

EVALUATING THE CONSTRAINTS AND OPPORTUNITIES OF MAIZE PRODUCTION IN THE WEST REGION OF CAMEROON FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT

A study of Evaluating the constraints and opportunities of Maize production in the West Region of Cameroon was carried out using primary and secondary data collected. One hundred and twenty (120) maize farmers randomly selected from eight (8) villages were interviewed using structured questionnaire. Data from the study were analyzed using descriptive statistics such as frequency distribution, percentages, and inferential statistics such as multiple linear regressions. The study found that most maize farmers in the study area were small scale farmers and are full time farmers, the major maize production constraints was poor access to credit facilities. it was also found any unit increase in the quantity of any of the resources used for maize production will increase maize output by the value of their estimated coefficients respectively, however to raise maize production, the study recommend that financial institutions such as agricultural and community banks should be established in the study area with the simple procedure of securing loans. The relevant government agencies and non-governmental organization should mobilize the maize farmers to form themselves into formidable group so that they can derive maximum benefit of collective union.

Keys words: West region, Cameroon, production constraints, development, maize production, sustainable

INTRODUCTION

Agriculture which was developed through invention of a series of complex related technologies involving in an intimate relation crops and domesticates animals (Amusa and Iken, 2004) contributes from a lot to the Cameroon's economy, about 75% of Cameroonians earn their living from agriculture and it's provides among others food, raw materials for local industries (F.A.O 1999), however up until the late 1980's maize was regarded by the majority of people as a crop solely for home consumption rather than for cash during the past three decades with the large decreases in the prices of the two main cash crops (coffee and cocoa), however, the crop has seen a steady increase in demand, maize (*zea mays*) is the most important crops in the world after wheat and rice, it is a major item in the diet of many tropical people, in temperate regions, it is the main grain used for animals feed and it is the most important feed entering international trade (purselove, 1978). Now a typical rural adult person from this grassland area of Cameroon, maize is the single most important diet food such a person.

Nonetheless it could always be found in the weekly markets of the region where it is sold in “tins”, buckets or bags. maize is increasingly gaining importance as a cash crops such as coffee ,cocoa, and oil palm trees. According to the long term of food plan prepared by the ministry of planning in 1986 the increase demand for maize was estimated at 41% for the period 1985-1996. This relatively new trend has been encouraged by high demand particularly from a large scale buyers such as societe camerounaise de transformation des cereals S.C.T.C) societe anonyme des Brasseries du cameroun (S.A.B.C), union camerounaise des brasseries (U.C.B) , animal feed mills, societe des provenderies du cameroun (S.P.C) Belgocam,Nutricam, and a larger section of growing urban population (Ministry of planning, general census, 1987).

The Cameroonian government was motivated to increase national maize production estimated about 466,000 tons in 1990-1991 in which west region accounted about 35% of this total cultivated in small plots 0.4 to 0.6 ha (Conte, Fusilier,1993). By this desire Cameroonian’s government through its Ministry of Agriculture and rural development initiated maize project in 2004 with the aim to increased national maize production particularly in the west region in order to meet the country’s consumption level and raise the standard of living of the rural farmers and to attain sustainable level of development. The worrying factor is that the west region has never been able to maintain self sufficiency in maize. Although the production increased from 370,000 tons in 1988-1989 to over 500,000 tons in 1991-1992, the internal demand for maize was still not fully satisfied, thus 25,600 tons were imported in 1992 (Conte, Fusillier 1993), moreover maize demand today exceeds production and large quantities of maize were imported to meet the country requirements at huge expense in term of hard currency.

Much has been done since the independence to promote agricultural development, it is through such efforts that west region has been discovered as a region in which maize might have a higher return of production per ha and might contribute quantitatively to the solution of the food problem (Fomunyan, 1984). The west region had immense untapped potential to produce more maize than its needs. Research has proved that maize might be grown in any part of the area in west region of Cameroon because of its topography, its climate and its population (Jean Louis Dogmo, le dynamisme bamileke, 1998). Unfortunately, maize growing in the west region of Cameroon is plagued by many constraints requiring urgent attention.

PROBLEM STATEMENT

Since the late of 1980’s, maize has become the new cash crops for many farmers who now diversify their crop production because of the new trend of market forces due to the inability of farmers to produce enough maize in order to satisfy the needs of growing urban population. (Ministry of planning, general census 1987), the animal feed mills and the maize processing industries, according to Adebowale(2004) sighted that the demand for maize exceeds the supply as a result of it’s additional use as livestock feeds ,baking and brewing industries. Moreover maize production is dominated by small holder farmer using traditional manual methods that are fraught with drudgery and a lot of problems, use of simple ,low input technology ,resulting in low land and labour productivity (F.A.O,1999). The absence of resistant or tolerant local maize varieties to rust diseases is a limiting factor to production of maize (Iken et al,2004). Pest and diseases are important natural factors limiting the production of maize in several cases, accounts for 100% losses (Sight et al, 1997). The policy maker

needs empirical data to guide the development of suitable economic policies that would guarantee the improvement of maize production system for the maximization of the maize farmer's profit margin.

