
THE IMPACT OF AGRICULTURAL SERVICES AND TRAINING CENTRES (ASTC) ON AGRICULTURAL PRODUCTION IN PLATEAU STATE

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ABSTRACT

This paper looks at the impact of Agricultural Services and Training Centre (ASTC) on agricultural production in Plateau State of Nigeria. To achieve this, a descriptive survey method was used to collect primary data through the use of questionnaires. The study discovered that ASTC has contributed significantly to increase in the level of maize, Irish potatoes, yam, rice, poultry and other livestock in Plateau State as a result of the introduction of ASTC. It was also discovered that the problems militating against the proper working of the ASTC include insufficient funding, equipment and personnel, inadequate awareness about the programme, operational inefficiency and poor coordination of the activities of the ASTC. Hence, the paper calls for the provision of more funding, equipment and personnel to the ASTC and more awareness about the existence of the programme. The paper also recommended further that the ASTC staff should strive towards achieving operational efficiency and good coordination of its activities.

INTRODUCTION

One of the major challenges facing mankind is to provide an equitable standard of living, adequate food, clean water, safe shelter and energy, a healthy and secured environment, an educated public and satisfying work-for this and future generations. Of all these necessities, the first and most basic to human life and survival is enduring food security, which may be described as a situation in which majority of the populace of a country have access to domestically produced food at affordable prices at all times. Therefore it is not an over statement to assert that the growth and development of any economy depend,

to a large extent, on the development of agriculture. This is so because even the industrial enterprises rely on agricultural undertakings to produce the raw materials that are transformed into finished goods. Agriculture is believed to generally to propel economic growth and facilitate the achievement of structural transformation and diversification of economies. It empowers a country to fully utilize its factor endowments and thus reduce dependence on one sector (oil in the case of Nigeria) for sustenance. If the agricultural sector is well developed, the economic gains would be enormous.

Investment in the agricultural sector is necessary for the level of agricultural production to increase. Even though huge investments have been carried out in the agricultural sector in Nigeria and Plateau State, Jimmy (2015) posited that the sector have not been able to fulfill its traditional role of feeding the population, meeting the raw materials needs of industries, providing gainful employment as well as provide sustainable export earnings for the economy. This is further explained by the fall in the level of agricultural productivity and revenue earnings from the sector. From pre colonial, colonial to early post colonial years, the agriculture was the major source of revenue to the economy of Nigeria as posited by Anyawu, Oyefusi, Oaikhenan & Dimowo (1997). Lawal (1997) agreed when he stated that the agricultural sector contributed over 60% of the GDP in the 1960s and despite the reliance of Nigerian peasant farmers on traditional tools and indigenous farming methods, these farmers produced 70% of Nigeria's exports and 95% of its food needs. But with the discovery of oil at Oloibiri (Bayelsa State) in 1958 less attention was continually given to the agricultural sector. This means that the agricultural sector suffered neglect during the hey-days of the oil boom in the 1970s. Since then, Nigeria has been witnessing extreme poverty and the insufficiency of basic food items.

Historically, the roots of the crisis in the Nigerian economy lie in the neglect of agriculture and the increased dependence on a mono-cultural economy based on oil (Olagbaju and Falola, 1996).

The late post independence years saw agriculture in the economy taking a downward trend, especially its contributions to Gross Domestic Products (GDP). Agriculture's share in the GDP fell from 61.50% in the 1963/1964 to 14.63% in 1983 (Anyawu et al, 1997). The trend has continued to be worrisome because the sector has proved to be performing below expectation. This led the country to move from being a net exporter of agricultural products to a net importer of the same. With the fall in the oil prices in the international oil market, it has become imperative more than ever for other revenue sources to be explored by the government. In order to revive the agricultural sector and make it takes its rightful place in the economy, Akinboyo (2008) posited that various governments over the years have enunciated and implemented a myriad of agricultural policies and programs all in an attempt to stimulate a sustainable growth and development of the agricultural sector. The need to also revive the agricultural sector in Plateau State led to the initiation and implementation of various agricultural policies among which is the

