



**Original Research Article**

**Government Agricultural Projects and Rural Development in Selected Local Government Areas in Rivers State, Nigeria**

**Godwin Uzochukwu Nosiri, Alwell Nteegah\*, Monday Robinson and Ijeoma Kalu**

This paper examined contributions of government agricultural projects to rural development in selected Local Government Areas in Rivers State, Nigeria. Specifically, the contributions of Risonpalm Estate (now SIART NIG. LTD), School-to-Land Programme and Songhai Farm to rural employment, farm output, and rural farmers' income in rural areas in Rivers State were explored. A cross-sectional research design, using survey method was followed and combinations of descriptive and inferential statistics formed the basis for the analysis of the responses generated using a well-structured questionnaire. The findings revealed that government agricultural projects/supports to farmers have helped to create more jobs in the host communities thereby contributing to the development of the host communities and the state at large. Similarly, it was found that government supports to farmers and the employment of people in government-owned farms in Rivers State have improved the productivity of farmers and employees thereby contributing to the development of the host communities and the state at large. The results further indicate that government agricultural projects/supports to farmers have helped to improve the income level of farmers and employees in the host communities where the projects are located thereby contributing to the development of the host communities. Based on these findings, the study concluded that government sponsored agricultural activities/projects have contributed to the development of the rural communities in Rivers State. Thus, the paper recommends among others that government should increase support to farmers and funding to the farms to improve productivity and output of both farmers and employees of the farms.

**Keywords:** Rural Development, Agricultural projects, Income, Employment, Output.

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**INTRODUCTION**

Economic history revealed that agriculture is key pre-condition for economic growth and development and life-wire of modernization in every nation globally. Every modern nation passed through agrarian period. In Nigeria, before oil was uncovered in 1956, agriculture was life-wire of their economy because it provided foods, jobs and raw-materials for local and oversea based firms.

In their research, Nchuchuwe and Adejuwon (2012) reenacted position of the classists, that agriculture advancement is sub-set for monetary development. The continued increase in production level over sensible time period followed by subsequent enhanced wellbeing of people reflected in increased income and living standard, defines development. But development as relates to group of persons defer from community to community, thus development definition in urban area, where there are notable facilities infrastructure like electricity, water, shelter, etc. cannot be used to define development, in sense of communities in local areas, where electricity, roads, water, health services, etc. are far cry. Development in local sense is about providing key necessities of life to local communities. Nchuchuwe and Adejuwon (2013) summarized local-area advancement as development that benefits local area population's living standard. Daneji (2011) in his work drew nexus between agriculture development and general or common government objectives globally. Governments globally are interested in improving citizen's welfare and general security for their life and property. Life cannot be secured with hunger, deprivation and terribly low living standard. This becomes cornerstone for every government that wants to fulfill obligation to people would first aspire to secure its citizens by pursuing vigorous agriculture program/projects. The aim is to ensure security of citizens, earn oversea income, secure future of their industries and generally improve GDP of the country (Olulu and Kalu, 2013).

To reduce abject poverty, create jobs, improve income and trigger development among local dwellers, international organizations like World Bank along with nations and states have launched agriculture programs/projects at different times and some of these programs include; "United Nations Development Programme (UNDP), International Fund for Agricultural Development (IFAD), Agricultural Development Programme (ADP), Food and Agricultural Organization (FAO), National Economic Empowerment and Development (NEED), the Directorate of Food, Road and Local Infrastructure (DIFRRI), National Accelerated Food Production Programme (NAFPP), Green Revolution (GR), Operation Feed the Nation (OFN)" (IFAD, 2011).

In Rivers State (Nigeria) specifically, governments have hurled agriculture programs like Accelerated Oil Palm development Initiative in 2008, Risonpalm Project (now SIART), 1978, Delta-Rubber Company Limited, 1975, the Root and Tuber Expansion Project (RTEP) and the School to Land Project, the Songai Farm among others. The objectives of these projects include to provide foods for citizens, make available raw-materials for firms, create jobs, earn additional income and develop local areas through providing road, transportation, agriculture funding, technical assistance for local farmers, improved market access and paucity alleviation in local areas and country in general (Dare et al., 2014).

Based on the objectives of government on establishing agricultural projects in Rivers State, the paper seeks to examine how three projects of the government – Risonpalm Project (now SIART) at Obima, the Songai Farm at Bunu Tai and School to Land farm at Rumuodamaya have affected economic development through the creation of jobs, improvement in income of the people and increase productivity/output of people in the areas where the projects are sited. We shall continue our investigation by reviewing relevant literature, expose the methodology of the paper, providing the results of our analysis, findings and concluding remarks.

## LITERATURE REVIEW

### **Agriculture and Local-area advancement**

According to Mane (2009), it is due time to revitalize agriculture to guarantee food security, work and income as bottom-line for local-area advancement. Mane posits that "in order to address local-area advancement challenges, government future agricultural policies must focus on revolution in information and communication and the opportunity of linking farmers, extension workers and scientists with national and international data base; conservation of natural resources as protection of environment and vast untapped potential of our soil and water resources and farming systems".

However, agriculture programs need to focus on well-being of local area people. Mane thus, suggested that human dimension is main determinant for agriculture programs and not just production. He mentioned that main priorities to reveal in these policies includes; to assess agriculture progress as concerns farmer's incomes, to narrow down gender aspect of policies focusing on maintainable local livelihood, develop social security scheme and support farming services, attract youths to farm by making them involve in small and medium scale farming. The emphasis was to organize farmers towards participating in developing process via agriculture.

A cross-continent study done by World Bank (2008) in Sub-Saharan Africa, Eastern-Asia and Southern-Asia revealed that agriculture has notably contributed to work-creation and GDP growth, used local sector to develop other sectors of economy and reduce poverty gap. In another study done by Barkely and Wilson (1995) they uncovered that government establishing wine grape, Kiwi and cheese-orchards in Mississippi, Oklahoma, Arizona and Carolina reduced pattern of declining job and income in non-city areas. They maintained that local areas involved in non-conventional farming gain from expanded employment, access to supportive government and business sector. Stable income flows and improves in infrastructure facilities.

Gollin et al. (2002) in their study revealed essence of

agriculture in early developmental stage. Analyzed information from 62 upcoming nations for time period 1960-1990, they uncovered that growth in agriculture was quantitatively crucial in comprehending growth in GDP. Both cross-section along with panel data revealed that nation witness increased agriculture productivity was able to release labor from agriculture to other monetary sectors. On average, contribution of agriculture growth, non-agriculture growth and sector shifts was 54, 17 and 29% respectively.

