

# Utilization of Agricultural Transformation Agenda (ATA) Programme Services and Inputs among Rice Farmers in Oyo State, Nigeria

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## ABSTRACT

*Rice is an important staple food in Nigeria, which had caused decrease in foreign earnings of the country. In order to ensure food security and improve standard of living of farmers, the government of Nigeria established a transformation agenda for sustainability in the agricultural sector of the economy. Agricultural Transformation Agenda provides services and inputs to farmers. The study thus assessed the utilization of these services and inputs among rice farmers in Oyo state. Multistage sampling procedure was used to sample 145 registered ATA rice farmers from 4 highest rice producing local government areas in Oyo-state. Data were subjected to descriptive and inferential statistical analysis. Results reveals that the average age of the respondents in the study area was 45 years and the standard deviation to be 10.677, they were mostly males (65.0%) and about one third (30.0%) had secondary education with majority (63.0%) cultivating 1-5 hectares of land. More than half (52.0%) had low level of utilization of services and input of ATA. There was a significant relationship between farm area under rice cultivation ( $r = -0.28, p < 0.05$ ) and the level of utilization of ATA programme services and inputs among rice farmers. It is recommended that government at both federal and state levels should enter in to partnership with rice farmers for increased rice cultivation in bigger hectarage thereby effective utilization of the services and inputs under ATA, increase farmers' outputs and in turn increase their income and subsequently reduce foreign earning spent on rice importation and reduce poverty.*

**Keywords:** Agricultural transformation agenda, Services, Inputs, Rice farmers

## BACKGROUND INFORMATION

Agriculture is an important sector of the economy with high potential for employment generation, food security and poverty reduction. In order to unleash the potential of agricultural sector in Nigeria, successive Nigerian governments - both pre and post-independence established different programmes to improve the social and economic status of farmers and to ensure improvement in their agricultural productivity. These included following programmes like : the National Accelerated Food Production project (NAFPP), in 1974; the World Bank-Assisted Development Programmes in 1975; (Operation Feed the Nation - OFN), 1976; the River Basin Development Authorities (RBDs), 1977; Back to Land Programme (BLP) and the Directorate of Food, Roads and Rural Infrastructures (DFRRI), 1988; and the National Land Development Authority (NALDA), 1995. In spite of these various Government policies and programmes, domestic rice production has not kept pace with the domestic consumption increased, high demands for domestic rice that the Nigerian populace request for and,

consequently, rice is still being imported (Singh *et al*, 1997).

However, the potential of the agricultural sector has remained largely untapped. This has led to the dwindling performance of the agricultural sector both domestically and in the international trade over the years. Agricultural transformation in some countries has been documented to have significant impact on poverty reduction. Such countries were China, Vietnam, Brazil and Thailand that experienced dramatic growth in their agricultural sectors over the last three decades with annual growth rates of 2.6, 2.0, 1.8 and 1.4 % respectively (FMARD, 2011a). A significant decline in their level of poverty was recorded. During this period, decrease in percentage of population under the poverty line (\$1.25) was steady. This resulted in bringing 440 and 24 millions of people out of poverty in China and Vietnam respectively between 1995 and 2005. Brazil and Thailand were also able to bring 14 and 8 millions of people out of poverty between 1985 and 1995. Precisely, China and Vietnam were able to take 40% of their population out of poverty due to aggressive investment and

growth of their agricultural sector. The important lesson learned is that investing in the agricultural sector also developed the rural communities that in turn significantly reduced rural-urban migration (FMARD, 2011a). Countries like India and Thailand invested in agricultural sector and this led to rural community development and reduced rural urban migration (FMARD, 2011a).

Agricultural transformation has had a significant impact in some Africa countries. Malawi became self-sufficient in food production within one year by focusing on agricultural transformation. The country, however, had its worst harvest in 2004. In 2005, the Government implemented one of the most ambitious and successful assaults on hunger in African history in response to the worst harvest experienced. The country launched a national input support programme targeted at small holder farmers. Maize production doubled in 2006 and tripled in 2007 thus enabling Malawi to export 400,000 metric tons of maize to Zimbabwe and 10,000 metric tons of food aid (FMARD, 2011a). In Kenya, Agricultural transformation through private sector was a reality where the private sector driven marketing institutions drove Kenya to the 1st position in the global horticulture market all within 9years. Horticulture value growth and floriculture export growth of 16% per annum and 7% per annum respectively were recorded between year 2000 and 2008 in Kenya. This successfully led to a sea of jobs where eight million jobs were created by the Kenyan horticulture sector, a single sub sector of agriculture (FMARD, 2011a).

