Africa Development, Volume XLVI, No. 4, 2021, pp. 175-199

(ISSN: 0850 3907)

Youth Employment and Large-scale Agricultural Land Investments in Africa: Mixed Methods Insights from Nigeria

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Abstract

This study examines the linkage between youth employment and large-scale agricultural land investment (LALI) in Africa with a focus on Nigeria. There is no consistent direction regarding the effects of LALIs on employment in the literature. While some studies found a positive effect, others opine that LALIs could have a deteriorating effect. This study contributes to the discourse by carrying out a comparative analysis of youth (un)employment in communities with and without LALIs. A mixed methods analysis is engaged in the study. The quantitative data is estimated using the difference-in-difference and propensity score matching techniques, while the qualitative aspect is carried out using key informant interviews and focus group discussion. The quantitative result shows that the presence of LALIs in the communities leads to a 1.24 percentage reduction in the amount of wage earned by the youth, but was only significant at 10 per cent. On the employment of youth conditioned upon the presence of LALIs in a community, the study finds a reduction in the number of hours worked by six hours, which was also only significant at 10 per cent. From the qualitative analysis, the study finds varied wage levels across the sample. These findings raise concerns regarding the type of employment provided by LALIs. Hence, to curb youth unemployment and create decent jobs, LALI recipient countries could promote better bargaining power for the host communities to negotiate better employment.

Keywords: agriculture; land; investments; employment; households; Nigeria; youth

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Résumé

Cette étude examine le lien entre l'emploi des jeunes et l'investissement dans les grands projets agricoles (GPA) en Afrique, avec un accent particulier sur le Nigeria. Dans la littérature, il n'existe pas d'orientation cohérente concernant les effets des GPA sur l'emploi. Pendant que certaines études ont trouvé un effet positif, d'autres estiment que les GPA pourraient avoir un effet négatif. Cette étude apporte sa contribution au débat en effectuant une analyse comparative de l'emploi et du chômage des jeunes dans les communautés avec et sans GPA. Une analyse de méthodes mixtes est engagée dans l'étude. Les données quantitatives sont estimées à l'aide des techniques de doubles différences et d'appariement des coefficients de propension, tandis que l'aspect qualitatif est réalisé à l'aide d'entretiens avec des informateurs clés et de discussions de groupe. Les données quantitatives montrent que la présence des GPA dans les communautés entraîne une réduction de 1,24 pour cent du montant du salaire gagné par les jeunes, mais n'est significatif qu'à 10 pour cent. En ce qui concerne l'emploi des jeunes tributaire de la présence des GPA dans une communauté, l'étude révèle une réduction de six heures du nombre d'heures travaillées, ce qui n'est également significatif qu'à 10 pour cent. D'après l'analyse qualitative, l'étude révèle des niveaux de salaire variés dans l'échantillon. Ces résultats soulèvent des inquiétudes quant au type d'emploi fourni par les GPA. Par conséquent, pour réduire le chômage des jeunes et créer des emplois décents, les pays bénéficiaires de l'initiative pourraient promouvoir une plus grande capacité de négociation pour les communautés d'accueil, pour qu'elles puissent négocier de meilleurs emplois.

Mots-clés : agriculture ; terres ; investissements ; emploi ; ménages ; Nigeria ; jeunes.

Introduction

This article investigates youth employment in Nigeria concerning how large-scale agricultural land investments (LALIs) offer employment to youths in host communities. This study relies on a comparison of communities with and without LALIs to understand their role in job creation for the growing youth population. Most of these LALIs target the agricultural sector, which remains the largest sector in most African countries, and has the potential of transforming local communities, individual lives, and national economies. Furthermore, the agriculture sector employs more than 65 per cent of the active labour force in Africa (Africa Development Bank-AfDB 2014). In addition, agriculture provides excellent support for the African people ranging from food supply to medicinal herbs (Aigbokhan and Ola 2015; Osabuohien 2014).

Our definition of unemployment is in line with the International Labour Organization (ILO 2020) that unemployed persons comprise all persons of working age who were without work; that is, those who were not in paid employment or self-employment or currently available for work, during the reference period. Employed persons are those engaged in some kind of paid job or self-employed and are currently working. The African Union (2006) conceptualised youth as persons who are between the ages of 15 and 35 years. Thus, youth employment is defined as individuals from 15 to 35 years who are engaged in some kind of paid job, self-employed or currently working. Youth unemployment, thus, refers to those who have no such engagement.

Focusing on the youth population is essential, considering that Africa hosts about 19 per cent of the global youth population (Central Intelligence Agency-CIA 2018; United Nations Department of Economic and Social Affairs – UN-DESA 2015). It is also projected that the youth population in the region as a proportion of the total population is 75 per cent, with over 60 per cent being younger than 25 years (AfDB 2018; Anyanwu 2014; Hilson and Osei 2014). The challenge of youth unemployment in Africa is therefore a serious and sensitive issue, which is impacted further by a number of diverse reasons. Some of these reasons include: first, the youthful population is usually cognizant of and active in issues pertaining to social injustice, which may result in feelings of neglect from benefits that they would have derived from natural/societal resources. Second, a youthful population could be an endorsement for social vices and civil unrest if not well managed (Osabuohien, Efobi et al. 2020). The increasing population of youths, coupled with high unemployment and poor economic conditions, could increase the likelihood of civil tensions, war, and misery. For example, the Ugandan and the Sierra Leonean wars were among those in Africa cited as being particularly define by young combatants as a result of unemployment (Bellows and Miguel 2009; Osabuohien, Olokoyo et al. 2020; Vindevogel et al. 2013).