Agricultural Services and Training Centres (ASTC) in the State. The ASTC program was implemented in 2008 as collaboration between the Plateau State government and SEC Equipment and Communication Nigeria Limited. The rationale behind this initiative was to introduce principles of commercial agriculture in a largely subsistence rural agricultural setting through provision of comprehensive and state-of-the-art agricultural services to the farming community in Plateau State. In order to achieve the objective of increase in the level of agricultural production in the entire state, the ASTC has established centres in each of the three senatorial zones of the state. The established centres include ASTC Kassa/Vom (in the northern zone), ASTC Mangu (in the central zone) and ASTC Shendam (in the southern zone). Other projects coordinated by the ASTC include the Dairy Farm and Milk Processing Plant in Butura and 300 hectares Open Field irrigated crops all in Bokkos Local Government Area(LGA), 30 hectares open field vegetables farm in Yelwa (Shendam LGA) and 6.1 hectares Greenhouses, Nethouses and tunnels in Vom (Jos South LGA). The need for this paper is imperative because a lot of government revenue have been allocated to the ASTC over the years. This is true because, Plateau State government has already committed more than ~~N~~10 Billion to ASTC

(Barko, 2011). Government's concerted efforts at developing the agricultural sector through investment in ASTC is premised on the hope that it would help to increase productivity, generate employment opportunities, increase government revenue and diversify the economy. Just as Akinboyo (2008) posited that till date, the achievements of the various agricultural policies and programs implemented by various governments in the past still remains a subject of serious debate both in the public and private forums, this paper aims at seeking to find out whether ASTC has impacted positively on the level of agricultural productivity in Plateau State or is a conduit pipe for the for the diversion of government funds.

The ASTC bulletin (2012) posited that for 9 years of ASTC's inception, billions of Naira had been invested in the implementation of the project, a very few empirical studies have been done to confirm the intended impact of ASTC in Plateau State. This has constituted a gap in knowledge that needs to be filled and this has also made this study particularly imperative. It is expected that the level of agricultural production in Plateau State is to increase as a result of the introduction of ASTC. This paper in essence seeks to assess the impact of ASTC on agricultural production in Plateau State. This implies that the paper seeks to find out

how the level of agricultural production has changed in Plateau State as a result of the introduction of ASTC. This can be effectively done by assessing the level of increase in the level of increase in the production of maize, potatoes, rice, soya beans, poultry and other livestock in Plateau State. The study also seeks to identify problems facing ASTC and proffer solutions to the problems. In order to effectively assess the impact of ASTC on agricultural production in Plateau State, the hypothesis below was formulated to aid in the research.

H₀: Agricultural Services and Training Centre has no impact on agricultural production in Plateau state.

H₁: Agricultural Services and Training Centre has impact on agricultural production in Plateau State. This paper is divided into 6 parts. The introduction is the first part with part two being the literature. Section three captures the methodology. Part four captures the results and discussions while part 5 presents conclusion and part 6 is the recommendation.

THE LITERATURE

According to Iwena (1995), the term "agriculture" is derived from two Latin words, "ager", meaning field and "cultural", meaning cultivation. By this statement, agriculture means field cultivation or agriculture has to do with growing and harvesting of crops or plants. The most primitive form of

human beings was that of gathering and hunting. As soon as human beings began to form permanent settlements and gave up wandering in search of food, agriculture was born. Akinboyo (2008) defined agriculture as the production of food, feed, fiber and other goods by the systematic growing and harvesting of plants and animals. It is the science of making use of the land to raise plants and animals. It is also the simplification of nature's food webs and the rechanneling of energy for human planting and animal consumption. Ogieva (2003) also defined agriculture as the art and science of cultivating the soil, producing livestock, preparing livestock feeds, processing crops and livestock for man, and the processes of selling these excess crops and livestock. He went further to say that it is a deliberate attempt by man to cultivate crops, rear animals, caring for them for the benefit he will get from doing so. More so, it embraces various preparations and processing of plant and animal products as well as the disposal of those products through marketing.

