JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

SOCIO-ECONOMIC CHARACTERISTICS AND CONSTRAINTS OF WHEAT FARMERS IN JIGAWA STATE, NIGERIA

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*Abstract :*The study examined socio-economic characteristics and associated constraints of wheat farmers in twelve local government of Jigawa State, Nigeria. The objectives of the study are: to identify and describe the socio-economic characteristic of wheat farmers in the study area and to determine constraints militating against wheat production in the study area. Multi-stage sampling technique was used in collecting the data. Data collected were analyzed using descriptive statistics. The major findings of the study revealed that majority of the respondents are male, married and are within the age range of 21-65years and a mean age of 40years. The result further showed that the respondents had one form of education or the other, with secondary education as the highest (31%) and had 5-30years of experience with a mean of 14years of farming experience. The household size of the respondents ranges from 5-20 with a mean of 6 households. The farm size of the respondents ranges from 0.1-4ha. The findings identified the following constraints: high cost of fertilizer, high cost of fuel, high cost of labour, inability to access loans, inadequate extension agents among others. Socio-economic characteristics of wheat farmers should be taken into consideration while formulating policies and introduction of new technologies to rural farmers. Credit facilities should be made less cumbersome and with little interest rate to producers. Adequate extension workers should be provided and supported to deliver. Fuel should be subsidized to enable farmers benefit from their efforts were among the recommendations.

Key words: wheat, farmers, socio- economic characteristics and constraints
This research was sponsored by the Tertiary Education Trust Fund (TETFUND) through The Institutions Based Research (IBR) grant

I. INTRODUCTION

Wheat (*Triticum aestivum* L.) is grown across a wide range of environments around the world; in fact, it has the broadest adaptation of all the cereal species. More land is devoted world- wide to the production of wheat than any other commercial crop. It is the number one food grain consumed by humans, and its production leads all crops, including rice, maize and potatoes. Though production is concentrated between latitudes 30^0 and 60^0N and 27^0 and 40^0S, the crop can be and is grown beyond these limits (Anaso,et al., 1998). The crop is grown on more than 240 million hectares larger than any other crop. World trade in wheat is greater than all other crops combined (Curtis, et al., 2012). Curtis further stated that; rice and wheat are the world's most favored stable food crops. It provides more nourishment for human than any other food source. It is a major diet component because of its agronomic adaptability, ease of grain storage and ease of conversion into edible foods.

Prior to independence, wheat production in Nigeria was considerably at low level or low key private sector (rather individual) affair. Production was scattered and mainly by small-scale farmers while the varieties then produced and the technologies used (quite simple by today's standard), have all been at very low level. It has been reported that, up to 1985, domestic annual production of wheat was about 15,000 metric tons (Isitor, et al., 1990). Despite

this very low level of domestic production, demand for wheat has been on the increase since the demobilization and return of Nigerian troops from Second World War. From then on, consumption of bread, cake, biscuit, confectioneries, cookies and other snacks prepared from wheat has increased appreciably in the country, but more so with the rise in the country's population, their income and urbanization over the year.

The government therefore began to show interest in increased domestic wheat production. In 1959, the Federal Government decided to develop irrigation schemes in the northern parts of the country for the cultivation of wheat. These areas are characterized by cool weather during the harmattan months (November to February) and the abundance of large amount of water that could be harnessed for both small and large scale irrigation.

Problem Statement/Justification

The production characteristics of small – scale farmers as summarized by Olayemi (1980), includes; land fragmentation, labour intensive production, cost of hired labour often constitutes over 60% of the total cost of production, with family labour constitutes the major source of labour supply, both the fixed and operating capital investment are low; as only simple tools and equipment are used in production. Production inputs like fertilizer and improved seeds are often not within the reach of the farmers and farm size is generally small. Problems of small-scale farmers was reported by Seyoum, et al., (1998), to includes; the use of traditional technology of low productivity, inadequately funded extension services, poor resource base, shortage of oxen for cultivation as well as poor distribution of agricultural inputs. All these contribute to low productivity of the farmers. Thus a major factor which undermines agricultural growth in Nigeria is low level of application of modern farming technology, including inadequate cultivation of high yielding seeds and seedlings. Against this background, this study attempts to analyze the economics of analysis wheat production in Jigawa State, Nigeria.