To tackle unemployment and create jobs in the African region, some countries are taking steps to improve the attractiveness of the agricultural sector, through capital inflow and enterprise development, for youth participation (*African Business* 2017; Bluwstein et al. 2018). The expectation is that with the presence of agricultural investments, there will be productive utilisation of land, and the spill-over effect is that employment opportunities will be created either directly or through the utilisation of the support services of smaller businesses, among others (Engström and Hajdu 2018). However, the extent to which these efforts yield sustainable outcomes depends on the

impact of LALIs, as the investors require such lands for the location of their enterprise. This prediction is in agreement with studies that have found a positive employment effect from the presence of LALIs (e.g., Barbanente and Aisbett 2016; Khadjavi et al. 2017; Nolte and Ostermeier 2017). We work with the operational definition of LALIs as taking possession of and/or controlling a scale of land for commercial/industrial agricultural (Food First and Information and Action Network – FIAN 2010) or a situation where locally used large tracks of land are leased or sold for agricultural development (food cultivation and agro-fuel production). These LALIs are potential sources of employment and rural transformation (Osabuohien et al. 2019; Osabuohien, Efobi et al. 2020).

On average, the land-poor have most to gain from agricultural investments, at least in terms of employment opportunities. In contrast, Stickler (2012) reveals that large-scale agricultural activities generate low employment and low earnings in Uganda; and that when people have smallholdings, they are worse off. Similarly, Brown (2013) reiterated that LALIs could deprive local people in the form of low labour retention as farming becomes mechanised. Aigbokhan and Ola (2015) indicate that LALIs are associated with high capital-intensive production with few labour demands. In the same vein, agricultural products may not be meant for host countries and host communities, whereby it can create retail job activities for the local people. Okuro (2015) also noted that large-scale land acquisition might further jeopardise the welfare of the poor by depriving them of the safety net function that this type of land and water use fulfils. Osabuohien et al. (2019) examined the effect of LALIs on female labour outcomes in Tanzania and indicated they created jobs for the female population in the areas of direct employment as farm labourers in the LALIs and other opportunities, like contract employment.

From the literature, there is inconsistency in the employment effect of LALIs. While some studies (Barbanente and Aisbett 2016; Khadjavi et al. 2017) found a positive effect, other studies (Brown 2013; Stickler 2012) maintained that LALIs have somewhat deteriorated the employment fortunes of the local people. As a thrust from the literature, to appreciate the effect, there is the need to do a comparative study of communities with and without LALIs and with a mixed methods (quantitative and qualitative) approach. This article, therefore, provides recent insights into the debate. Thus, the questions this article seeks to answer include: to what extent has the existence of LALIs delivered on employment creation to the households in host communities in Nigeria? How do labour hours in the agricultural sector differ from the non-agricultural sector for households in communities

with (and without) LALIs? What is the nature of the employment provided by LALIs to individuals in host communities? The study does this at a national scale comparison using the Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA)[1] data and a case study of some farms in three states – Ekiti, Kwara, and Ogun.

Nigeria presents an interesting context to study the relationship between LALI presence and youth employment for the following reasons. First, Nigeria is among the top 20 LALI recipient countries worldwide, and the top 10 in Africa. Other countries in Africa (e.g., Ethiopia, Ghana, Mozambique, South Sudan, Tanzania, and Zambia) that are LALI destinations have received much research attention, whereas comparatively little has been done for Nigeria in terms of the LALIs' implications (especially youth employment). Second, youth unemployment in Nigeria is about 14 per cent, and it is projected that the youth population will grow by 60 per cent by 2030 (UN-DESA 2015). As a result, there is a need to understand how LALIs impact this population group in Nigeria.

Theoretical framework and methodology

In this section, the framework for the analysis and methodological approach used for this study are covered.

Theoretical framework

This article relies on some theoretical predictions to understand the effect of LALIs on unemployment. The different theoretical approaches all share the view that the effect of land acquisitions is strongly influenced by the type of land tenure system in place. In particular, in the context of weak land tenure systems, large-scale land acquisitions can lead to the transformation of a resource from an open access/communal property regime to a private property system. Whether and how this change benefits rural households and smallholders in particular is disputed.

The 'enclose theory' stipulates that as land that was communally owned moves away to private ownership, this could lead to displacement of smallholder farmers and lower welfare by losing critical community economic opportunities. The theory underlines that mostly where property rights are not well defined or are less regulated landowners could contract land to LALIs without notice to smallholders using such land. This is what Cohen and Weitzman (1975) described in their study as a consequence of enclosure, which is also being verified by other studies in on the effects of LALIs in sub-Saharan Africa (Anseeuw et al. 2012). Thus, displacement of smallholders

would lead to decrease welfare, labour mobility out of agriculture, and less access to water and food. Thus, the enclosed model concludes that a shift from communal to private property will lead to the displacement of smallholders, which could lower the standard of living and job opportunities.

