NIGERIA
Strategy Support Program

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
IFPRI
A member of the CGIAR Consortium

WORKING PAPER 31

Delving Deeper into the Agricultural Transformation and Youth Employment Nexus: The Nigerian Case

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March 2016

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1. INTRODUCTION

Youth employment is not an entirely new topic for research and policy. Recent estimates from the International Labour Organisation (ILO) (2013a) suggest that high and rising unemployment rates among youth remain a key challenge to global development, especially in the developing world. This is particularly important in sub-Saharan Africa where about 85 percent of youth (defined by the ILO as all those between the ages of 15 and 24 years) are poor, 70 percent live in rural areas where agriculture is the main source for their income and subsistence, and 11 million youth are expected to enter the labor market every year for the next decade (World Bank 2014). These characteristics of youth in sub-Saharan Africa justify the centrality of the nexus between youth employment and agriculture in formulating development policy on the continent. At the same time, youth unemployment is currently one of the issues receiving attention at the top of the global development agenda.

Turning to Nigeria, while the proportion of unemployed youth have decreased in recent years with more job creation programs targeted towards them, the proportion of unemployed youth in Nigeria is still high. As elsewhere in Africa, the agricultural sector remains the major employer of labor in Nigeria and continues to provide the greatest prospects for job creation, including among youth, through a well-targeted transformation of the sector (Gyimah-Brempong 2014).

Can the agricultural sector provide jobs that are sufficiently attractive in terms of wage levels while at the same time satisfying the job aspirations of today's youth in order to significantly reduce the youth unemployment that Nigeria and most African countries are currently experiencing? If the agricultural sector can produce these jobs, how can these employment opportunities be sustained to continue to create jobs as the youth population grows? What policy strategies and training incentives can be used to transform the agricultural sector into a more dynamic and diversified job creation sector for the skilled, semi-skilled, and unskilled youth joining the workforce every year in Nigeria? Against this background, in order to critically analyze the youth unemployment situation in sub-Saharan Africa as a whole and in Nigeria in particular and to delve deeper into the potential that agriculture has for job creation for youth, in Section 2 we provide an overview of the youth unemployment situation globally and in Africa, followed, in Section 3 by a review of the literature on the role agriculture plays in job creation. In Section 4, we review the dynamics of unemployment and job creation in Nigeria, highlighting sectors where jobs were created both for youth and adults in recent years. In doing so, we use the latest data for Nigeria and also employ the new definitions of employment and unemployment (May 2015) of the National Bureau of Statistics (NBS). In Section 5 we discuss recent initiatives in Nigeria on that front, with a particular focus on two youth employment projects – the Youth and Women in Agribusiness Investment Program and the Youth Employment in Agriculture Program (YEAP). The concluding section of the paper discusses some tentative policy recommendations emanating from our analysis for Nigeria of youth employment in agriculture.

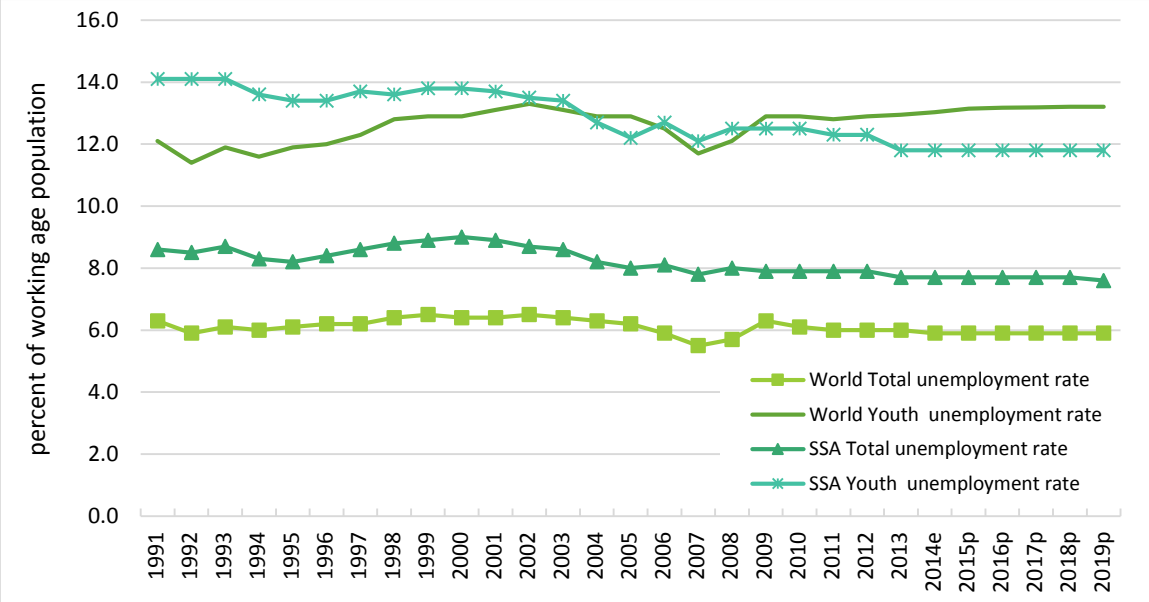
2. GLOBAL AND AFRICAN YOUTH EMPLOYMENT AND UNEMPLOYMENT TRENDS

With a slow recovery from the recent global financial crisis, the number of jobs created globally for both youth and adults was 61 million less than the number that would have been created if there had been no crisis. Overall, the annual global employment growth rate dropped by 0.5 percent from 1.7 percent to 1.2 percent (ILO 2015). According to the ILO, 201.3 million people were unemployed in 2014, with youth constituting 37 percent of this number globally. More importantly, this rising trend in youth unemployment is expected to increase further if more jobs that youth can fill are not created. The increasing rate of global youth unemployment and underemployment

amidst the bulge in the proportion of youth in the population that most countries in Africa are currently experiencing is a major challenge to their economies and to the global economy as a whole (ILO 2013a).[1]

Globally, the youth unemployment rate reached 13 percent in 2014. This rate is estimated to be three times as high as the overall adult unemployment rate – almost 74 million youth aged between 15 and 24 years were estimated to be unemployed in 2013 (ILO 2015). The global youth unemployment rate has always been higher than the overall unemployment rate (Figure 1). This pattern is also seen in many sub-Saharan African countries. Moreover the number of unemployed youth is increasing. Globally, the number of youth employed in 2013 was 37.1 million less than the number of youth employed in 2007. In 2013, 700,000 more youth aged 15-24 globally were unemployed than was the case in 2012. This figure continues to increase, especially in sub-Saharan Africa, whose population has the highest proportion of youth with an increasing number of children becoming youth (ILO 2014b). While the rate of youth unemployment varies in the different regions of the world, despite these differences, it continues to rise with a projection of 12.8 percent by 2018 (ILO 2013b). Global youth labor force participation in 2013 was also 2 percent lower than the participation rate before the global crisis, indicating that many youth dropped out of employment during the crisis.

Figure 1—Total and youth unemployment rate, globally and in sub-Saharan Africa



Source: ILO - Trends Econometric Models, October 2014a.

Note: e=preliminary estimates, p=projections.

The African continent has the fastest growing population with three out of four persons aged above 15 years being found within the 15 to 24 year age bracket (Assaad and Levison 2013). With this trend in population growth, fast tracking job creation to match increasing demand for employment as a result of the youth bulge in Africa becomes a development priority.

Parallel with the increasing rate of youth unemployment, a significant proportion of the youth in Africa with jobs are underemployed. Sixty percent of employed youth do not have stable employment contracts and receive wages that are below average. Eight out of ten youth who are employed work in the informal sector (ILO 2014a). However, even with this level of youth unemployment in Africa, 11 million youth are expected to enter the labor market in sub-Saharan Africa every year. This shows the huge employment gap that can only be filled if jobs are

[1] The youth bulge is a significant change in the age structure of the population, where the proportion of youth increases substantially compared to changes in the size of other age groups, both older and younger. It has emerged as a result of the demographic transition – falling early childhood mortality followed, with a lag, by falling fertility (Assaad and Levison 2013).

created at a much faster rate than is presently the case. While 32 percent of total employment globally is in agriculture, the proportion of young people employed in the sector is much lower due to high rural-to-urban migration and the relatively low level of development in most African rural areas. Youth unemployment is even more severe in low income countries, like Nigeria. Furthermore, the social protection systems that are offered unemployed youth in developed countries are not always available to unemployed youth in developing countries, making them easy target for crime and social unrest (Fields 2011; Heintz and Lund 2012).