Abayomi (1997) defined agriculture as an organization of inputs such as land and mineral capital in a variety of forms and management of labour for the production and marketing of food and fibre. She went further to say that agriculture is the coordination of inputs such as land, labour, and

natural resources for productive purposes, and marketing of those output produced. Agriculture can also be understood as the life of the rural population in which production is ultimately bound for consumption. Agriculture is the key to sustained growth of the modern economy because agriculture is a sector of economic activities which provide human beings with some of their most basic needs such as food and income. Todaro and Smith (2009) posited that traditionally, economic development was seen to have meant "the capacity of a national economy, whose initial economic condition has been more or less static for a long time, to generate and sustain an increase in its Gross National Income (GNI) at rates of 5% to 7% or even more". In the 1970s, Dudley Seers and other economists began to redefine economic development in terms of the reduction or elimination of poverty, inequality, and unemployment within the context of a growing economy. Seers (1969) posed the basic question about the meaning of economic development succinctly when he asserted: "The questions to ask about a country's economic development are therefore: What has been happening to poverty? What has been happening to unemployment? What has been happening to inequality? If all these three have declined from high levels, then beyond doubt this has been a period of development for the country

concerned. If one or two of these central problems have been growing worse, especially if all three have, it would be strange to call the result "development" even if per capita income doubled". This means that just an increase in the Gross Domestic Product (GDP) of a country alone is not referred to as economic development.

Schumpeter (1934) defined economic development as "a discontinuous and spontaneous change in the stationary state which forever alters and displaces the equilibrium state previously existing." According to Kindleberger (1965), economic development implies more increase in the level of output and changes in the technical and institutional arrangement by which the output is produced and distributed. Friedman (1972) defined economic development as "an innovative process leading to the structural transformation of a social system." According to Myrdal (1970), economic development has to do with a quantitative sustained increase in the country's per capita output or income accompanied by expansion in its labour force, consumption, capital and volume of trade plus change in the economy. According to Harrod (1939) and Dornier (1946), in their growth model (which was an early post-Keynesian model of economic growth), every economy must save a certain

proportion of its national income, if only to replace worn-out or impaired capital goods (buildings, equipment and materials). However in order to grow, new investments representing net additions to the capital stock are necessary. They went further to say that for economies to grow; they must save a certain proportion of their GDP. The more they can save and invest, the faster they can grow. From the foregoing, it can be seen that capital investment in an economy is important for any economy that desires growth. They also assumed that total new investment is determined by the level of total savings. But in economies with low savings rate like Nigeria and Plateau State in particular, the net savings rate can be raised through increased taxes, foreign aid and general consumption sacrifices. They assume further that there is a direct relationship between the size of total capital and total GDP. They also posited that "The more an economy is able to save-and-invest-out of a given GDP, the greater the growth rate of the GDP will be." The investment in the ASTC by the Plateau State Government is in line with the Harrod-Domer model. It is expected that the investment in the agricultural sector through ASTC will boost productivity in the sector and generate other multiplier effects in the economy. Rostow (1960) has sought an historical approach to the process of

economic development in 1960. He distinguishes five stages of economic growth, viz., (1) the traditional society; (2) pre-conditions for take-off; (3) the take-off; (4) the drive to maturity; and (5) the age of high mass consumption. In his pre-conditions for take-off, Rostow stated that the pre-conditions for sustained industrialization which will then lead to economic development have usually required radical changes in three non-industrial sectors: First, a buildup of social overhead capital, especially in transport, in order to enlarge the extent of the market, to exploit natural resources productively and to allow the state to rule effectively. Second, a technological revolution in agriculture is needed so that the agricultural productivity increases to meet the requirements of a rising general and urban population. Third, an expansion of imports, including capital imports, financed by efficient production and marketing of natural resources for exports. He (Rostow) went further to say in the conditions for take-off, that there is a need for a rise in the rate of productive investment from, say, 5 per cent or less to over 10 per cent of national income or net national product. If investment in the agricultural sector increases, it will lead to increase in the output of agricultural products. In line with this, it is expected that the level of agricultural productivity in Plateau

State should increase significantly as a result of the investment in ASTC.