Another theory – evolutionary theory of property rights – postulates that as LALIs are rushing for land acquisition in communities where there is traditional land tenure, this puts pressure on land that would lead to a shift from communal ownership to private ownership. The evolutionary theory of land rights as summarised by Platteau (1996) stipulates that in a market such as the one for agricultural land in sub-Saharan Africa, a spontaneous transition from communal to private property occurs as soon as the national and international commercial pressure on rural land creates new market opportunities. Thus, as land assumes scarcity value, the demand for land certifications rises, and this helps to achieve tenure security for smallholders or landowners. There will be witnessing land markets where landowners could allocate lands and earn rents. There will be efficient allocation of resources triggered by the creation of a land market, which should further allow for efficiency in cropping choices and rapid capital accumulation in smallholder agriculture (Platteau 1996). Thus, the evolutionary theory has it that there is movement from communal to private property and that once land assumes a scarcity value, its demand increases, strengthening the land security for smallholders (Platteau 1996).

A third theory – the welfare enhancing theory – is premised on similar outcomes of the evolutionary theory of property rights (Deininger et al. 2011). However, it differs from evolutionary on the assumption that property rights are well established and enforced. Thus, for property rights being well established, land investments would lead to mutually beneficial outcomes for LALI investors and smallholders or landowners. Hence, some benefits illustrated by this theory include land rental and contract farming, wage earnings as people provide labour for the LALIs, spill-over of technology from LALI to smallholders, infrastructure benefit, market access, and other labour opportunities. This theory assumes to work after a property right is in place and, thus, our study hypothesised that property rights in the communities are well established. The theory assumption is that when rights are well defined, the market functions competitively, and information is accessible to all involved parties, the relationship between smallholders and investors can be welfare enhancing for all parties without the need for regulatory intervention. Therefore, the welfare-enhancing theory, as espoused by Deininger et al. (2011), assumes that the property rights system is already well established and enforced. Thus, land investment

can lead to mutually beneficial outcomes for both investors and smallholders or community members. The conceptual framework that this article builds on is represented in Figure A1 (in the Appendix), where it is presupposed that some form of land tenure system does exist in the communities.

LALIs could offer employment to the local people as LALIs have encouraged the inflow of land investors as a veritable tool for development based on agreed terms between the investors and landowners (Friis and Reenberg 2010; Haberl et al. 2009). In LALI contracting, the LALI firm and the community are the parties. Communities, where there are youth groups that can fight for youth rights, could play a part in LALI contracting (Ariyo and Mortimore 2012). In the LALI's negotiation, the youth will have a loud voice as they collaborate with community leaders and landowners for their concerns to be taken into consideration. Where there are some disagreements, the government intervenes to solve the impasse. Some land tenure systems are not suitable for local people to benefit from LALIs if there is no government intervention. Wily (2011) noted that customary claims are not usually accorded the same legal protection of property rights, which makes local land users susceptible to expropriation. The community (or youth) could benefit (from employment) where the government has developed capacities to handle such land deals. Cotula et al. (2009) acknowledged the potentials of land investments but warned that these might not be handy if host governments (or community leaders) fail to build capacities to negotiate better terms for their people.

In LALI contracting, the LALI firm and community leader (landowners) agree on relevant terms. For the community to gain some benefits, the leaders should negotiate better for the members of the community. There is better negotiation with the involvement of youth in the land contracting deal. The LALIs' presence brings some benefit to the community, including both direct and indirect employment generation. With the LALI firm sited at the community, it offers direct employment to the people by engaging drivers, farm labourers, administrative staff, and mechanics; rents are paid to landowners and individuals deal with the company as retailers or suppliers. Some indirect employment opportunities include[2] contract farming, out-grower schemes, and social amenities built by the LALI company. In addition, corporate social responsibility of the LALI company comes with employing some casual staff, and infrastructures that are put up require labour.

Another indirect employment is the inflow of capital into the community (for instance, improved seeds, technology, machinery, and fertilisers), which greatly improves agriculture in the community. Ali et al. (2015) indicate that commercial farms (LALIs) provided benefits to neighbouring smallholders

in terms of technology, input market access, and resilience to crop shocks in Ethiopia. Hence, to reduce youth unemployment, host countries could establish better bargaining power for the community to ensure that the employment of the people in the location where LALIs are situated is given priority attention.

Method of analysis

Both qualitative and quantitative data are used to achieve the objectives of the article.

Quantitative technique and data description

The study engages in data from the LSMS-ISA conducted by the World Bank in collaboration with Nigeria's National Bureau of Statistics (NBS). The LSMS-ISA data for Nigeria covers the 36 states of Nigeria plus the Federal Capital Territory (FCT), Abuja. The data is grouped into community, households, and agriculture for the two segments (i.e., post-planting and post-harvest) of the survey. For this study, the community and the household levels data are used, which involved merging the two sets of data for the Wave 1 (2010/11) and Wave 3 (2015/16). There are 500 enumeration areas (EAs) sampled from a total of 774 local government areas (LGAs) in Nigeria (including urban and rural areas) in the 36 states and FCT. The analysis is done at the household level, while information on the EAs (e.g., EA codes) is used in categorising communities with LALIs and those without it. Thus, for this study, a community is used synonymously with an EA. The essential thing about the LSMS-ISA data is that information about the location (i.e., codes for EA and LGA) as well as codes for households is unique in data files in both Waves. Noting that most of the LALI investments that were used in categorising the communities occurred in 2012, 2013, and 2014, the data is correctly set up for the application of the difference-in-difference (DiD) technique.

