International Journal of Global Affairs , Research and Development (IJGARD) Vol.2, No.1, 2024, 17-29,

ISSN 2992-2488

ASSESSMENT OF THE IMPACT OF AGRICULTURAL DEVELOPMENT PROJECT (ADP) ON THE LIVING STANDARD OF RURAL FARMERS IN NORTH CENTRAL NIGERIA.

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ABSTRACT

The study assessed the impact of Agricultural Development Project (ADP) on the living standard of rural farmers in North Central Nigeria. In line with the objectives, two research questions were answered and two hypotheses tested at 0.05 level of significance. The study adopted survey research design. The population of the study was 223. All members of the population were used because they were accessible and manageable. The instrument used for data collection was a structured questionnaire. The instrument was validated by five experts. The reliability of the instrument was established using Cronbach alpha method and the reliability coefficients obtained was 0.78 indicating that the instrument is high in internal consistency and hence reliable for use in the study. Data was collected by the researcher and five research assistants. 217 copies representing 97% of the instrument were retrieved and analyzed using mean and standard deviation for research questions and t-test for testing hypotheses. It was found from the study that ADP's Provision of infrastructure to rural farmers has influenced their living standard to a very high extent and that there are 28 ways Agricultural Development Project impacted the living standard of rural farmers. It was also found that there is no significant difference between the mean response of farmers and extension agents in the two hypotheses tested for the study at 0.05 level of significance/. Based on the findings of this study, it was recommended among others that; farmers should seek more services of the extension agents. Government through her ministry of agriculture and rural development should collaborate with the ADP extension agents in order to solve the problems constraining farmers' participation in Agricultural development projects by provision of fund and favorable policy initiatives and that ADP extension agents should continue to improve farmers' production practices through their various services as it has been established that it impacted their standard of living.

Keywords: Assessment, Agricultural Development Projects, Living Standards, Rural Farmers, North Central Nigeria

1.0 INTRODUCTION

The ultimate objective of the ADP system is to raise productivity, increase farm output, income and standard of living of the rural farmers. Therefore, assessing the impact of the achievements of the ADPs on the farmers can only be measured in such terms. Since inception of ADP in the North central Nigeria, studies on the Assessment of the impact of ADP on the living standard of rural farmers have never been explored in the literature. Thus, the probability of Agricultural Development Projects resulting in increased foodstuff for rural dwellers is yet to be ascertained. Moreover, the likelihood of farmers having easy access to improved seeds, pesticides and fertilizer for farming has never been investigated. Equally very essential and related to the foregoing but yet to be examined is the probability of ADP granting farmers adequate access to credit facilities. Apart from its academic worth to the body of knowledge, this study intends to discover if the existence of Agricultural Development Programmes has actually impacted on the rural population, in respect of food production and infrastructural facilities.

Oyaide (2018) reported that in 1985 about 9 million tonnes of grain equivalent, representing 44% total food production that year was produced by farmers involved in the project. He further noted that the contribution of ADP farmers to the national food basket is believed to have reached 60% now that the entire country is covered in the project. Of the 9 million tons produced in 1985, 3.4 tonnes was incremental output which when valued at 1985 prices (N350/tonne).

The bottom-line of the impact of increased productivity and output is however, that farmers' income and welfare is improved. According to Kwa (2017) the average income per hectare from various crops and returns to family labour per man day for most crops were over 200% above pre-project situations in most completed ADPs. This was a significant achievement notwithstanding the impact of inflation. This rise in income, he noted, was translated into improved standard of living of the rural dwellers. The improved living standard manifested in rising proportion of rural households owning items like motorcycles, bicycles and radios. There was also increased proportion of households that obtained adult education, engaged in tradition as secondary occupation and enjoyed better health conditions.

