

ANALYSIS OF AGRICULTURAL TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (ATVET) SYSTEM IN NIGERIA

Report of a pre-feasibility study
conducted from 23rd February to
4th March, 2020

Sola Akinde & Aseh Emmanuel Vitung



ACKNOWLEDGEMENT

This study would not have been successfully concluded without the intervention and assistance of a number of people who either directly or indirectly played a role in some aspect of the process of the conception, funding, supervision of the field study, and the review of the report.

Our sincere gratitude first goes to all of players of the Nigerian educational, agriculture, rural and economic development sectors, who willingly accepted to receive and discuss with us, issues related to their different fields of intervention in general and to Agricultural Technical and Vocational Education and Training (ATVET) in particular. Their individual and collective contributions were indispensable for the writing of this report. Our special appreciations go to Mr. Patrick Aso Vakporaye, Deputy Director of NEDS who gave the broad orientation to the study and played a leading role in coordinating the field phases. Our sincere thanks also go to Mr. Vakporaye's entire team in the Federal Ministry of Budget and National Planning for their assistance at the start and the closure of our mission to Nigeria.

We would like to sincerely thank the President of the International Network for Agricultural and Rural Training (RI-FAR), Mr. ANGO Pierre Blaise, who gave us this unique opportunity to carry out the study. Our heartfelt gratitude also goes to the Executive Secretary of RI-FAR, Mr. Khalid Belarbi and his assistant Dr. Hassan Quarouch who encouraged and motivated us throughout the preparatory and field phases of the study. Their ready assistance and complete availability was vital in helping us take on this colossal task and to produce the results that are presented herein.

Mr. Laurent Jean, Agricultural Officer at the French Development Agency in Abuja Nigeria gave us inestimable assistance in terms of taking official contacts with key actors for discussions with our team. For this, we are deeply indebted to him and all his colleagues in the AFD Abuja Office.

We are very grateful to the Governor of Oyo State, H.E. Engr. Oluwaseyi Makinde who took the pains to facilitate arrangements for us to meet key stakeholders in Oyo state during our stay in Ibadan, although he was out on mission to France and then to the US.

The Oyo State Commissioner of Agriculture and Natural Resources, Hon. Ojekunle Jacob Ojenuyiwa and his team accompanied our team to visit some of the projects that are in the pipeline of the recently created Oyo State Agribusiness Development Agency. We also had the opportunity with them to visit and talk to the Provost, Administrative and Academic staff of the Oyo State College of Agriculture and



Technology, Igboora, as well as other key informants in the territory. We express our profound gratitude to all of these persons.

Finally, we would like to acknowledge and extend our profound appreciations to all of those who have not been mentioned, but who contributed in whatever form to the successful conduct of this study.



List of abbreviations and acronyms

| | | |
|---------|---|--|
| ADP | : | Agricultural Development Program |
| APP | : | Agricultural Promotion Policy |
| ATA | : | Agriculture Transformation Agenda |
| ATVET | : | Agricultural Technical and Vocational Education and Training |
| CBN | : | Central Bank of Nigeria |
| DFID | : | Department for International Development - United Kingdom |
| FAO | : | Food and Agricultural Organisation |
| FGN | : | Federal Government of Nigeria |
| FMARD | : | Federal Ministry of Agriculture and Rural Development |
| FMBNP | : | Federal Ministry of Budget and National Planning |
| GDP | : | Gross Domestic Product |
| GIZ | : | German Agency for International Cooperation |
| HND | : | Higher National Diploma |
| IART | : | Institute of Agricultural Research and Training |
| IFAD | : | International Fund for Agricultural Development |
| IITA | : | International Institute for Tropical Agriculture |
| ITF | : | Industrial Training Fund |
| MFI | : | Microfinance Institutions |
| MSME | : | Micro, Small and Medium Enterprise |
| NAERLS | : | National Agricultural Extension and Research Liaison System |
| NBTE | : | National Bureau for Technical Education |
| ND | : | National Diploma |
| NDE | : | National Directorate of Employment |
| NPE | : | National Policy on Education |
| OYSADA | : | Oyo State Agribusiness Development Agency |
| PIND | : | Partnership Initiatives for the Niger Delta |
| SIWES | : | Student Industrial Work Experience Scheme |
| SME | : | Small and Medium Enterprise |
| TETFUND | : | Tertiary Education and Training Fund |
| TOPAN | : | Tomato and Orchard Producer's Association of Nigeria |
| YEAP | : | Youth Employment in Agriculture Program |
| YISA | : | Youth Initiative for Sustainable Agriculture |



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EXECUTIVE SUMMARY

This study was carried out within the framework of the renovation of the Agricultural Technical and Vocational Education and Training (ATVET) system in Nigeria. The study was commissioned by the International Network for Agricultural and Rural Training (Réseau FAR - International) and financed by the French Development Agency (AFD).