Definition of Variables

The measure of the youth is based on the African Union's (2006) concept of youth as persons who are between 15 and 35 years of old (Osabuohien, Efobi et al. 2020). The literature informs the variables included in the primary regression model. For instance, Asiedu (2004) concluded that the education of individuals, within the location of LALIs, is a significant determinant of the employment capacity. Also, Asiedu et al. (2011) stated that the health situation of individuals in Foreign Direct Investment (FDI)

located areas would affect the productivity of FDIs since healthy workers are more productive than sickly ones. Thus, the education and health status of the individual are included as variables. The variable LALIs are the presence of land investors in the community where the individual resides where 1 is for communities where a land deal occurred, and 0 otherwise.

Other control variables for the quantitative analysis are: right to land, distance to bank, presence of financial institution, non-agricultural shocks, agricultural shocks, access to credit from the financial institution, and food consumption-dietary diversity.[3] The selection of these variables is informed by the literature (Osabuohien et al. 2015; Osabuohien, Olokoyo et al. 2020; Herrmann 2017; Herrmann et al. 2018). The names, definitions, and summary statistics of the variables are presented in Table A1 in the Appendix.

Estimation technique

The primary estimation technique for the quantitative analysis is the DiD.[4] This estimation technique is a vital impact evaluation technique that estimates the counterfactual for the change in outcome for the population (i.e., households) in communities with LALIs by calculating the change in outcome for the households in communities without LALIs. This estimation technique takes into consideration any differences between the two groups that are constant over time.

The DiD technique is applicable when an intervention is random, conditional on group fixed effect, and time fixed effect. In this case, the *intervention* of interest is the presence of LALIs in communities that are represented in the LSMS-ISA dataset. For the DiD estimation to be successful, both groups of interest should have similar time trends, and there is no anticipation of policy intervention or regional shocks that will make the groups non-comparable. We are confident of overcoming this challenge since the communities of interest are exposed to the same macroeconomic atmosphere and general economic policy.

When applying the DiD technique, there are two *states of affairs, S* = 0; 1 (in our case, communities with LLIs =1 and those without it = 0) This can be expressed in equation (1) as:

$$W = \begin{cases} 1 \ if S=1, t=1 \\ 0 \text{ if otherwise} \end{cases} \quad (1)$$

From equation (1), the relationship of interest can be depicted as:

$$Y_{st} = \alpha + \varrho W_{st} + \gamma_s X_s + \tau T_t + \varepsilon_{st} \quad (2)$$

The time-invariant fixed effect and the common time trend can be differenced out and expressed as:

$$\tilde{Y}_s = Y_{s1} - Y_{s0} = \varrho(Ws1 - W_{s0}) + \varepsilon_{s1} - \varepsilon_{s0} \quad (3)$$

From above, the DiD is written as:

$$Y^{DiD} = \tilde{Y}_1 - \tilde{Y}_0$$
$$= Y_{11} - Y_{10} - (Y_{01} - Y_{00}) - \varrho(W_{11} - W_{10} - (W_{01} - W_{00})) + \varepsilon_{11} - \varepsilon_{10} - (\varepsilon_{01} - \varepsilon_{00}) \quad (4)$$

Equation (4) can be abridged as:

$$Y^{DiD} = \rho + \varepsilon_{11} - \varepsilon_{10} - (\varepsilon_{01} - \varepsilon_{00}) \quad (5)$$

Thus, the DiD is given as equation (6):

$$Y^{DiD} = \rho \quad (6)$$

Qualitative Approach

The qualitative approach is carried out with fieldwork using key informant interviews (KIIs) and focus group discussions (FGDs). A purposeful and stratified sampling method was employed in selecting the LALIs used in the study. Kwara State was selected due to the fact that the state has one of the highest concentrations of LALIs, especially those with foreign investors. However, the choice of Ogun State is due to the increasing number of domestically owned LALIs. This is occasioned by the strategic location of Ogun State, which is between Lagos State (the commercial hub of Nigeria) and other countries in West Africa, namely the Republic of Benin. Hence, the state enjoys the positive externality from the population and commercial thrives of Lagos. The third state from which our sample is drawn is Ekiti State, which also has LALIs, some of which operate on a commercial basis like those in Ogun and Kwara.

The non-probability sampling technique (purposive sampling) was adopted in selecting the respondents for the structured interview. This technique was used because the probability of other stakeholder groups cannot be determined. Hence, individuals were left to choose whether to participate in the study or not. The respondents comprise workers at the farms and youth groups from within the community who do not work on the farms, noting that this study focuses on youth employment. The

workers include: (a) the farm workers (who work directly on the farm), (b) their supervisors, (c) the farm managers, and (d) other staff (e.g., accountant/cashier, drivers). The respondents are duly informed that their responses are solely for research purposes and assured of the confidentiality of their identities. Each respondent fills out a questionnaire, which includes demographic details, educational status, household details, employment details, income details, expenditure details, welfare details, and questions about the farm.

The FGDs are conducted among the farmworkers in small groups of between four and six workers, and youth groups in the communities. The interviews and focus group discussions allow the workers to speak freely on other issues of concern about employment-related issues within LALIs. The notes from the qualitative data are transcribed, identified, and analysed through thematic analysis. The thematic analysis focuses on the respondents' perception of the LALIs' contribution to employment, nature of employment, wages, and other welfare-related outcomes.

Empirical results

The results obtained from the empirical analysis are reported and discussed in this section.