Gerschenkron (1962) in his great spurt theory of development said that all nations were once backward. To move from the traditional levels of economic backwardness to a modern industrial economy required a sharp break with the past or a "great spurt" of industrialization. He studied the industrialization process of many countries like the United State of America, Germany, Britain and France. He went further to categories countries into three groups on the basis of the degree of economic backwardness: they are advanced, moderately backward and very backward. He gave six generalizations given a country's degree of economic backwardness. One of the generalizations is that the more backward a country, the less likely was its agriculture to play an active role in the development country. By way of conclusion, Gerschenkron pointed out that the greater spurt in industrialization could take place if five pre-requisites were fulfilled, one of which is, and either the old framework in agricultural organization should be abolished or the productivity of agriculture be increased. If the old frame work in agricultural organization is abolished (through the introduction of modern farm techniques and equipment), agricultural productivity will rise

significantly. Oyakhilomen & Zibah (2015) conducted a research on "Agricultural Production and Economic Growth in Nigeria: Implication for Rural Poverty Alleviation." The dependent variable they used was Economic growth given by real Gross Domestic Products (GDP) measured in Naira and the independent variables were Agricultural production given by the index of agricultural production, Interest rate in percentage, Exchange rate measured in naira per US dollar and Inflation rate also measured in percentage. They used the autoregressive distributed lag (ARDL) bound testing procedure to examine the co-integration (long run) relationship between economic growth and its determinants (agricultural production, interest rate, exchange rate and inflation rate). They discovered that the estimated coefficient of agricultural production (3.3764) implies that 1% increase in agricultural production will increase economic growth by approximately 3.38%, all things being equal. Inflation rate was found to be negatively related to economic growth and significant at 10% with an estimated coefficient of -3.4685. This implies that a unit increase in inflation rate will lead to a decrease of economic growth by a magnitude of 3.4685. Interest rate had the expected negative sign but not significant at 1, 5 and 10% probability levels. Exchange rate was found to be

positively related to economic growth but not significant at the chosen probability levels of their study. Momoh (2015) in his study on "The impact of Agricultural and Services Training Centres (ASTC) on Tomato farmers' livelihood in Plateau State, Nigeria" discovered that the output of tomato, income and standard of living of the farmers that participate in Agricultural and Services Training Centres (ASTC) increased significantly. He used descriptive statistics, multiple regression, z test and Chow test statistics to arrive at the above conclusion.

THE ROLE OF AGRICULTURE IN PROMOTING ECONOMIC DEVELOPMENT

The role of agriculture in economic development which can be formulated in terms of the contributions and functions it performs has extensively made impact on the growth of developing countries. Agriculture is important to all economies because it is the predominant form of economic activity measured by its contribution to employment and national output, which is the degree of development in an economy (Ajaikeye, 1997). This invariably means that the more the percentage of labour force and other agricultural inputs, the higher the contribution to the national product of an economy. Infact Ogen (2007) asserted that the agricultural sector

has the potential to be the industrial and economic springboard from which a country's economic development can take off. Considering the role of agriculture to economic development, Ogieva (2003) posited that agriculture has both forward and backward linkages with itself and other sectors of an economy. It supplies raw materials to the agro allied sector which enhances the provision of those engaged by the sector as the government. Thus playing a key role in agriculture led industrialization. It's also observed that the role of agriculture is also seen in transforming both the social and economic framework of an economy through the food it provides to the people and the raw materials it provide for the industrial sector. The sector is also essential for the expansion of employment opportunities which makes it possible for poverty reduction, improvement of income distribution and the speeding up of industrialization and improvement of a nation's balance of payments. The World Bank (1997) posited that agriculture plays an important role in the overall economic development of a country, to the extent that a country that is able to achieve a 4 % annual growth in agriculture will record an improvement in technology. And an increase in agricultural production is capable of reducing food import bills, which in turn can be used in increasing the amount of capital goods that