As evidence from case studies and reviewed literature, Derek et al. (2005) presented five propositions concerning agriculture contribution to local-area advancement and paucity reduction:

- (i) Agriculture played crucial and often leading role in initial development stage. Beyond its direct contribution to growth, number of features specific to this sector enhances its contribution to pro-poor growth, including concentration of poor in this sector, the large size of its growth linkages to other sectors and positive externalities from assured food security and reduces food prices.
- (ii) The contribution of agriculture to growth naturally declines with structural transformation from an agriculture economy to urban-based non-agriculture economy, although even in economies that are well into mid-income condition, agriculture continues to “pull beyond its weight” as measured by contribution to GDP because of its unique “externalities”.
- (iii) Even as agriculture role in growth reduce with structure transformation, local-area advancement continues to become critical in reducing paucity and inequality.
- (iv) The “agro-pessimists” raise crucial questions about future agriculture role. These questions highlight how agriculture contribution to pro-poor growth varies massively not just at different development stage for any set nation but across and within nations because of initial conditions. More than ever, designing government policy for enhancing agriculture contribution and local-area advancement to pro-poor increment must be conditioned by local contexts.
- (v) The role of local area non-farming economy increases as growth source initially led by connections to agriculture growth, but knotted to city industrial advancement especially in places with better infrastructure and population.

From the foregoing, it is proven that local agriculture can be changed to modern sector by adopting science-based technology and making massive contribution to development. Secondly, nations have clearly identified massive growth connection and multiplier impact of agriculture growth to non-agriculture sectors. It is empirically known that massive share of manufacturing in initial development stage is agriculture

related (Gemell et al., 2000). This multiplying impact is not significant.

### **The Diffusion Model**

This is theory of local-area advancement formed in 1985 by Rogers as mentioned in Kenny (2019) and expresses change process via innovation into any community and tried to explain presence of substantial production disparity among farmers in similar monetary and geographical area and these disparity occur because of mix-up in adoption of farmers to novel seed varieties and mechanical demands. Since that section of agriculture and local-area advancement depends on reducing existing production disparity using technological invention, the model designer focused on analyzing different communication technique. They maintained that “this model has considerable appeal in many less developed nations. It impact an extension bias to agricultural development and leads to the streamlining and encouragement of extension services in developing countries. Many policy makers in their search for the most effective method of diffusing innovations resort to a number of devices such as experimental stations and demonstration farms aimed at spreading new techniques through demonstration effects”.

The key thrust of these models is how novel inventions and discoveries could spread in social system. Rogers (1983) stated that “diffusion model of innovation is characterized by people by passage of individuals and institutions through three stages. First, people play with it to find out its capabilities and limitations. Second stage has to do with their application of the new technology to assist them in their daily activities and responsibilities. Third stage, they begin to use the innovation to help address new opportunities or problems which have not been solved or addressed before the new innovation was introduced”. Invention diffusion could take time and time between developing innovation and common adoption is “Innovation Diffusion Gap”. In this case, emphasis is position on farmers and local-leaders whose production methods serve as example to farmers in other area. In same manner, adoption model supports national and global efforts to move novel technology from advanced to upcoming nations.

Olayide (1975) stated that “the criticism concerning this model is that in the recent years the model has not been particularly successful in spreading new technology on the basis of the strategies prescribed by the diffusion model”. Reason being that experiment stations and demonstration have little demonstration impact on farm areas where they are sited and second, using farm leader’s created disappointing outcome as concern number of farmers changed to using novel techniques and novel tech. Third, this model functioned successfully in situation in which farming people are learned and are agents of change with good understanding of what is being explain to them. However, some limitations that arise from this model come on fact that

it attempt to seek stability at expense of real situation and did not consider possible impact of politics and institution arrangements which have massive effect on cause of economic advancement in upcoming nations.

Based on History, agriculture income is stable indicator for people welfare for mainly local households because it has transitory features through earning process and consumption, households could receive massive revenue from sales from farm but smaller revenue during entire year thereby increases paucity level (Benson et al., 2004). Invariable expenses on agriculture relatively impact output and revenue from firms Nwosu and Akpokodje (1993) in their work stated that “government allocation to agriculture is relatively low and that actual expenditure falls short of budgeting expenditure and the rate of under spending is usually higher for agriculture than for other economic sectors”. Loto (2011) stated that massive amount of funds allotted to agriculture do not directly get to farmers.

The agro-system performance output is measured based on their contribution to GDP not till civil war from 1967 to 1970, agriculture dominate Nigeria monetary sector contributing 53% to GDP as at 1965. In 1984 proportion share was halved according to Iganiga and Unamhilin (2011) which aligned with works from “Shane et al. (1997); Ahearn et al. (1998); Weir (1999); Yee et al. (2002)” which stated that several factors like poor funding facilities, enhanced inputs, novel agriculture technology, infrastructure and other constraints to agriculture sector growth which explains reason for massive existence of low-leveled farmers in Nigeria. Loto (2011) stated that poverty alleviation schemes in upcoming nations link effectiveness to state agriculture policies and revenue of local farmers.

Cross-country study of Africa nation by Okezie et al, (2013) uncovered that monthly revenue generate over 18 nations that adopt modernize agriculture practices was 40% compare to those practicing conventional farm technique. Therefore, improve revenue was encouraged to further adopt government initiated modern agriculture technique for farming. Ezeh and Nwachukwu, (2007) examined “the Impact of Selected Local-area advancement Programmes on Poverty Alleviation in Ikwuano Local Government Area, Abia State, Nigeria” and they revealed that involved farmers performed better in revenue and output compared to others. Thus there exist connections between results and revenue that high outputs trigger high income for farmer. In manner, high revenue shows high profit that are supposed to be put back into their farming by purchasing more inputs for next farming season. Overtime, low-level farming changes to commercial farming and work creation to sustain production is noticed. Similarly, better production leads to low-price farm product in absence of monopoly attitude which explains importance of agro-based sector.

Not minding some important role that agro-sector plays in developing nation, successive governments in Nigeria at

all level haven't been able to suitably address these major hindrances to agro-sector production in attempt to elevate agro-sector production. For example, a one-timed Agriculture minister Chief Audu-Ogbe said that “nevertheless, the agricultural potentials are yet to be fully exploited since Nigerians are still very vulnerable to hunger and poverty” (Ruma, 2008). Poor people that live in local and city area usually comprise of largest proportion of population and are main producers of food and essential product, yet formal finance institutions have no enough funding services due to stringent conditions required to funds available for farmers.

Akintunde et al. (2013) worked of effectiveness of state yearly budget allotment on agriculture and monetary program instrument's role in agriculture growth GDP on covering time 1980 to 2012. The outcome of this analysis revealed that Agro-business funding scheme in formal year GDP and CPI contribute positively to agriculture GDP growth, other variables like IR, ER and state expenses on agriculture negatively contribute to agriculture GDP growth. The study thus suggested that government need to elevate her expenses to agro-business sector, monitor funding allotted and provide needed infrastructure facilities like road, electric, health and water for people.

Lawal and Abudllahi (2011) inspected “the impact of informal agricultural financing on agricultural production in the local economy of Kwara State, Nigeria” using information obtained primarily from structured-questionnaires on some selected farmers that are involving in 3 informal funding schemes namely: “(i) periodic savings; (ii) money lending; and (iii) rotating savings” in 9 LGA spread across 3 senatorial areas in Kwara State. Using “multi-stage random sampling method”, they selected 1,350 farmers and 1,249 questionnaires shared were returned and processed with OLS and their outcome indicated that firms positively impacted on agriculture production by rotating savings” which is notable at 10% SL. Based on this outcome, they suggested that rotating loans need to become crucial to agriculture funding among farmers in local-areas with improvement on other funding sources aimed at increasing membership drive for informal funding firms. Okurut and Thuto (2007) confirmed that informal funding firms played major part in mobilizing and allotting funds for developing nations.