An International Monetary Fund report in 2013 on employment prospects for youth in Africa showed that 86 percent of employment in sub-Saharan Africa in 2005 was in the informal sector. As most people cannot afford to be unemployed, they take up jobs in the informal sector to survive (Fox et al. 2013). While the proportion of educated young people is improving in Africa, the low demand for labor is argued to be a reason for the unemployment and underemployment that youth in Africa are experiencing. There is also decreasing formal employment available for youth in Africa, which is attributed to the mismatch between the skills employers require and the skills youth have to offer (African Development Bank 2012).[2]

Underemployment as result of underutilization of the youth workforce is also prevalent in sub-Saharan Africa as a result of this skills mismatch, over-qualification and under-qualification in terms of education, coupled with the increasing proportion of youth relative to both the older and younger segments of the population (Assaad and Levison 2013). Policies aimed at reducing macroeconomic instability and advancing the economic structural transformation for labor demand will significantly increase the rate of employment in Africa. However, the extent to which jobs can be created remains unclear, especially during crisis periods (Crivelli et al. 2012). The nature of the economy and the labor market in the region could also increase the number of underemployed people in addition to the unemployment that already exists (Assaad and Levison 2013).

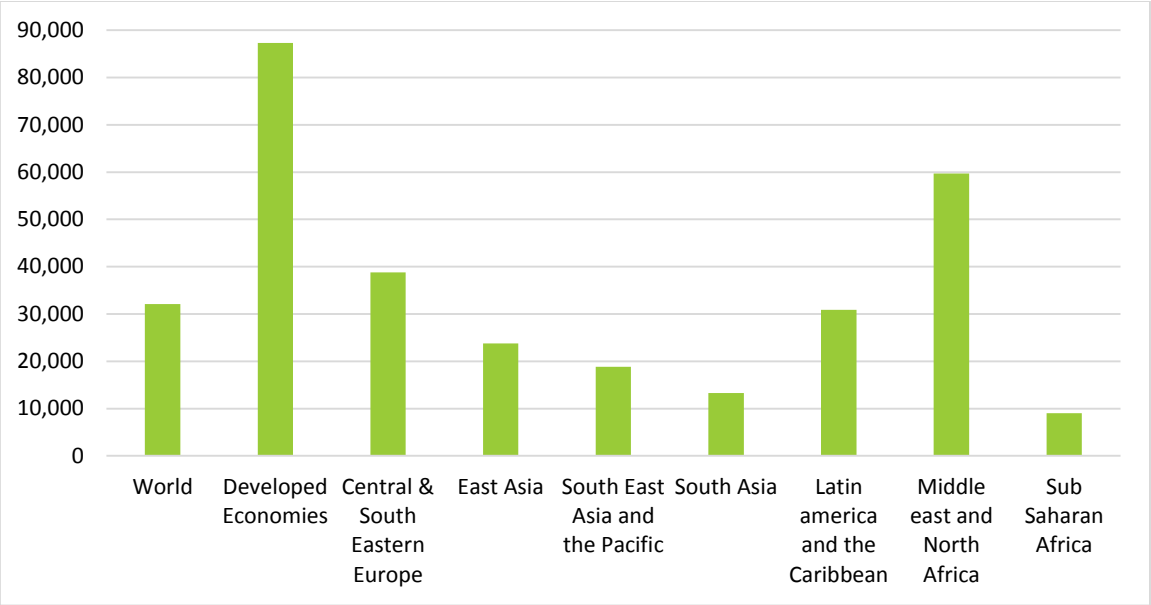
The debate on youth unemployment globally and particularly in Africa hinges also on the differential pattern of structural change of economies that works against the creation of 'good' jobs (McMillan et al. 2014; McMillan and Rodrik 2011, Page 2012). Despite the growth that is being experienced, structural change in Africa is still minimal and mostly leads to creation of few high productivity jobs. Employment policies would have to focus on the demand and supply sides of the labor market through accelerated growth of the sectors with high value added per worker (Page 2012). Labor productivity in sub-Saharan Africa is still lower than is obtainable globally (Figure 2), but the labor participation rate of 70.9 percent in Africa is estimated to be the highest among all global regions. As both population and the size of the labor force increase globally and in Africa in particular, unemployment will also continue to increase if appropriate policy actions are not taken to create jobs that would absorb the growing working population.

It is suggested that one of the reasons for low labor productivity in Africa is the comparative advantage in natural resources that most African countries have. As McMillan and Rodrik (2011) argue, countries with a comparative advantage based on the exploitation of natural resources face the risk of an underdeveloped process of structural transformation as a result of overdependence on natural resources for development.[3]

[2] See the Annex to this paper on the issue of skill shortages and the centrality of vocational training to fill this gap.

[3] See also Auty (1997), Sachs and Warner (2001), Mehum et al. (2006) and Mavrotas et al. (2011) for a detailed discussion of issues related to natural resource dependence.

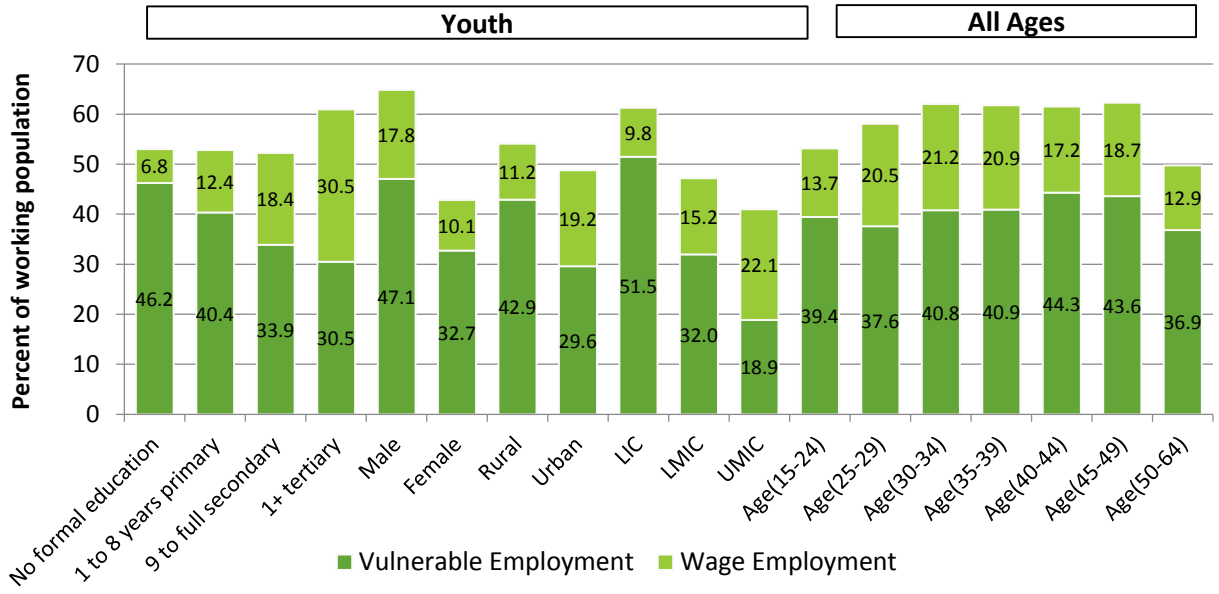
Figure 2—Global labor productivity in terms of output per worker, constant 2011 US dollars



Source: ILO - Trends Econometric Models, October 2014a.

Vulnerable employment is employment under relatively precarious circumstances, such as family workers and own-account workers that do not have formal work arrangements, access to benefits or social protection programs, and are more at risk to economic cycles. An important determinant of vulnerable youth employment in Africa is whether the young worker lives in a rural area, has limited education, and works in family-based farming (Figure 3). Of youth living in rural areas, 42.9 percent are in vulnerable employment, as compared to 29.6 percent of youth living in urban areas. Ninety percent of working youth with no education are in vulnerable employment (African Economic Outlook 2012).