The study led to the analysis of the past and current status of the ATVET system in Nigeria, in order to bring out its strengths and weaknesses, the opportunities that are open to it as well as the threats that the system faces within the present and prospective context of agricultural development in Nigeria.

The methodology used for the study was basically qualitative and involved an analytical study of the socio-economic context of the country with special emphasis on population dynamics, youth employment, technical and vocational training in general and the difficulties that this system faces in Nigeria. Furthermore, the agriculture and livestock sectors were analysed against the background of prevailing policy documents and economic recovery strategies in order to situate agricultural and rural training within the global picture of the transformation of these sectors. The study was grounded on documentary review and the collection of primary data from key informants in the field.

The study revealed that the Nigerian population is youthful and is growing at a very rapid rate (about 2.6%) and that youth unemployment was also growing at a similarly high rate. Growth in food production is however not in pace with the growing population and if some strong actions are not taken, the problems of food security and safety in Nigeria may become critical.

Furthermore, it came out from the study that the agricultural and livestock sectors are confronted with a multitude of challenges relating access to land for crop production activities, access to and use of quality farm inputs available to farmers at the right place, in the right time and at affordable prices. Other constraints include difficult access to information, capacity building and advisory services to farmers through a functional agricultural extension and advisory services. In addition, problems concerning climate change and the attenuating of its effects, difficult access to agricultural finance especially for women and youths, and dysfunctional and poorly organised markets for agricultural products were recorded. It also came out that despite these challenges; the Nigerian agricultural sector has huge opportunities that youths can seize to create jobs and wealth in the various communities.

However, the Agricultural Technical and Vocation Education and Training system is very weak and not attractive to youths who could be trained and motivated to take up agriculture as a career.



- Projections indicate that if the ATVET system is renovated and is functional in Nigeria, it can train and inject into the agricultural sector some **110 832 youths** in each state (plus the FCT) giving a total of **4,100,786 youths**.

The study recommended that a program be created and charged with the implementation of the ATVET renovation process, under the close supervision of competent Ministries, Departments and Agencies



CHAPTER ONE

1. CONTEXT AND JUSTIFICATION OF THE STUDY

1.1. The Nigerian socio-economic and policy context

1.1.1. Overview of the Nigerian economy

Nigeria with its population of some 201 million inhabitants, and GNI of about US\$400 billion, is ranked as the largest economy in Africa, ahead of South Africa. About 40 percent of the Nigerian population is under the age of 15, and the population growth rate is estimated at 2.6 percent per annum. Over the years, Nigeria has depended heavily on the crude oil industry, which accounts for some 2/3 of state revenues but only contributes to about 9% of her GDP and only about 2.7% of the world's oil supply (World Bank, 2019). Nigeria's per capita GNI for 2018 was \$1,960, a 6.67% decline from 2017. The dependence of the Nigerian economy on the oil and extractive industries has largely been to the detriment of the agricultural sector, which alongside the construction sector are highly labour and employment-intensive, therefore leading to high and growing unemployment, underemployment and poverty rates.

The National Bureau of Statistics (2018) estimated that unemployment rate in Nigeria averaged 12.31% during the period from 2006 until 2018, reaching an all-time high of 23.10% in the third quarter of 2018. These statistics further indicated that over 133.4 million Nigerians are living below the absolute poverty line (1.90 US dollars per day).

Presently, around 40 per cent of the potential working population in Nigeria is either unemployed or underemployed, with some 60 per cent of them being young people between the ages of 15 and 29. As the country faces a major population boom, it is estimated that it will become the world's third largest country by 2050 and that its current poverty and underemployment situation will further worsen.

Since 2004 and up to the first quarter of 2016, the Nigerian economy gradually slid into the path of recession with the contraction of economic activities resulting in the loss of over 500,000 jobs, a drop in labour productivity, stagnant wages, overall high cost of living and a decline in retail sales, among other effects (Noko, 2016). This prompted the government to launch in March 2017, the National Economic Recovery and Growth Plan (ERGP) for the period from 2017 - 2020. The plan set out to restore macroeconomic stability in the short-term and to undertake structural reforms, infrastructure investments and social sector programs to diversify the economy and set it on a path of sustained inclusive growth over the medium to the long-term.