would possibly improve the living standard of the people. Helliener (1966) stated that Strong and efficient agricultural sector would enable a country to feed its growing population, generate employment, earn foreign exchange and provide raw materials for industries. The agricultural sector has a multiplier effect on any nation's socio-economic and industrial fabric because of the multifunctional nature of agriculture. Eicher and Witt (1964); Oluwasanmi (1966) and Jones and Woolf (1969) all agreed that the study of economic theory provides us with ample evidence that an agricultural revolution is a fundamental pre-condition for economic development. A historical study of various economies has also shown that the agricultural sector is the engine of growth in virtually all developed economies. The agricultural sector has the potential to shape the landscape, provide environmental benefits such as land conservation, guarantees the sustainable management of renewable natural resources, preserves bio diversity and contributes to the viability of many rural areas. At different spheres of activities at both the micro and macro levels, the agricultural sector is strategically positioned to have a high multiplier effect on any nation's quest for economic development. "It is indubitable that a sustained agricultural growth has been the highly instrumental to Brazil's rapid

rural transformation, the empowerment of Brazilian peasants and the alleviation of abject poverty" (Ogen, 2003). He (Ogen) went further to say that Nigerian economy, like that of Brazil, during the first decade after independence could reasonably be described as an agricultural economy because agriculture served as the engine of growth of the overall economy. From the stand point of occupational distribution and contribution to Gross Domestic Products (GDP), agriculture was the leading sector. This implies that the development of the agricultural sector has a significant role to play in the transformation and structuring of the economy of Nigeria and that of Plateau State as well and other economies where the majority of the labour force is primarily dependent on agriculture. As put in Agiokhan (2001), agriculture played a very significant role in the fortunes of some of the economies; the oil along with commerce and industry were usually secondary to agriculture with agricultural cycle the rhythm of economic activities. In the Nigerian rural agrarian economy, there is a challenge to increase the productivity and reduce the poverty level among the rural populace who predominantly engaged in agricultural production along with efforts at developing land resources available. According to Aigbokhan (2001), despite the decreasing role of the agricultural

sector's contribution to the national GDP, it still plays a dominant role at the grass roots level in providing employment and source of livelihood for the majority of the rural population engaged in the sector and also has the potential of providing employment to interested participants. An increase in agricultural production is capable of reducing food importation, which in the long run can translate to a favourable terms of trade, which in turn can be used in increasing the importation of capital goods that would possibly improve the living standards of the people.

Agriculture is by far the widest form of human activity and it can promote economic development of an economy in the following ways summarized below. These are:

- i. **Provision of food:** Food is important for growth, repair of damaged body cells and provision of energy. The bulk of the materials that perform these roles are derived from foods taken in the form of plant products such as fruits; oranges, guava, mango, pawpaw, and pineapple; grains like maize, rice guinea corn, millet and millet; tubers like yam, cocoyam, and cassava; beverages like cocoa, coffee and kolanut; spices like pepper and ginger; and animal products like meat, milk and eggs.

- ii. **Employment Generation:** Agriculture provides ready employment for people who normally live in the rural and urban areas. It also provides job opportunities for others such as the scientists who investigate agricultural problems, workers in industries that use agricultural raw materials for the production of their goods without which they will remain unemployed. Also, there are traders-middlemen, transporters and retailers who engaged in the marketing of agricultural products. In 2007, an estimated 35 percent of the world's workers were employed in agriculture (Ejenavwo, 2013).
- iii. **It facilitates industrialization:** Agriculture is the source of raw materials for much of the secondary production (industrial) sector of the economy. Some common agro-based industries are: canning factories which produce tomato paste, jam and juices; textile factories which produce cotton; rubber factories which produce materials liketyres, tubes, and soles; meat industries which produce corned beef, sausage and bacon; breweries which make use of barley and some other grains such as wheat; and the confectionary and baking industries.

