

**The Effect of Socio-Economic Factors on Pearl Millet (*Pennisetum glaucum* L.)
Production in Magumeri Local Government Area of Borno State, Nigeria**



By

* ¹A.B. Mustapha and ²W. Dangaladima

¹Department of Agricultural Engineering, Ramat Polytechnic, Maiduguri. P.M.B. 1070, Maiduguri.

²Department of Agricultural Science, Shehu Shagari College of Education, Sokoto.

[*Corresponding Author: E-mail, mustaphaalisondo@yahoo.com. Tel. +2348036328377]

ABSTRACT: The study investigated farmers' socio-economic factor affecting pearl millet production in randomly selected villages in Magumeri Local Government Area of Borno State. A total of 80 farmers were selected through stratified random sampling and were administered with questionnaires. The results revealed that educational level, membership of cooperative union and contact with extension agents were significantly related to millet output level at 5% level of significance. The farmer's age and years of farming experience were not significant to millet production at 5% level of significance. Recommendations were made based on the results of the findings.

Keywords: Socio-economic Factors; Pearl Millet; Production

INTRODUCTION

Millet ranks the world's fourth most important tropical food cereal with 26 million hectares being cultivated mostly in semi-arid West Africa and India (Andrews *et al.*, 1996). It is early maturing, well adapted to droughty, sandy acid soils of low fertility. Millet is highly responsive to fertilizer and moisture on well drained soils. Oelke *et al.* (1990) described millet as one of the oldest crops cultivated which dates back to 2000 to 1000 BC. Andrews *et al.* (1996) identified five millet species of commercial importance as proso millet grown in China, foxtail millet of southern Asia, barnyard or Japanese millet grown in Australia and Japan, brown millet native of India and pearl millet or cat tail millet originated in the African Savannah since prehistoric time. Descended from West African grass, pearl millet (*Pennisetum glaucum*) was domesticated more than 4000 years ago (NRC, 1996).

Today, pearl millet is so important that, it is planted on some 14 million hectares in Africa and 14 million hectares in Asia. Global production of its grain exceeds 10 million tonnes a year, and at least 500 million people depend on pearl millet for a living. They lamented that despite its importance; however, pearl millet can be considered as a "neglected" crop because it is

poorly supported by government as compared with other cereals.

The role of millet farmers in the supply of food and agricultural raw materials in Nigeria needs not to be overemphasized. However, their continuous use of rudimentary farm tools and other traditional methods of agricultural production might have contributed to the shortage of food to meet the nutritional requirements of the increasing population and supply of agricultural raw materials for agro allied industries.

Small scale farmers in Nigeria seem to produce the bulk of our agricultural food potentials for several years. This was supported by Umeh and Ikejamba (1992) who confirmed that, Nigeria is a nation of small scale farmers, however, their system of food production is neither adequate to meet the expectation and goals of our governments nor is it adequate to meet the rising demand for food for the populace.

In spite of the numerous attempts by governments to improve agricultural production through Agricultural Development Programme (ADP), Nigerian Agricultural and Cooperative and Rural Development Bank (NACRDB), River

Basin Development Authorities (RBDA) among others, yet the farmers appear to confine themselves to traditional type of farming system. Hence their production level seems to be low. Arnon (1990) opined that, an alternative explanation to the failure of the farmers to change may not necessarily be lack of willingness by the farmers themselves, but, may be some obstacles within the farm environment. Some of the recommendations of the policy makers were practically impossible without adequate knowledge on the socio-cultural and economic conditions of the farmers for whom such recommendation were used. Usman (1990) opined that, the reason for the failure of most of government policies to find lasting solution to the problem of food production in Nigeria is the fact that the agricultural policies failed to appreciate the role of small scale farmers. Emphasis was given to large scale mechanized farming which was inadequate to meet the food requirements of the nation.

The policy makers in this country do not have enough knowledge of the socio-economic problems of the rural farmers which is vital for policy formulation and implementation. The major obstacle to the formulation of realistic food strategies and policies and effective implementation in most of the developing countries is due to lack of timely and realistic agricultural statistics of land, price fluctuation, lack of capital and storage facilities.

This study examined the socio-economic characteristics of pearl millet farmers to establish relationship between the socio-economic characteristics and millet output level.