Ezeh (2019), states that one Naira (N1.00) investment on improved planting materials/seeds by the ADP given to farmers under Small plot Adoption Techniques (SPAT) has generated a N2.80 revenue to "Contact farmers"and N1.80 to the non ADP contact farmers and that the SPAT system of technology transfer to small holder farmers has made some noticeable and quantifiable impacts in terms of its multiplier effects on the income of the farmers. Kalu (2020) stated that ADP has improved the quality of life and economic wellbeing of the people living in relatively isolated and sparsely populated areas. It is about reduction of poverty, increasing productivity, providing basic services like health, education, drinking water, sanitation, extending infrastructure etc. Davidson & Ahmad (2018) observe that an affective poverty reduction strategy must attack poverty on all fronts at the same time, he stressed that one of the key ways in which ADPs are different from previous agricultural development programmes is that they rely on a holistic view of the social and economic challenges facing farmers and offer a multi-pronged approach to attacking poverty.

Kalu (2016) further stated that rural development physically transforms a backward community to stages represented by symbolic presence of structures such as modern buildings or town halls, schools, hospitals, roads, bridges, pipe borne water and electricity. In this sense, rural development can be seen as an attempt aimed at creating the external manifestation of an ideal society in form of large scale modern programmes and projects. Obasi (2015) stated therefore that rural development encompasses the entirety of rural life including the economic, political, social, and cultural development of the rural people. (Irz *et al*, 2019) identify effects of ADP on agricultural growth on farm economy, rural economy and national economy. The effect on farm economy is achieved through higher incomes for farmers, including small holders who constitute a large share of the rural poor, especially in north central Nigeria.

Positive effects on the rural economy were achieved by creation of more jobs in agriculture and the food chain. Agricultural output tends to decrease food prices and benefiting consumers and net purchasers of food (which may include farmers). Since the poor, both urban and rural spend a greater proportion of their incomes on food they benefit relatively more. Therefore, low food prices are often an objective of governments. Ugwu (2018) also found that large gains in poverty reduction were found in the in the rural area. Furthermore food makes up an important share of all poor people's expenditure. At the same time agriculture is often the major source of income for the poor and farm incomes and has a large spill over to others in the rural economy.

The ADP system has made some remarkable success in the agricultural and rural landscape of Nigeria. It is widely reported that in recent years, annual growth rate in the agricultural sector averaged 5% well above economy-wide average, also that is GDP contribution rose from 36% wide average; also that is GDP contribution rose from 36% in 1985 to about 40% in 1989 (Okuokenye & Okoedo-Okojie 2014; FACU (n.d.).

The ability of the ADP system to survive various governments with differing political inclinations is by itself a huge success. Having existed for nearly two decades, it is easily noticed that the ADP concept is one government project that has defied the "discontinuity syndrome" that characterize various government project in Nigeria. The ADP system has made tremendous progress in improving extension service in Nigeria. Extension Agent-farmer ratio has improved from pre-ADP level of 1:3000 to a national average of about 1:800 (Oyaide 2018). The extension agents are now better trained, motivated and remunerated. In most ADPs, the agents are provided with motorcycles and the supervisory staff with vehicles. The number of farm families reached have increased from 2.8 million in 1986 to about 9.1 million in 1990 (Gate 2021). There is also a significant improvement in the linkage between research and extension. This linkage is facilitated by the farming system research approach offered by the OFR, OFAR, MTRM procedures, among others. The ADPs have also made some progress in incorporating gender perspective in research and extension and by adopting the "Unified Agricultural extension system" since 1990. This has resulted in the formation of women-in- agriculture, fishery, livestock, agro-forestry, Fadama and farm mechanization sub departments in the structure of the project. In other words, the ADPS are now the sole agencies responsible for agricultural extension in Nigeria. By this unification, the extension agent is now expected to carry crop and non-crop messages to the farmer. Thus, the unification is a significant attempt at removing duplication of functions by other agencies and ministries of agriculture.

The ADP system has also made impressive achievements in capacity building of local manpower base. By 1988 as stated by Oyaide (2018) over 4.750 Nigerians had been trained locally and overseas by the ADPs. Indeed local capacity for management and implementation support of the ADPs has been on the increase over the years (Gate, 2021) hence it is easily noticed that expatriate staff are virtually non-existent in management of the ADPs presently. Farmers and local artisans have also benefited extensively in the training programme of the ADPs.