Figure 3—Profile of vulnerable employment in Africa, by basic characteristics

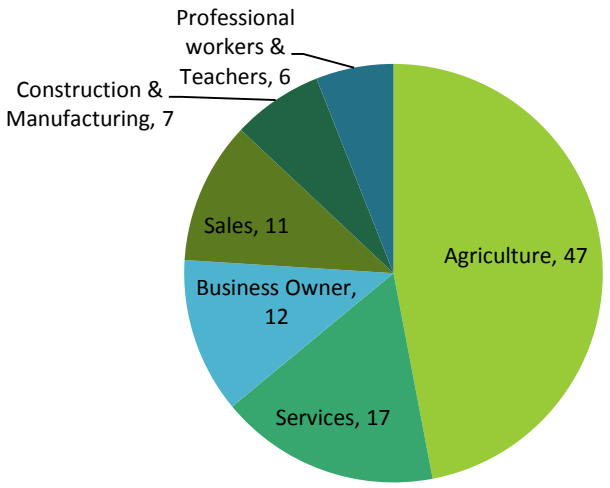


Sources: African Economic Outlook 2012 and Gallup World Poll (2010)

Another dimension of employment in the agricultural sector in Africa is related to the fact that more than half of young workers in rural areas are involved in non-farming activities (Figure 4). This reflects the traditional

dual-economy perspective, i.e., the distinction between agriculture vis-à-vis non-agriculture, which fuels the ongoing debate on the most important sources of growth for poverty reduction in Africa (Diao et al. 2010; Collier and Dercon 2014; Christiaensen et al. 2011; De Janvry and Sadoulet 2010). It has been argued, however, that this view overlooks heterogeneity within these broad sectors as well as the synergies between them. In this context, Dorosh and Thurlow (2014) estimate sectoral poverty-growth elasticities using economy wide models for five African countries. Their detailed treatment of non-agriculture complements a growing literature disaggregating the growth-poverty relationship in agriculture. Their estimates suggest that, overall, elasticities are typically higher for trade and transport services and manufacturing, and in some countries, growth led by these sectors is almost as effective at reaching the poor as is agriculture. This points to the need for a more nuanced treatment of non-agriculture in future empirical work on how agricultural growth contributes to poverty reduction.

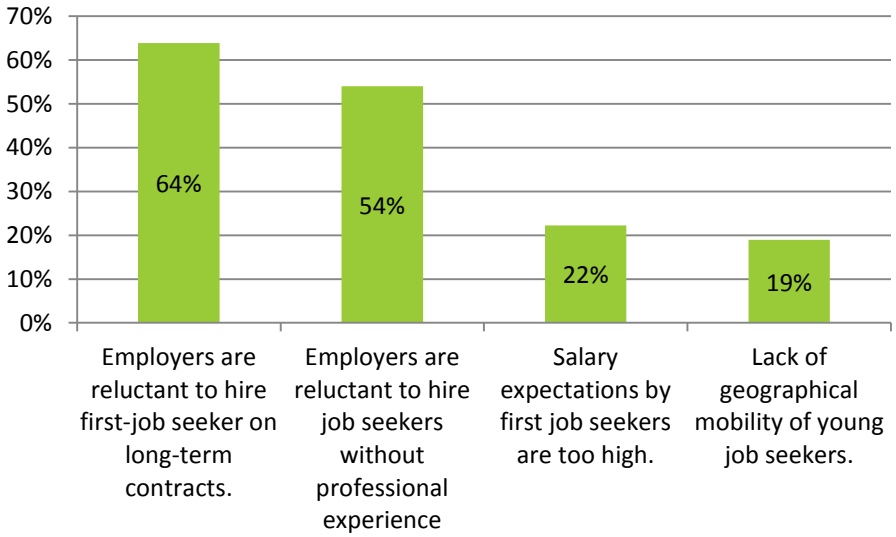
Figure 4—Occupations of rural youth in Africa



Source: Gallup World Poll & African Economic Outlook (2012)

Another issue in the discussion of employment prospects in the agricultural sector for youth in Africa is related to the attitudes and expectations of employers (Figure 5). Employers are reluctant to hire on long-term contracts first-job seekers without professional experience (African Economic Outlook 2012).

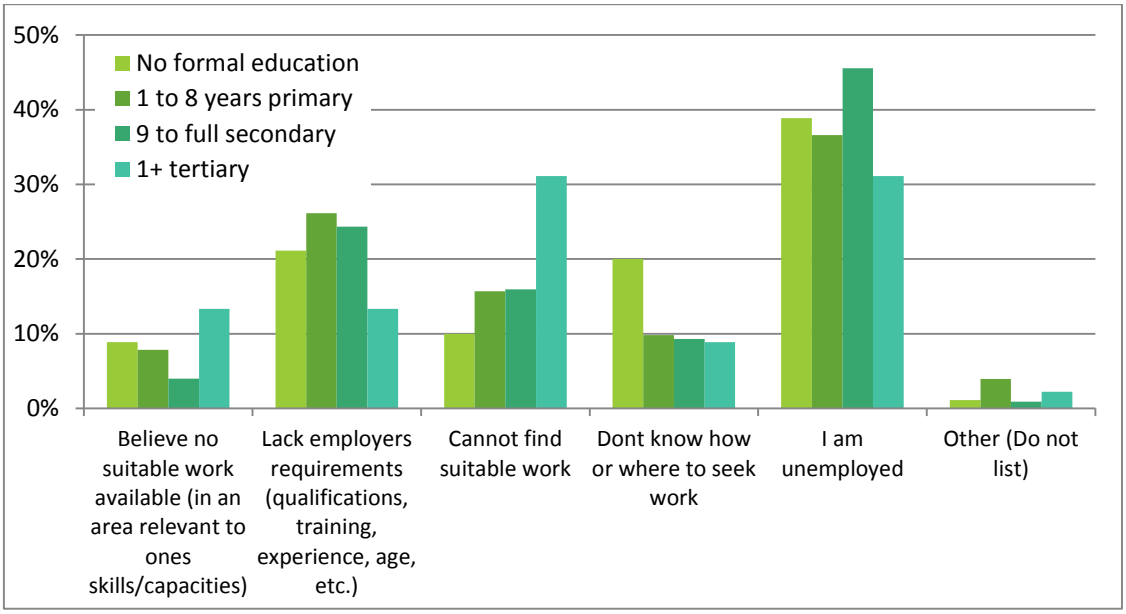
Figure 5— Expectations of employers in Africa regarding their employment of youth



Source: AEO Country Experts Survey 2012 (37 countries) – African Economic Outlook, 2012.

On the other hand, many young people have expectations which are not necessarily in line with labor market conditions. In Figure 6, we can see that among unemployed and discouraged youth with at least one year of tertiary education, 25 percent report not being able to find work based on the skills they have. This share falls to 8 percent for those without education (African Economic Outlook 2012).

Figure 6—Unemployed and discouraged youth in Africa: Self-reported reasons for not working



Source: African Economic Outlook (2012) based on Gallup World Poll (2010).

3. THE ROLE OF AGRICULTURE FOR JOB CREATION IN AFRICA

Agriculture is still the largest employer in Africa, but accounted for only 13 percent of GDP in 2010 (Fox et al. 2013). Brooks et al. (2013a) argue that accelerated transformative change in the agricultural sector will lead to an increase in productive capacity, reduction in real food prices, and rural income inequality. Thus, agricultural job creation in Africa will increase the utilization and involvement of the growing youth population in Africa in the agricultural sector. Job creation should not just be targeted towards the wage job sector, but should also seek to increase job opportunities in agriculture in both the formal and informal sub-sectors. The benefit that Africa stands to gain from employing its youth in the agricultural sector will depend on how agricultural innovations are supported by government policies and utilized to boost agricultural productivity.

At the same time, the level of priority given to both commercial and small-scale farming and response to both the on-farm and the off-farm sectors to the employment expectations of youth in Africa will determine future job creation, food security and poverty reduction (Proctor and Lucchesi 2012). Golub and Hayat (2014) argue that the gap in labor demand, rather than the skills or characteristics of workers, and increasing the export of goods that require high labor would promote demand for labor in Africa. While Africa has the potential to improve its manufacturing sector, the agricultural sector can lead such a process by providing the cash crops needed for the manufacturing sector and employing the surplus labor Africa's youth provide. The agricultural sector can also act as a buffer to allow for continued economic growth leading to job creation even when other sectors are experiencing stagnant growth (Higgins 2009). According to the ILO (2009), jobs in the industrial sector fell in 2009, while the agricultural sector came to the rescue with an increase in employment. In most developing countries, this has been the trend as the agricultural sector employs a significant proportion of the youth population. It has been argued that economic growth in Africa does not always have a significant impact on employment due to a jobless growth phenomenon (Hanson and Leautier 2013). However, the ability to create jobs in the agricultural sector is increased in countries that have productive farms with better infrastructure and communication networks. Hanson

and Leautier (2013) recommend the inclusion of local knowledge in agricultural policy in order to increase employment of youth in the agricultural sector.