Rivers State government, apart from state agricultural programme initiated as approaches to positively impact on local-area advancement such as Risonpalm Company, Delta Rubber Company, etc. the state cued into several international local-area advancement policy programmes such as “Root and Tuber Expansion Programme, National Programme for Food Security”, etc to guarantee the well-being of local people. Study conducted by Prince (1989) on “Crop Farming Scheme in Rivers State school-to-land”, revealed that good crop and livestock production increased by 26 per cent compared to the previous year. Result also

showed that number of young school leavers engaged in agriculture increased by 13 per cent the same year.

Research works that examined relationship between agriculture scheme and local-area advancement are many in the past. For instance, Ikala (2010) studied “the assessment of women’s participation in national special program for food security (NPFS)”. The work showed that over 86% of women within reproductive period involved in the program. The work also showed that massive involvement of women in maize/cassava production revealed that these crops are staple food for families and revenue generation. Also fund availed for participants assisted them in increasing production due to increased planted farm size and revenue. Interestingly, the research dwell more on old agriculture programmes. It is important the recently established modern farms be investigated; hence the inclusion of the Songai Agricultural Project at Bunu Tai LGA. It is supposed that the Songhai Project with modern technological and management approach will add to the narrative and relationship between agricultural project and poverty reduction in Rivers State.

Studies by Okurut and Thuto (2007), Lawal and Abdullahi (2011) and Akintunde et al. (2013) all dwelled on the role or impact of intervention by either the informal sector or government on agricultural production in other sub climes in Nigeria. These studies were less concern about how interventions in the agricultural sector by the government have trickle down to improving output, income level and employment on the farms. Given the increasing poverty level in Nigeria and the dominance of agriculture in the rural areas of the country, it is pertinent to study how government intervention in a sector that is perceived to be the highest employer of labour in developing country has contributed to economic development in the country using Rivers state as a case study.

## MATERIALS AND METHOD

Though Rivers state sponsored agricultural projects are concentrated in eight (8) local government areas, the government sponsored agricultural projects investigated are those that are active. This is because records and expert advice from the Ministry of Agriculture in Rivers state shows that most of the government sponsored projects in the state are moribund. According to the Rivers State Ministry of Agriculture, those that are functional as at 2021 are: the School-to-Land (STLP) farm at Rumuodamaya in Obio/Akpor LGA, Risonpalm (now SIART NIG LTD) Estate at Ubima in Ikwerre LGA and Songhai Farm in Bunu Tai in Tai LGA in Rivers State. The activities of these farms cover: Palm oil production, crop production, fishery and poultry. The School-to-land farm at Rumuodamaya is also involved in extension services which is crucial for productivity and output.

Rivers state is situated in the Southern part of Nigeria. Rivers state has 23 Local Government Areas. The

government agricultural projects are however hosted and concentrated in eight (8) LGAs -Khana, Obio-Akpor, Emohua, Etche, Gokana, Oyigbo, Ikwerre and Tai. The local governments hosted School-to-Land Programme (STLP), Risonpalm (now SIART NIG. LTD) and Songhai projects. “The State is bounded on the south by Atlantic Ocean, to the north by Imo and Abia States, to the east by Akwa-Ibom State and to the west by Bayelsa and Delta States. The inland part of Rivers State consists of tropical rainforest; towards the coast the typical Niger Delta environment features many mangrove swamps”.

Rivers State has landmass of over 11,000 sq kilometer and is located on latitudes 40° 32’ and 50° 53’ North and longitudes 70° 25’ and 80° 25’ East of equator. The State has yearly mean rainfall of 2,200mm for upland area comprising land areas surrounded with water. Temperature range is between 23 to 31°C and vegetation included water swamp, mangrove and rain forest. Main seasons are dry and rainy seasons. The seasonal conditions of this State present healthy environment for fish-farming because water supply to ponds is no problem.

Given that only active and functional agricultural projects in Rivers State are selected for this study, the research employs the purposive and random sampling procedures in the sourcing for relevant information required for this study. The purposive sampling procedure covers the active and functional agricultural projects and the category of respondents to be interviewed while the random sampling procedure covers the respondents to be interviewed. The category of respondents that were interviewed are: the employees of the Rivers state sponsored agriculture projects, the farmers in the host communities where those farms are sited and the staff of the Ministry for Agriculture and Local-area advancement. The choice of these categories of respondents is to help broaden the scope of our investigation in order to achieve a better result. The qualification of a farmer or employee of the farms based on a simple random sampling of ‘Yes or No’ those who picked ‘Yes’ were given questionnaire while those who picked ‘No’ were not given questionnaire. Only staff of Ministry for agriculture directly involved in supervising and managing these farms were interviewed.

The Taro Yamane (1967) formula for determining sample was applied to determine the actual sample size to be studied. It is given thus:

$$n = \frac{N}{(1 + N(e)^2)}$$

Where n = Sample size

N = Interest Population

e = Error Margin

To determine the sample size for our study, we substitute the

population of farmers in Rivers state, a total of 2,817,520 into the above formula given the error margin or probability of 0.05, we have

$$\text{Sample size (n)} = \frac{2817520}{1 + 2817520(0.05)^2}$$

$$\frac{2817520}{1 + 7043.8} = \frac{2817520}{7044.8} = 399.94 \text{ or } 400$$

The sample size of for this study is approximates 400 respondents. To achieve objectives of this study questions relating to the operations of the agricultural projects under consideration and key local-area advancement parameters like income level, employment, productivity/output, social infrastructure and the general wellbeing of the employees of the farms and those farmers residing around the projects area were asked and distributed to the 400 respondents in the following proportion; (a) Employees of Rivers state sponsored agricultural projects, 165 questionnaires (b) farmers doing business around the project site/farmers in the host communities of the government owned agricultural project, 165, and (c) Staff of Agriculture and local-area advancement ministry, 70 questionnaires. 55 questionnaires were administered to each of the three active and functional government owned agricultural project in the state and to the host communities where the projects are located. In like manner, 15 questionnaires each (45) were given to staff on site in the different farms while 25 questionnaires were given to the staff of the Ministry in Port Harcourt office. The reason for this distribution was to reach out to the major stakeholders in the project under investigation.

The instrument for data collection is the questionnaire. This questionnaire was used to elicit basic information on how government sponsored agricultural projects have contributed to the development of the local communities in Rivers State. The questions have three sections, section A provides questions for employees of the Rivers state sponsored agricultural farms. Section B covers questions for the farmers in the host communities of government sponsored agricultural projects while Section C provided questions for staff of Agriculture and local-area advancement ministry and other supervising agencies. The questions cover issues on employment, output of farmers, income of farmers, infrastructure, etc. In each of the variables, items are provided in the questionnaire that covers or suggest availability of the variable. The respondents are supposed to respond to the questionnaire by ticking the choice they deem necessary.