As part of the Federal Government of Nigeria's effort to revamp the agriculture sector, ensure food security, diversify the economy and enhance foreign exchange earnings, Agricultural Transformation Agenda (ATA) programme was embarked upon with a focus on the provision and availability of improved inputs (seeds and fertilizer), increased productivity and production, as well as the establishment of staple crop processing zones, to address reduction in post-harvest losses, improving linkages with industry with respect to backward integration, as well as access to financial services and markets (FMARD, 2011b). Rice has become a very important staple to most people in Nigeria and a large proportion of the commodity consumed in the country is imported (Adeola, Adebayo and Oyelere, 2008). Rice transformation plan which is a component of ATA programme is set to make Nigeria a self-sufficient nation in rice in a manner that grows the agricultural sector and also generates employment.

Despite the important role rice plays in the diet of Nigeria, rice production in Oyo state was being faced with myriads of problems. Daramola (2005) asserts that the key problems facing the

rice farmers in addition to lack of improved varieties is that of scarcity and high input costs. This has led to farmers not using inputs such as fertilizers and other agrochemicals and those who use them use sub – optimal proportions of the inputs resulting in low and poor quality yields. There has been limited awareness of the use of improved seed, coupled with poor distribution channels, poor seed quality and adulteration of seed (FMARD, 2011b), presence of unskilled professionals, management problems, absence of suitable motivational factors, slow pace of rural infrastructural development, socio-economic bottle-necks, political considerations, low extension agent- clientele ratio, logistic problems, as well as general lack of commitment on the part of extension stake-holder (Asiabaka, 2002). There are also marketing problems that result in middlemen not paying prices that are attractive enough to keep the farmers producing.

Beyond the farm gate, there are issues like the absence of standard measures in the marketing of farm produce including rice. Transportation is another serious constraint for the conveyance of rice to the mills or markets. Obsolete and inefficient rice processing technology and storage facilities lead to smelling and unappealing products and presence of stones. Most of the rural farmers do not enjoy tractor hiring services like harvesting, spraying, ridging and harrowing. It is against this backdrop that this research paper examined utilization of Agricultural Transformation Agenda (ATA) Programme services and inputs among rice farmers in Oyo State, Nigeria by providing answers to the following questions.

- What are the socio- economic characteristics of the rice farmers in the study area?
- To what extent are farmers utilizing the services and inputs of ATA programme?

## **METHODOLOGY**

### **Area of study**

The study was carried out in Oyo State. Oyo State is located in the South-West geopolitical zone of Nigeria. Oyo State has an equatorial climate with dry and wet seasons and relatively high humidity, the dry season lasts from November to March while the wet season starts from April and ends in October. Average daily temperature ranges between 25 °C (77.0 °F) and 35 °C (95.0 °F), almost throughout the year. The climate in the State favours the cultivation of crops like Maize, Yam, Cassava, Millet, Rice, Plantain, Cocoa, Oil Palm and Cashew.

The population of the study comprises of ATA registered rice farmers in Oyo state. A multi-stage sampling procedure was employed for the study. The first stage was purposive selection of 15% of the 27 Local Government Areas (LGAs) where

rice is cultivated to give four LGAs which were: Atiba, Ido, Ona-Ara and Lagelu. In Atiba there are 122 registered rice farmers, Ido has 67 registered rice farmers while Ona-Ara and Lagelu have 60 and 41 registered rice farmers respectively. The second stage was random selection using sampling proportionate to size of rice farmers in the selected local government area to give 61, 34, 30 and 20 respondents in Atiba, Ido, Ona-Ara and Lagelu respectively and a total of 145 registered rice farmers as sample size. Data was obtained through interview schedule that sought information on respondents' socio-economic characteristics, and utilization of ATA programme services and inputs by rice farmers. 10 items made up ATA services and inputs, 3 items for ATA services and 7 items for ATA inputs, each of the item was assigned score 1 to 10, 3 categories of scoring was used for availability and accessibility of ATA services and inputs respectively, Always=2 Occasionally=1 and Never=0. The maximum obtainable score for availability of ATA services and accessibility of ATA services was 6 and the minimum score was 0 respectively. The maximum obtainable score for accessibility of ATA inputs and accessibility of ATA inputs was 14 and the minimum obtainable score was 0 respectively. Utilization of ATA programme services and inputs were measured by pulling together the scores for availability of the services and inputs and the accessibility of the services and inputs.