According to Brooks et al. (2013b), the characteristics necessary for the development of the agricultural sector in Africa are also important for absorbing youth into the sector. Agriculture has to be able to compete with other sectors in a profitable manner in order to foster accelerated transformative change to improve productivity and rural incomes to create jobs for youth. While the agricultural sector has strong potential to employ the labor surplus that the youth in Africa provide, agriculture in Africa is still faced with a myriad of problems affecting its performance (Headey et al. 2010). Needless to say, policies that increase the participation of youth in agriculture will enhance the job creation performance of the sector. As much as it is expected that agriculture will employ Africa's growing youth population, investment in agricultural development through infrastructure and skills enhancement is necessary to sustainably maintain the sector's job creating capacity. Technological improvements for both farm production and other processes along the agricultural value chain will significantly increase the chances of job creation (Henley 2012). Collier and Dercon (2014) have argued in favor of the entrepreneurial interaction between small scale farmers and large scale agricultural production and investment with "hybrid models" that would create a unique focus for economic transformation in Africa and increase labor productivity in agriculture in order to reduce poverty.

Gyimah-Brempong (2014) presents a theoretical framework to analyze how agricultural transformation can be used to create jobs for youth through agricultural sector expansion and employment deepening. While sector expansion creates job opportunities through increases in agricultural output and a re-organization of the agricultural sector to include agricultural value chain development, employment deepening would create jobs through increases in labor absorption rate per unit of output produced.

A number of empirical studies have also been carried out to understand the dynamics for employment as a result of agricultural development. Ehui and Tsigas (2009) utilized the Global Trade Analysis Project (GTAP) framework to analyze the rate of return from agriculture. An improvement in agricultural technology use and in the agricultural labor force in Nigeria yielded higher returns on investments than any other sector of the economy, with high potential for job creation. Ayinde (2008) assessed the connection between growth in agriculture and the levels of unemployment in both rural and urban areas in Nigeria using time series data and Granger causality tests. The study revealed that the demand for agricultural employment decreases as agricultural growth increases, while urban unemployment increases agricultural production as more people seek their livelihoods in agriculture under such labor market conditions.

Lyocks et al. (2013) identified inadequate incentives for youth participation, limited agricultural skills and training, limited access to agricultural finance, and low perception of agricultural job as reasons for low youth participation in agriculture. Restuccia et al. (2008) used a two-sector general-equilibrium model to show the contrast in agricultural productivity among developed and developing countries. Their results indicate that employment is not commensurate with agricultural productivity in most developing countries exacerbated by inadequate inputs and agricultural policy barriers. Another study on the impact of cash transfers for skilled employment among youths in Uganda has shown that the provision of capital, requisite skillsets and support system can significantly increase the number of employed youths and income from job earnings and assets increase (Blattman et al. 2012).

In Zimbabwe, Chidoko and Zhou (2012) assessed the effects of reform in the agricultural sector on youth employment and posit that declining investment in agriculture caused by economic crises in Zimbabwe is a major cause of youth unemployment. They recommended substantial investment in agricultural value chains in both farm and non-farm activities to increase the employment power of the agricultural sector. Dries et al. (2012) utilized a Farm Accountancy Data Network (FADN) panel data set for EU countries and a cell based regression model to analyze the rate at which jobs are created and destroyed in the agricultural sector. The rate at which

jobs are created and destroyed in agriculture is concurrent with the rates that which they are destroyed and created in other sectors of the economy. Using the same data and a labor demand model, Kaditi (2013) concluded that reform measures that provide support to farms significantly affect family and hired labor opportunities.

A review of the historical transformation path of the US agricultural sector by Dimitri et al. (2005) shows that technological improvements reduced the number of people employed in the farming sector and increased productivity, creating opportunities for non-farm based occupations. Another study by Gillespie and Mishra (2011) investigated the impact of government-funded off-farm employment opportunities in rural USA on the decision to take up agricultural jobs and the type of agricultural job that farmers engage in using a two-state multivariate tobit model. Results showed that being able to supplement on-farm employment with off-farm employment is important for engaging in farming. They also found that the reasons for engaging in agricultural production are influenced by the type of production enterprise and the commercial prospects it has. For example, farmers would engage in farm production if they know that they will take over the farm or get profit that could be invested in other businesses.

Well targeted agricultural investment has also been stressed in the literature as a key factor for improving rural livelihood and employment in agriculture. Petrick et al. (2013) investigate the effects of increased agricultural investment on rural livelihoods in Kazakhstan using village level data. They find that increased agricultural investment significantly increased both on-farm and off-farm employment, increased wages, and increased household incomes. More off-farm jobs were created than on-farm jobs as a result of this increased agricultural investment. As a result, rural poverty rates decreased with increased rural income. Moreover, the increased income was not accompanied by high inflation, as the general price level doubled while nominal incomes quadrupled within the period. This was the result of increased productivity in the agricultural sector. Analysis of the effect of government subsidies on agricultural sector employment in the European Union (EU) showed mixed results in creating employment in agriculture in different countries in the EU (Petrick and Zier 2012). The study also showed that a key determinant of the employment effect of subsidy is the structure of agricultural production and labor markets across member countries. Countries that produce crops using labor intensive technologies employ more people as a result of the subsidy, while countries whose agricultural production is more capital intensive tend to use the subsidy to invest in labor saving technologies, thus decreasing employment in agriculture. This implies that strategies used to create employment through agriculture have to take into account different country dynamics and context in formulating agricultural policies and government interventions for sustainable employment creation in agriculture.

Teal (2014), in his study on Nigeria, argues that to understand the nature of the employment problem, jobs need to be linked to the incomes those jobs generate. While wage jobs do, on average, produce more income than does self-employment, a critical issue remains the extent of the distribution of incomes within occupational categories and overlaps across these sectors. The author concludes that in understanding how the labor market in Nigeria operates, it is also necessary to distinguish not between employment and unemployment but, rather, between being in and outside the labor force as conventionally defined, and for those employed, the incomes generated by the job. Such an approach is a clear departure from a focus on unemployment and the divide between self and wage employment.

4. EMPLOYMENT TRENDS, YOUTH UNEMPLOYMENT, AND JOB CREATION IN NIGERIA

After rebasing its Gross Domestic Product in 2014, Nigeria became the largest economy in Africa. With an abundant and diversified agricultural base, Nigeria's economy has a large agricultural component. Although agriculture employs about 70 percent of the labor force, it accounted for only about 22 percent of GDP in 2013, suggesting that productivity and incomes in the sector are very low (NBS 2014a). Until the early 1970s, Nigeria was self-sufficient in food production with a small surplus for export. Agriculture was the main foreign exchange earner. However, the sector stagnated thereafter for a number of reasons, chief among them, the discovery, exploitation, and

export of oil and a deliberate policy to shift resources from agriculture to industry (Oyejide 1986). Because agriculture employs an overwhelming share of the Nigerian labor force, stagnation of the sector resulted in increased poverty incidence. The poverty rate (headcount measure at $2.00/day consumption) increased from 28 percent in 1980 to 68 percent in 2012. However, the agricultural sector has been growing rapidly since 2005 with growth in value added in the sector averaging about 7 percent annually.

Table 1 summarizes some key development indicators for Nigeria and some comparator countries and regions of the world. Nigeria is relatively developed by sub-Saharan Africa standards, but not so compared to other parts of the developing world, especially the fast growing countries of South Asia.

In spite of recent improved performance in the agricultural sector, labor productivity is very low and growing slowly. Unemployment and poverty in rural areas, especially among the youth, tends to be high. According to the National Bureau of Statistics (NBS), poverty incidence (headcount using $1.25/day consumption basket) in 2011 was 52 percent in urban areas and 66 percent in rural areas. An explanation for the high poverty incidence may partly lie in high unemployment rates combined with low productivity in the agricultural sector. Although sectoral poverty data are not available, rural unemployment rates are higher than urban unemployment rates – 33.5 percent in urban areas, as compared to 38.2 percent in rural areas.

Table 1—Selected economic and social indicators, Nigeria

	Nigeria	Sub-Saharan Africa	South Asia	Low income
Economic Indicators				
GDP per capita (Real 2005 USD PPP)	2335	2,074	3,034	1,199
GDP per capita growth rate (%)	3.60	1.50	2.35	3.99
Agricultural value added to GDP (%)	22.0	15.6	18.2	27.5
Agricultural sector growth rate (%)	6.7	--	--	--
Contribution to employment (%)	68	49	40	52
Manufacturing value (% of GDP)	1.8	9.1	13.9	12.6
Service value (% of GDP)	26.3	53.3	56.3	49.0
Social Indicators				
Immunization, DPT (% of children age 12-23 mos.)	41.0	71.2	75.9	79.6
Infant mortality rate (per 1000 live births)	77.8	63.9	46.6	55.8
Poverty rate (% living on $1.25/day)	70.0	47.5	14.3	-
School enrolment rate (primary)	84	100	110	108
Adult literacy rate, % of adults	57	62	61	61
Infrastructure Indicators				
Road density (% of roads paved)	15.0	16.3	45.0	16.3
Telephone mainlines (per 100 people)	0.25	1.4	3	1
Cellular phone line (per 100 people)	66.8	45	59	33

Source: WDI 2013, NBS, CBN, 2014.