Data collected was analyzed with descriptive and inferential statistics. In analyzing the data sourced for this study, simple percentages, tables, charts, the line graphs and the chi-square statistical method were used to analyse

the data sourced. The chi-square as an inferential statistic is appropriate in this research because it will provide the relationship between government sponsored agricultural projects and local-area advancement in Rivers State. Hence the perception of the respondents on key local-area advancement parameters like: income level, productivity/output, employment, health care, infrastructure among others in the different agricultural activities identified and their host communities' farmers were analyzed. These helped the researcher assess how government sponsored agricultural activities have contributed to local-area advancement in Rivers State.

Tables, charts, descriptive statistics and graph were used to analyze opinion sought from the respondents on how the agricultural projects have contributed to the development of the local communities where they are located while the Chi Square were used to test the hypotheses generated for the study. The Chi Square formula is given as follows:

$$\text{Chi Square } X^2 = \frac{(fo - fe)^2}{fe}$$

Where: fo = observed frequency; fe = expected frequency.

The Chi-Square was used to test the hypotheses generated for the study.

## RESULTS AND DISCUSSION

Table 1 shows distribution of questionnaire distributed amongst the people interviewed in the course of this study. 165 staff of the agricultural projects in Rivers state situated at Rumuodamaya, Ubima and Bunu Tai representing 41.25% of the respondents were selected and administered questionnaire, 165 farmers representing 41.25 percent of the respondents in the above mentioned communities were also selected and interviewed while 70 staff of Agriculture and Local-area advancement ministry representing 17.5 percent of the respondents were also selected and administered questionnaire.

Table 2 indicates that out of the 400 questionnaire administered, 360 were retrieved. This represents 90 percent of the questionnaire administered. For the staff of the three farms located at Risonpalm (now SIART NIG LTD) Estate at Ubima, School-to-land at Rumuodamaya and Songhai farm at Bunu Tai 150 questionnaire were retrieved. 150 questionnaires were also retrieved from the farmers residing in Ubima, Rumuodamaya and Bunu Tai while 60 questionnaires were retrieved from staff of Agriculture and Local-area advancement ministry at the Port Harcourt office and the zonal offices.

As reported in Figure 1 government seems to be more involved in supporting crop farming than fishing and poultry farming. It is crucial to note that crop farming and fish farming

**Table 1.** Number of Questionnaire Distributed to the Respondents.

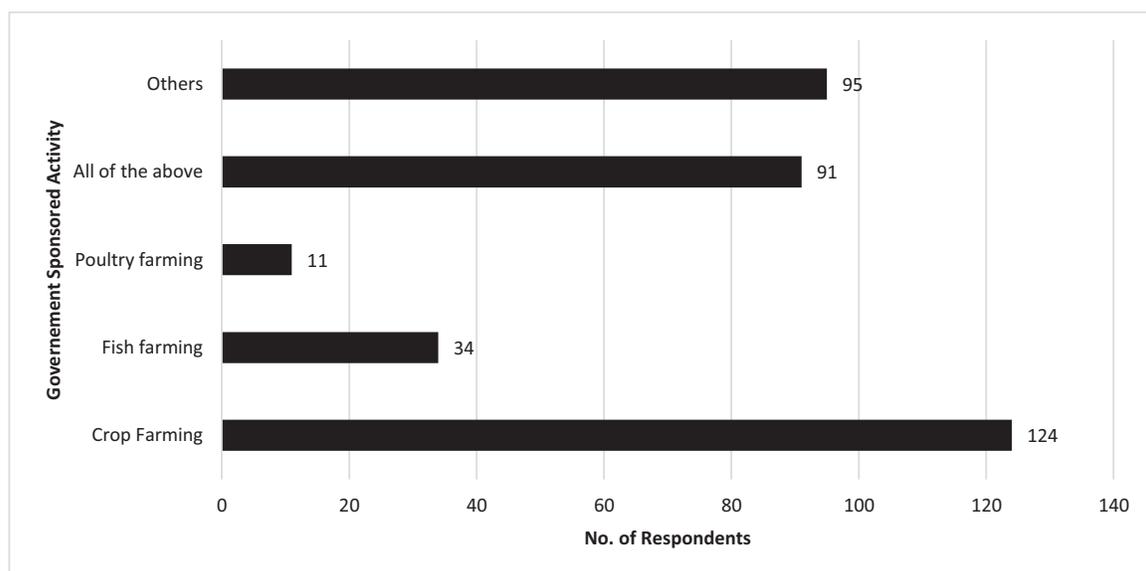
Respondent	Risonpalm (SIART) Estate Ubima	School-to-Land Rumuodamaya	Songhai Farm Bunu Tai	Total	% Distributed
Employees of the Farms	55	55	55	165	41.25%
Farmers of Host communities	55	55	55	165	41.25%
Staff of Ministry of Agriculture	23	24	23	70	17.5%
<b>Total</b>	<b>133</b>	<b>134</b>	<b>133</b>	<b>400</b>	<b>100%</b>

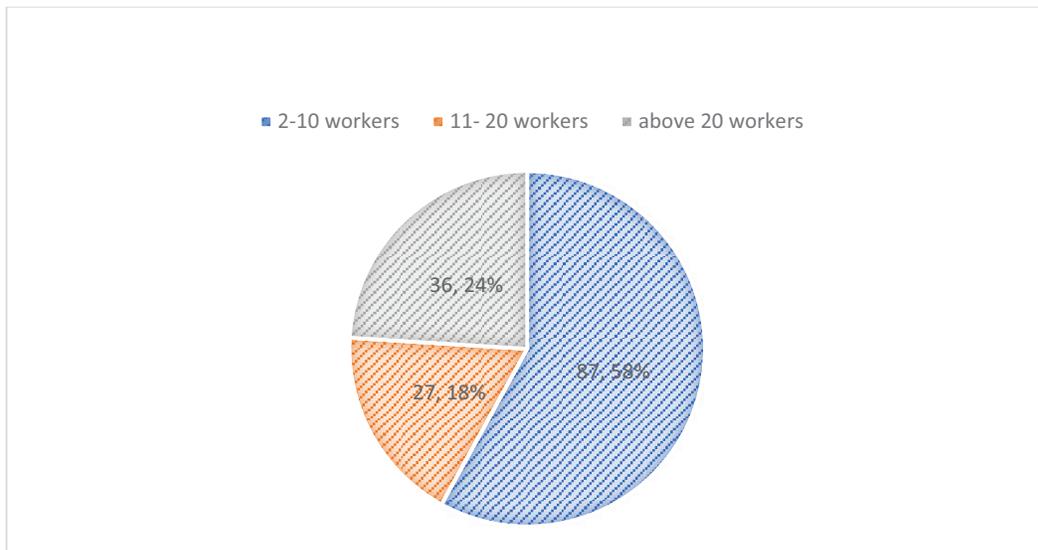
**Source:** Field work (Authors).