Wheat is grown widely in Jjigawa State, but the demand for it, is higher than its supply. Though the farmers are willing to improve their level of production, but may not have the needed skills and inputs to achieve it. The farmers in the study area are small-Scale farmers and are mostly illiterate that lacks managerial capacity, limited capital, labour shortage, diseases and pest, absence of poor marketing facilities, poor production technology and inefficient resource use (JARDA, 2005).

The study will therefore immensely boost farmer's zeal of improved productivity and efficient utilization of resources if conducted. It will equally improve the farmer's level of income as improved productivity leads to increase in total revenue. Wheat can equally generate revenue through its export as its demand in the international market is high. More indigenous industries depends on wheat as its raw material such industries employs our teaming youth who roams our streets in search of jobs. The study will equally add to the volume of literature in wheat and at the same time it can serve as a guide to policy makers in making policy and other organization directly or indirectly related to wheat production like flour mills.

II. LITERATURE REVIEW

a) Effect of Socio-Economic Characteristics on the Productivity of Sesame Farmers

The role of socio-cultural and economic characteristics of farmers in agricultural production has been widely acknowledged as these affect the farmers' productivity.The level of farmers' education is believed to influence the use of improved technology in agricultural production and hence farm productivity (Johnson, 1990). He further observed that, the age of the farmer in correlation with forming experience has significant influence on the decision making process with respect to risk evasion, adoption of improved agricultural technologies and other production related decisions .Abu, *et al*. (2011) also observed that 94.8% of farmers in his

study area were within their active age between 21-60yrs.The mean age of the respondents was found to be 41-44 yrs.

Abu, *et al.* (2012) reported that farmers experience and access to credit were positive and statistically significant ($p \leq 0.01$).He also found that the coefficient of age of farmers (-2.12) was negative and statistically significant ($p \leq 0.01$). This result implies that the older the farmer, the higher the experience and as experience increases the more the farmer get used to farm production process and techniques and hence increase technical efficiency.

Bolade (1986) carried out an investigation on the extent to which difference in selected socio-economic factors affects innovation adoption by artisan farmers of Maroko area of Lagos state. He observed that age and membership of cooperative societies did not significantly influence the ability to acquire and adopt outboard engine but extent of literacy and committee membership relate positively to its adoption and the acquisition of other fishing inputs. The general awareness of the fishermen greatly facilitates their adoption of fishery innovation irrespective of their socio-economic and cultural background. Usman and Suleiman (2011) reported that farm size and labor to be statistically significant at 1% level. Thus farm size and labor are the most significant inputs in the production of sesame.

Haruna and Hamidu (2004) in their study of the economics of Turkey production in Western Agricultural zones of Bauchi state, Nigeria reported that age and educational level attained by the respondents were significant factors in poultry production. They further stated that age and education are important in changing farmer's behavior towards positive thinking like attempting to venture into profitable enterprises.

On their study: on socio-economics of free-range poultry production among agro-pastoral Fulani women in Kaduna State, Nigeria. Ajala, *et al.* (1998) observed that, the respondents had a mean age of 41 years, and little or no formal education. This adversely affects their performance in management of their poultry farms.

Abu, *et al*. (2011) in their study on the analysis of cost and returns for sesame production in Nasarawa state: Implication for sustainable development in Nigeria, reported that 69.9% of the respondents never received any training on sesame production. He further reported that 75.8% had no access to formal source of credit/loan. Essien and Imoh (2005) in their study on adoption of improved cassava varieties among small-scale farmers in Ikot Ekpene agricultural zone of Akwa Ibom state, Nigeria, found that farm size affects adoption of technology and that determines whether farmer will use improved seed. Ojo and Ajibefun (2000) and Kudi (2005) reported that extension contact increases productivity in sesame in Jigawa state. Ojo and Ajibefun (2000) also reported that an increase in the number of years in sesame production decreases technical inefficiency; this relationship is significant at the 5% level.

b) Problems of Wheat Production

A number of constraints had adversely affected the performance of the agricultural sector. Most importantly, the Agricultural raw materials production has been faced with the problems of persistent short supply if available, and high cost of inputs as well as the inefficient purchasing power of small-scale producers and low international demand for primary commodity expert due to poor quality. The Raw Materials Research and Development Council (RMRDC) (2004) identified shortages of fertilizer, agrochemicals, improved seeds, lack of access to agricultural loans and tractors for cultivation as major problems hindering Sesame production in the country. Food production, farm incomes and food prices are vulnerable to inadequacy in supply and high cost of chemical fertilizers in Nigeria (Rahman and Umar, 2001). According to Eboh, *et. al.* (2006) despite application of subsidy by Federal Government of Nigeria, nominal prices of chemical fertilizer (for 50 kg Bag) were on the increase.