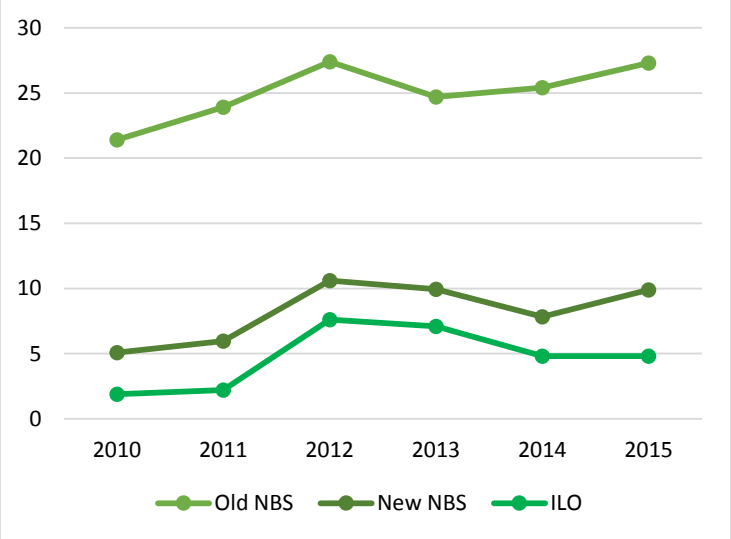
With a population of 177 million and a population growth rate of 3.2 percent, Nigeria has the largest population in Africa, an increasing population of youth, and increasing youth unemployment and underemployment. In discussing youth unemployment in this paper, we will use the following definitions:

- While the UN and ILO define youth as those individuals between 15 and 24 years of age, the definition of youth in Nigeria, according to the National Youth Policy, is between 18 and 35 years (National Youth Policy 2009). In this section of the paper we will adopt the Nigerian definition.
- The unemployment rate, according to NBS, is those in the labor force (not in the entire economic active population nor the entire Nigerian population) who were actively looking for work but could not find at least 20 hours of work during the reference period as a proportion of the total population of the currently active labor force.

- Underemployment occurs if an individual works less than full time, which is 40 hours per week, but works at least 20 hours on average a week or if an individual works full time but he or she is engaged in an activity that underutilizes his or her skills, time, and educational qualifications.

The high unemployment rate for Nigeria using the ILO definition of working at least 40 hours was 23.9 in 2014. However, the revised definition of the NBS shows unemployment at 7.8 percent for the same period. This rate increased to 9.9 in 2015 (Figure 7). In 2015, the labour force population in Nigeria grew by 5.5 percent from 72.9 million in 2014 to 76.9 million. Within the same period, the total number of fully employed individuals decreased by 3.0 percent, while the number of the underemployed increased by 10.4 percent from 13.1 million people in 2014 to 14.4 million people. Overall, unemployment in the labour force continues to increase with a higher proportion of the youth entering the labour force annually.

Figure 7—Trends for Nigeria in old and new NBS unemployment rates and in ILO rates, 2010 to 2015, percent



Source: National Bureau of Statistics, 2015a.

Labor productivity – defined as the ratio of total output (annual GDP, current prices) to labor input (total hours worked per year) – decreased by 2.4 percent in 2015 Q1, as shown in Table 2. While this slight drop in labor productivity could be the result of seasonality and increases in unemployment in Q1 2015, the overall trend of labor productivity in Nigeria shows low labor productivity when compared to the labor productivity of some other countries, like Brazil (despite the high economic growth recorded recently in Nigeria (NBS 2015b)).

Table 2—Labor force, GDP, and labor productivity in Nigeria, 2010 to 2015

Year	Labor force population, thousands	GDP at current prices (₦ millions)	Total hours worked, millions	Labor productivity per hour (₦)	Labor productivity per hour (USD)*
2010	65,171	54,612,264	130,123	419.70	2.79
2011	67,256	62,980,397	133,450	471.94	2.98
2012	69,106	71,713,935	129,987	551.70	3.51
2013	71,106	80,092,563	134,648	594.83	3.78
2014	72,932	89,043,615	139,274	639.34	3.77
Q1 2015	73,436	21,041,701	33,708	624.22	3.16

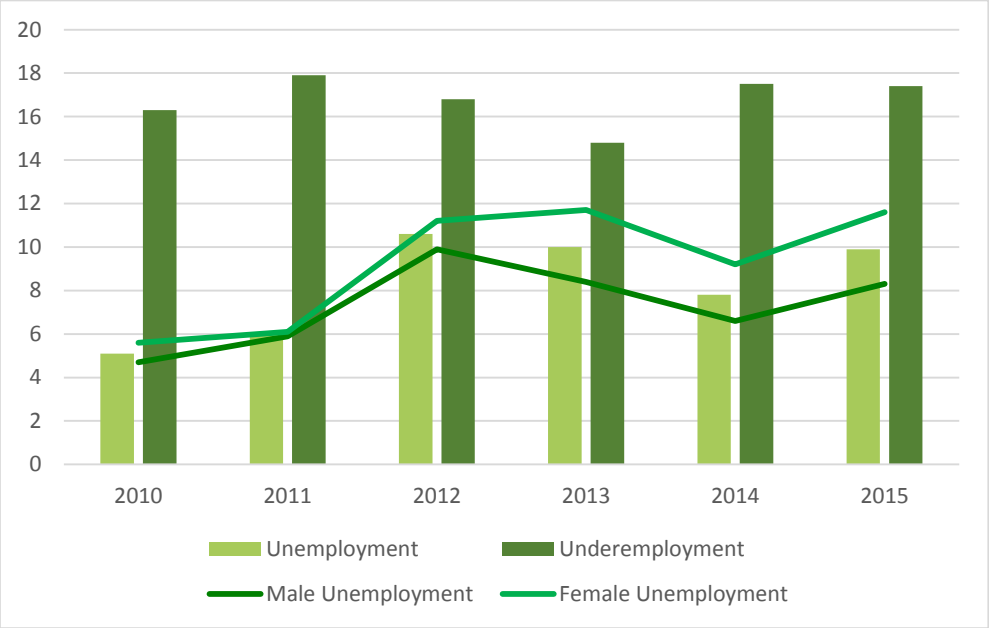
*N/USD exchange rates are Q1 2015-end rates for the Central Bank of Nigeria's Dutch Auction System (DAS)

Source: NBS (2015b) Labor Productivity in Nigeria (Q1 2015): A short analysis.

In terms of youth unemployment in Q1 2015, 13.7 percent of Nigerians in the labor force aged 15 to 24 were unemployed, while 8.2 percent of those aged 25 to 34 were unemployed. Underemployment is even higher among these groups, with up to 30.6 percent underemployment among those aged between 15 and 24 years and 17.7 percent underemployment among those aged 24-34 years (Table 3). The higher level of underemployment among those between 15 and 24 years could be explained by the fact that most youth within that age range are still undergoing some form of education. However both age groups of youth represent the largest percentage of Nigerians that are unemployed or underemployed.

Unemployment among women has consistently been above the national unemployment rate since 2010 (Figure 8). Underemployment is also higher in rural areas than in urban areas. This high level of underemployment is associated with the seasonality of agricultural jobs in which most people in the rural areas are engaged. This also shows underutilization of youth time in employment, indicating that there is still room for improvement in the types of agricultural employment that are available for youth in rural areas.

Figure 8—Unemployment, by gender, and total underemployment in Nigeria, 2010 to 2015, percent of currently active labor force



Source: NBS, 2015a.