**Table 2.** Number of Questionnaire Retrieved.

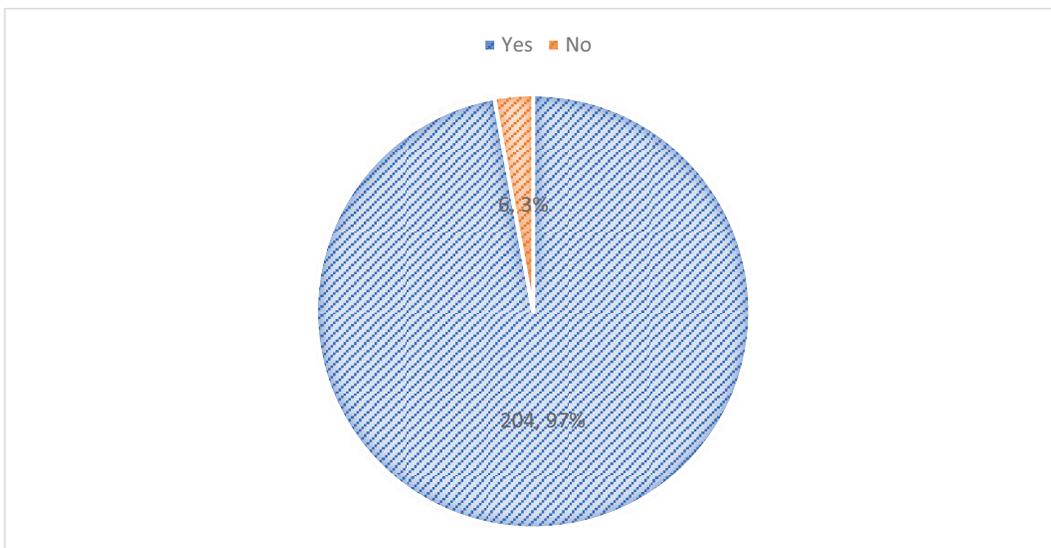
Respondent	Risonpalm (SIART) Estate Ubima	School-to-Land Rumuodamaya	Songhai Farm Bunu Tai	Total Administered	Total Retrieved	% Retrieved
Employees of the Farms	50	50	50	165	150	91%
Farmers of Host communities	50	50	50	165	150	91%
Staff of Ministry of Agriculture	19	22	19	70	60	90%
<b>Total</b>	<b>119</b>	<b>122</b>	<b>119</b>	<b>400</b>	<b>360</b>	<b>90%</b>

**Source:** Field work (Authors).

**Figure 1.** Government Sponsored agricultural activities in Rivers State.



**Figure 2.** No. of workers employed by farmer in host communities of agricultural projects.



**Figure 3.** Responses on Government Support to Farmers by the Respondents.

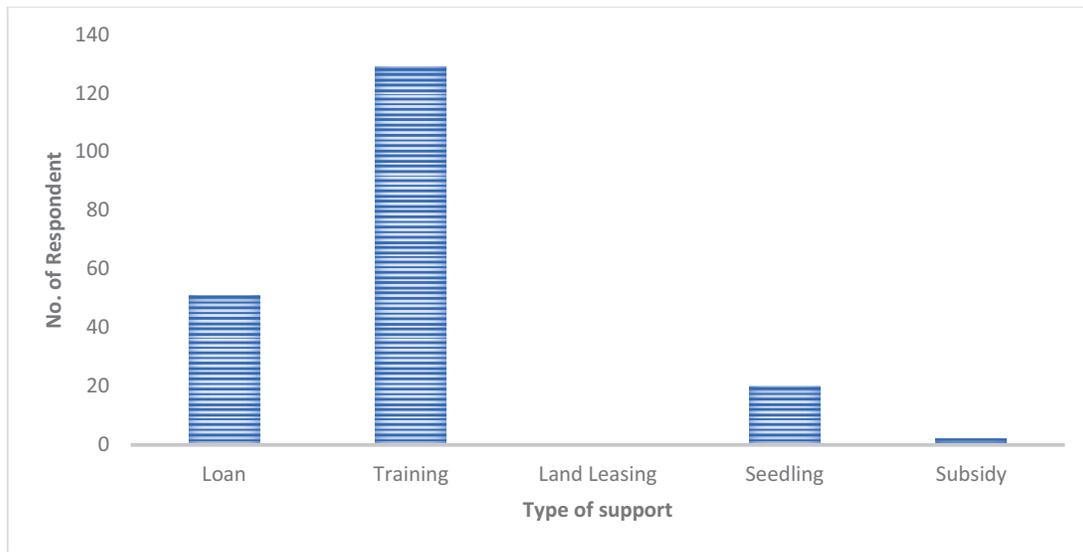
are the major occupation of farmers in Rivers state. However, the location of the communities considered for this study and government policy on agriculture may have informed our results.

Information in Figure 2 shows that 58 percent of the farmers/farms in the communities visited have between 2-10 workers working for them. 18 percent of the farmers have between 11-20 workers while 24 percent of the farms has over 20 workers. This implies that most of the farms in these communities are small scale farms with minimum capacity for

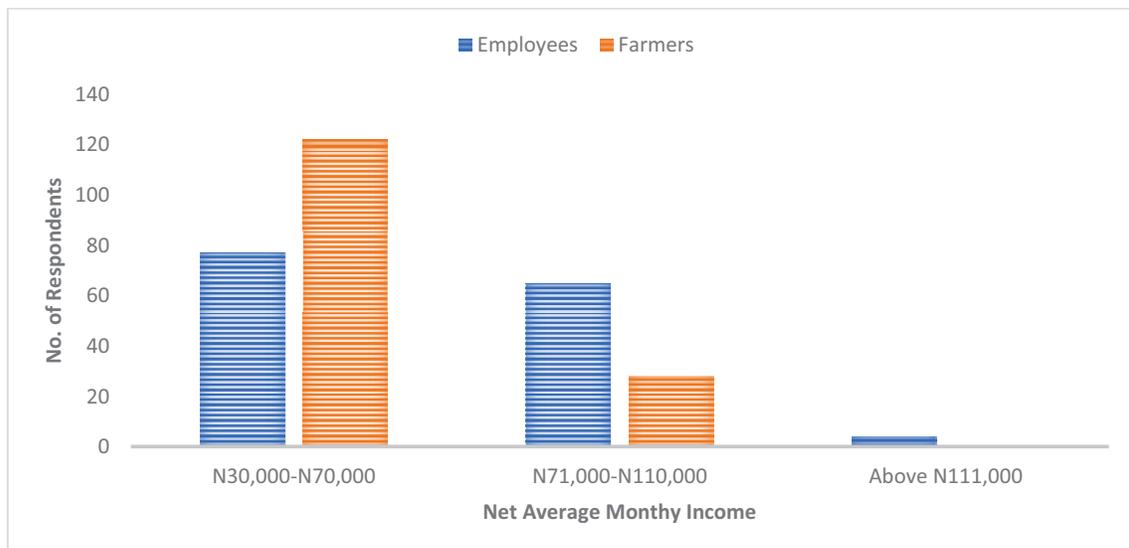
production.

Figure 3 revealed that 97 percent of the respondents agreed that they get support from government either directly or indirectly. Only 3 percent of the respondent claimed they do not get support for government. This implies that most farmers are beneficiaries of government support in Rivers state.