## RESULTS AND DISCUSSION

### Rice farmers' socio-economic characteristics

Result in Table 1 shows that 24.8% and 28.3% of rice farmers fell within the age range of 30-39 years and 40-49 years respectively. This suggests that the farmers are young, active and had potential for farming. These findings suggest that rice farmers are in their economic active age. The registered ATA farmers are younger compared to general farming population which is growing older. Hamidu, Murtala, Illiyasu and Adamu, (2006) reported that young active farmers are more willing to adopt and practice new agricultural technologies than the older farmers. These farmers therefore can make meaningful impact in agricultural production when adequately motivated with the needed services and inputs. Table 1 further reveals that 64.8% of the rice farmers were male while the remaining 35.2% were female. The proportion of registered male to female was 6:4. This suggests that there are more male registered rice farmers. This is in accordance with Ogunsumi, Ajayi, Amire and Williams (2013) that there are more male rice farmers involved in rice production compared to female rice farmers. The findings also suggest that females are also stakeholders when it comes to rice production.

More than half (55.9%) of the rice farmers were married, 20.0% were single. Others were divorced (15.9%), separated (5.5%) and widowed (2.8%). It can be deduced from the marital status of the rice farmers that they are family men and their wives and children help in supplying the needed labour, particularly in an agrarian community where hired labour may be scarce and costly during the farming season. This corroborates with Akinbile (2007) that the effects of marriage could enhance the release of family labour, thus making more hands available for productive activities on the respondent's farm. It is also in accordance with Nwanebo (2012) that marriage is perceived as a very essential factor for facilitating household farming and productive activities. It can be deduced from Table 1 that 51.7% of the rice farmers had family size between 1 and 5 and 43.4% had their family size between 6 and 10. Sule, Ogunwale and Atala, (2002) reported that family size has a great role to play in family labour provision in agricultural sectors. This implies that number of people in the family helps in improving farming activities thereby increasing farm outputs.

Majority of the rice farmers (63.4%) had between 1 and 5 hectare of land under rice cultivation while 27.6% had 6 and -10 hectare. Majority of the respondents are thus small holders and this limits their production potentials. They fall into the category of farmers described as subsistence farmers in the context of ATA. This also suggests that farmers are ready to commit a sizeable portion of their land to practicing rice farming if they have the resources.

Table 1 indicates that 38.6% of the rice farmers had primary education, 29.7% had secondary education and 13.1% had tertiary education while 18.6% had no formal education. This implies that majority of the respondents are literate. This will enhance agricultural development, because improved practices, as they unfold from researches will be better disseminated, understood and adopted. Oladeji (2011) confirmed that farmers had one form of educational qualification or the other. Also, Ogunleye (2002), observed that majority of farmers in the southwestern had secondary or primary education. The educational attainment among rice farmers could enhance their adoption of innovations as it is being unveiled by government in order to improve the social and economic status.

### Level of availability and accessibility of ATA services and inputs to rice farmers

Considering ATA services, it can be deduced from table 2 that extension services were always available to 55.2% of the rice farmers followed by financial services which was always available to 33.8% of the rice farmers and financial services is

available occasionally for 48.3% of the rice farmers. Tractor hiring services was not available to more than half of the rice farmers (51.7%). More than half of the rice farmers had access to extension services occasionally and 42.1% had access to extension services always. More than half of the rice farmers (52.4%) never access tractor hiring services while 43.4% accessed the tractor hiring services occasionally. While more than one third (35.2%) had access to financial services always while only 36.6% had occasional access to financial services.

Considering ATA input, fertilizer was always available to 58.6% of the rice farmers; rice seed was always available for 35.2% of the rice farmers. Rice seed was available occasionally for 47.6% of the rice farmers and sprayer was occasionally available to 41.4% of the rice farmers. Storage bags and farm implement were never made available to more than half of the rice farmers. While 40.7% always had access to fertilizer; more than half of the rice farmers (53.8%) had access to rice seeds occasionally and fertilizer was accessed occasionally by 44.8% of the rice farmers. More than half of the rice farmers (62.8%) did not have access to farm implements, fungicides and insecticides. This implies that effort made by ATA programme planner to make services and inputs available is recording success but the level at which it is accessible differs at the grassroots while some are accessing some services and inputs some do not have access.

**Table 1**  
**Distribution of rice farmers based on their socio-economic characteristics**

Variables	Frequency	Percentage	Mean
<b>Age</b>			
20-29	15	10.3	45
30-39	36	24.8	
40-49	41	28.3	
50-59	21	14.5	
60-69	26	17.9	
70-79	6	4.1	
<b>Sex</b>			
Male	94	64.8	
Female	51	35.2	
<b>Marital Status</b>			
Widow	4	2.8	
Separated	8	5.5	
Divorced	23	15.9	
Married	81	55.9	
Single	29	20.0	
<b>Family size</b>			
1-5	75	51.7	5.88
6-10	63	43.4	
11-15	5	3.4	
15-20	2	1.4	
<b>Area under rice cultivation (hectare)</b>			
<1	8	5.5	4.33
1-5	92	63.4	
6-10	40	27.6	
11-15	2	1.4	
16-20	1	0.7	
21-25	2	1.4	
<b>Educational qualification</b>			
No formal education	27	18.6	
Primary education	56	38.6	
Secondary education	43	29.7	
Tertiary education	19	13.1	