III. METHODOLOGY

The study was conducted in Jigawa State, which is located in the northern part of Nigeria between latitudes 10° 75' N and 13° 03' N and longitude 80° 08' E and 10° 37' E. The state has a land mass of about 2.2 million hectares. It shares a common boundary to the north with Katsina state, Niger Republic and Yobe state, to the east and south, it is bounded by Bauchi state and to the west by Kano state (JARDA, 2005). The state has a population of 4, 348,649 with annual population growth of 3.2% (NPC, 2006). The average household size is 12 persons and the state is considered to be agrarian as more than 90% of the working adults engaged in peasant agriculture as a means of livelihood (JARDA, 2011). Twelve (12) local governments out of the twenty-seven (27) local governments in the state that are prominently known for wheat production were selected for the study, namely: Auyo, Guri, Hadejia, Kirikasamma, Miga, Jahun, Taura, Ringim, Kazaure, Birnin Kudu, Kafin Hausa and Gwaram Local Governments.

a) Method of data Collection and Sampling Technique

The data for the study was basically primary. The data was collected with the use of structured questionnaire which were randomly administered to the selected sample of wheat farmers in the selected local governments. A preliminary survey was carried out, to determine the total number of wheat farmers in the selected Local Governments. Thirty percent (30%) of the total number of farmers identified were used as a sample. A multistage sampling technique was employed in the selection of respondents. In the first stage, the twelve Local Governments were purposively selected due to the fact that wheat production is prevalent in them. In the second stage, a list of the wheat farmers were prepared and numbered serially from each Local Government and a table of random numbers will be used as a guide to assign a random number to each farmer on the aforementioned list. In the third stage, the random numbers were used to guide the selection of 30% that were to as serve as the respondents.

b) Analytical Techniques

To achieve the stated objectives, simple descriptive statistics that includes simple percentage and mean were used to analyzed the socio-economic characteristics and constraints faced by the respondents.

IV. RESULTS AND DISCUSSION

Socio-economic characteristics plays a vital role in influencing the farmer's willingness to learn about new ideas and consequently adopt innovation which the findings of Tijjani and Bakari (2014) and Ahmadu and Erhabor (2012) whose finding revealed 82% and 92% as males in their studies respectively. The result also shows that 35.08% of the respondents are in the age range of 30 - 40 years of age. The mean age of the respondents is 40 years implying that they are majority and within their youthful age which could be a factor in the adoption of improved agricultural practices. The result from them showed that about 71% of the respondents were married and majority (47.53%) had household size of 1 - 5 persons with an average household size of 6 persons. This implies that there may be a high food demand in household hence the need for increase production in the study area.

The educational attainment of farmers usually, account for their ability to be innovating and makes them to evaluate farming risk, which to a large extent determine the success or otherwise of a farm business. Result in table 1, shows that 31% of the respondents attended secondary education, 25% primary education level. This lead of literacy implies that the respondents are willing to accept and adopt innovations. Likewise, 31% of the respondents had an experience

in wheat farming of between 15 - 20 years. Farm size determines the extent to which variability in output is affected. Result of farm size analysis deficits that 37% of the respondents had a farm size of between 0.1 - 1.0 hectares with an average farm size of 1.96 hectares. The findings shows, that wheat production in the study area is mainly practiced by small scale farmers. Table I also shows that 37% of the respondents had their sources of capital from produce sales, 19% from loan and cooperative society, 14% personal savings and 10% from relatives and parents. Thus, signifies that as the capital increase, the yield obtained will also increase as observed by Imolehin and Wada (2000), which revealed that the annual capital of respondents had positive effect on the size of enterprises they can undertake.

The distribution of the respondents according to their occupation showed that about 41% of them are into farming about 28% trading and 31% civil service. This implies that farming is the predominant occupation in the study area.