- iv. **It generates income to the people:** The sale of agricultural products such as palm products, groundnut, cotton, cocoyam, cassava, animals and animal products in the local or domestic markets provides the much desired income to the farmers. This increase in the disposable income of the farmers tends to improve their standard of living.
- v. **It generates foreign exchange earnings:** The purchasing power of any country depends upon what it can produce and sell in the international market to pay for imports. The foreign trade of Nigeria depended almost entirely on the export of agricultural raw materials until the development of the petroleum industry. It is very true that export of agricultural products will provide the much needed revenue to the government to finance both the capital and recurrent expenditure.
- vi. **It provides raw materials for pharmaceutical products:** Agriculture is the source of raw materials for a number of drugs used today. The roots, barks, leaves and stems of tree plants are used as basic components of the drugs we use today. They are mixed with other chemical components to

produce drugs. Specific drugs such as Terpenes, glycosides, alkanoids and other useful drugs such as resins are products of plants. Other drugs whose raw materials are from plants as stated by (Walkinson, Walgvist & Clark 2002) include Quinine (anti-malarial), Atropine (Anticholinergic), Gossypol (Male contraceptive), Morphine (analgesic), Vincristine (Anticancer) and others.

METHODOLOGY

This study was carried out in Plateau State located in the north-central zone of Nigeria. The study covered six local government areas of the state. Plateau state is blessed with a vast area of fertile land and suitable climate that is suitable for the production of maize, Irish potatoes, yam, rice and other crops. The methodology used in this research is the descriptive method. The survey method under the descriptive methodology was used to source for primary data through the production of questionnaires. The questionnaires (300 of them) were sent to respondents to answer. The respondents were sampled randomly in 6 local governments of the state. The local governments sampled for the study include Bassa and Jos South (in the northern zone of the state), Bokkos

and Mangu(in the central zone) and Quanpan and Shendam(in the southern zone). The SPSS software was used to analyze the data and the results are presented in frequencies and percentages in the tables below. 300 questionnaires were produced and distributed but 288 were returned. This means that only 12 were missing.

DISCUSSION OF RESULTS

Out of the 288 respondents, 181 representing 62.8% percent were males while 107 representing 37.2% were females. Of all the respondents, 129 representing 44.8% were between the ages of 18-25, 109 representing 37.8% were between the ages of 26-35, 33 representing 11.5% were between the ages of 36-45 and 17 representing 5.9% were of the ages from 46 and above. Based on marital status, 152 representing 52 % were single, 124 representing 43.1% were married, 6

representing 2.1 were divorced and 6 representing 2.1% were widowed. Based on educational qualification, 24 representing 8.3% had non-formal education, 17 representing 5.9% had primary education, 72 representing 25% had secondary education and 174 representing 60.4% had tertiary education. On occupation, 21 representing 7.3% respondents were students, 51 representing 17.7% were civil servants, 189 representing 65.6% were farmers, and 27 representing 9.4% were business men and women. Almost all the respondents (93.4% of them) agreed that they know what Agricultural Services and Training Centres (ASTC) is, 3.1% were undecided while 3.4% disagreed. The high percentage of those that agreed (93.4%) indicates that the respondents are knowledgeable enough and their responses will be considered valid.

Table 1: THE IMPACT OF AGRICULTURE

Questions	Strongly Agreed	Agreed	Undecided	Disagreed	Strongly Disagreed
The level of maize production has increased in Plateau State as a result of the introduction of ASTC.	105 (36.5%)	104 (36.1%)	35 (12.2%)	36 (12.5%)	8 (2.8%)
The level of Irish potatoes production has increased in Plateau State as a result of the introduction of ASTC.	91 (31.6%)	94 (32.6%)	52 (18.1%)	38 (13.2)	13 (4.5)
The services rendered by ASTC have led to significant increase in the level of yam production in Plateau State.	60 (20.8%)	95 (33.0%)	52 (18.1%)	59 (20.5)	22 (7.6%)
The level of rice production has increased as result of the	84 (29.2%)	122 (42.4%)	41 (14.2%)	24 (8.3%)	17 (5.9%)

introduction of ASTC in Plateau State.					
ASTC has contributed to increase in the level of poultry and other livestock in Plateau State.	66 (22.9%)	130 (45.1%)	53 (18.4%)	31 (10.8%)	8 (2.8%)

