DEMOGRAPHIC CHARACTERISTICS OF RICE PRODUCERS OPERATING UNDER AGRICULTURAL TRANSFORMATION AGENDA SUPPORT PROGRAMME IN AGRICULTURAL ZONE 1 OF NIGER STATE, NIGERIA

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ABSTRACT
The study was on demographic characteristics of rice producers operating under agricultural transformation agenda support programme in agricultural zone 1 (ATASP-I) of Niger State, Nigeria. A multi-stage sampling technique was used to select 165 of rice producers. Data were collected using structured questionnaire and interview scheduled; and analyzed using descriptive statistics (percentage, frequency and mean), Likert scale and Kendall's coefficient of concordance. The result revealed that 77.5% of the respondents were males while their mean age was 40 years. Also, 77.5% of the respondents were married; 36.3% had no formal education; and 67.2% had household size between 6-8 people. The result of participation of rice producers in ATASP-I revealed that training at the local level ranked 1st with mean value of 2.70, application of fertilizer ranked 2nd with mean value of 2.68, and planting activities ranked 3rd with mean value of 2.61. these findings is an indication of high participation of rice producers in those activities; also results further showed that ploughing activities and linkages with financial institution with mean value 1.20 and 1.10 has lower participation by rice producers in the study area. The major constraints encountered by the respondents were poor credit facilities ($\overline{X} = 4.13$) and high cost of equipment ($\overline{X} = 4.57$). It was recommended that provision of credit facilities should be made available to rice producers timely and speedily; and good extension services should be provided to rice farmers by ATASP-I in order to enhance their outputs and strengthen their capacity.

Keywords: Agenda, Demographic, Producers, Rice, Transformation.

INTRODUCTION

In recognition of rice to its importance, the Government of Nigeria has established agricultural transformation agenda supports programmes (ATASP-1) across nine (9) States of the federation in which Niger State is among of the pilot State for rice research and development to guide the integrated and focused promotion of the rice sector in the effort to ensure food security in the country (Niger State Ministry of Agriculture and Rural Development, 2019). Consumption of rice has recently increased tremendously which boosted rice cultivation locally. The increased demand for rice in the local market is creating conducive environment for farmers and investors to produce more rice; which again led to acquisition and development of additional rice farms in different parts of the country. In ATASP-I, farmers are linked to consumers' needs working closely with suppliers and processors to produce specific goods to meet consumers demand. Similarly, through the flows of information and products, consumers are linked with needs of the farmers. Under this approach, and through continuous innovations, the return to farmers can be increased and livelihoods enhanced. Although Nigeria has a potential land area for the production of rice of about 4.6 million hectares, only 1.7 million hectares is (about 35%) used for cultivation of rice. According to United State Agency for International Development (USAID, 2017) statistics, Nigeria is one of the largest importers of

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rice in West Africa due to its low local production. Rice is presently one of the most staple food crops in Nigeria (USAID, 2017). It is grown mainly by small holder farmers and consumed by over 4.8 billion people in Asia, over 40 million people in Africa and over 150.3 million people in the America (USAID, 2009).

There is an organization 7.3% per capita increase annually in consumption of rice in Nigeria. A combination of various factors has triggered the structural increase in rice consumption. Increase population and urbanization among others appear to be the most important causes of the shift in the consumer preference towards rice in Nigeria. Compared to other cereals, rice is easy to prepare thereby reducing the chore of food preparation and fitting more easily into the urban lifestyle for the rich and poor alike (Ahmed, 2019). It is against this background that the ATASP-I programme was initiated by Federal Government of Nigeria and African Development Bank Projects to address the constraints along rice producers through an inclusive strategy of strengthening the capability of actors along the chain including producers as well as public and private institutions, service providers and access to market (Ahmed, 2019). The objective of ATASP-I programme is to sustainably enhance rural income and food security. The target groups include 18,000 smallholder rice farming households per annual. Specifically, the programme focuses on developing agricultural markets and increasing market access for smallholder rice farmers and small to medium-scale agro-producers in order to enhance small holder productivity and thus increasing the volume and quality of marketable produce by strengthening farmer's organizations as well as supporting smallholder production (David, 2013). ATASP-I programme promotes two commodities; rice and cassava through farmer organization (Producers, processors and marketers). The participating Local Government Areas (LGAs) in Niger State include: Agaie, Katcha, Gbako, Lavun, Lapai, Mokwa and Wushishi.