**Table 2**  
**Distribution of rice farmers by level of ATA services and input availability and accessibility**

ATA Services	Level of availability			Level of accessibility		
	Always	Occasionally	Never	Always	Occasionally	Never
Extension services	80(55.2)*	54(37.2)*	11(7.6)*	61(42.1)	75(51.7)*	9(6.2)*
Tractor hiring services (ridging, harvesting, spraying, harrowing)	13(9.0)*	57(39.3)*	75(51.7)*	6(4.1)*	63(43.4)*	76(52.4)*
Financial services(NAICB, Micro finance, State Agric credit)	49(33.8)*	70(48.3)*	26(17.9)*	51(35.2)	53(36.6)*	41(28.3)*
<b>ATA Inputs</b>						
Insecticides	30(20.7)	50(34.5)	65(44.8)	11(7.6)	59(40.7)	75(51.7)
Sprayer	20(13.8)	60(41.4)	65(44.8)	24(16.6)	55(37.9)	66(45.5)
Rice seeds	51(35.2)	69(47.6)	25(17.2)	34(23.4)	78(53.8)	33(22.8)
Storage bags	6(4.1)	47(32.4)	92(63.4)	5(3.4)	36(24.8)	104(71.7)
Farm implements (sprayer, watering can)	14(9.7)	44(30.3)	87(60.0)	11(7.6)	43(29.7)	91(62.8)
Fertilizer	85(58.6)*	43(29.7)*	17(11.7)*	59(40.7)	65(44.8)*	21(14.5)*
Fungicides	18(12.4)	47(32.4)	80(55.2)	17(11.7)	47(32.4)	81(55.9)

Figures in parentheses ( ) \* are percentages

Data in Table 3 shows that level of utilization of ATA services and inputs was low for 52.4% of rice farmers. It suggests that the services and inputs of ATA programme and services are available but the level of utilization is low. This

data suggests that non-availability and access to ATA services and inputs on the part of the registered rice farmers were due to programme implementers not making the inputs and services available and accessible to the farmers.

**Table 3****Categorization of respondent based on level of utilization of ATA programme services and inputs**

<b>Categorization</b>	<b>Freq</b>	<b>Percentage</b>
Below mean < or = 13.69	76	52.4
Above mean > 13.69	69	47.6

**Correlation analysis of rice farmers' selected socioeconomic characteristics and utilisation of ATA service and input**

The result of the Pearson Product Moment Correlation Coefficient (PPMC) in Table 4 reveals that there was a significant relationship between farmers' age (0.001) and utilization of ATA services and inputs at  $p < 0.05$ . There was also a negative relationship between area under rice

cultivation and utilization of ATA programme services and inputs at  $r = -0.28$ . The implication of the significance relationship between farm area under rice cultivation and utilization of ATA programme services and inputs is that as farm area under rice cultivation increases, utilization of services and inputs decreases meaning the ATA programme services and inputs are not enough for the farmers.

**Table 4****Correlation of selected socio-economic characteristics (Age, family size, area under rice cultivation) and utilization of ATA services and inputs**

<b>Variable</b>	<b>r-value</b>	<b>p-value</b>	<b>Decision</b>	<b>Remark</b>
Age	0.001	0.99	Not significant	Accept $H_0$
Family size	-0.13	0.13	Not significant	Accept $H_0$
Area under rice cultivation	-0.28	0.001**	Significant	Reject $H_0$

**CONCLUSION**

The study concludes that rice farmers are within the economic active age and have formal education. Most of the rice farmers operate at subsistence level. This is reflected in the area of land farmers used in cultivating rice. It was also concluded that there are more married individual among the rice farmers. ATA programme services and inputs are available while the rate of accessibility differs among the rice farmers as some have access while some do not have access. The level of utilization of ATA programme services and inputs was low. A significant relationship existed between area under rice cultivation and the utilization of ATA services and inputs among rice farmers. They utilize ATA programme services and inputs that were meant for them but the rate at which they utilize the programme services and input is low.

**RECOMMENDATION**

Based on the conclusion it is recommended that

- Strong collaboration should be forged between federal, state, local governments, private organization providing extension services and agro chemical and inputs company in making services and inputs available and accessible to rice farmers.
- Federal and State levels should enter in to partnership with rice farmers for increased rice cultivation in bigger hectareage.

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