In 2017, the Nigerian economy started to emerge from recession with a GDP growth of 0.8 percent. This recovery was driven by higher oil prices and production, increase in non-oil revenue generated from the agricultural sector, which contributed some 21.97% to nominal GDP. In 2017, agriculture grew by 3.4 percent while GDP grew by 1.9 percent in 2018.

1.1.2. Nigerian population dynamics and implications for agricultural transformation

According to the United Nation's Worldmeter (2019) population calculations, the population of Nigeria as at 2019 is estimated at some 200,963,599 inhabitants. This accounts for some



2.61% of the world population and places the country in 7th position in terms of country population. Considering that, Nigeria's land area is about some 910,770 km², the current average population density is estimated at 221 persons per km². The urban population of 102,805,995 people in 2019 (UN, 2019) accounts for 51.2% indicating that the rural population covers 47.8% of the total population.

The Nigerian population at independence in 1960 was estimated at some 45,138,438 inhabitants. The population grew to about 158,503,197 inhabitants in 2010 and attained 195,874,683 inhabitants in 2018 (respectively 3.5 times and 4.3 times the population at independence). Over this period, the annual population growth rate ranged from 2.0% to 3.0% with an average of 2.5%. The current annual population growth rate is estimated at 2.6%.

According to forecasts of the National Bureau of Statistic (NBS, 2018) and the UN (2019) Worldmeter, the Nigerian population is expected to rise to some 262,977,337 inhabitants in 2030 and 401,315,000 in 2050, moving the country's ranking up to 3rd position in comparison to global country statistics.

The sex ratio of the Nigerian population is estimated at 1.03 (males to females) given that males comprise 50.68% of the total population as against 49.32% for females.

Overall, the Nigerian population is youthful as about 62.88% is between the age brackets of 0 to 24. Whereas 43.49% of the population is 14 years old or below, 19.39% is aged 15 to 24 years. A dominance by the male population is observed up to the age group of 55 to 64 and those older than 65 years, where the female population is higher than that of males. The male and female population figures for different age groups are presented in table 1 below.

Table 1. Nigerian population statistics by age groups

| Age Group | Males | Male % | Females | Female % | Age Group's share of total population (%) | Total |
|--------------|--------------------|--------------|-------------------|--------------|---|--------------------|
| 0-14 | 44,678,404 | 51.12 | 42,720,665 | 48.88 | 43.49 | 87,399,069 |
| 15-24 | 19,806,846 | 50.83 | 19,159,996 | 49.17 | 19.39 | 38,966,842 |
| 25-54 | 30,768,713 | 50.53 | 30,123,258 | 49.47 | 30.3 | 60,891,970 |
| 55-64 | 3,990,607 | 48.67 | 4,208,708 | 51.33 | 4.08 | 8,199,315 |
| 65+ | 2,602,326 | 47.26 | 2,904,077 | 52.74 | 2.74 | 5,506,403 |
| Total | 101,846,895 | 50.68 | 99,116,704 | 49.32 | | 200,963,599 |

Source: UN Population Worldmeter (2019); NBS (2018)

The rapid growth in the population of Nigeria is often associated with unemployment and underemployment problems for the entire population in general and for youths in particular. In addition, continuously rising populations impose continuous pressure on resources, particularly on agricultural land resulting in fragmentation of farmlands into small plots to accommodate the growing farming population, deforestation, erosion and nutrient loss



which over time lead to soil degradation, a drop in the production capacity of the farmlands and hence a reduction in overall agricultural production.

Though the use of modern farming techniques and fertilizers could alleviate this problem, such alternatives are capital intensive and therefore in a situation where capital is deficient, their use is no longer feasible. For that reason, the traditional methods of farming tend to dominate agricultural practice in Nigeria. Inevitably, therefore, population pressure on a fixed factor like land would usher in diminishing returns leading to decreasing farm income and accompanying widespread poverty among the rural dwellers, incessant food shortages, food insecurity and insufficiency.

In order to provide food to the teeming population, government needs to engage carefully targeted strategies accompanying increases in agricultural production and the necessary enabling environment for rural transformation.

1.1.3. Nigerian youth demographics and implications for education and employment

Current World Bank estimates indicate that Nigeria is a relatively young country given that for both males and females, the median age is actually 18.4 years of age.