Results from quantitative analysis

The study first presents the percentage proportion of the youth that reside in communities with LALIs and those in communities without LALIs who are currently working. We find from Figure 1 that the youth living in communities without LALIs report a higher proportion of economic engagement compared to those living in communities with LALIs. In effect, 41 per cent of the youth living in communities without LALIs report that they were economically engaged. In comparison, only 39 per cent of those residing in communities with LALIs report similar economic engagement. Though these differences are seen, they were not significantly different when subjected to the test of comparison of means. It is essential to highlight that these differences are mere descriptive statistics and do not imply a causal relationship between LALIs and youth employment in these communities.

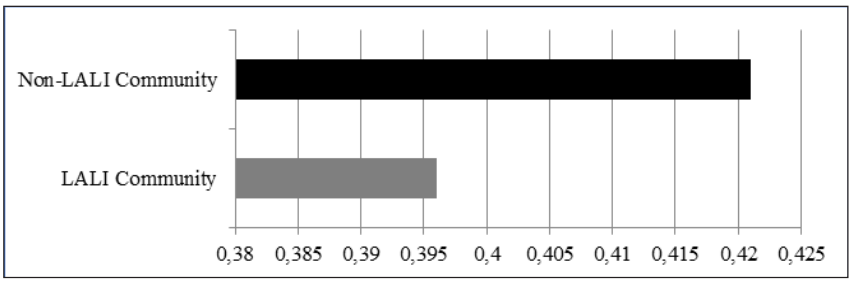

Figure 1: Percentage of the youth working in communities with (without) LALI presence
Source: authors' computation from LSMS-ISA

Second, we present the non-parametric regression to understand – without imposing any parameter restrictions on the relationship – the trend analysis of wages and the number of hours worked across the age of the youth in communities with and without the LALI presence. In Figure 2 (segment a), it is evident that the youth who live in communities with LALIs see increased wages compared to those who live in communities without LALIs, especially within the age range 20 to 34 years. For the older youth who live in communities with LALIs, we find that the wage gap closes compared to their counterpart who lives in communities without LALIs. For the youth who live in communities without LALIs, they experience no such wage differential across age. Despite this, these wages are lower than their counterparts who have the opportunity to work in LALIs.

Figure 2 (segment b) shows a different pattern when considering the number of hours that the youth who live in communities with (and without) LALI presence. Figure 2b shows that there is a clear difference in the number of hours worked for the youth who live in communities with LALIs compared to those who live in communities without LALIs. For the youth in the former communities, we find that they work a shorter number of hours compared to the youth who live in communities without LALIs. This difference is significant, implying that it is likely that the youth work a limited number of hours in communities with LALIs compared to when living in communities without LALIs. Interestingly, despite that youth in communities with LALI work shorter hours, they earn more than the youth in communities without LALIs.

Table 1 reports the DiD results when considering LALI presence in household communities and its causal effect on wages, the number of hours worked, and the actual employment status of the youth in Nigeria. The results show that the presence of LALIs in the communities of households in Nigeria results in a 1.238 percentage decrease in the wages earned by youth. This effect is not significant at the traditional 1 per cent and 5 per cent levels but rather at the 10 per cent level.

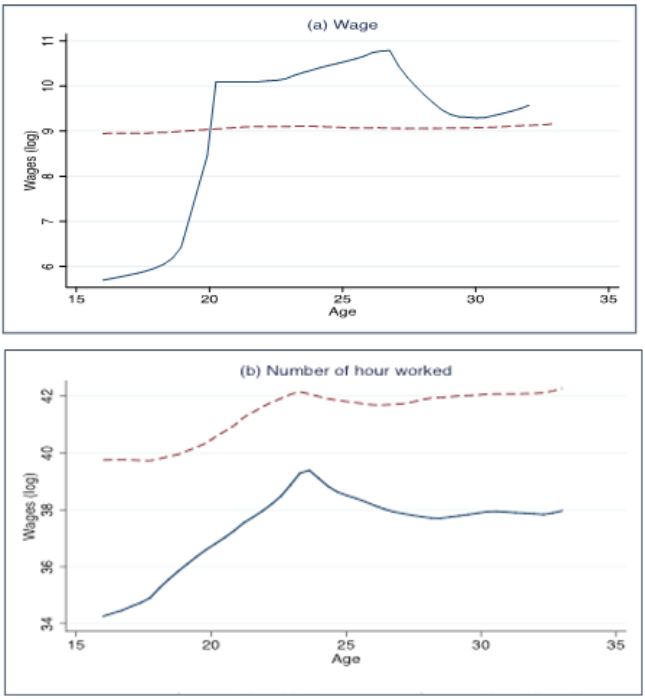

Figure 2: Wages and number of hours worked by youth across LALI locations
Communities with LALIs ——— Communities without LALIs - - - - - -
Source: authors' computation from LSMS-ISA

For the number of hours worked by the youth and the presence of LALIs, we find from Table 1 that compared to living in communities without LALIs. There is a reduction in the number of hours worked by the youth by about six hours as a result of the presence of LALIs. Likewise, this effect is only significant at the 10 per cent level, but not at the 1 and 5 per cent levels. The above finding is similar to Barbanente and Aisbett (2016), who established that LALI regions show significant decreases in agricultural work hours. Moreover, this fall has been somewhat offset by increases in the average wage work hours and the proportion of households having any wage work hours.