Land tenure has found to be significantly related to availability of farm land for agricultural uses (Essien and Imoh, 2005). The result of the analysis of land acquisition indicated that about 36% of the land were hired, 47% inherited and about 17% were purchased. The implication is that farmers would remain at the subsistent level due to nature of the land tenure system in the study area.

Table 1: Distribution of respondents according to socio- economic characteristics

A. Gender	**Frequency**	**Percentage**		**Mean**
Male	624	93.55		
Female	43	6.45		
Total	**667**	**100**		
B. Age(years)				
21 – 30	88	13.20		
31 – 40	234	35.08		
41 – 50	205	30.73		40
51 – 60	76	11.39		
61 – 70	64	09.60		
Total	**667**	**100**		
C. Marital Status				
Married	472	70.76		
Single	124	18.60		
Divorced	71	10.64		
Total	**667**	**100**		
D. Household Size				
1 – 5	317	47.53		
6 – 10	185	27.73		6
11 – 15	68	10.20		
16 – 20	97	14.54		
Total	**667**	**100**		
E. Farming Experience(years)				
5 – 10	194	29.09		
10 – 15	209	31.33		
16 – 20	120	17.99		14
20 – 25	129	19.34		
25 – 30	15	02.25		
Total	**667**	**100**		
F. Edcational Level				
Koranic	104	15.59		
Adult Literacy	59	08.85		
Primary	169	25.34		
Secondary	207	31.03		

Tertiary	128	19.19		
Total	**667**	**100**		
G. Farm Size(Ha)				
0.1 – 1.0	227	34.03		
1.1 – 2.0	178	26.68		
2.1 – 3.0	106	15.90		1.96
3.1 – 4.0 4.1 – 5.0	84 72	12.59 1.96 10.80		
Total	**667**	**100**		
H. Sources of Funds				
Sales of Farm Produce	248	37.18		
Loan	127	19.04		
Personal Savings	98	14.69		
Families	67	10.05		
Cooperative Society	127	19.04		
Total	**667**	**100**		
I. Occupation				
Farming	273	40.93		
Trading	184	27.59		
Civil Servant	210	31.48		
Total	**667**	**100**		
J. Land Acquisition				
Hired	238	35.68		
Inheritance	316	47.38		
Purchase	113	16.94		
Total	**667**	**100**		

Source: Field Survey, 2022

Table 2: Constraints affecting wheat production in the study area.

Variable	Frequency*	Percentage	Rank
Inadequate capital	247	15.09	3
Unstable market price	149	09.10	4
Inability to access loan	108	06.60	5
Lack of processing and storage facilities	57	03.48	9
High cost of fuel	393	24.00	2
High cost of fertilizer	401	24.50	1
Poor access roads	86	05.25	8
Inadequate extension services	91	05.56	7
High cost of labor	105	06.41	6
Total	**1637**	**100**	

Table 2 shows that the major production constraints containing wheat production in Jigawa State. Majority of the respondents (24.50%) were of the view that higher cost of fertilizer as the most famous problem affecting wheat production. High cost of fuel (24%), this problem will drastically affect irrigation and brings about increase in cost of production, inadequate capital (15%).

Fluctuating price of product 09.10%, high cost of labor 6.4%, inability to access loan 66%, inadequate extension services 5.56%, poor access roads 5.2% and lastly, inadequate processing and storage facilities.

These problems if not tamed in time, can gradually affect wheat production negatively. The findings collaborate with that of RMRDC (2004).

V. CONCLUSION AND RECOMMENDATIONS

The study concludes that majority of the farmers in the study area are male, married, literate and have an average age of 40 years, with an average house hold size of 6, and an average farming experience of 14 years. The constraints associated with wheat production in the study according with wheat production in the study area according to their severity are: high cost of fertilizer, high cost of fuel, inadequate finance, unstable market price of product, in ability to access loan, high cost of labour, inadequate extension services, poor access roads and inadequate processing and storage facilities. In line with the above findings the following recommendation were made:

1. Mobilization of adequate extension agents to adequately cover the study area.
2. Provision of credit facilities
3. Socio-economic characteristics of the respondents should be taken into consideration when formulating policies and also introducing new technologies to rural farmers.
4. Fuel and fertilizer should be subsidized to enable farmers make more profit.

4. The remaining local governments should be included if further research is to be conduct on a similar topic in the state.

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