From the above observations this research seeks to answer the following questions: What are the socio economic characteristic of maize farmers in the west region of Cameroon? Why did the efforts in the past towards increased maize production fail to yield the desired result of self-sufficiency in maize production? What is the effect of production inputs in maize output in west region of Cameroon?

OBJECTIVES OF THE STUDY

With the increase demand of maize in Cameroon and particularly in the west region, the main objective of this work is to evaluate the constraints and opportunities of maize production in west region of Cameroon against the background of sustainable development. This will be achieved through the following specific objectives identify the socio economic characteristic of maize farmers in west Region of Cameroon, identify the resources used in maize production by farmers, identify the maize production constraints and determine the effect of production inputs in maize output

METHODOLOGY

This research was conducted to evaluate the constraints and opportunities of Maize production in the west region of Cameroon. The west region of Cameroon is made up of eight division namely: Bamboutos, Haut-Nkam, Mifi, Noun, Menoua, Khoungkhi, Nde, and Hauts-plateaux. A random sample of the population of 120 maize farmers in the study area were used for the study. 15(fifteen) maize farmers were selected in each of the 8(eight) division as follows : Banekane at Nde division, Galim at Bamboutos division, Kekem at Haut- Nkam division, Baleng at Mifi division, Bansoa at Menoua division, Bamendjou at Hauts-Plateaux division, Djebem at Khoung-Khi division, Mogni at Noun division.

primary data for the study were collected through the use of well structured questionnaires that was administrated to 120 farmers in the study area.



Figure 2: Cameroon Map, Source :Encarta,2009

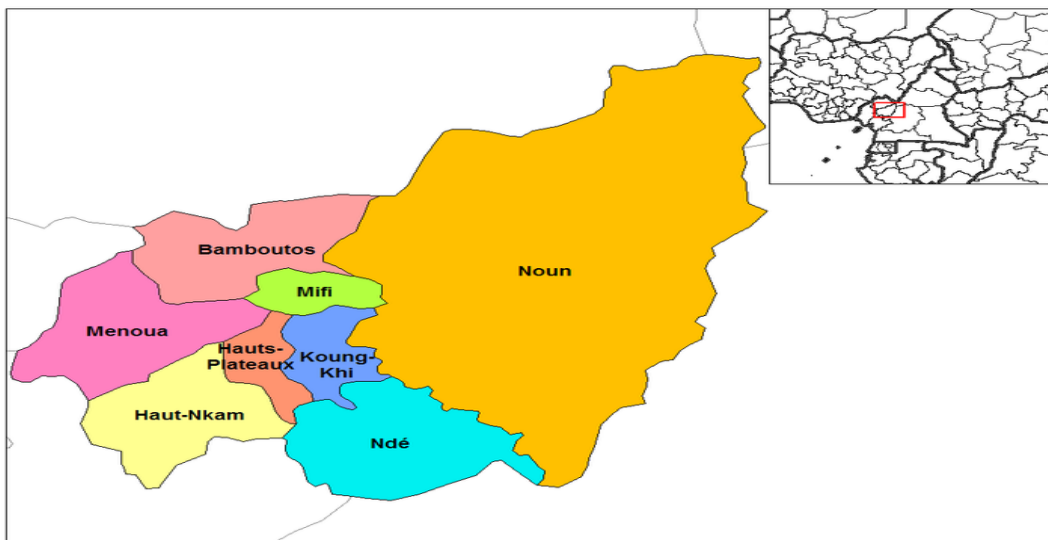


FIGURE 3 : West region Map, Source: Encarta, 2009

Data were analyzed using descriptive statistics such as frequency percentages and mean were used for the analysis of socio economic characteristic of the farmers, identification of the resources used in maize production and identification of maize production constraints and multiple regression was used for the analysis of the effect of production inputs in maize output.

MODEL SPECIFICATION

Multiple linear regression

An Econometric model was used to analyze the effect of production input of maize output; production of maize was explicitly expressed as a function of the inputs. The econometric model is explicitly specified as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \mu \quad (1)$$

Where Y= maize output in kilograms

β_0 = constant factor

X1= land under cultivation

X2= total number of labour used in man- hours

X3= quantity of maize planted in kilograms

X4= quantity of fertilizer in kilograms

X5= quantity of agrochemicals used in litres

β_i = estimates of the coefficients with (i= 1,2...5)

μ =an error term measuring variation in maize output unaccounted for by independent variable.

