural exodus.

Concerning sex of the farmers, 52.9% were males, while 47.1% were females. Males had a higher percentage reasons being that most lands in the Nkambe municipality are owned by men. This result agrees with the work Ndalama et al. [13], which observed that more men are involved in farming since rural lands in most of Africa are owned by men. On the other hand, this scenario contradicts with the work of Saito and Weideman [14], who argued that the success of agriculture cannot be achieved without paying attention to women as they play key role in household and community as a whole. They went further to say that women provide 70% of agricultural labour in Africa.

With regards to years of experience, 19.6% of the farmers have been exposed to farming for 5-10 years, 39.3% of the population have farming experience of 11-20 years, 22.5% of the respondents have carried out the practice of farming for 21-30 years and the least were those who had experience of more than 30 years (18.6%). The category of those who had experience in farming above 30 years recorded the least percentage responses because this group was observed to be predominantly the aged group (46 years and above) who were becoming less fit to continue with farming activities due to health problems as a result of ageing, while those with farming experience 5-10 years were predominantly the youths (15-30 years of aged). Still from Table 2, 28.4% of the respondents were of the marital status single and 52.0% of the respondents were married. 7.8% of the farmers had divorced and 11.8% were the category of those who claimed to be widows or widowers.

Level of education of the farmers

From the level of education of the farmers, 47.1% had access to primary education, 26.5% had access to Secondary education, 9.8% attained high school education and only 0.9% had access to university education. Unfortunately, 15.7% of the total farmers never had access to any formal education. No higher institutions are present in the Nkambe municipality thus this explains why only 0.9% of the respondents claimed to have had access to tertiary education.

Socio-economic activities of the population of Nkambe municipality that generate income

Table 3: Demographic information of the study population.

Main Activity	Frequency	Percentage
Farming	82	80.4
Hunting	6	5.9
Fishing	9	8.8
Others (Petty Trading)	5	4.9
Total	102	100
Motivation	Frequency	Percentage
No job	36	35.3
No tax	3	2.9
Traditional practice	52	51
Others (Leisure)	11	10.8
Total	102	100
Engagement	Frequency	Percentage
Daily	52	51
Weekly	42	41.2
Monthly	8	7.8
Total	102	100

Table 3 indicates the results that were obtained after analyzing the different responses of the farmers concerning their different activities, their motivating factors and their engagement in these activities. Table 3 shows that the main income activity in the Nkambe municipality is farming (80.4%), while the least income

generating activity of farmers is petty trading (4.9%). The results also further show that hunting (5.9%) and fishing (8.8%) are also activities which generate income. The result of farming (80.4%) as the main income generating activity in the Municipality is in line with the report given by Oino and Magure [15], that farming is the main income generating source of rural areas in Africa. It is therefore seen in the Municipality that most of the population rely mostly on farming for their source of livelihood. It from farming that many are able to send children to school and acquire household needs.

Still from Table 3, 51.0% consider their main income generating activity as a traditional practice which has been transferred from generation to generation, 35.3% due to the lack of jobs and 2.9% due to no tax. 10.8% of those interviewed carry out their main income generating activity for leisure. With regards to how committed the farmers are to their main income generating activity, 51.0% are engaged to their main income generating activity daily, 41.2% weekly and 7.8% monthly. The daily engagement to their income generating activity is simply because farming is the only activity they do and finds it necessary to engage in daily.

Farmers involved in ACEFA participatory programme and those not involved

The results show that 41.2% of the farmers were ACEFA members, while 58.8% were non-ACEFA members. The 58.8% non-beneficiaries of ACEFA Programme in the Nkambe Municipality implies that most of these farmers have registered under ACEFA programme and have received counselling but have not yet submitted any document for project funding. An interview with some of the farmers group such as Biang group, mixed farmer's group, hardworking farmer's group, Abir yu ngir group among others indicated that they had received counselling from the ACEFA programme and the ACEFA counsellors are making a follow up with them. They also said they submitted their documents already and were only waiting for their reply. On the other hand, beneficiaries of ACEFA reported with a percentage of 41.2% confirming that ACEFA has financed their projects. The beneficiary's groups were such as the Kwa Element group in Tabenken for the production of tomatoes, Beyi group in Tabenken also for the production of tomatoes, Tarr-Choup in Ngie-Njap for the production of yams, Nkong Wel Ne Wel Group for the rearing of pigs, and lastly Langhi farmers group for the production of huckleberry in Njema- Nkambe.