The achievements of the ADPs in the area of rural infrastructure have been very outstanding especially with respect to feeder roads. According to Kwa (2017) most ADPs exceeded their targets on road construction and maintenance. Gana (2017) reported that feeder roads rehabilitation and maintenance growing at an annual rate of 9.4% moved from annual average of 2394km in 1986 to 2.956km in 1989. Also, between 1975 and 1989 significant achievements were also recorded in the area of construction of dams, wells, boreholes, farm service centres and Fadama development. The supply of fertilizers to the farmers through the ADPs steadily increased from about 301.000 tonnes in 1985 to 1.472.000 tonnes in 1990. Gate (2021) stated that herbicides distributed also increased from 25.000 litres in 1986 to about 1990 to 48.500 and 22.000 litres, respectively and that the distribution of improved seeds also increased remarkably. This is evidenced by the increase in the total hectarge put to seed multiplication from 4.300/ha in 1986 to 29.900/ha.

Ugwu (2018) highlighted that ADPs have made some noticeable advances in technology development through On-Farm adaptative trials and transfer of the results to rural dwellers. These technologies which vary across the country due to ecological and socio-economic differences include the following: Mixed and multiple cropping arrangements, Optimal plant population, Improved crop varieties like cassava rice and maize, Yam-mini-stet technology, Alley cropping/farming, Agro forestry practices, Optimal fertilizer application, Optimal agro-chemical use, Popularization of homestead fish pond, Post-harvest storage and processing practices, Optimal livestock housing and feeding, Dry season vegetable production techniques, Small-scale irrigation (fadama) and Introduction or popularization of labour-saving devices.

These technologies which are transferred to the farmers using the Small Plot Adoption Technique (SPAT) have reached varying degrees of adoption. For instance, according to Kwa (2017) fertilizer adoption increase from 28% in 1980 to over 70% in 1990; seed dressing chemical uptake increased from 20-50% while improved seeds rose from 15-40% in the same period. The use of improved cassava varieties is particularly noteworthy. It is estimated to have reached 0% adoption (Gate, 2021). Mixed cropping patterns are also being rapidly adopted as it provides food insurance of security to the resource poor farmers. On the other hand, the number of farm families adopting herbicides, insecticides and tractor services cannot be described as encouraging (at about 5% adoption rate). The relatively slow rate of adoption has been related to high prices, relative scarcity and indivisibility of the technologies among others. The projects planned to achieve production increase largely through crop yield increases by the use of improved technology and increased production inputs. The result of the trend analysis carried out on the area and yield data for 1982-1991 for Bauchi, Kano, Sokoto, Ilorin and Oyo-North Agricultural Development Projects indicated that yields increased in millet, cassava and cotton in the Bauchi State Agricultural Development project, Rice in Kaduna Agricultural Development Project, Cassava in Ilorin Agricultural Development Projects, yam and cowpeas in Ondo

Agricultural Development Projects (World Bank, 2018). On the average yields have increased for all the major crops in Nigeria since inception of the ADPs compared with the period before the establishment of the ADPs. This is inconsonant with the extensive extension coverage by the ADPs. Between 1991 and 1995 alone, a total number of 36,012,000 farm families were covered while 1,130,700 Special Plots for Agricultural Training (SPAT) plots were established, and 8,894 on farm/station trials were carried out. Although there were some sole cropping of maize in more flavored areas, the projects had virtually negligible impact on changing the traditional mixed/relay crop system in the projects (Ojiako *et a*l,(2018) This system has obvious advantages in allowing farmers to reduce production risks in the relatively difficult production environment, and hence any widespread adoption of a different system would have had to include not only increased production potential but also comparable risks aversion characteristic (Omonijo, Toluwase and Uche, 2019). Such an alternative system has yet to be developed.

Ugwu (2018) examined "contributions of ADPs to rural livelihood and food security in Nigeria" The genesis and historical development of the ADP system were presented. They observed that the critical mandate/objective of the ADPs was to boost agricultural production as well as contribute to rural livelihood and food security. The achievements and impact of the ADPs were identified to be in the area of revitalized extension service, local capacity building, rural infrastructural development, input distribution, technology development, transfer and adoption, as well as improved rural livelihood and food security. Significant ADP achievements in the above focus areas have guaranteed project continuity for the past two decades in Nigeria.

i. Supervisory field visits to village extension agents (VEAs) were made.
ii. Field visits to the farmer's farm by VEAs out of 44,160 targeted farms were made.
iii. On-farm adaptive researches (OFAR) out of 6 targets were carried out.
iv. Technology review and training meetings were held.
v. Small plot adaptive techniques (SPAT) on crops were established.
vi. Contact farmers were reached out to by VEAs.
vii. Assorted agrochemicals were sold to the farmers.