MATERIALS AND METHODS
The Study Area

Niger State is located in the Guinea Savannah ecological zone of Nigeria. In terms of land mass, it is the largest State in Nigeria. It covers a total land area of 74,224 km^2 accounting for about eight percent of Nigeria's land area. About 85% of its land area is good for arable crops production (Niger State Geographical Information System, 2015). It is located within Latitudes 8– 10°N and Longitudes 3 – 8°E with a population of about 3,950,249 reported by National Population Commission (NPC, 2006) and with a growth rate of 3.2%, the State has an estimated population of 5,586,000 in 2017 (Niger State Geographical Information System, 2019). Niger State experiences two distinct season dry and wet seasons with annual rainfall varying from 1,100 mm in the Northern part to 1,600 mm in the Southern parts. The average annual rainfall is about 1,400 mm. The duration of the rainy season is approximately 180 days. The wet season usually begins in April/May to October, while the dry season starts from November to March. The State has maximum temperature of 29°C, average temperature of 22°C and minimum temperature of 26°C. The mean average temperature is around 32°C. Dry season commences in October (Niger State Georahical Information System, 2019). Most of the communities in the State are predominantly agrarian. Cereal crops grown are Rice, Guinea corn, Maize and millet while vegetables grown in the State are, Spinach, Pumpkin, bitter leaf and water leaf leave. Tree crops grown are mango, citrus, coconut, cashew, banana and pawpaw. Other non-agricultural activities engaged by the people include blacksmithing, leatherwork, mat and basket making and trading. Women on the other hand engaged in technical handicraft and trading

Sampling Procedure and Sample Size

Multi-stage sampling technique was used for the study. The first stage involved selection of Agricultural Zone I and III in the State. The second stage involves selection of two (2) Local Government Area (LGAs) from Zone I namely; Gbako and Katcha. One Local Government Area from agricultural Zone III Wushishi, were randomly selected. The third stage involved random selection of three (3) communities from the selected LGAs across two (2) zones of the State. At the fourth stage, 10% of the farmers were randomly selected from the sampling frame of each community. In all, a total of 165 respondents (Table 1) were selected from the two (2) zones as the sample size for the study.

Table 1: Distribution of respondents for rice producers in zone I and zone III

Zones	LGAs	Communities	Sample frame	Sample size
I	Katcha	Edotsu	196	20
		Gbakogi	178	18
		Badeggi	226	23
Sub-total			**600**	**61**
	Gbako	Etsuyisa	111	11
		Akote	163	16
		Edozhigi	217	22
Sub-total			**491**	**49**
III	Wushishi	Lokogoma	211	21
		Kodo	156	16
		Kanko	177	18
Sub-total			**544**	**55**
Grand total			**1635**	**165**

Source: Field survey (2019)sss

Method of Data Collection and Analytical Techniques

Primary data was used for the study, the data were collected by researchers and trained enumerators using structured questionnaire complimented with interview schedule. The data obtained were analyzed using descriptive statistics such as (frequency distribution, percentage mean), Likert scale and Kendall's coefficient of concordance.

RESULTS AND DISCUSSION
Socio-economic Characteristics of Respondents

Table 1 revealed that 77.5% of the respondents were males while 22.4% were females. This shows that male dominate rice production in the study area. This might be attributed to the ownership of land system that prevails in the study area, which allows males member of the society to inherit land. This finding agreed with Zarma and Adewuye (2018) who reported that male are dominance in rice production in Northern part of Nigeria. Also table 1 indicated that 58.7% of the respondents had age range of 31-40 while 24.8% of the respondents had age range of between 41-50 years. The mean age of the respondents was 40 years, implying an active and productive age in which rice production is high. This agreed with Mijindadi and Bilikisu (2019) who stated that age bracket of 30-40 years is an indicator of good supply of agile workforce in rice production. Table 1 further revealed that majority (77.5%) of the respondents was married while 16.9% were single. This implies that since majority were married; it therefore suggests higher engagement and commitment towards their sustainable livelihood. They also tend to have access to more family labour in spinach production. Table 1

also revealed that 36.3% of the respondents had no formal education while 9.6% had tertiary education. This result revealed a high preponderance of non-formal educated respondents having one negative effects or the other. The implication of this is that education provides a platform for adoption of innovations and easy access to information. This agreed with Mohammed *et al.* (2017) who observed that literacy had it owns merits and contribution towards the process of modernization of agricultural revolution. Further to Table 1, 67.2% of the respondents had household size of between 6-8 persons while 6.6% had household size of between 3-5 This implies that the availability of family labour for rice production in the study area.