Relationship between ACEFA extension beneficiaries and non-beneficiaries and their impact on income

Out of those with very low monthly income between 1.000-10.000 francs CFA, 66.7% were non-beneficiaries of ACEFA programme, while 33.3% were beneficiaries. The category of monthly income >30.000 FCFA, majority of the farmers were non-beneficiaries (62.9%) as oppose to beneficiaries which had 37.1%. The results further showed that in the category of monthly income between 21.000 – 30.000 FCFA, 78.6% were beneficiaries,

while 21.4% were non-beneficiaries. The results indicated that there is a significant difference in income between beneficiaries and non-beneficiaries of ACEFA programmes (Chi-Square = 9.62, Significant at $P \leq 0.05$).

This therefore explains the fact that those farmers who are beneficiaries of ACEFA Programme has more farming inputs and knew how to manage their daily farming activities than those who were not beneficiaries, simply because they had received support, technical advice on land preparation and management from ACEFA counsellors which has better on their farm yields. This scenario agrees with the work carried out by Makapela [16], in Eastern Cape on the effectiveness of agricultural extension organization in rural areas. Makapela [16] went further to explain that farmers whose yields are high are those who have received technical and management counselling from agricultural extension services (Table 4).

Table 4: Relationship between ACEFA extension beneficiaries and non-beneficiaries and their impact on income.

ACEFA Programme	Income (FCFA)			
	1.000-10.000	11.000 - 20.000	21.000 -30.000	> 30.000
Beneficiaries	6 (33.3%)	11 (33.3%)	11 (78.6%)	13 (37.1%)
Non-Beneficiaries	12 (66.7%)	22 (66.7%)	3 (21.4%)	22 (62.9%)
Total	18 (100%)	33 (100%)	14 (100%)	35 (100%)

Pearson Chi-Square = 9.62, Significant difference at $P \leq 0.05$

Contribution of ACEFA participatory programme on farmers wellbeing

Table 5: Contributions of ACEFA participatory programme on farmers in the Nkambe Municipality.

ACEFA Contributions	Frequency	Percentage
Irrigated Scheme	10	24.4
Sprayers and Piggery	11	26.8
Both	20	48.8
Total	41	100

From Table 5, 24.4% of the farmers benefited from Irrigated scheme, 26.8% had sprayers and piggery and 48.8% benefited from both irrigated schemes, sprayers and piggery. The irrigation schemes were mostly with farmers cultivating potatoes and tomatoes as well as maize and beans.

Effects of ACEFA Extension Programme on Affordability Needs for School, Clothing and Medical Care

From Table 6, 80.0% of the category of farmers who said school needs is very affordable were beneficiaries of ACEFA extension programme, while 20.0% were non-beneficiaries of ACEFA extension programme. On the contrary a higher percentage of farmers in Nkambe municipality who declared that school needs are affordable were non-beneficiaries (80.5%) of ACEFA extension programme against beneficiaries (19.5%) of ACEFA extension programme. Similarly, of the farmers who said their school needs

is not very affordable, majority were non-beneficiaries (90.5%), while beneficiaries who stood at just 9.5%. The results indicate that there is a significant different between beneficiaries and non-beneficiaries of ACEFA extension programme in the Nkambe municipality on the affordability of their school needs (Chi-Square = 41.52, Significant at $P \leq 0.05$).

Still on Table 6 also presents the relationship between beneficiaries and non-beneficiaries of ACEFA extension programme on medical care affordability. There was a significant different between beneficiaries and non-beneficiaries of ACEFA extension

programme on their medical care affordability for the farmers in the Nkambe municipality (Chi-Square = 31.20, Significant at $P \leq 0.05$). A majority of those who claimed that medical care is very affordable were beneficiaries (75.0%) and only 25.0% of non-beneficiaries made this claim. Of those who made an appraisal that medical care is affordable 78.9% were non-beneficiaries of ACEFA extension programme and 21.1% were beneficiaries. From the responses, 83.3% of non-beneficiaries still declared that medical care is not very affordable as opposed to just 16.7% of beneficiaries. It is evident from the study that beneficiaries of ACEFA extension programme can easily afford medical care.