Figure 4 shows that most respondents claimed that they received government support on farming activities through training. To them, this training is done on the farm and



**Figure 4.** Types of Government Support to farmers in the communities.



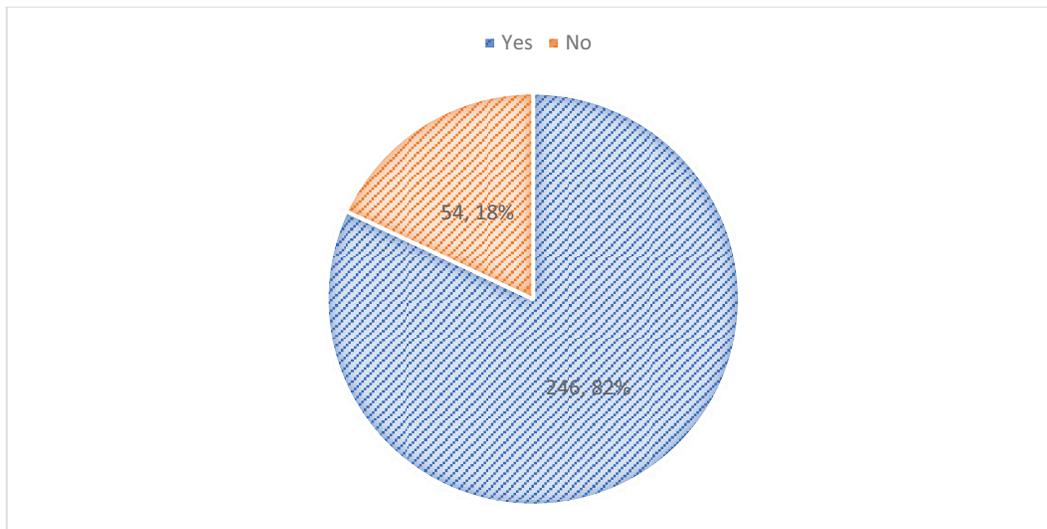
**Figure 5.** Responses of the respondents on Net average monthly income by farmers.

through workshop and seminar. About 50 of the respondents claimed the support to them from government is through granting of loan/credit while others said they got support from government through the provision of farm inputs like seedling and subsidy. Support from government to local farmers is geared towards increasing productivity and output.

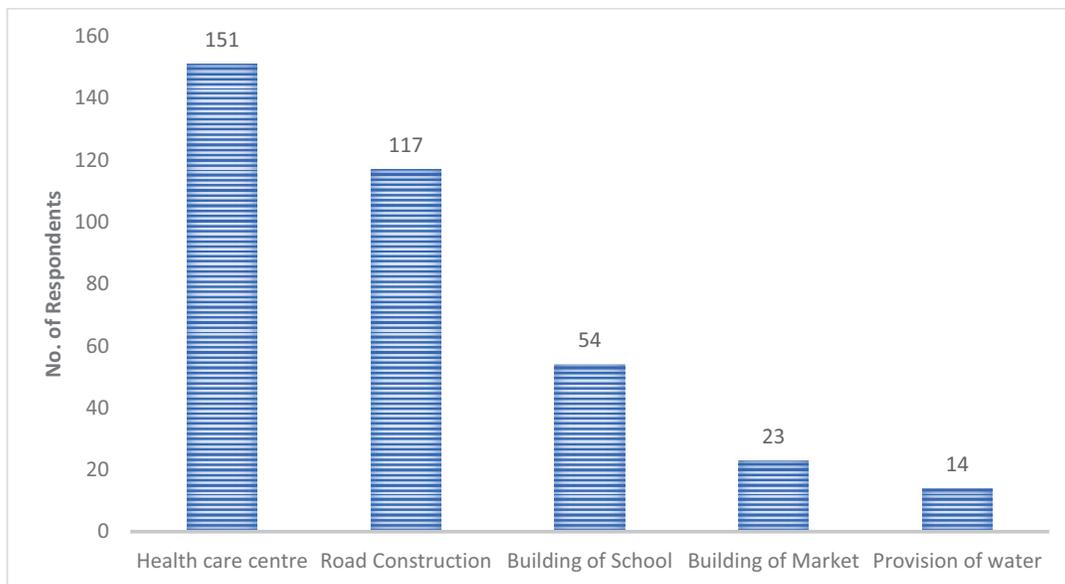
Figure 5 reports net average income received by farmers and employees of the farms in the three Rivers state agricultural projects in Bunu, Rumuodamaya and Ubima. It reveals that greater number of the respondents in this category earn between N30,000 – N70,000 as net average

income. Few earn the range of N71,000 – N110,000 as net income while very few earn net income above N111,000. Net income is the income after tax for employees and income after expenses for farmers privately employed. The implication of this is that the respondents actually received income above the minimum wage of N30,000.

Information in Figure 6 indicates that 82 percent of the respondents (farmers and employees of state owned agricultural farm) agreed that they could afford and provide basic medical for themselves and their household through farming activities while only 18 percent of the respondent



**Figure 6.** Responses on if farmers and employees can afford Medicare via farming activities.

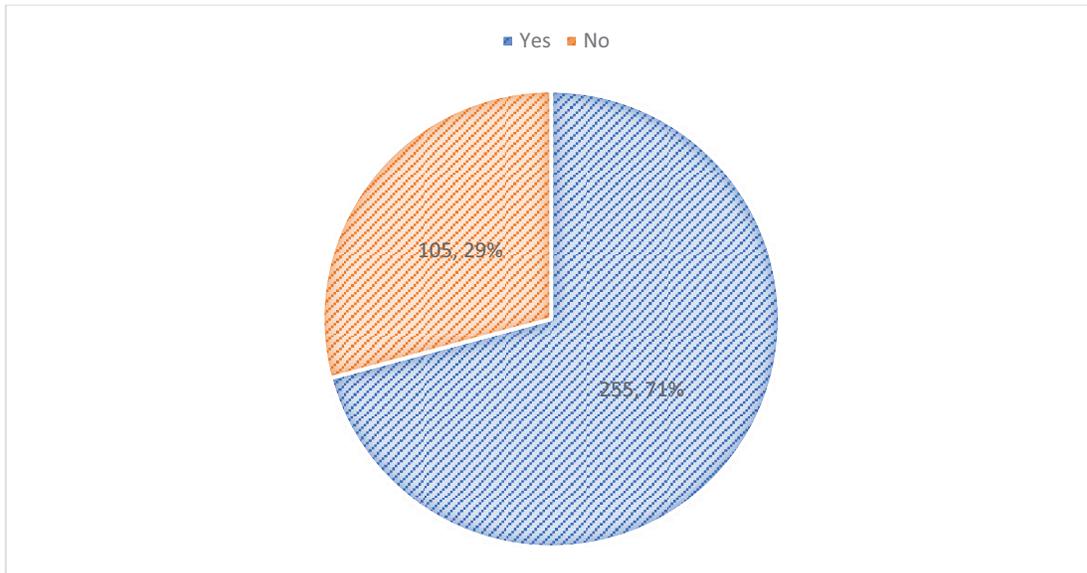


**Figure 7.** Responses on other Projects in Host communities after the siting of Agricultural Projects by Government in host communities.

claimed they could not afford basic medical care for themselves and the immediate family. The high percentage of the respondents acknowledging the ability of providing for themselves medical care through farming activities shows that farming is rewarding economically.