The overall purpose of this study is the assessment of the impact of Agricultural Development Project (ADP) on the living standard of rural farmers' in North Central Nigeria. Specifically the study sought to assess the impacts of ADP on the living standards of rural farmers.

To facilitate the investigation of the problem of this study, the following research question was drawn and answered to guide the study.

i. To what extent does provision of infrastructural facilities to rural farmers by ADPS impact rural farmers' standard of living?
ii. What are the impacts of ADPs on the living standards of rural farmers?

The following null hypotheses were formulated and tested at 0.05 level of significant.

i. There is no significant difference between the mean response of rural contact farmers and agricultural extension agents on the extent to which provision of infrastructural facilities by ADPs enhance rural farmers standard of living
ii. There is no significant difference between the mean response of rural contact farmers and agricultural extension agents on the impact of ADP on the living standard or rural contact farmers

Over the years, rural farmers practiced traditional system of agriculture using crude implements leading to poor yield, low income and abject poverty. The neglect of FG to fund agricultural sector in favor of oil boom had severe impact on the living standard of the rural farmer, There was decline in production of basic food crops such as maize, rice and yams due to lack of access to basic training on improved agricultural technologies to increase farm inputs. No functional extension services, no extension agents to train rural farmers on improved farm technologies. The traditional extension service, financed and provided by the state may have failed to meet their objectives of improving farmers' welfare and in some cases may have little or no impact on the living standard of rural farmers. It was this poor condition of the rural farmers that led to the initiation of ADPS to revamp the agricultural sector.

The findings will be of great benefit the Federal Government, state government, Local government, Nongovernmental and International Organizations. Others include the Agricultural Extension Officers, rural farmers, agro-based industries and professional personnel in other life sector

The study focused on the assessment of the impact of Agricultural Development Project (ADP) on the living standard of Rural Farmers in North central Nigeria comprising of Benue, Kogi, Nasarawa, kwara, Niger, Plateau and FCT Abuja. The scope of the study focuses on all the two (2) objectives of the study

2.0 METHODOLOGY

2.1 Research design

The study adopts survey research design.

2.2 Area of the study

The study is conducted in North central region of Nigeria

2.3 Population of the Study

The population of the study is 223 comprising 205 Contact farmers and 18 agricultural extension agents serving in the different ADPs agro ecological zones

2.4 Sample and Sampling Technique

There is no sampling because the researcher can effectively manage the population for the entire 223 respondents.

2.5 Reliability of the Instrument

The reliability coefficient obtained was 0.78 indicating that the instrument is high in internal consistency and hence reliable for use in the study

2.6 Method of data collection

The questionnaire was administered to the respondents by five (5) research assistants trained by the researcher, in different ADPS offices across North Central zones. 217 copies representing 97% of the instrument was retrieved for analyses.

2.7 Method of data collection

Descriptive statistical tool (mean and standard deviation) was used to answer research questions 1-2, while inferential statistical tool (t-test) was used to test the hypothesis 1-2. The null hypothesis was tested at 0.05 level of significance

2.8 Decision rule

For research question 1and 2, any item with a mean of 2.50 and above was agreed while any mean below 2.50 was regarded as disagreed. For research question 1 dealing with "extent", real limit of number as recommended by Ryon and Haba (1989) was used for interpretation. For hypotheses, if the absolute value of the calculated t-statistic is larger than the critical value of t (1.96), the null hypotheses was rejected and vice visa. Alternatively, if the p-value is higher than the alpha value of 0.05, the null hypotheses was accepted otherwise rejected.

3.0 RESULTS AND DISCUSSION

3.1 Results.

Research question 1: To what extent do provisions of infrastructural facilities to rural farmers by ADPS have impact on rural farmers' standard of living?