The result may be seen from the perspective that the presence of LALIs could lead to the corporate or absentee acquisition of land, which may be based on internal social divisions in the communities with LALIs (White 2012). For instance, in such communities, the lands are owned and controlled by the older generation, whose authority matters in determining the benefits that transcend to others who do not have control over such resources. More so, these LALIs are characterised by paying low wages for

labour input (Osabuohien et al. 2019). Such low wages are disincentives for youth engagement or labour input in the investments of these foreign investors, and there are incidences of rising youth migration caused by the presence of LALIs (FAO 2014).

Table 1: LALI presence and outcome variables

Variables	How much was your last payment? (Naira in log form)	Number of hours worked	Worked in household, own or other enterprises
LALI	-1.238*	-6.484*	-0.132*
	(0.748)	(3.267)	(0.056)
Right to land	-0.271***	-0.193	-0.021*
	(0.091)	(0.542)	(0.012)
Distance to bank	-0.030***	-0.048*	0.002
	(0.006)	(0.029)	(0.001)
Presence of financial institutions	0.373**	1.643**	-0.046**
	(0.166)	(0.931)	(0.021)
Non-agricultural shocks	0.1775*	-0.167	0.020*
	(0.093)	(0.551)	(0.012)
Agricultural shocks	-0.5347***	-2.002***	-0.003
	(0.096)	(0.555)	(0.012)
Access to credit from a financial institution	0.338	-1.193	0.008
	(0.245)	(1.672)	(0.036)
Food consumption – dietary diversity	-0.53***	-2.113***	0.073
	(0.112)	(0.658)	(0.014)
Constant	9.127***	38.620	----
	(0.187)	(1.059)	
R2	0.116	0.015	----
Observations	1135	3535	8,131

Note: the values in parenthesis are the standard errors; the superscripts *, **, and *** are significant values are 1, 5, and 10%.

The estimates of the last outcome variable also suggest that compared to the youth who live in communities without LALIs, those in communities with LALIs tend to have a lower probability of working. This result is also not significant at the traditional significant levels of 1 and 5 per cent, but only

at the 10 per cent level. The other control variables suggest that distance to banks, presence of financial institutions within the community of the youth, agricultural shocks, and food consumption – measured as dietary diversity – are important covariates in determining the wage rate of the youth. At the same time, for the number of hours worked, the presence of financial institutions, agricultural shocks, and dietary diversity are relevant covariates. Their presence only informs the probability of working of a financial institution.

Results from qualitative analysis

The qualitative results are examined with a focus on employment provision, wages, hours worked, probability of working, and perception of the community on LALI youth employment. The reports from the farmworkers at the sampled LALIs, as well as the youth in the communities of interest, form the findings for this qualitative sub-section. Table 2 provides a summary of the sampled LALIs for this study and shows their respective employment details.

On employment in the sampled LALIs, those in Ado-Ekiti employ up to 500 workers, Ota LALIs employ up to 600 workers, and LALIs in Omu-Aran engage up to 140 workers. All the LALIs in this study engage youth workers as both tenured and casual staff. Some of these LALIs also receive students on their Industrial Training (IT) programme to work with them from time to time. While the tenured staff require some form of education to qualify for employment, the casual staff require no form of education, making it easy for the rural, uneducated youth to be eligible for jobs on the sampled farms, like their educated counterparts.

In-depth interviews with some of the LALI workers revealed that there are more women than men engaged in soft skills such as harvesting vegetables and peeling of cassava. In contrast, there are more men than women who are involved in the labour-intensive aspects of farming, including clearing and harvesting of crops. This is similar to what Ahlerup and Tengstam (2015) noted, whereby on the average land, the poor (mostly women and other landless men) have most to gain from agricultural investments, at least in terms of employment opportunities. The findings from the qualitative study further revealed that youth are also employed on contracts for specific jobs (such as planting and harvesting) per time. The youth work during peak harvesting periods of a given crop. The employment provision by LALIs tends to increase at peak periods, depending on the time of farming activities carried out on the farm. In Table 2, it is observed that the proportion of youth employment concerning the total number of workers was highest

in Ekiti State, followed by Kwara State, while it was lowest in Ogun State. Aigbokhan and Ola (2015) noted similar concerns that the LALI deal by Presco Industries in Edo State mainly employed contract workers.

Table 2: LALI description and employment information

Details	**LALIs**		
Location	Ado-Ekiti, Ekiti State	Ota, Ogun State	Omu-Aran, Kwara State
Geopolitical zone	South-west Nigeria	South-west Nigeria	North-central Nigeria
Number of workers	Up to 500 workers	Up to 600 workers	Up to 140 workers
Percentage of youth to total employment	45.00	28.57	40.00
Wage range*	₦35,000–₦ 94,000 ($98.59–$264.79)	₦15,000–₦70,000 ($42.25–$197.18)	₦16,000–₦100,000 ($45.07–$281.69)
Incentives	Live animals (fish or chicken) bonuses (if the target is exceeded)	Farm products can be sold at discounted prices to members of staff	Live animals (chicken); 1%–5% commission on bulk purchases (chicken 200kg; eggs 200 crates)

Note: *the average exchange rate was of ₦355 to US$1 at the time the fieldwork was conducted. The wage is per month.