Table 1: Socio-economic Characteristic of the Respondents (n = 165)

Variables	Frequency	Percentages
Sex		
Male	128	77.5
Female	37	22.4
Age		
21-30	16	9.6
31-40	97	58.7
41-50	41	24.8
>50	11	6.6
Mean	40	
Marital status		
Married	128	77.5
Single	28	16.9
Widow	9	5.4
Educational attainment		
Non formal education	60	36.3
Quranic education	14	8.4
Adult education	26	15.7
Secondary	49	29.6
Tertiary	16	9.6
Household size		
3-5	11	6.6
6-8	111	67.2
9-11	36	21.8
>11	7	4.2

Sources: Field survey, 2019

Level of Participation of the rice Producers in ATASP-I Programme Activities

Table 2 showed the level of participation of the rice producers under ATASP-I programme. The results indicated that rice producers had high level of participation in the following activities; training at the local level ranked 1st with mean value of 2.70, this implies majority of rice producers had accessed to training at local level. However, access to training is expected to expose rice producers to new innovation and techniques that would enhance their income. This finding is in line with Tsado *et al.* (2014) who reported that training of rice farmers should be given topmost priority to improve their skills on the adoption of improved rice packages in order to increase their productivity. Also, rice producers have high level of

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participation in application of fertilizer ranked 2nd with mean value of 2.68, implying that fertilizer is well applied by rice producers which might owing to its ability increase yield and productivity of rice producers. This finding agrees with Yusuf (2016) who established that application of fertilizer played important roles in improving productivity and income of rice farmers in rural Nigeria. Also, planting activities ranked 3rd with mean value of 2.61.

Moreover, application of agro-chemical was ranked 4th with mean value 2.56 while herbicide activities was ranked 5th with mean value of 2.51, implying that rice producers applied agro-chemical in the study area. This further agreed with report of Yusuf (2016) who stressed that application of agro-chemical played important roles in improving productivity of rice producers. However, rice producers had low level of participation in linkages with financial institution ranked 7th with mean value of 1.10 while they also have low level of participation in ploughing activities ranked 6th with mean value of 1.20, implying that both linkages with financial institution and ploughing were not involved by rice producers in the study area.

Table 2: Level of Participation of the Rice Producers in ATASP-I Programme Activities

Variables	Mean ($\bar{x}$)	Decision	Ranking
Training at the local level	2.70	High	1st
Application of fertilizer	2.68	High	2nd
Planting activities	2.61	High	3rd
Ploughing activities	1.20	Low	6th
Application of agro- chemical	2.56	High	4th
Harvesting activities	2.51	High	5th
Linkages with financial institution	1.10	Low	7th

Source: Field survey (2019)

Constraints Faced by Rice Producers

Table 3 showed that Kendall's coefficient of concordance obtained in the analysis was 0.416 and significant at 1% level of probability, suggesting that 41.6% of rice producers agreed on the outcome of the ranking. Table 3 showed that five constraints were identified as constraints faced by rice producers. The result, poor credit facilities ($\bar{X} = 4.13$) ranked 1st as the most serious constraint faced by rice producers. This was followed by high cost of farming equipment ($\bar{X} = 4.57$) ranked 2nd. Ahmed (2019) reported that a poor credit facility was the major constraints faced by rice producers in Niger State Nigeria. More so, inadequate extension contact ($\bar{X} = 5.73$) was ranked 3rd while inadequate fund ($\bar{X} = 5.87$), and inadequate information about new innovation ($\bar{X} = 6.19$) were ranked 4th, and 5th, respectively. This agreed with Sheriff *et al.* (2018) who reported that inadequate information about new innovation were one of the major constraints faced by rice producers in rural Nigeria.

Table 3: Constraints Faced by Rice Producers

Variables	Mean ($\bar{x}$)	Ranking
Inadequate information about new innovation	6.19	5th
Inadequate fund	5.87	4th
Poor credit facilities	4.13	1st
High cost of farming equipment	4 .57	2nd
Inadequate extension contact	5.17	3rd
Kendall's W[a]	0.370	
Chi-Square	390.750	
Degree	12	
Asymptotic significant	0.000***	

Sources: Field survey, 2019

CONCLUSION AND RECOMMENDATIONS

Majority of the respondents were young, married and male dominance in rice production and also majority had no formal education. It was established from the study that during ATASP-I project, the level of participation of respondents in ATASP-I were higher. Major constraints faced by rice producers include poor credit facilities, high cost of equipment and inadequate extension contacts in the study area. It was therefore recommended as follows:
1. Provision of credit facilities should be made available to rice producers timely and speedily.
2. Good extension services should be provided to rice farmers by ATASP-II in order to enhance their outputs and strengthen their capacity.

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