Table 1: Mean Rating and Standard Deviation of the Respondents on the Extent to which ADP Provision of Infrastructures to Rural Farmers impacted Living Standard N-217

S/N	Items	N_1	N_2	X_1	X_2	S_1	S_2	RMK
1	ADP provides access roads in my community	17	200	3.52	3.51	.62	.53	VH
2	ADP provides culverts in my community	17	200	3.41	3.49	.61	.57	H
3	ADP the provides dam for irrigation in my community	17	200	3.35	3.49	.49	.50	H
4	ADP provides tube wells in my communities	17	200	3.76	3.53	.43	.50	VH
5	ADP provides bole holes in my community	17	200	3.64	3.39	.60	.55	H
6	ADP has enhanced fadama development in my community	17	200	3.29	3.45	.46	.51	H
7	ADP provides rural agro-industrial scheme for processing crop products	17	200	3.70	3.59	.46	.54	VH
8	ADP has recorded achievement in the area provision of farm service centres	17	200	3.58	3.54	.61	.53	VH
8	ADP has enhanced provision of balance food crops for rural farmers well being	17	200	3.64	3.52	.49	.50	VH
9	ADP disseminates improved Agricultural technologies to rural farmers through effective extension delivery.	17	200	3.76	3.44	.43	.50	VH
10	ADP provides improved farm seeds to farmer to improved crop production	17	200	3.52	3.57	.62	.55	VH
11	ADP educates rural farmers on how to get better market for their farm produce	17	200	3.47	3.51	.62	.53	H
12	ADP provides improvement of extension staff training	17	200	3.94	3.49	.24	.52	VH
13	ADP provides improvement of rural farmers training on crop production	17	200	3.64	3.55	.60	.56	VH
14	Introduction of new credit and marketing services	17	200	3.70	3.57	.46	.54	VH
15	ADP supplies improved farm inputs (fertilizer& improved seeds) to rural farmers in my community	17	200	3.47	3.48	.51	.50	H
16	ADP educates rural farmers on agro-processing technologies.	17	200	3.64	3.52	.49	.51	VH
17	ADP empowers rural farmers on agro- storage technologies	17	200	3.35	3.3	.60	.55	H

18	ADP empowers rural farmers to increase crop production by helping to adopt improved farm technologies	17	200	3.70	3.6	.46	.50	VH
19	ADP Link farmers to sources of fund (soft-loan grants)	17	200	3.47	3.51	.51	.51	H
20	Disseminate improved agricultural technologies from research centres and institutions to farmers through effective extension delivery.	17	200	3.41	3.39	.61	.52	H
	Pooled			**3.57**	**3.49**	.52	.52	VH

Keys: N_1- Number of agricultural extension agents, N_2-mean of contact farmers, X_1- mean of agricultural extension agents X_2-mean of number of contact farmers, S_1,-standard deviation of agricultural extension agents, S_2-standard deviation of contact farmers, H-high, V.H- very high

Table 1 presents the result of the data analyzed on the extent to which provision of infrastructural facilities to rural farmers by ADPS have impact on rural farmers' standard of living. The result shows a pooled mean of 3.57 and 3.49 for agricultural extension agents and contact farmers respectively. This is within the upper and lower limit of 4 for agricultural extension agents and within the upper and lower limit of 3 for contact farmers. This implies that there is a very high extent to which provision of infrastructural facilities to rural farmers by ADPS impacted rural farmers standard of living.

Hypothesis 1: There is no significant difference between the mean ratings of rural contact farmers and agricultural extension agents on the extent to which provision of infrastructural facilities to rural farmers by ADPs impacted their standard of living

Table 2: t-Test Result of the Respondents on the Extent to which Provision of Infrastructural Facilities to Rural Farmers impact their Standard of Living

Occupation	N	Mean	Std	Std. Error Mean	Df	Sig	t-cal	Alpha value	Remark
Ext. agents	17	3.574238	.526158	1.11629	215	.094	1.683	.05	NS
Farmers	200	3.499048	.529293	.25686					

Keys: N= Number of respondents, Std = Standard deviation, df = degree of freedom, Sig. = P-value; t-cal = t-calculated value; P <.05, NS = Not Significant. t-critical-1.96
Source: *Field survey, 2023*

Table 2 presents the result of the t-test analyses on the extent to which provision of infrastructural facilities to rural farmers by ADPs influence their standard of living. The result shows that the t-cal is 1.683, which is less than the critical value of 1.96 at 215 degree of freedom, implying that the null hypothesis is accepted. This means that there is no significant difference between the mean response of Agricultural extension agents and contact farmers on the extent to which provision of infrastructural facilities to rural farmers by ADPS influence their standard of living

Research question 2: What are the impacts of ADPs on the living standards of rural farmers?