From table 1 above, it can be seen that 72.6% of the respondents agreed, 12.2% were undecided while 15.3 disagreed that the level of maize production has increased in Plateau State as a result of the introduction of ASTC. The high percentage of those who agreed (72.6%) shows that the level of maize production has increased in Plateau State as a result of the introduction of ASTC. On whether the level of Irish potatoes production has increased in Plateau State as a result of the introduction of ASTC, 64.2% of the respondents agreed, 18.1% were undecided while 17.7% disagreed. The high percentage of those who agreed implies that the level of Irish potatoes production has increased in Plateau State as a result of the introduction of ASTC. On whether the services rendered by ASTC has led to led to significant increase in the level of yam production in Plateau State, 53.8% agreed, 18.1% were undecided while

28.1% disagreed. The high percentage of those who agreed implies that the services rendered by ASTC has led to led to significant increase in the level of yam production in Plateau State. On whether the level of rice production has increased as result of the introduction of ASTC in Plateau State, 71.6% of the respondents agreed, 14.2% were undecided while 14.2% disagreed. The high percentage of those that agreed also implies that the level of rice production has increased as result of the introduction of ASTC in Plateau State. On whether ASTC has contributed to increase in the level of poultry and other livestock in Plateau State, 68% of the respondents agreed, 10.8% were undecided while 13.6% disagreed. The high percentage of those that agreed (68%) shows that ASTC has contributed to increase in the level of poultry and other livestock in Plateau State.

Table 2: PROBLEMS OF ASTC

Questions	Strongly Agreed	Agreed	Undecided	Disagreed	Strongly Disagreed
Insufficient funding and inadequate attention from the government is a problem facing ASTC in Plateau State.	125 (43.4%)	119 (41.3)	20 (6.9%)	14 (4.9%)	10 (3.5%)
Insufficient equipment and personnel is also another problem facing ASTC in Plateau State.	127 (44.1%)	112 (38.0%)	23 (8.0%)	10 (3.5%)	16 (5.6%)
Inadequate awareness about the existence of ASTC and the services it renders is a problem facing ASTC in Plateau State.	133 (46.2%)	110 (38.2%)	25 (8.7%)	14 (4.9%)	6 (2.9%)
Operational inefficiency and poor coordination of the activities of ASTC are problems facing the programme in Plateau State.	108 (37.5%)	121 (42%)	30 (10.4%)	22 (7.6%)	7 (2.4%)

On responding to the problems facing ASTC, from table 2 above, it can be seen that 84.7% of the respondents agreed that insufficient funding and inadequate attention from the government is a problem facing ASTC. Another problem facing ASTC is insufficient equipment and personnel as agreed by 83% of the respondents. Other problems include inadequate awareness about the existence of ASTC and the services it renders as agreed by 84.4% of the respondents and Operational inefficiency and poor coordination of the activities of ASTC as agreed by 79.5% of the respondents.

TESTING OF HYPOTHESIS

Just as Korb (2016) asserted that research hypotheses typically require inferential statistics such as t-test, Analysis of Variance (ANOVA),

Chi Square or Correlation to analyze, the hypothesis of this study was analyzed using the Chi Square Statistical technique.

Decision Rule

Stock and Watson (2011) posited that if the p (probability) value is small (less than the level of significance) then it is very unlikely that the null hypothesis is true. Kolawole (2016) also went further to say that if the p value is greater than the level of significance; it means the result of the test is not statistically significant. This implies that the null hypothesis is to be accepted while the alternative hypothesis is to be rejected. For the sake of clarity, the decision rule to either accept or reject the null hypothesis as given by Gupta (2011) is given below:

- i. If the P value calculated is less than the level of significance ($p\text{-value} < \alpha$), we fail to accept null hypothesis (H_0).
- ii. If the P value calculated is greater than the level of significance ($p\text{-value} > \alpha$), we accept null hypothesis (H_0).