Figure 7 shows that outside the farms established by government in the three communities of Bunu, Rumuodamaya and Ubima, the government has also built health care centres to provide basic health care to the people in the communities. These communities also have good

internal road network linking the communities to neighboring ones. The communities have functional primary schools, markets and boreholes sunk close to the farms where the residents do get water supply for domestic use. Though portable water supply appears to be low among facilities provided by the government via the farms, its presence means much for health care delivery in these communities. Health care facilities and road construction appear to dominate government assisted projects in the communities under investigation.



**Figure 8.** Response on if siting of Agricultural Project has enhanced the Development of the Host communities.

Figure 8 reveals that 71 percent of the respondents (farmers, employees of the farms and staff of the Ministry of Agriculture) agreed that the siting of agricultural projects in the communities in Rivers state by the government has enhanced the development of the host communities and the state at large. However, 29 percent of the respondents claimed that they could not see nor experienced increase in welfare and living conditions from the presence of the projects in their communities.

### Hypotheses Testing

In order to verify the hypotheses formulated in the course of this study, four hypotheses were tested. The contingency tables, results and interpretation of results are presented in Tables 3, 4 and 5.

The reactions of the respondents on whether government support through agricultural sponsored project had enhanced job creation in the communities/state are reported in Table 3a. It shows that 4.2 percent of the respondent strongly agreed that the supports from government had improved employment in the host communities and state, 70.5 percent of the respondents agreed that the projects had improved jobs, 22.5 percent disagreed that the projects have created jobs in the communities/state while 2.8 percent of the respondent strongly disagreed to the claim of job creation. These responses were further subjected to test to find out if notable connection exists between government projects/supports and job creation.

The Chi square result reported in Table 3c reveals that

null hypothesis that states that, “there is no significant relationship between government agricultural projects/supports to farmers and job creation in the state” is rejected as reported in the Chi square statistic of 23.905 and its probability value of 0.001. This implies that government agricultural projects/supports to farmers have helped to create more jobs in the host communities thereby contributing to the development of the host communities and the state at large. This is in consonance with earlier study by Mondal (2008) who noted that agricultural support program/activities created jobs in Bangladesh.

The reactions of the respondents on whether government support through agricultural sponsored project improves their productivity and output are reported in Table 4a. It shows that 9.5 percent of the respondents claimed that the supports from government had excellently improved productivity and output, 55.8 percent of the respondents felt that it was very good, 30.8 percent claimed that it is good, 3.9 percent felt it is fair while none claimed it is poor. These responses were further subjected to test to know if significant connection exists between government support and the productivity/output of farmers/employees. These are reported in Table 4b.

The Chi square result reported in table 4c reveals that the null hypothesis that states that, “there is no significant relationship between government support to farmers and productivity/output of farmers” is rejected as indicated in the Chi square statistic of 37.299 and its probability value of 0.000. This implies that government supports to farmers and employment of people in government owned farms in Rivers

**Table 3a.** Contingency table on responses on whether Rivers State Government Agricultural projects have helped in Job creation.

Respondent	Strongly Agreed	Agreed	Disagreed	Strongly Disagreed	Total
Employees of the Farms	7	95	41	7	150
Farmers of Host communities	5	103	39	3	150
Staff of Ministry of Agriculture	3	56	1	0	60
<b>Total</b>	<b>15</b>	<b>254</b>	<b>81</b>	<b>10</b>	<b>360</b>
<b>Percentage</b>	<b>4.2%</b>	<b>70.5%</b>	<b>22.5%</b>	<b>2.8%</b>	<b>100%</b>

**Source:** Field work (Authors)

**Table 3b.** Responses on Rivers State Government Agricultural Support on Job creation \* Category of Respondent Cross tabulation.

			Category of Respondent			
			Employees of the Farms	Farmers of Host communities	Staff of Ministry of Agriculture	Total
Responses on Rivers State Government Agricultural Support on Job creation	Strongly Disagreed	Count	7	3	0	10
		Expect Count	4.2	4.2	1.7	10.0
	Disagreed	Count	41	39	1	81
		Expect Count	33.8	33.8	13.5	81.0
	Agreed	Count	95	103	56	254
		Expect Count	105.8	105.8	42.3	254.0
	Strongly Agreed	Count	7	5	3	15
		Expect Count	6.3	6.3	2.5	15.0
Total	Count	150	150	60	360	
	Supposed Count	150.0	150.0	60.0	360.0	

State have improved the productivity of farmers and employees thereby contributing to the development of the host communities and the state at large. This is in consonance with earlier studies by Eze and Nwachukwu (2007) and Bidemi (2013). They found that participating farmers in government sponsored projects had improved productivity and output of the farmers.

The reactions of the respondents on whether government agricultural projects/supports have improved the income of farmers and employees of the projects in the communities/state are reported in Table 5a. It reveals that 15.3 percent of the respondent strongly agreed that the projects/supports from government have improved their income level, 62.2 percent of the respondents agreed that

the projects/supports have improve their income level, 19.2 percent disagreed that the projects/supports have improved their income level while 3.3 percent of the respondents strongly disagreed to the claim of improved income. These responses were further subjected to test to find out if notable connection exist between government projects/supports and improvement in revenue of farmers and employees (Table 5b).

The Chi square result reported in Table 5c reveals that the null hypothesis that states that, "there is no significant relationship between government agricultural projects/supports to farmers and improvement in the income level of farmers and employees of the projects" is rejected as indicated in the chi square statistic of 44.512 and its probability

**Table 3c.** Chi-Square Tests.

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	23.905 <sup>a</sup>	6	.001
Likelihood Ratio	32.997	6	.000
Linear-by-Linear Association	13.470	1	.000
N of Valid Cases	360		

a. 4 cells (33.3%) have Supposed count less than 5. The minimum Supposed count is 1.67.

#### Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.258	.001
	Cramer's V	.182	.001
N of Valid Cases		360	

**Table 4a.** The extent to which government agricultural projects implemented in Rivers State impact productivity/output of farmers.

Respondent	Excellent	Very Good	Good	Fair	Poor	Total
Employees of the Farms	7	108	30	5	0	150
Farmers of Host communities	20	57	66	7	0	150
Staff of Ministry of Agriculture	7	36	15	2	0	60
<b>Total</b>	<b>34</b>	<b>201</b>	<b>111</b>	<b>14</b>	<b>0</b>	<b>360</b>
<b>Percentage</b>	<b>9.5%</b>	<b>55.8%</b>	<b>30.8%</b>	<b>3.9%</b>	<b>0%</b>	<b>100%</b>

**Source:** Field work (Authors)

value of 0.000. This implies that government agricultural projects/ supports to farmers have helped to improve the income level of farmers and employees in the host communities where the projects are located thereby contributing to the development of the host communities and the state at large. This result is in agreement with early works by Eze and Nwachukwu (2007) who found that participating farmers in government sponsored agricultural projects help improve income level of the farmers and workers.