Table 3—Nigeria labor force statistics, Q1 2015

Labour Force Statistics	Labour Force Population, thousands	Work more than 40 hours per week	Work 20-39 hours per week	Work 1-19 hours per week	Work zero hours per week (Did nothing)	Total Unemployed, thousands	Total Unemployed and Under-employed	Unemployment Rates, percent			Under Employment Rate, percent
		Fully Employed, thousands	Under-employed, thousands	Unemployed, thousands	Unemployed, thousands			Old	New	ILO	
All Groups	73,436	55,694	12,209	3,088	2,446	5,534	17,742	24.2	7.5	3.3	16.6
Educational Group											
Never Attended	22,503	16,614	4,150	1,047	684	1,731	5,882	26.1	7.7	3.0	18.4
Below Primary	357	202	36	24	24	48	84	23.6	13.4	6.6	10.2
Primary	14,646	12,086	1,788	453	321	774	2,562	17.5	5.3	2.2	12.2
Secondary	26,108	19,378	4,615	1,163	973	2,136	6,751	25.9	8.2	3.7	17.7
Post-Secondary	9,821	7,414	1,619	400	445	845	2,464	25.1	8.6	4.5	16.5
Age Group											
15-24	14,213	7,879	4,353	1,103	843	1,947	6,300	44.3	13.7	5.9	30.6
25-34	20,827	15,451	3,682	928	780	1,708	5,389	25.9	8.2	3.7	17.7
35-44	18,077	15,213	1,980	501	393	894	2,875	15.9	4.9	2.2	11.0
45-54	12,944	11,002	1,345	341	264	605	1,949	15.1	4.7	2.0	10.4
55-64	7,375	6,149	849	215	165	380	1,229	16.7	5.2	2.2	11.5
Gender											
Male	38,172	30,461	5,312	1,343	1,068	2,411	7,724	20.2	6.3	2.8	13.9
Female	35,264	25,232	6,896	1,744	1,378	3,122	10,019	28.4	8.9	3.9	19.6
Place of Residence											
Urban	21,915	18,503	1,893	503	1,421	1,923	3,816	17.4	8.8	6.5	8.6
Rural	52,522	37,190	10,316	2,585	1,025	3,610	13,926	27.0	7.0	2.0	20.0

Source: National Bureau of Statistics, 2015.

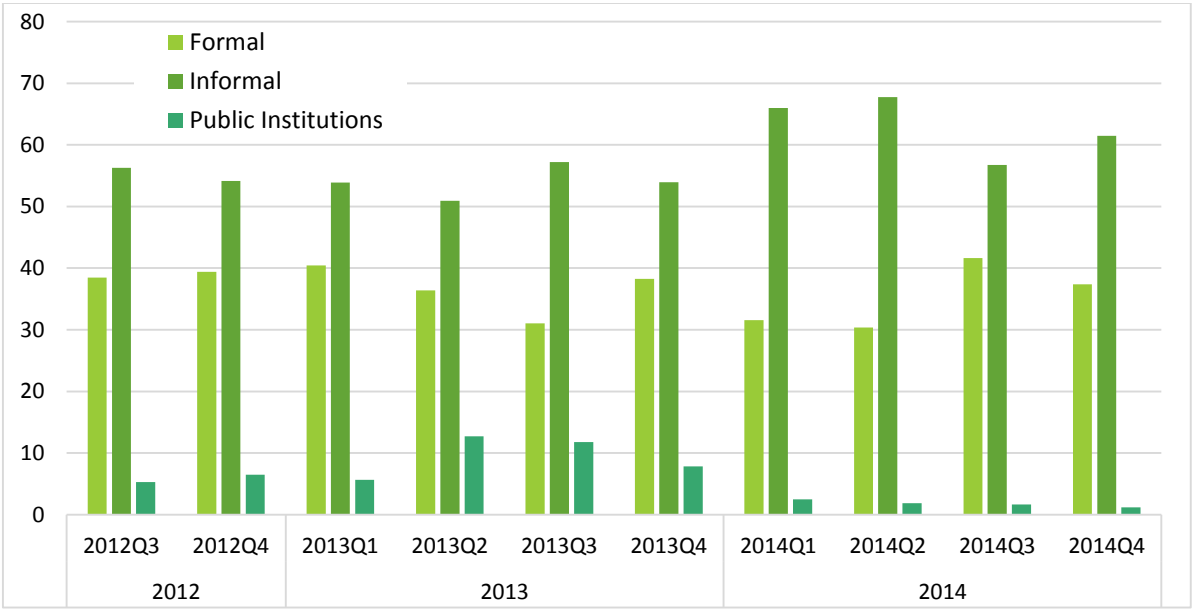
Despite the increasing level of unemployment and underemployment in Nigeria, between 2012 and 2014, over 3.1 million jobs (Table 4) were created in the formal, informal, and public sectors in Nigeria (NBS 2014). With the estimation that over 1.5 million youth enter the Nigerian labor market annually, the rate at which jobs are created and the labor absorbing capacity of already existing jobs would have to be significantly improved to reduce youth unemployment and underemployment. According to available data, the jobs created in Nigeria by the public and formal sectors are decreasing as the rate at which institutions are created in both sectors is also decreasing (Figure 9). This is captured in the decline in number of jobs that was created between 2012 and 2014, according to the NBS. Out of these jobs created, 75 percent of new jobs in the third quarter of 2014 were created for youth.

Table 4—Number of jobs created in Nigeria, by quarter between 2012 and 2014, by sector

	2012		2013				2014			
Sector	2012-Q3	2012-Q4	2013-Q1	2013-Q2	2013-Q3	2013-Q4	2014-Q1	2014-Q2	2014-Q3	2014-Q4
Formal	164,293	152,018	174,326	80,412	76,385	101,597	76,018	78,755	145,464	138,026
Informal	240,359	208,920	232,327	112,567	140,673	143,278	158,894	175,786	198,144	227,072
Public Institutions	22,644	24,975	24,368	28,075	28,931	20,827	5,959	4,812	5,735	4,387
Total	**427,296**	**385,913**	**431,021**	**221,054**	**245,989**	**265,702**	**240,871**	**259,353**	**349,343**	**369,485**

Source: National Bureau of Statistics, 2014b.

Figure 9—Percentage of jobs created in Nigeria between 2012 and 2014, by sector



Source: NBS Labor Statistics (2014b)

The average age of farmers in Nigeria, if only household heads are considered, is 52 years, according to the NBS-LSMS 2013 survey, an indication that the agricultural production population is ageing. Even when all household members are considered, the average age of the working population in farm households is 38 years, showing that few youth are engaged in agriculture in Nigeria. A survey of youth by the NBS and the Ministry of Youth Development shows that 37 percent of youth were engaged agriculture in 2012, of which 48.4 percent male and 51.6 percent female (NBS/Ministry of Youth Development 2012). Of youth involved in agriculture, females are mostly employees rather than employers. The revenue accrued to youth involvement in agricultural production was estimated to be up to ₦6 trillion in 2012. From this 2012 survey, what is clear from the jobs cre-

ated in Nigeria in the agricultural sector is that most are in agricultural production. In recent years, with the Agricultural Transformation Agenda initiative, there has been a move towards value chain development and agribusiness for youth involvement.

Although the potential for job creation through agriculture in Nigeria is high, this potential may never be fully materialized if the opportunities and resources that Nigeria has been endowed with are not fully capitalized. At the same time, a number of central constraints need to be properly addressed, with chief among them skill shortages and training gaps in the sector, an issue we discuss in the Annex to this paper.

5. NIGERIAN YOUTH EMPLOYMENT IN AGRICULTURE INITIATIVES

The transformation of the agricultural sector has become a development imperative in recent years for several African countries, including Nigeria. Agricultural transformation – the process of increasing the productivity of agriculture that results in the share of households dependent on agriculture for employment going down along with a reduction in the proportional contribution of agriculture to the overall national income – is a necessary condition for poverty alleviation and hunger reduction in developing countries (Timmer 2014).[4] Agricultural transformation requires the design and consistent implementation of prudent food and agricultural policies over a long period. The development of such policies and their implementation through specific programs requires local capacity at individual, organizational, and institutional levels. However, the principal constraint in designing and implementing such policies and program is the capacity gap. Development partners and country governments alike have recognized this and have invested significant resources to build such capacity over the past forty years. However, due to capacity building program design faults and implementation challenges, such capacity so far has not proven sufficient to benefit agricultural transformation processes. Adequate capacity for policy design and program implementation is both a consequence of and an input to agricultural transformation. Yet, little is known about how to identify strategic capacity needs.[5]

The Federal Government of Nigeria has embarked on a strategy for the development of its agriculture sector in recent years. The Federal Ministry of Agriculture and Rural Development (FMARD), through its Agricultural Transformation Agenda (ATA), has sought to increase food production, agricultural productivity, and value addition in agriculture in order to reduce food prices and Nigeria's reliance on food imports. Lessons from transforming traditional agricultural systems elsewhere show that for every level of sectoral transformation, corresponding levels of system, organizational, and individual human capacity also must be attained. ATA involves a multitude of stakeholders at federal, state and local levels. The principal focus of the ATA are farmers and other agribusinesses in the private sector. Other stakeholders include state governments, civil society, and development partners (Babu et al. 2014).