Adesugba and Mavrotas (2016) reported that a baseline survey conducted by the Ministry of Youth Development (MYD) in 2012 revealed that youths of ages 15 to 35 made up the largest proportion of the Nigerian population, with a gender distribution of 51.6% females and 48.4% males. In addition, 61% of male youths were single while 39% were married. Female youths made up the highest proportion (68.6%) of married individuals, while 31% of males were single. As concerns education, a total of 17.53% of Nigerian youths had no education whilst 4.3% of them had never finished their primary education. Some 13.48% and about 49.38% had respectively completed primary and secondary education as against 15.35% who had graduated from tertiary education (Figure 1 below).

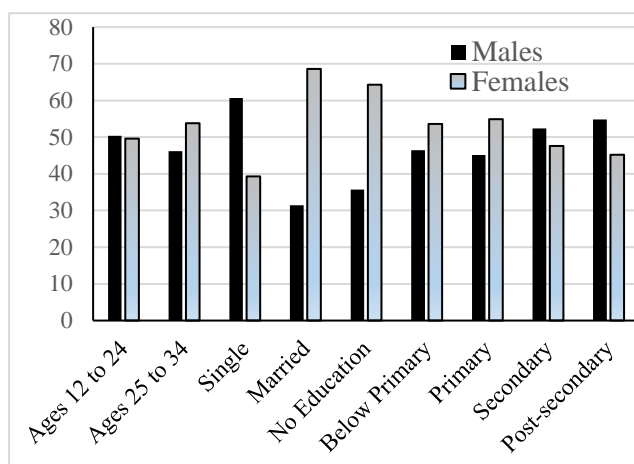


Figure 1. Characterisation of the Nigerian youth population (Adesugba and Mavrotas, 2016)

More precisely, 64.1% of youths between the ages of 15 and 19 were in school, whereas 21.3% had never been to school. It was estimated that among those between the ages of 20 and 24, 23.2% had attended school, while 20.2% never attended school. Only 9.0% of youths 25 to 29 years old were in school, and 28.4% had been to school before. In the same vein, only 4.3 % of youths between the ages of 30 and 34 were in school. Some statistics on school enrolment in primary, junior and senior secondary schools are presented in table 2 below.

Table 2. Summary statistics on enrolment in primary and secondary schools for the 2015 / 2016 school year

| Educational Institutions | Total Male | Total Female | Total M + F |
|--------------------------|------------|--------------|-------------|
| Primary schools | 13 435 940 | 12 155 241 | 25 591 181 |
| Junior secondary schools | 3 093 546 | 2 745 441 | 5 838 987 |
| Senior secondary schools | 2 147 192 | 2 058 117 | 4 205 309 |

Source: Nigeria Digest of Education Statistics (2019)

With regards to youth employment, Adesugba and Mavrotas (2016) reported that 13.7% of Nigerians in the labour force aged 15 to 24, and 8.2% of those aged 25 to 34 were unemployed. In both age groups, underemployment rates were even higher, with up to 30.6% among those aged between 15 and 24 years and 17.7% among the age group 24 to 34 years. 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.

The evolution of youth unemployment in Nigeria from 2008 to 2018 is presented in figure 2 below.

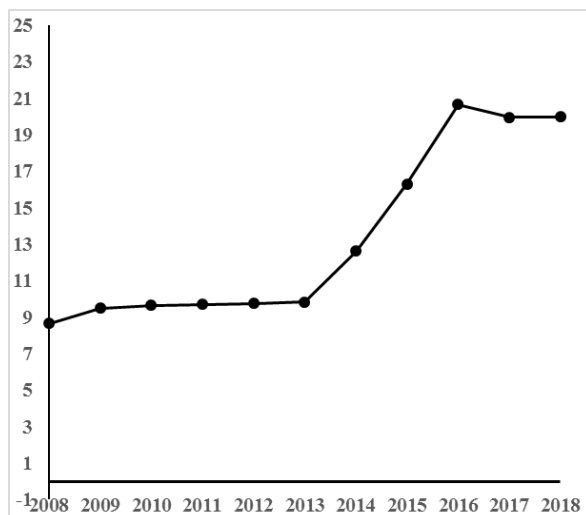


Figure 2. National Youth Unemployment Rates (15 - 34 years) by level of Education, 2008 - 2012

Over the period from 2008 to 2018, Nigeria has continued to experience a high rate of population growth with the resultant effect of a significant increase in the working age population. The proportion of youth who cannot find jobs also tends to increase with the increasing population of those at working age. According to Adebayo (2014) massive rural-urban migration by the youth is another contributory factor to this huge increase in the population of unemployed youths in Nigeria over the past 10 years. The rising number of graduates from tertiary education institutions who end up not being able to get employment further complicates the situation.