METHODOLOGY

Study Area

The study area, Magumeri Local Government is located in Semi Arid zone of Borno State, predominantly inhabited by resource poor farmers. Despite the long period of millet production in the area, farmers seem to be operating at subsistence production level which is characterized by the traditional farm practice, having small farm land, crude implements and low level of technology use. This trend of farming in the area has generated the following

research question that seems relevant. What are the effects of socio-economic factors on millet production among farmers in the study area? How can the situation be improved?

The population selected was eighty millet farmers randomly selected from eight villages in the study area through multi phase sampling. Data were collected through the use of questionnaires and oral interview. Chi-square was used to analyze the relationship between socio-economic characteristics of the farmers and millet output.

The variables used for the study include, the age of farmers, educational levels, participation of farmers in cooperative organizations, years of farming experience, and their contact with extension agents.

RESULTS AND DISCUSSION

The independent variables considered were, the age of the farmers, educational level, participation in cooperative societies, and years of farming experience and their contact with extension agents.

The age of a farmer may affect his production level because the older the farmer, the less productive he will be. Table 1 revealed that the farmers who are between the ages of 20-30 are 25%, between 31 to 40 years are 36.25% and those above 60 years are 8.75%. It can be observed that majority of the farmers are below the age of 50.

Table1: Age Distribution of the Respondents

Age Group (years)	Frequency	Percentage
20-30	14	25.00
31- 40	29	36.25
41-50	13	16.25
51-60	12	13.75
Above 61	7	8.75
Total	80	100.00

Source: Survey data, 2001

The acquisition of education leads to positive change in the society. In the case of millet production, farmers who are well educated have

higher ability to perceive new technology. In Table 2, 46.25% of farmers have less than post primary education and those that have higher qualification are 16.25%.

Table 2: Educational levels of respondents

Level of Education	Frequency	Percentage
Nil	14	17.50
Primary	23	28.75
Post Primary	10	12.50
Tertiary	03	3.75
Qur'anic	30	37.50
Total	80	100.00

Sources: Survey data, 2001

The years of farming experience may have influence on adoption level of millet farmers. The longer the years of farming experience, the more they have the knowledge of farming practices. In Table 3, the farmers who have experience of 10 years or less are 45% while the 55% have more then 10 years farming experience.

The extension agents disseminate agricultural information to the farmers. They teach the farmers new techniques in millet production. The importance of frequent contact between farmers and extension agents will not be over emphasized. Usman (1990) examined that

Table 5: The distribution of chi-square correlation

Selected variable	Computed χ^2	Critical χ^2	df	Remarks
Age of the farmers	0.61	7.815	3	NS
Education level	10.39	9.488	4	**
Participation in cooperative society	6.84	5.990	2	**
Years of farming experience	0.76	7.815	3	NS
Contact with extension agents	10.37	9.488	4	**

Key: ** Significant at (P < 0.05) confidence level

farmers who meet extension agents frequently use the farm resources more efficiently than those who meet the agents rarely. In Table 4, the farmers that come in contact with extension agents weekly are 23.75% and 53.75% meet the agent monthly while 22.50% only see them annually.

Table 3: Distribution of respondents' farming experience

Farming experience (years)	Frequency	Percentage
1-10	32	45.00
11-20	26	32.50
21-30	10	12.50
Above 31	12	10.00
Total	80	100.00

Source: Survey data, 2001.

Table 4: Farmer contact with extension agents

Level of contact	Frequency	Percentage
Weekly	19	23.75
Monthly	43	53.75
Annually	18	22.50
Total	80	100.00

Source: Survey data, 2001.

CONCLUSION

The result of the chi-square analysis (Table 5) revealed that education level, participation in cooperative organizations, and farmer contact with extension agents are significantly related to millet out put at 5% level of significance in any one of these variables resulting in an increase in millet production.

The age of the farmers and years of farming experience are not significantly related at 5%

level of significance. It can be deduced that it is not the number of years of farming practice contributes positively, rather the level of awareness of the farmer that is important. Hence it is necessary for agricultural agencies to educate the farmers on new techniques through their extension agents and encourage the farmers to participate more in cooperative organizations.

RECOMMENDATION

It can be recommended here that, the governments at all levels should encourage the farmers to form cooperative societies and at the same time employ more extension agents educate the farmers since the farmers contact with the extension agents contributes positively to millet production. Furthermore, governments should establish more schools for the farmers and their children as the more educated the farmers are the more the out put.

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