Table 3: **Mean Rating and Standard Deviation of the Respondents on the Impact of ADPs on the Living Standard of farmers N-217**

S/N	Items	N_1	N_2	X_1	X_2	S_1	S_2	RMK
1	Advent of ADP has created access roads for sales of crops.	17	200	3.29	3.44	.46	.49	A
2	ADP extension staff provide training to rural farmers	17	200	3.64	3.43	.49	.49	A
3	ADP creates agricultural job opportunities for youths in the rural areas	17	200	3.35	3.44	.49	.49	A
4	Rural farmers adoption of modern farming technologies has increased supply of food crops for sale to generate more income	17	200	3.41	3.40	.50	.62	A
5	Use of improved crop varieties leads to high yield and more income to farmers.	17	200	3.17	3.42	.39	.49	A
6	The adoption of improved crops production technology has increased farmers purchasing power.	17	200	2.76	3.19	.75	.69	A
7	Fertilizer use has enabled me to increase my output	17	200	3.29	3.29	.46	.49	A
8	ADP has created awareness of high productivity of food crops	17	200	3.52	3.45	.62	.55	A
9	ADP has raised educational awareness among farmers to send their children to school.	17	200	3.58	3.46	.50	.57	A
10	ADP has enabled use of feeds and balanced diet.	17	200	3.41	3.46	.50	.50	A
11	ADP has raised the awareness and access to good water supply	17	200	3.11	3.29	.99	.75	A
12	ADP has increased the purchasing power of farmers in terms of house hold goods.	17	200	3.35	3.15	.49	.66	A
13	ADP provides Training to rural farmers on modern storage technology of farm inputs,	17	200	3.70	3.58	.57	.58	A
14	Farmers building their own houses from farming business, was an index of quality of life	17	200	3.47	3.53	.55	.52	A
15	ADP provides Training on techniques of making farm manure/compost to improve rural farm crop yields.	17	200	3.17	3.26	.63	.51	A
16	ADP provides Training on techniques of land preparation for improved crop production.	17	200	3.41	3.47	.50	.50	A
17	ADP provides training on mechanized farming for improved crop production of the rural farmers	17	200	3.47	3.38	.51	.63	A
18	ADP provide training for its personnel to improve farm work and job satisfaction	17	200	3.29	3.42	.46	.48	A
19	New farm practices made available to me by extensions workers has been adopted	17	200	3.17	3.35	.52	.53	A
20	Training on tractor use has improved crop production.	17	200	3.29	3.31	.46	.46	A
21	Training on the use of improved crop seeds have improved crop production	17	200	3.52	3.48	.51	.53	A
22	ADP training on yam mini-setts technology has improved yam crop production	17	200	3.35	3.35	.49	.66	A
23	The expenditure on goods (radios, TV, vehicles, furniture) was an indicator of improved standard of living	17	200	3.35	3.41	.49	.50	A
24	Training on application of fertilizers was done with farmers participating	17	200	2.58	3.19	.61	.70	A
25	Utilization of insecticides by farmers has controlled insect-pest	17	200	3.35	3.43	.60	.54	A
26	Rural farmers are trained on how to spray herbicides to control Weeds on their farms to improve crop yield	17	200	3.64	3.54	.49	.54	A
27	Fertilizer usage by farmers increased output of farm crops	17	200	3.17	3.36	.39	.56	A
28	Assorted agrochemicals were sold to the farmers	17	200	3.29	3.36	.46	.49	A
	Pooled			**3.32**	**3.39**	**.53**	**.55**	A

Keys: N_1- Number of agricultural extension agents, N_2-mean of contact farmers, X_1- mean of agricultural extension agents X_2-mean of number of contact farmers, S_1,-standard deviation of agricultural extension agents, S_2-standard deviation of contact farmers, D-disagree, A-agree

The result of the data presented in Table 3 shows that all the items had their calculated value ranging from 2.58 to 3.70 for agricultural extension agents and 3.15 to 3.58 which are all above the cut off mean of 2.50. This implies that all the items are the ways ADPs impacted the living standard of rural farmers. The result also shows that all the items had their standard deviation ranging from 0.39 to 0.99, implying that the responses of the respondents are not far from each other.