Table 6: Effect of ACEFA extension programme between the ACEFA extension beneficiaries and non-beneficiaries in Nkambe municipality on their affordability of basic needs.

ACEFA Programme	School Needs		
	Very Affordable	Affordable	Not Very Affordable
Beneficiaries	32 (80.0%)	8 (19.5%)	2 (9.5%)
Non-beneficiaries	8 (20.0%)	33 (80.5%)	19 (90.5%)
Total	40 (100%)	41 (100%)	21 (100%)
ACEFA Programme	Medical Care		
	Very Affordable	Affordable	Not Very Affordable
Beneficiaries	30 (75.0%)	8 (21.1%)	4 (16.7%)
Non-beneficiaries	10 (25.0%)	30 (78.9%)	20 (83.3%)
Total	40 (100%)	38 (100%)	24 (100%)
ACEFA Programme	Clothing		
	Very Affordable	Affordable	Not Very Affordable
Beneficiaries	32 (74.4%)	6 (18.2%)	4 (15.4%)
Non-beneficiaries	11 (25.6%)	27 (81.8%)	22 (84.6%)
Total	43 (100%)	33 (100%)	26 (100%)

Significant at 5% probability, $P \leq 0.05$

Still from Table 6, 74.4% of those who responded that their clothing is very affordable were beneficiaries of ACEFA extension programme, while only 25.6% were non-beneficiaries. For the category of farmers who considered clothing as being affordable, non-beneficiaries (81.8%) of ACEFA extension programme were dominant, while benefactors of ACEFA extension programme made up 18.2%. Unfortunately, a vast majority of non-beneficiaries (84.6%) complained that their clothing was not very affordable compared to 15.4% for beneficiaries. There was a significant difference between non-beneficiaries and beneficiaries of ACEFA extension programme in Nkambe municipality in terms of clothing (Chi-Square = 33.96, Significant at $P \leq 0.05$).

Different medium through which crops are sold in Nkambe municipality between beneficiaries and non-beneficiaries

From Table 7, a vast majority of those who sale their produce on the farm were beneficiaries (80.0%) of ACEFA extension programme as oppose to 20.0% non-beneficiaries. For farmers who use a market as their medium of sales, 80.5% were non-beneficiaries, while beneficiaries stood at 19.5%. The result further indicated that 90.5% of farmers who use middle men to market their produce were non-beneficiaries and beneficiaries

of ACEFA extension programme stood at just 9.5%. The results were significant at 5% probability with a Pearson Chi-Square (X^2) = 24.15. This further indicates that beneficiaries make more gain as their goods will be sold directly on their farm thus cutting of certain transport cost and taxes.

Table 7: Different medium through which crops are sold in Nkambe municipality between Beneficiaries and non-Beneficiaries.

ACEFA Programme	Method of Sales		
	On-Farm	Market	Middlemen
Beneficiaries	32 (80.0%)	8 (19.5%)	2 (9.5%)
Non-Beneficiaries	8 (20.0%)	33 (80.5%)	19 (90.5%)
Total	40 (100%)	41 (100%)	21 (100%)

Pearson Chi-Square = 24.15, Not Significant at $P \leq 0.05$

Determinants of farm records between beneficiaries and non-beneficiaries of ACEFA extension programme to know if they keep records of their farming activities or not

The results in Table 8 show that majority of farmers who keep their records (65.0%) were beneficiaries of ACEFA, while only 35.0% of non-beneficiaries of ACEFA keep their records. The results further indicated that of those who responded that no to

record keeping, a vast majority were non-beneficiaries (92.9%) as oppose to just 7.1% of ACEFA beneficiaries who claimed that they do not keep records. The result was significant at 5% probability with a Pearson Chi-Square of 34.12. This implies that in the Nkambe municipality, farmers who keep records are usually those involve with ACEFA extension programme. This result therefore accepted the hypothesis four which stated that “There exit a significant difference in the farm records between beneficiaries and non-beneficiaries of ACEFA extension program in the study area”.