THE LEVEL OF MAIZE PRODUCTION HAS INCREASED IN PLATEAU STATE AS A RESULT OF THE INTRODUCTION OF ASTC. * ASTC HAS CONTRIBUTED TO INCREASE IN THE LEVEL OF POULTRY AND OTHER LIVESTOCK IN PLATEAU STATE.
Cross tabulation

Count							
		ASTC HAS CONTRIBUTED TO INCREASE IN THE LEVEL OF POULTRY AND OTHER LIVESTOCK IN PLATEAU STATE.					
		STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE	Total
THE LEVEL OF MAIZE PRODUCTION HAS INCREASED IN PLATEAU STATE AS A RESULT OF THE INTRODUCTION OF ASTC.	STRONGLY AGREE	31	52	14	8	0	105
	AGREE	20	56	18	7	3	104
	UNDECIDED	5	7	18	5	0	35
	DISAGREE	8	11	3	11	3	36
	STRONGLY DISAGREE	2	4	0	0	2	8
Total		66	130	53	31	8	288

Chi-Square Test results

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	77.360 ^a	16	.000
Likelihood Ratio	64.359	16	.000
Linear-by-Linear Association	18.140	1	.000
N of Valid Cases	288		

Chi-Square Test results

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	77.360 ^a	16	.000
Likelihood Ratio	64.359	16	.000
Linear-by-Linear Association	18.140	1	.000

- a. 11 cells (44.0%) have expected count less than 5.
- b. The minimum expected count is .22.

From the Chi-Square test table above, it can be seen that the P value is the third value on the second row (the row with Pearson Chi-Square) and the first on the fourth column, the column with Asymp. Sig. (2-sided) which is 0.000 or $p < 0.001$. The level of significance used for this study is 5% (0.05). In order to know whether to reject the null hypothesis or not, a comparison is made between the obtained P value (0.000) and the level of significance (0.05) according to the decision rule. Since the P value (0.000) is lower than the level of significance (0.05), the null hypothesis is rejected. The alternative hypothesis is accepted and we conclude at 5% level of significance that Agricultural Services and Training Centre have impact on agricultural production in Plateau State.

CONCLUSION

The paper has arrived at the conclusion that ASTC has contributed significantly to increases in the level of agricultural production

in Plateau State. This is evident by the discovery that the level of maize, Irish potatoes, yam, rice, poultry and other livestock production has increased significantly in Plateau State as a result of the introduction of ASTC. Although ASTC is facing the problems of insufficient funding, inadequate attention from the government, insufficient equipment and personnel, inadequate awareness about its existence, operational inefficiency and poor coordination of the activities, it was discovered that it has the needed potentials to boost agricultural production in Plateau State. The obvious implication is for the government to make investments in the programme in order to expand its area of coverage.

RECOMMENDATIONS

The paper came up with the following recommendations:

1. Government should give the ASTC adequate attention and allocate more funds to the programme.

2. Sufficient equipment should be provided and more personnel should be employed for the programme.
3. The staff of ASTC should work towards ensuring operational efficiency and proper coordination of the activities of the programme.
4. There should be more awareness campaigns about the existence of ASTC and the services it renders.
5. There is the need for the more established centers to be scattered around all the local governments and not just the three senatorial districts of the state.
6. The staff of ASTC should not discriminate against farmers based on their economic, religious or social background in the discharge of their duties.
7. The time between when booking for equipment is done and the farmer gets it need to be reduced because it sometimes take longer than necessary and it sometimes extend to the next farming season.
8. Employment into the ASTC should not be done on tribal lines as the case was.
9. The staff of ASTC needs to ensure proper maintenance of the equipment under their control.

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