Hypothesis 2: There is no significant difference between the mean ratings of rural contact farmers and agricultural extension agents on the impact of ADPs on farmers' standard of living

Table 4 t-Test Result of the Respondents on the impact of ADPs on the Living Standard of farmers

Occupation	N	Mean	Std	Std. Error Mean	Df	Sig	t-cal	Alpha value	Remark
Ext. agents	17	3.329829	.536032	1.97322	215	.245	-1.167	.05	NS
Farmers	200	3.390179	.55932	.38846					

Keys: N= Number of respondents, Std = Standard deviation, df = degree of freedom, Sig. = P-value; t-cal = t-calculated value; P <.05, NS = Not Significant.
Source: *Field survey, 2022*

Table 4 presents the result of the t-test analyses on the impact of ADPs on the living standards of rural farmers. The result shows that the t-cal is -1.167, which is less than the critical value of 1.96 at 215 degree of freedom, implying that the null hypothesis is accepted. This means that there is no significant different between the mean response of contact farmers and agricultural extension agents on the impact of ADP on the rural farmers living standard.

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3.2 Discussion

The findings of the study in research question 1 revealed that to a very large extent, ADP's provision of infrastructure has impacted the living standard of rural farmers. This finding is in accordance with Inegbedion *et al*, (2018) who found from their study that agricultural extension service has led to the provision of basic infrastructure for the rural farmers which has highly improve their livelihood. However, the finding disagrees with Chukwuemeka and Nzewi (2019) who found that the extent to which the Project had achieved set objectives of improving rural living standard was low. This could be due to difference in location of the two studies. More so, the findings of the study in hypothesis 1 is in line with Umeh *et a*l,(2020) who found that the result of the hypothesis tested on the extent of performance of ADP in Abia with that of Enugu States in Nigeria was not significant in 8 indices.

The findings of the study in research question 2 revealed that there are 28 ways ADP impacted the living standard of rural farmers. The finding is in agreement with Adamu and Mohammed (2019) who found that ADP has impacted Adamawa State rural farmers on their productivity, income, access to credit, and general standard of living using assets ownership criterion. In line with the findings of this study also, Dare, Ojo, Omonijo, Toluwase, and Uche, (2022) found that Agricultural Development Projects have significantly increased food production in the locality through increased provision of pesticides and improved seeds to farmers, establishment of new infrastructure and provision of fertilizers. More so, the findings of the study in hypothesis 5 is in In line with Ugwu (2018) who found that there is no significant difference in the mean response of the respondents on the hypothesis tested on the contributions of ADPs to rural livelihood and food security in Nigeria.

4.0 CONCLUSION AND RECOMMENDATIONS

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4.1 Conclusion

Based on the findings of the study, it was concluded that Agricultural Development Projects (ADP) has to a very high extent impacted the living standard of the rural contact farmers indicated in increased food crop production, higher income and improved social amenities.

4.2 Recommendations

Based on the results of this study, the following recommendations were made;

1 ADP extension agents should continue to improve farmers' production practices through their various services as it has been established that it influences their standard of living.

2 Farmers should form cooperative societies to augment their needs for more extension training

3 All farmers should endeavor to participate in ADP programmes in order to enhance their living standard.

REFERENCES

Adamu, M.U. & Mohammed, W.A. (2019): The effect of agricultural development project (ADP) on the rural farmers in Adamawa state, Nigeria. *Asian Journal Agric Rura Dev*. 2011;2(3):405410. kldsarch Institute), Washington, DC, USA, and ILRI (International Livestock Research Institute). Nairobi, Kenya.