The average wages of workers on the farms per month were between ₦15,000 (US$42.25) and ₦100,000 (US$281.69). In terms of the minimum salary across the sampled farms, the highest minimum salary was ₦35,000 (US$98.59), while the highest maximum salary was ₦100,000 (US$281.69). Working hours were an average of nine hours per day for farmworkers. During our tour of one of the farms, we met one 400 Level student from the Faculty of Agriculture, Federal University of Agriculture, Akure, Ondo State, who was about commencing her IT attachment training for six months. She mentioned that she receives a stipend of ₦5000 (US$14.08) per month. Even though she thought the pay was little, she was eager to start because she was more concerned with the practical knowledge

to be gained than anything else. Concerning other employment benefits, we observed that only a few of the farms provide any form of the pension plan for its tenured workers. The other farms have no form of pension. Thus, a lack of job security could be ascertained (Aigbokhan and Ola 2015). While some of the farms offer incentives to their workers, particularly at the end of the year during the holiday season, the value of the incentives is considered inadequate to substantially improve the morale of the employees.

Interviews with key informants in the communities of the LALIs and FGDs with youth groups revealed that local farmers rarely source for employment from the LALIs, as they prefer to operate on their own. However, they are sometimes available to carry out specific tasks for the LALIs if called upon. Further, a respondent remarked that about 30 per cent of workers in most agricultural farms are youth. The youth in the community noted that the employment procedure is generally based on the policy of the LALI, which includes placing of adverts to reach the public. The LALIs employ on fixed-term, outsourcing, or contract basis.

'The level of youth involvement in the agricultural sector can be rated as low, particularly among the educated class', said one of the respondents. An average youth in the community lacks the desire to participate in farming or other agricultural activities. One of the farm attendants in his mid-twenties alluded to his choice of employment bordering on the unemployment problem ravaging the youth's constituency. Another youth who spoke to us said, 'The meagre pay, coupled with the unfriendly odour from the environment of some farms, is another contributing factor that discourages the youth from having a desire to work in the agricultural industry'. However, it was noted that the youth in the communities have associations that protect the interest of their members as well as LALI workers who are a part of their community.

On the issue of incentives for the workers, we were made to understand that only a few of the LALIs provided bonus packages at the end of the year, while pension is not provided for the workers. The youth groups mentioned that the wages and salaries ranged from ₦15,000–₦50,000 (US$42.25–US$140.85) depending on the designation, level, department, and qualification of the worker, as well as the size of the farm. The above concern is similar to the findings noted by Aigbokhan and Ola (2015). Concerning the level of impact of LALIs to the youth association, the youth leader in Ota stated that employment generation, food availability, and communal development were some of the benefits enjoyed by the community. The youth leader from the Omu-Aran community said that

LALIs could do much more than what they have done so far with respect to employing more youth in the community at the supervisory and managerial positions. The above can also be achieved by taking up some community projects and granting scholarships to indigene youth as well as increasing the amount paid to workers.

Conclusion

This article was principally motivated by the need to provide further empirical insights on the nexus between employment and LALIs, especially in Africa where increasing records of LALIs have been witnessed during the 2010s. This research endeavour is deemed relevant due to the fact that the agricultural sector in a host of African countries still provides employment to more than 65 per cent of the active labour force, on the one hand, and that Africa has one of the most youthful populations of the world, on the other. Thus, the challenge on how to provide employment for the growing youthful population in Africa has remained a crucial issue and subject of interest across the continent. To enhance the creation of jobs for the youth, many African countries are taking the initiative of making the agricultural sector more attractive by attracting investments. Thus, this study proffers the answer to the research question of how LALIs affect youth employment in Africa using the case of Nigeria. The choice of Nigeria is motivated by the fact that the country is one of the highest 20 LALI recipient countries globally and also one of the highest 10 in Africa; however, there is a dearth of empirical research that examines the implications of LALIs, particularly on youth employment.

While some studies (e.g., Barbanente and Aisbett 2016; Khadjavi et al. 2017) found a positive effect, other studies (e.g., Brown 2013) maintained that LALIs have a deteriorating effect on employment. This study contributes to the literature by carrying out a comparative analysis using samples of households (youth) in communities with and without LALIs using a mixed methods approach in order to unravel the employment effect of LALIs. The relevance of the mixed methods approach is based on its sequential data collection strategy whereby data collected in an iterative process in the first phase (quantitative data) can be further validated by the data in the next phase (qualitative data).

The results from the DiD shows that the presence of LALIs in the communities of results to 1.24 percentage reduction in the amount of wage earned by the youth, which was significant only at the 10 per cent level. On the issue, if youth employment (using the number of hours worked by the

youth) conditioned upon the presence of LALIs in a community, the study finds a reduction in the number of hours worked by about six hours, which is also only significant at 10 per cent. The results from PSM have a similar pattern with those of DiD where youth in communities with LALIs earn 2.15 per cent lower wage rate and work nine hours less than compared to their counterparts in communities without LALIs.

Based on the qualitative analysis, the study finds varied wage levels paid to workers across the sampled LALIs ranging between US$45.07 and US$281.69 per month with average working hours of nine hours per day (generally between 7:00 am and 5:00 pm). The above raises concerns about the type of employment provided by the LALIs. Similarly, the employment intensity across the selected LALIs ranges between 0.11 and 0.55 employment per hectare; the variation was as a result of the difference in the level of processing that takes place in the sampled LALIs.