Table 8: Determinants of farm records between beneficiaries and non-beneficiaries of ACEFA extension programme to know if they keep records of their farming activities or not.

ACEFA Extension Programme	Farm Records	
	Yes	No
Beneficiaries	39 (65.0%)	3 (7.1%)
Non-Beneficiaries	21 (35.0%)	39 (92.9%)
Total	60 (100.0)	42 (100.0)

Pearson Chi-Square = 34.12, Significant difference at $P \leq 0.05$

Farming type between beneficiaries and non-beneficiaries

Table 9: Farming type between beneficiaries and Non-beneficiaries.

ACEFA Programme	Farming Type		
	Mono Cropping	Mixed Cropping	Mixed farming
Beneficiaries	56.00%	33.30%	37.00%
Non-Beneficiaries	44.00%	66.70%	63.00%

Pearson Chi-Square = 4.80, Not Significant at $P \leq 0.05$

Table 9 presents the results obtained when an analysis was made between beneficiaries and non-beneficiaries of ACEFA extension programme on the farming type in Nkambe municipality. The results indicated that for farmers who carried our Monocropping, 56.0% were beneficiaries, while 44.0% were non-beneficiaries; for those who practice mixed cropping, 33.3% were beneficiaries, while 66.7% were non-beneficiaries; and the farmers who acknowledge that they carried out mixed farming as their method of farming, 37.0% were beneficiaries as oppose to 63.0% who were non-beneficiaries. The results were not significant at 5% probability with a Pearson Chi-Square of 4.80.

Method of land preparation made between beneficiaries and non-beneficiaries of ACEFA extension programme

Table 10 presents the results obtained when an analysis was made between beneficiaries and non-beneficiaries of ACEFA extension programme on the different methods of land preparation in Nkambe municipality. The results indicated that for farmers who carried out the practice of slash, burn, plough and hallow, 44.7% were beneficiaries, while 55.3% were non-beneficiaries; for those who practice zero tillage, 42.9% were beneficiaries, while 57.1% were non beneficiaries; and the farmers who acknowledge that they carried out only plough and hallow in preparing their land, 26.3% were beneficiaries as oppose to 73.7% who were non-

beneficiaries. The results were not significant at 5% probability with a Pearson Chi-Square of 2.14. This therefore accepted the hypothesis three which said, “there is no significant difference in the methods of land preparation and management between beneficiaries and non-beneficiaries famers of ACEFA Participatory Programme in the study area”.

Table 10: Method of land preparation.

ACEFA Programme	Method of Land Preparation		
	Slash, Burn, Plough	Zero Tillage	Plough and Hallow
Beneficiaries	44.70%	42.90%	26.30%
Non-Beneficiaries	55.30%	57.10%	73.70%

Pearson Chi-Square = 2.14, Not Significant at 5%

Interview with the Divisional Head of Unit for ACEFA in the Nkambe Municipality

An interview with the Divisional Head of Unit for ACEFA in the Nkambe Municipality revealed that the goal of ACEFA programme is to increases on the productivity of Family Farm Size Enterprises in the Municipality. He explained that before a project is initiated, a baseline situation is established with farmers through diagnosis and characteristic to know how they are doing, what they are doing and the problems they faced. Looking at the problems, solutions come up in the form of development and action plan. This diagnosis is concerned with family farm size enterprises and characteristic concerned with individual family farm sizes. Also, a sowt analysis is done and counsellors work with twelve groups. These ties with the work of Kengne et al. [17], where they reported that after the diagnosis and analysis is done on the weakness, strong opportunities and threats, you have to analysis what you have to work with the farmers. They farmers are the ones to contribute on what they want to work on.