According to recent estimates by NBS (2018), the average number of new entrants into the Nigerian labour force is currently estimated at 1.8 million a year as against 1.1 million new jobs created, adding about 0.7 million people to the rank of unemployed a year. For youth employment to match the pace of population growth the World Bank (2014), argues that Nigeria needs to create between 40 - 50 million additional jobs by 2030. To reduce poverty and promote more inclusive growth, these jobs need to be more productive and provide higher incomes than were available in 2016.

Presently, the Nigerian public sector remains the largest employer of formal labour and as such, with cuts to government expenditure due to falling oil prices, the number of new jobs in the public sector will decline. The situation is very preoccupying because the majority of young adults in Nigeria are underemployed as they are locked into low-productivity and low-income work, with no job or income security. Income levels are insufficient to escape poverty, or attain middle class status for their households.

The problems of unemployment and underemployment among rural youths are more acute and are among some of the main drivers of their migration to urban areas.

1.1.4. Rural-Urban drift and impacts on agricultural and rural development

According to OECD (2018), the Nigerian urban population in 2016 was about 48.6% of the total population, a rise from 15.41% at independence in 1960. Conversely, the rural population dropped from 84.59% to some 51.40% over the same period. These dynamics were in greater part due to rural - urban drift.

Findings from diverse studies indicate that the rural to urban drift is selective of age, marital status, and educational background. With respect to age, rural exodus is high within the age cohorts of 15 to 35 years. Whereas, it decreases with age, and this may be due to the higher psychological cost for migration and the social responsibility associated with older people.

The primary reason for the movement is to seek better economic conditions and to escape the dearth in rural infrastructure, economic opportunities and the neglect suffered by the rural areas and especially agricultural communities. Rural - urban inequality or what may be



referred to as urban bias in development, results from the overwhelming concentration of wealth, assets, purchasing capacity, economic activities, and a variety of services in the urban centres as well as the continued neglect, degradation and deprivation of rural environments. The unattractive environment and conditions of the rural areas tend to **push** or **propel** especially young people out of the rural areas while the perceived attractive and conducive conditions of the metropolitan areas **pull** or **charm** them to a perceived better life.

This rural - urban drift has both negative and positive effects on the migrants themselves, their households, families and the broader community. Migration can act as a catalyst in the transformation process of not only the destiny of individual migrants but also the conditions of family members left behind, local communities, and the wider sending regions.


One significant source of development for the rural populace as a result of this increasing drift towards the cities is remittances. Migrants' remittances and the income multipliers they create are becoming critical resources for the sustenance strategies of receiving households as they tend to use the financial resources received primarily for current consumption (food, clothing) as well as investments in children's education, health care, improvement in housing, household food and security, and water and sanitation. Since most of these sending rural households depend solely on agriculture and other primary economic activities for their livelihood, the remittances received sometimes go to financing the purchase of farmland, the construction of infrastructure and implementation of production activities on the farm. As such, a steady supply of remittances is viewed with utmost importance in augmenting their farm proceeds and their other sources of livelihoods despite the fact that the amounts may sometimes be rather small.

Some of the negative impacts of migration on rural sending populations and communities are that it impoverishes the rural areas because the most able and often dynamic persons (generally youths of ages 15 to 35) tend to leave. On the other hand, migration can lead to a vicious circle of degradation as it generates smaller markets for local activities. Above all, migration creates labour shortages and since agriculture constitutes the primary occupation of rural populations, farm labour is significantly reduced and farm work which is generally considered as strenuous and degrading by the departing youths, is left in the hands of the old and ageing women, men and very young children. The outcomes are a drop in production and productivity of an agriculture, which is paradoxically expected to feed very large and ever increasing urban populations.

An FAO (2018) study on the linkages between migration, agriculture, food security and rural development revealed that in Nigeria, agricultural households have a higher chance (39%) of having a migrant compared with non-agricultural ones (29 %). The study further indicated that shocks such as the death, disability or illness of an income earner in the household tend to increase the probability for migration by 28%, probably, to alleviate income risks.

If nothing is done, food self-sufficiency and food security in Nigeria will take a serious blow in the face of the spectacular population increases particularly in urban areas.

The 2014 Malabo Declaration on Accelerated Growth and Transformation for Shared Prosperity and Improved Livelihoods is a recent governmental initiative, framed around a number of key commitments to improving agriculture across Africa over the next decade.