In the context of the ATA initiative, it was expected that by 2015 the initiative would generate 3.5 million jobs targeted towards youth and women to help reduce youth unemployment and to ensure gender balance in agricultural development. These jobs would be created along agricultural value chains through training, financing, and enabling young people, whether educated or uneducated, to go into commercial farming and to set up agribusinesses along these value chains.

Youth and Women in Agribusiness Investment Program

To achieve the ATA's youth employment objective, two divisions in the Ministry of Agriculture and Rural Development that worked separately on youth and gender respectively were merged in May 2012 to form the Gender and Youth Division with a mandate to promote youth job creation and youth participation in agriculture. The Division

[4] Another useful working definition is provided by Quinones and Diao (2011:5), "a process of sustainably modernizing agriculture and such a process is often measured by significant improvement in land and labor productivity, greater market-orientation and increased production diversification, as well as increased domestic and international competitiveness".

[5] Babu and Mavrotas (2014), provide further discussion.

created the Youth and Women in Agribusiness Investment Program (YWAIP) in 2013 to train 5,000 youth and 3,000 women in a pilot program. YWAIP was implemented through 28 colleges of agriculture, research institutions, private skills acquisition organizations, NGOs, and CBOs across the country operating as skills acquisition centers. Participants over a period of between two and six weeks received training on the requisite skills required for the agribusinesses chosen by the participants. Trainees were introduced to mentors during training and given a financial 'starter pack' incentive to launch or to be incorporated in their agribusiness.

Since its launch, YWAIP has provided training to almost 2,500 men and over 3,000 women. The types of enterprises in which these trainees are engaged are shown in Table 5.

Table 5—Agricultural enterprises in which trainees of the Youth and Women in Agribusiness Program engaged since 2013, by sex

Agricultural enterprise	Female	Male	Total
Sheep and Goat Production	76	166	242
Welding and Fabrication	5	95	100
Poultry Production	543	664	1207
Extension Education	92	219	311
Bull Fattening	52	575	627
Aquaculture	795	188	983
Tomato Processing and Management	263	155	418
Leather Processing and Footwear Manufacture	91	103	194
Bee Keeping and Honey Production	12	28	40
Rice Production and Processing	651	147	798
Cassava Production and Processing	435	0	435
Repair and Maintenance	9	81	90
Groundnut Processing	100	0	100
Accha (Fonio)	100	0	100
Total	3,224	2,421	5,645

Source: Youth and Gender Division of the Federal Ministry of Agriculture and Rural Development, Nigeria (2015).

Youth Employment in Agriculture Program (YEAP)

In addition to YWAIP, the government of Nigeria launched a program called the Youth Employment in Agriculture Program (YEAP) in December 2014. YEAP was designed in collaboration with the technical arm of the Food and Agricultural Organization of the United Nations (FAO). The goal of YEAP is to attain national food security; to lay a solid foundation for a more competitive, commercialized, and efficient agriculture that will help Nigeria to rapidly diversify the economy and become a global powerhouse in food and agriculture; and, consequently, to actualize the Agricultural Transformation Agenda (ATA).

YEAP has three main components:

1. Create an enabling environment for youth through policy dialogue among both national and international stakeholders, the development of knowledge, finance policy reforms, and rebranding of the agricultural sector.
2. Support youth through training and providing them with access to finance.
3. Monitoring and evaluation of the program through state-level technical steering hubs.

In order to accommodate youth irrespective of the skills they possess, two groups of youth would be trained in agribusiness and in the technical aspects of the priority value chains in which they are interested. To that effect, two groups of youth are considered:

1. **Nagropreneurs**: This group of youth aged between 18 and 35 years are graduates from higher institutions who may or may not have studied agriculture, but who show interest in agribusiness. 500 youth will be targeted for this group in each state, for 18,500 youth nationally.
2. **Market Oriented Producers**: This group of youth are between 18 and 35 years old with interest in agriculture regardless of their education background. Training for this group is targeted specifically to accommodate both unskilled and unskilled youth, especially young school leavers and out of school rural youth. Under this component, 20,000 youth will be targeted in each state, for a total of 740,000 youth nationally.

Both groups would be trained in priority value chains in the agricultural sector. These value chains include poultry; aquaculture; sheep and goat production; bull fattening; welding and fabrication; repair and maintenance of agricultural equipment; footwear and leather goods manufacture; production and processing of cassava, rice, soybean, cocoa, oil palm, sorghum, maize, wheat, or groundnut; snail-keeping and grass cutter production; beekeeping and honey production (apiculture); horticulture (tomato production and processing and orchard and nursery establishment) and agricultural extension services. The value chains prioritized according to geopolitical zone are shown in Table 6.

Table 6—Focus value chains under the Youth Employment in Agriculture Program, by geopolitical zone

Geopolitical Zone (States)	Value chain
North Central (Benue, Kogi, Kwara, Nassarawa, Niger, Plateau)	Rice, Aquaculture, Poultry, Maize, Soybean, Groundnut, Horticulture, Apiculture, Cassava, Welding and Fabrication of Agricultural Equipment.
North West (Jigawa, Kaduna, Kano, Katsina, Kebbi, Sokoto, Zamfara)	Rice, Aquaculture, Poultry, Maize, Tomato, Groundnut, Horticulture, Sorghum, Apiculture, Welding and Fabrication; Repairs and Maintenance of Agricultural Equipment.
North East (Adamawa, Bauchi, Borno, Gombe, Taraba, Yobe)	Rice, Aquaculture, Poultry, Maize, Tomato, Wheat, Horticulture, Sorghum, Welding and Fabrication; Repairs and Maintenance of Agricultural Equipment.
South West (Ekiti, Lagos, Ondo, Ogun, Oyo, Osun)	Rice, Aquaculture, Poultry, Cocoa, Cassava, Snail-keeping and Grass Cutter Production, Apiculture, Welding and Fabrication; Repairs and Maintenance of Agricultural Equipment, Horticulture.
South (Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Rivers)	Rice, Aquaculture, Poultry, Oil Palm, Cassava, Apiculture, Welding and Fabrication; Repairs and Maintenance of Agricultural Equipment, Horticulture.
South East (Abia, Anambra, Enugu, Ebonyi, Imo)	Rice, Aquaculture, Poultry, Oil Palm, Cassava, Apiculture, Welding and Fabrication; Repairs and Maintenance of Agricultural Equipment, Horticulture.

Source: Youth and Gender Division of the Federal Ministry of Agriculture and Rural Development, Nigeria (2015).

After receiving training in these value chains, beneficiaries are to be linked with commercial banks to obtain credit in order to help them start their agribusiness and to employ other youth in their firms. To ensure national coverage, YEAP is to be carried out in all states in three phases starting with 12 states and the Federal Capital Territory (FCT) in the first phase, followed by 12 states in each of the second and third phases. YEAP will support each participating state for a period of three years, after which each state will prepare a follow-up strategy to make the program sustainable. Although the number of youth targeted is 758,500, it is expected that the number of jobs for youth created will be substantially more than this as the new agribusinesses resulting from YEAP take on additional employees.

Finally, apart from YWAIP and YEAP, state governments also are embarking on youth employment programs in agriculture by training youth for commercial farming with the requisite skills needed to become entrepreneurs in the agricultural sector and providing financial grants needed to set up their agricultural business after such training.

6. CONCLUSIONS AND POLICY RECOMMENDATIONS

The previous sections presented an overall assessment of the youth employment and unemployment situation globally and in Africa in particular and they also raised a number of issues or great relevance to the nexus between agricultural transformation and youth employment. A particular effort was also made to shed more light, and in view of the recently released data by the NBS on youth employment, in the case of Nigeria, by addressing at the same time key constraints and challenges in this important area. We also discussed the issue of skill shortages and the role the vocational training can play, in view of recent initiatives implemented by the Federal Government of Nigeria, in addressing properly the above shortages and relevant skills mismatch constraints. In what follows, we conclude the paper with some tentative policy recommendations of great relevance to this crucial topic.

Promoting Agribusiness Education and Youth Vocational Training in Agricultural Value Chains – In order to transform the agricultural sector to create jobs that youth aspire to engage in, there is a need to incorporate well-structured training appropriate for imparting the skills needed by youth employed along agricultural value chains. Apart from comprehensive vocational training, there is also a need to revamp the agricultural education curriculum in both lower and higher education institutions to better prepare students of agriculture for the agricultural job market in Nigeria. This also will help substantially in the long run to enhance capacity development in this crucial area at sub-national and national levels, while at the same time making agriculture an attractive employment sector for Nigerian youth.