The findings of this study are essential as LALIs could offer some form of employment opportunities directly to the members of households in the communities. Hence, to curb youth unemployment, the LALIs' recipient countries could establish better bargaining power for the host communities to ensure that the employment of the people in the location where LALIs are situated is given priority attention. The employment creation can also emanate through other avenues such as contract farming or out-grower schemes, which are not covered in this study but can be taken up as an agendum for further research.

Notes

1. Other African countries with recent LSMS-ISA data (after 2010) include: Burkina Faso, Ethiopia, Malawi, Mali, Niger, Tanzania, and Uganda. More details are available online at http://surveys.worldbank.org/lsms/our-work/data/data-table (accessed 12 February 2019).
2. Indirect employment opportunities are essential, but it is outside the scope of the present study and can be examined in future research.
3. It is important to note that the preliminary analysis from the data for this analysis does not show any significant correlation between access to credit and the distance to a financial institution (-0.048 non-significant correlation), and agricultural shock and food consumption (0.041 non-significant correlation).
4. Propensity score matching (PSM) was also used; however, the PSM estimation technique and results are not presented due to space constraint. It is available upon request.

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Appendix

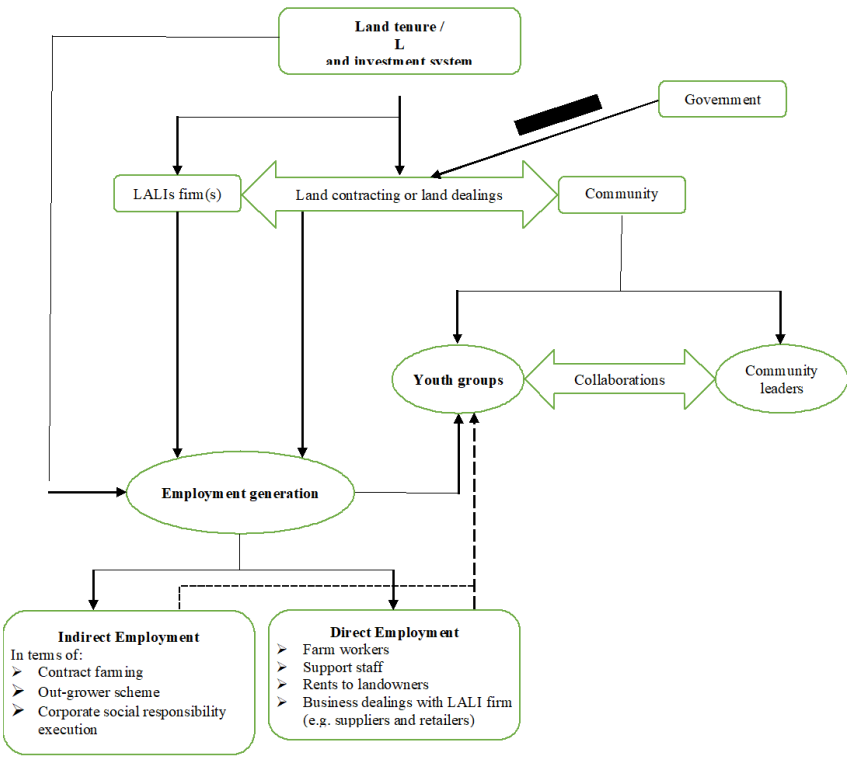

Figure A1: Youth employment and LALIs nexus

Table A1: Variable names and definitions

Variable name	Description of the variables	Mean	SD	Obs.
Right to land	This measures the quantity of agricultural land that the household has rights over and can use for agricultural purpose.	0.691	0.462	36,172
Distance to financial institution	Number of hours from the household to the closest bank.	4.222	9.648	57,181
Presence of financial institution	A dummy if there is a financial institution in the community of the household.	0.929	0.255	57,181
Non-agricultural shocks	A dummy if the household resides in a community that has experienced any of the following: health epidemic, disease breakout, changes in food prices, infrastructural breakdown, and job lay-offs, among others.	0.387	0.487	54,309
Agricultural shocks	A dummy if the household resides in a community that has experienced any shock that affects the agricultural sector, such as changes in agricultural input prices (e.g. fertiliser), weather variability, and pest and crop diseases.	0.378	0.485	54,309
Access to credit from a financial institution	A dummy if any member of the household has credit from a financial institution.	0.040	0.197	57,216
Food consumption – dietary diversity	The summation of the household 7-day recall of the consumption of the following food items: cereals, white tubers and roots, vegetables, fruits, meat, eggs, fish and other seafood, legume nuts and seeds, milk and milk products, oils and fats, sweets, spices, condiments and beverages. This variable is normalised by 12, such that the value runs from 0 (low diversity) to 1 (high diversity).	0.395	0.414	57,216

Large scale agricultural investment	This is a dummy variable, where households reside in communities with LALI occurrence are classified as 1 and those in communities without LALIs are classified as 0.	0.006	0.080	57,295
Wages	How much was the last wage payment of the average youth from working (Naira).	27153.01	197769.9	9,113
Hours worked	This is the average number of hours that the household youths have worked in a paid employment.	40.62	17.32	21,866
Worked in household, own or other enterprises	This is a dummy of the youth in the household has worked for payment in household owned enterprise, or those enterprises owned by other individuals.	0.413	0.492	52,886

Note: information on LALIs was obtained from LMGO (2017). We included mainly the LALIs that are concluded. Also, we made further efforts to confirm them from reports and interactions during the fieldwork.

Source: authors' compilation using information from LSMS-ISA.