The estimates of the coefficient β_i were estimated for the effect of the variable on changes in maize output. A positive β_i was found for variables associates with the increase maize output and negative β_i (i=1, 2...5) was found when a variable is associated with the decrease maize output.

Results and discussion

The study revealed that 63.3% of respondents were male while 36.7% were female; the result show that the male who are relatively an active part of farm works dominated the study area. It also show that most of respondents were between 30- 34 years(29.2%), followed by 25-29 years(19.2%), then 35-39 years (12.5%) and 40-44 years (12.5%), 45-49 years(5.8%), 50-54 years(8.3%), 55-59 years(5%), more than 59 years (7.5%). This implies that youth are involved for maize production in west region of Cameroon. 75.8% were married, 10.8% were single, 10.8 % were widowed / widower and 2.5% were divorced. the respondents highest household size ranged from 1-4 (45.83%), 5-8 (25%), 6-9 (16.66%), and more than 10 (12.5%), this implies that farmers do not have enough labor supply from their household for the purpose of maize production. 41.7% had secondary education, 40.8% had primary education, 9.2% had post secondary education and 8.3% had no formal education, this implies that most farmers are literate enough to make use of agricultural information for their production. majority of respondents 69.2% had annual income between 1,000-50,000 fcfa ,12.5% had an annual income between 51,000-100,000 fcfa ,6.7% had an annual income between 101,000-150,000 fcfa ,3.3 % had an annual income between 151,000-200,000 fcfa ,5 % had an annual income between 201,000- 250,000 fcfa, 2.5 % between 301,000-350,000 fcfa and 0.8% had more than 350,000 fcfa.

The results further show that half of maize farmers in west region had associated five resources for their production.

It also shows that 27.5% of maize farmers had little access to credit, 16.7% had the problem of inadequate training, 12.5% had problem of high cost of inputs, 11.66% had problem of pest and diseases, 12.5% had poor marketing system, 10% had faced the problem of poor storage facilities and 9.66% had faced the problems of poor infrastructures (roads, water,

electricity,). This implies that the major constraints faced by maize farmers are poor access to credit and inadequate extension contact.

Result of multiple linear regressions analysis

Maize output was regressed with the quantity of land, labour, maize seeds planted, fertilizer, and agrochemicals. The estimated of the coefficient (β_i) for the quantity of inputs such as land, labour, maize seeds, fertilizer, and agrochemicals were positive, independents variables had significance coefficient at 5% level of significance. The implications of these results are that any unit increase in the quantity of any of the independents variables (land, labour, maize seeds, fertilizer, agrochemicals) will increase maize output by the value of their estimated coefficients. Table 1 illustrates the details

Table 1: RESULT OF THE MULTIPLE LINEAR REGRESSION ANALYSIS

Variables	Coefficients(β_i)	Std. Err.	t - ratio	[95% conf. Interval]	
Constant	-284.1227	1392.645	-0.20	422.454	920.4871
land(ha)	671.4705	125.7029	5.34	-1.19716	2.351298
labour(hours)	0.5770694	0.8956264	0.64	-6.120765	24.86819
maize seeds(kg)	9.373714	7.821575	1.20	-0.4367181	4.609698
fertilizer(kg)	2.08649	1.273709	1.64	21.90869	79.90093
agrochemical(kg)	50.90481	14.63717	3.48	-3042.942	2474.696
R ²	0.6576				
Adjusted R ²	0.6426				
F value	43.26				
Observations	120				

Source: field survey 2011

CONCLUSION

The study concludes that most of maize farmers are relatively literate, land acquisition for maize production in the study area is mainly through inheritance, Most of maize farmers are small scale farmers, Majority of maize farmers had obtained low output per hectare from their farm, majority of maize farmers used local varieties of maize for their production, little access to credit constitutes the major production constraints of the sample farmers, majority of maize farmers did not keep any form of record from their farm activities. For sustainable development in Cameroon, modern seed varieties and access to credit be made available to farmers.

RECOMMENDATIONS

In the line with the finding of this study it is recommended that:

Information on innovations on maize production should be made available to the maize farmers since they are literate enough to read and adopt the innovation to improve their production.

Financial assistance should be given to the maize farmers to acquire farms inputs like maize seeds, fertilizer, agrochemicals, and other materials for farming activities.

With the fact that most of farmers are full –time the need to be encouraged by providing necessary assistance such as adequate training, appropriate technologies for production, and good marketing system for their production, etc.

Government has to create marketing board in order to inform maize farmers on the variations of maize price the market.

Financial institutions such as agricultural and community banks should be established in the study area with simple procedure of securing loans.

The relevant government agencies should mobilize the maize farmers to form themselves into formidable group so that they can derive maximum benefit of collective union.

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