Divisional Head of Unit also reported that, with ACEFA Programme when elaborating activities strongly with family farm size enterprises, there are four areas of intervention that counsellors worked with which include: the associative life of the group (whether members are collaborating with each other and meeting at right position at the right time); group management (access the group in terms of their record keeping, finances spent, technology used); their production that is groups and individual farms production; and lastly the services rendered (benefits members receives as a group).

More so, Divisional Head of Unit said ACEFA based on projects financing, before starting a project with a group, counsellors must have worked with the groups for at least a year in the four areas of interventions. Project ideas comes from their diagnosis, solutions are put into aspect. General Diagnosis and techno-economics diagnosis are made. Axis of ameliorations then functions on the group and a little bit on the programme. With finances, 85% comes from the ACEFA and 15% from the farmers groups. This 85% are paid in two instalment using checks. While the 15% fund from farmers’ group is being deposited in the account created under the

name of each farmers group. When money for the first instalment is given, follow-up is done by the counsellors in order to ensure that the project is actually going on. When the project reaches a certain stage as anticipated, the second instalment is then given to the groups to complete their project. ACEFA still work with these groups for three years again to ensure it successfulness.

Conclusion

Agriculture plays an important role in improving livelihood of rural population in Cameroon and Nkambe in particular. The research which was entitled ACEFA Participatory Programme and its impacts on the livelihood of rural farmers in the Nkambe Municipality has identified farming (80.4%) as the socio-economics activities of the population of the study area which generates income. 51.0% of farmers carried out farming activity on daily bases with 86.3% of the farmers using simple rudimentary tools such as cutlass and hoes. 74.5% of farmers in the Municipality practiced slash, burn, ploughing, and harrows method of farm preparation and the main crops grown were vegetables (50.0%) such as tomatoes, cabbage, huckleberry, among others, and the animal reared were goats (35.3%). Most of the farmers in the Nkambe Municipality used animal dung (57.8%) such as fowl dropping, goat dung, pig dung and cow dung to fertilize their farms. 62.7% of the farmers in the Nkambe Municipality were aware of ACEFA Programme and benefited from counselling, while 41.2% out of the 62.7% benefited from project funding, by receiving 85% funds from ACEFA. The programme has however provided farmers with implements such as irrigation scheme, sprayers, hoes, cutlass, spades, cans, wellbarows and also helped in the construction of piggery for farmers who are engaged in pig rearing such as the Nkong Wel Ne Wel group of Nkambe.

Effective programme of agricultural extension services in the country in general and Nkambe in particular could transform traditional agriculture in to a modern one for improved living standard of the rural population if all agricultural experts work in their various domains to help farmers achieved their goals like what ACEFA Programme is doing in Nkambe Municipality. With the effort of the extension services, the livelihood of rural farmers in Africa, Cameroon and Nkambe in particular will be ensured.

Recommendations

Recommendations to the government and agricultural organizations

From the results, 62.7% of the farmers in the Nkambe Municipality were aware of ACEFA Programme and benefited from counselling, while 41.2% out of the 62.7% benefited from project funding. This therefore recommended that more agricultural sensitization campaign should be carried out in the municipality in order to create awareness to farmers who are not aware of agricultural extension services.

Most of the farmers in the Nkambe Municipality used animal dung (57.8%) such as fowl dropping, goat dung, pig dung and cow dung to fertilize their farms. This there recommended that there should be a use of indigenous, participatory and training

&visit extension services approaches should be promoted. Field observations revealed that there are inadequate teaching and demonstration materials. This therefore recommended that the Extension Field staffs should be fully motivated, particularly the AEAs with job incentives and provision of teaching and demonstration materials.

Furthermore, from field observations, most of the villages are found in the suburbs with inaccessible roads network, inadequate infrastructure such as health facilities and lack of electricity. This therefore deem it necessary for accommodation facilities to be provided for all AEAs in the communities they operate.

Recommendations to the rural population (Farmers)

Farmers should increase the use of organic manure in order to improve on their soil fertility. Farmers should also constitute themselves into cooperatives so that their food crops could be bought at a fixed price determined by the cooperative society in order to avoid constant fluctuation of prices caused as a result of middlemen intervention. More so, farmers should avoid the slash and burn method of farming and adopt new agricultural techniques which help to improve on the soil fertility.

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