Developing the Rural Non-Farm Economy – Developing the rural non-farm economy to include off-farm jobs that are attractive to youth is equally important. Expanding production and increasing yields through the use of improved varieties and other improved agricultural technologies can enhance the productivity, profitability, and quantity of agricultural products in the rural sector. For this expansion to be feasible, more labor with the relevant skills will need to be employed in the non-farm sector and finance is required. Policies and initiatives that will drive rural diversification and competition through enterprise-based and market-oriented employment strategies will require timely support of youth for their transition into the labor market through youth awareness and skill acquisition programs.

Enhancing Agricultural Financial Support – Agricultural finance is an important aspect of agricultural value chains for holding the value chain links together. Without adequate and cost-effective financing for agriculture, the job creation process may be slow and youth participation in agriculture could be short-lived. Agricultural enterprises require basic fixed and working capital to run as effective businesses. Most youth do not have access to capital to start a career or business in agriculture. Research shows that access to financial support for agricultural production not only increases the productive capacity of the sector but also increases the success rate and assets of those involved (Olomola 2014, Olomola and Gyimah-Brempong 2014, Olomola and Yaro 2015).

Promoting Agricultural Value Chain Development – Agricultural product value chain development presents huge off-farm job opportunities. These value chains could be a major employer of youth if properly developed and harnessed. Very few agricultural products in Nigeria have well-developed value chains, creating room for improvement through deepening the involvement of youth in them. Developing more consumer-friendly value chains to serve Nigerian markets is necessary to reduce demand for foreign products and reduce imports of commodities that can be produced in Nigeria. These value chains need to be sufficiently competitive to engage youth and, at the same time, spur demand for Nigeria-produced value-added agricultural products.

Workforce Capacity Development and the Centrality of Vocational Training – Critically assessing and significantly improving the skills acquisition process for youth in Nigeria will be instrumental to increasing the employment chances of youth entrants in the sector. This is a fairly long term solution to skill acquisition problems for youth, but, at the same time, it will be very useful in the near future when the youth bulge phenomenon in Africa is predicted to reach higher levels.

Address Land Governance Issues – Key inhibiting factors for youth entering the agricultural sector are land governance issues. The complex land tenure systems in Nigeria discourage many youth from engaging in the sector. More importantly, without official documents to prove that one has the right to own or use a piece of land, banks and microfinance institutions will be reluctant to provide young farmers with finance for their successful involvement in the agricultural sector. This ultimately undermines youth employment in the sector.

Develop a Policy to Manage New Youth Entrants in the Labor Force – Policies and strategies should be mapped out to successfully integrate new youth entrants into the job force. The dynamic nature of youth makes it easier for them to try out new agribusiness models and strategies as technology evolves. As agricultural development thrives on technology improvements and innovations, youth presents a huge opportunity for putting agricultural innovation for improved agricultural productivity into effective use.

Improving Data Collection on Youth Employment – Poor information on youth employment severely constrains our ability to assess labor market outcomes in Nigeria. The agricultural information system are poorly developed to capture information on youth employment. There is a need to develop a proper national information and data collection system to show the annual inflow of youth into employment in both the formal and the informal sectors of the economy. This will make it easier for policymakers to appreciate the scope of challenges facing youth employment so that they properly support job creation. Data on the type of skills that youth possess also will assist in addressing employment challenges posed by skills mismatch. At the same time, with proper and regular monitoring of agricultural programs for youth employment, shortcomings can be tackled early enough in the process and successful outcomes can be achieved, thus improving substantially youth employment prospects in agriculture.

ANNEX: SKILL SHORTAGES AND THE CENTRALITY OF VOCATIONAL TRAINING

The overall nexus between education, vocational training, and agricultural productivity is considered crucial for enhancing agricultural productivity since education and vocational training help producers to obtain and evaluate information on technical improvements and new economic opportunities and, at the same time, reduce the cost of learning to use them properly. In this context, three key potential effects have been emphasized, namely, the *worker effect*, which improves the quality of work and allows the producer to produce more with the same amount of inputs, the *distribution effect*, which enhances the producer's capacity to process information and distribute resources among competing uses, and the *selection of inputs effect*, which improves the selection of inputs in the short term and the scale of operation in the long term.

Turning to the theoretical foundations of vocational training, Becker's seminal paper providing an economic analysis of training (Becker 1962) is based on the rather slippery distinction between *general training* and *specific training*. General training provides portable skills, which command an equal return in all sorts of employment, so individual workers will reap the benefits of investment in this type of training, while employers will not be inclined to finance it. Specific training, in contrast, is specific to an employment-type and, so, is often financed partly or wholly by the employer. Becker used this distinction in an effort to demonstrate that private markets for training can work efficiently under certain conditions. Evidence from Britain and Europe has shown, however, that the predictions of Becker's theory of training provision do not necessarily square with the stylized facts of training provision and funding (Greenhalgh and Stewart 1987; Booth 1991; Green 1993; Greenhalgh and Mavrotas 1996). Furthermore, career aspirations and credit constraints can play a central role in the final decision of whether individuals invest in general training (Greenhalgh and Mavrotas 1994). Uncertainty about productivity resulting from training and information asymmetry issues have also resulted in post-Becker analyses of the training market (Hashimoto 1981; Katz and Ziderman 1990). A more realistic training model has been developed by Stevens (1994a, 1994b), who emphasized the particular case of *transferable training*, defined to reflect imperfectly competitive labor markets in which skill training may be of use to more than one employer, but not equally valuable to all. In this context, training can have both transferable and employer or firm-specific components with a variable share of each. Thus, Becker's analysis of general training is a particular variant of Stevens' training model.[6]

More broadly, and in the context of the determinants of economic growth, particular emphasis on the centrality of education, vocational training, and human capital is seen in the "new growth models" developed in the late 1980s, which also emphasize the production of knowledge and its endogenization (Romer 1986; Lucas 1988; Stiglitz 1987; Grossman and Helpman 1990; Stokey 1987). These models also stress accumulation or stock of human capital, through which technical change can provide the basis for innovation (Benhabib and Spiegel 1994; Aghion and Howitt 1998; Krueger and Lindahl 2000). It also has been argued that skilled workers often adapt faster and more effectively to technical change and can better implement innovations and new investments (Cassen and Mavrotas 1997).

The issue of skills shortages and skills mismatch has received attention in recent years, particularly in the aftermath of the global financial crisis of 2008 (Middleton et al. 1993). A 2012 survey of experts on youth employment promotion in 36 African countries found that 54 percent of respondents viewed the major challenge youth face in labor markets to be the skills mismatch between what job seekers offer and what employers require (African Development Bank 2012). 41 percent of survey respondents highlighted a general lack of skills among young job seekers as also being a pressing challenge.

From a policy perspective, issues related to vocational training have been for many years at the center of policy discussions on how to improve labor market participation, including in the developing world. These debates

[6] See Booth and Snower (1996) and McNabb and Whitfield (1993) for a detailed discussion.

have produced some inconsistent arguments over the years, particularly in sub-Saharan Africa where policies have too often prescribed vocational training as the panacea for effectively addressing youth unemployment.[7] Sumberg et al. (2014), by using notions of transitions and mobilities, provide a different perspective. They have developed a transformative work and opportunity space framework that privileges difference and diversity among work opportunities, rural areas, and young people. Based on this conceptual framework, they argue that policy and programs that seek to engage young people with agriculture must be more realistic, rooted in more context-specific economic and social analysis, and appreciative of the variety of ways that rural men and women use agriculture to serve their needs and interests.

[7] Oketch (2014, 2007) provides a detailed discussion. See Psacharopoulos (1997), Blaug (1973) and Foster (1965) for earlier assessments.

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Acknowledgements

The Department for International Development (DFID) of the government of the United Kingdom and Propcom-Maikarfi are gratefully acknowledged for funding this study.

Our thanks to Yawar Naeem of DFID-UK and Martin Fregene of the Federal Ministry of Agriculture and Rural Development for helpful comments and suggestions on an earlier draft. Very helpful comments were also received from Todd Benson and David Feige. The National Bureau of Statistics shared relevant data on youth employment in Nigeria, for which we are thankful. We also benefited from comments received by participants at seminar presentations of an earlier version of this paper in Ghana in January 2015, to the Agriculture Donor Working Group in Abuja in October 2015, and at Ahmadu Bello University in Zaria, Nigeria in November 2015. All the remaining errors are our own.

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This publication of the Nigeria Strategy Support Program is made possible by the generous support of the American people through the United States Agency for International Development (USAID), together with the support of the Department for International Development (DFID) of the government of the United Kingdom and Propcom-Maikarfi. It has not been independently peer reviewed. The contents are the responsibility of the author(s) and do not necessarily reflect the views of USAID, the United States Government, DFID, Propcom-Maikarfi, or the International Food Policy Research Institute.