Chukwuemeka, E., & Nzewi, H.N. (2019). An empirical study of World Bank agricultural development programme in Nigeria. *American Journal of Social and management Sciences*. 41(12); Pp. 342-345

Dare Ojo, Omonijo, D.O. Toluwase, S.O.W. and Uche, O.C [2022], The effects of ADP on the rural farmers in Adamawa. *Asian journal of agriculture and rural development, vol.2 pp 405- 410*

Davidson, A. & Ahmad, M. (2013). Privatization and the crisis of agricultural extension: A case study of Pakistan England and USA: Ashgate publishing limited, gower house (England) and Ashgate publishing company, Burlighton, USA.

Ezeh (2019). The Impact of the National Fadama II Development Project in Alleviating Rural Poverty and Improving Agricultural Production in Imo State,Nigeria, Agro- Science: J Trop Agri Food Environ Extension 2019;8(3):139 – 144.

Gate B. (20121). Agricultural Development Strategy Overview. Annual Letter. Accessed on April 2, 2014. Available on www.gatesfoundation.org/What-We-Dwww.gates foundation/Global- Development/Agricultural-Development

Inegbedion H, Obadiaru E, and Obasaju B, l (2018). Financing Agriculture in Nigeria through Agricultural Extension Services of Agricultural Development Programmes(ADPs). *F1000Research. 2018.*

Kalu M.O. (2019). Trends in the Funding of Agricultural Development Programme (ADP) in Nigeria; the case of Abia State Agricultural Development Programme 1992 – 1999 B.Sc Thesis. Department of Agriculture, Abia State University, Uturu, 2000.

Kwa, A.R. (2019). "The Impact of Agricultural Development'Project (ADP) on the Nigerian Farmer" Farm Trend vol. 01 Delta ADP. Asaba p. 5.

Ojiako, I.A., Manyong, V.MandIkpi, A. E. (2018). Determinants of Rural Farmers' Improved SoybeanAdoption Decision in Northern Nigeria. *Journal of Food, Agriculture and Environment 5(2): 215-22355 International Research Journal of Finance and Economics - Issue 128 (2014)*

Omonijo, D.O. Toluwase, S.O.W. and Uche, O.C (2014). Impacts of Agricultural Development Programme (ADP) on Rural Dwellers in Nigeria: A Study of Isan-Ekiti International Research Journal of Finance and Economics. ISSN 1450-2887 Issue 128 December,

Oyaide W.J. (2018). Productivity for self-Reliance and Excellence. The case of Agriculture farm Management Association of Nigeria, Ibadan.

Irz, X., L. Lin, C. Thirtle, and Wiggins ,S.. (2019). "Agricultural Productivity Growth and Poverty Alleviation", *Development policy review*, 19(4): 449-466

Kalu M.O. (2016). Trends in the Funding of Agricultural Development Programme (ADP) in Nigeria; the case of Abia State Agricultural Development Programme 1992 – 1999 B.Sc Thesis. Department of Agriculture, Abia State University, Uturu, 2000.

Ugwu, D.S. (2018). Contributions of Agricultural Development Programmes (ADPs) to Rural Livelihood and Food Fecurity in Nigeria. *Agricultural Journal.* 2007;2(4):503–510.

Okuokenye, G.F.,& Okoedo-Okojie, D.U. (2014) Evaluation of extension agents' commitment to the agricultural loans and inputs supply programme on special rice production in

Delta state, Niger\';lkjia. *Journal of Applied Science and Environmental Management.* 2014;18(2):327–335.

Ojiako, I.A., Manyong, V.MandIkpi, A. E. (2013). Determinants of Rural Farmers' Improved SoybeanAdoption Decision in Northern Nigeria. *Journal of Food, Agriculture and Environment 5(2): 215-22355 International Research Journal of Finance and Economics - Issue 128 (2014)*

Umeh, O. J, Ekumankama, O.O, and Nwacukwu I, (2020) Comparative performance evaluation of the Agricultural development programmes of Abia and Enugu states, Nigeria. *J Agric Ext.* 2015;19(2):108–114. 10.4314/jae.v19i2.9

World Bank Group (2018). Agricultural Development Projects in Nigeria. Independent Evaluation Group (IEG). Washington DC: The World Bank.