The results of our analysis show that government sponsored agricultural projects have significant effect on employment creation in the host communities and in the state. From Table 3a, we find out that 97.2 per cent of the respondents agree that government sponsored agricultural projects contributed to improvement in job creation in the host communities. This is in agreement with earlier studies

by (Mondal, 2008), who found that agricultural support programmes helped in job creation in Bangladesh. A trip to the communities of Bunu Tai, Rumuodamaya and Ubima also provided evidence on the extent to which the existing agricultural projects in the three communities have helped in job creation both in the government owned farms and among the farmers doing businesses in the communities. Most of the employees in the farms confessed that prior to the siting of the farms, they had no job. Also the farmers doing business in the communities informed us that they have employed more workers due to increased farm activities and cultivation of more portions of land since the establishment of the farms in their communities.

The results also reveal that government sponsored agriculture projects have significant effect on both productivity of workers employed in the farms located in the

**Table 4(b).** Responses on the influence of Government Support to farmers on Output and Productivity \* Category of Respondent Cross tabulation.

			Category of Respondent			Total
			Employees of the Farms	Farmers of Host communities	Staff of Ministry of Agriculture	
Responses on the influence of Government Support on employee and farmers Output and Productivity	Fair	Count	5	7	2	14
		Supposed Count	5.8	5.8	2.3	14.0
	Good	Count	30	66	15	111
		Supposed Count	46.3	46.3	18.5	111.0
	Very Good	Count	108	57	36	201
		Supposed Count	83.8	83.8	33.5	201.0
	Excellent	Count	7	20	7	34
		Supposed Count	14.2	14.2	5.7	34.0
	Total	Count	150	150	60	360
		Supposed Count	150.0	150.0	60.0	360.0

**Table 4c.** Chi-Square Tests.

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	37.299 <sup>a</sup>	6	.000
Likelihood Ratio	38.196	6	.000
Linear-by-Linear Association	.310	1	.578
N of Valid Cases	360		

a. 1 cells (8.3%) have Supposed count less than 5. The minimum Supposed count is 2.33.

Symmetric Measures			Value	Approximate Significance
Nominal by Nominal	Phi		.322	.000
	Cramer's V		.228	.000
N of Valid Cases			360	

communities and the farms studied. Table 4a shows that 96.1 per cent of the respondents agree that government sponsored agriculture projects brought improvement on the output of farmers in the host communities. This implies that agricultural projects sited in the local communities in Rivers State have improved the output of both the farms and that of farmers doing businesses around the areas where the farms are located. This result is in consonance with earlier studies by Eze and Nwachukwu (2007), who found that participating farmers in government sponsored agricultural projects have improved productivity and output in a study carried out in Imo state and Bidemi (2013) who found that agricultural financing

through government has direct and positive relationship with output of farmers. The farmers and employees all agreed that the projects sited in their communities brought new ideas and techniques of farming which were hitherto not available to them. A visit to the host communities and our interaction showed that School-to-Land trained 250 each in fish farming and crop farming in 2019. In 2018, Songhai encouraged poultry farmers with day old chicks and improved feed. On almost annual basis, Risonpalm (SIART NIG LTD) distributed thousands of palm seedlings to farmers. The new technique and ideas acquired through training by extension workers and specialists in the different personnel posted to their

**Table 5a.** Contingency table on responses by the respondents on Government Agricultural projects/support on Improvement in employee and farmers' income level.

Respondent	Strongly Agreed	Agreed	Disagreed	Strongly Disagreed	Total
Employees of the Farms	38	76	34	2	150
Farmers of Host communities	9	98	33	10	150
Staff of Ministry of Agriculture	8	50	2	0	60
<b>Total</b>	<b>55</b>	<b>224</b>	<b>69</b>	<b>12</b>	<b>360</b>
<b>Percentage</b>	<b>15.3%</b>	<b>62.2%</b>	<b>19.2%</b>	<b>3.3%</b>	<b>100%</b>

**Source:** Field work (Authors)

**Table 5b.** Responses on Government Sponsored Agricultural Project on Improvement in employee and farmers' Income level \* Category of Respondent Crosstabulation.

		Count	Category of Respondent			Total
			Employees of the Farms	Farmers of Host communities	Staff of Ministry of Agriculture	
Responses on Government Sponsored Agricultural Project on Improvement in employee and farmers' Income level	Strongly Disagreed	Count	2	10	0	12
		Supposed Count	5.0	5.0	2.0	12.0
	Disagreed	Count	34	33	2	69
		Supposed Count	28.8	28.8	11.5	69.0
	Agreed	Count	76	98	50	224
		Supposed Count	93.3	93.3	37.3	224.0
	Strongly Agreed	Count	38	9	8	55
		Supposed Count	22.9	22.9	9.2	55.0
Total	Count	150	150	60	360	
	Supposed Count	150.0	150.0	60.0	360.0	

communities helped boost their productivity and output.

The result further reveals that government sponsored agricultural projects in Rivers state assisted in improving income level of farmers through improved output and employees who had no jobs prior to the sitting of the projects. Table 5a indicates that 96.7 per cent of the respondents agree that income improved as a result of the sitting of the government sponsored agricultural projects in their communities. This is in consonance with earlier works of Ezeh and Nwachukwu (2007) and Ammani (2012), who

found positive relationship between government assisted agricultural projects and income level of farmers. The increase in income earned from farming activities according to the farmers is a direct consequence of training, credit and provision of farming inputs by government agencies. This is because our analysis indicates that 97% have received government support in various forms. These direct inventions provided the farmers in the host communities and employees of the agriculture projects with requisite skills and ideas for improved production which increases outputs, sales and

**Table 5c.** Chi-Square Tests.

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	44.512 <sup>a</sup>	6	.000
Likelihood Ratio	50.688	6	.000
Linear-by-Linear Association	.140	1	.709
N of Valid Cases	360		
<b>Symmetric Measures</b>			
		Value	Approximate Significance
Nominal by Nominal	Phi	.352	.000
	Cramer's V	.249	.000
N of Valid Cases		360	

income. An interaction with the farmers in the community hosting the Songhai farm revealed to us that farmers in the community prior to the establishment of the farm estate grew mostly cassava and yam. However, the presence of Songhai farm made the farmers to cultivate other crops like vegetable, Okra and Cucumber. Most of the farmers also started fish farming and poultry from ideas they received from training and activities in the farm. These to them have improved their income earning from farming activities.

## CONCLUSION

Results and findings from the study provided serious evidence that activities within and outside the agricultural sponsored/owned farms in Rivers state especially those consulted in these study at Bunu Tai, Rumuodamaya and Ubima have increased the productivity and outputs of farmers and employees of the farms, improve their income level hence alleviated poverty, created additional jobs for the people in the host communities and enhanced economic development in the host communities. From these findings, the study concludes that government sponsored agriculture activities/projects have contributed to development of local communities in Rivers state. Based on this conclusion, the paper recommends: need for government to increase support to farmers and funding to the farms, increase training for farmers and employees of the farms, improve facilities on the farms and improve the conditions of services of the workers on the farms in order to raise their productivity and make the farm projects development friendly in the communities and state at large.

## Conflict of Interests

The authors declare no conflict of interest.

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