Among other endeavours, the Malabo Declaration pledges to create job opportunities for at least 30% of youths in agricultural value chains, and to support and facilitate preferential entry and participation for women and youth in gainful and attractive agri-business opportunities. To this effect, promoting innovative pathways for youth employment and entrepreneurship in rural areas is key for rural development so that rural youths may consider profitable alternatives in the agricultural subsector in rural settings to internal or international migration.

Unfortunately, however, agriculture, which could provide tremendous opportunities to these teeming young people in Nigeria, has been neglected and looked upon over the years as an occupation for the common, uneducated, poor peasant rural people.

In the face of persistently increasing poverty, rising unemployment and underemployment, increasing social vices and deprivation, government and all concerned stakeholders need to do something to reverse the situation and change the paradigm of youth involvement in agriculture.

1.1.5. Nigerian agriculture as the base of the economy


The metrics related to Nigeria's recovery from the 2016 recession indicate that agriculture has the potential to stimulate growth and support national efforts aimed at boosting the economy. In the first year of implementation of the Economic Recovery and Growth Plan (ERGP), the agricultural sector was the only one with positive growth contribution (about 24%) to the national Gross Domestic Product (GDP). It also grew by over 4% during the same period. But more importantly, agriculture employs over two thirds of the country's labour force.

Nigeria's Agriculture Promotion Policy (2016-2020) has identified two key gaps in agriculture: an inability to meet domestic food requirements; and an inability to export at quality levels required for competitive performance and market success.

As a result of the economic recession and subsequent scarcity of foreign exchange, manufacturers, industries and consumers were forced to source produce from within the country thereby, creating opportunities for farmers, agricultural dealers, processors and other actors involved in the agricultural value chains who inevitably had to respond to this demand. The growth currently being experienced in the agricultural sector is manifesting itself through increase in the cultivation of land for food production and dedication of more resources to livestock rearing.

It stands out clearly that in spite of the oil, agriculture remains the base of the Nigerian economy, providing the main source of livelihood for most Nigerians. Agriculture is thus one of the main drivers of the economy and of employment in the country. According to the FAO (2018) the Nigerian agricultural sector accounts for 84% of those employed in Nigeria, working mostly in family farms and private small businesses that are however not optimally integrated into the value chains.

While the Nigerian agricultural sector has strong potential to employ the labour surplus that the youth provide, it is faced with a myriad of problems affecting its performance. To further improve its attractiveness, the agricultural sector 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 in order to create jobs for youths.

1.1.6. Growth trends and major challenges to Nigerian agriculture

Over the past 20 years, value-added per capita in agriculture has risen by less than 1 percent annually. It is estimated that Nigeria has lost USD 10 billion in annual export opportunity from groundnut, palm oil, cocoa and cotton alone due to continuous decline in the production of these commodities which are generally considered as cash crops.

As concerns food crops, increases in production have not kept pace with population growth, resulting in rising food imports and declining levels of national food self-sufficiency (Abuka & Ebiemere, 2013). For example, Nigeria is one of the largest producers of rice in Africa and concurrently the continent's leading consumer of rice, but she is also one of the largest rice importers in the world. Rice is not only an important food security crop but is an essential income-generating crop for the majority of small-scale producers who commonly sell up to 80% of total production and consume only 20%. Rice generates more income for Nigerian farmers than any other cash crop in the country.

With regards to tuber crops, the country is the largest producer of cassava in the world, with about 50 million metric tons produced annually from a cultivated area of about 3.7 million ha. Nigeria accounts for about 20% of the world cassava production, and about 34% of Africa's production of the crop. Close to 65% of total production is in the southern part of the country where it is predominantly grown by smallholders on small plots for family consumption and sales at the local level. Large-scale commercial plantations of cassava are rare.


Livestock and fisheries development is an important component of Nigerian agriculture with abundant social and economic potentials. In spite of this high potential, domestic fish production still falls far below the total demand, which was estimated at 2.2 million metric tons per year in 2008 (FAOSTAT, 2018). As a result, the country imports about 60% of the fish consumed. To reduce the level of fish imports, aquaculture has been given particular attention as one of the priority value chains to be developed.

As far as livestock production is concerned, about 60% of the ruminant livestock population is found in the country's semi-arid zone and mostly managed by pastoralists. Domestic production of livestock products is far below the national demand, resulting in large imports of livestock and livestock products. Except for eggs, the domestic production of animal products is less than half the demand for beef mutton and goat meat, while for milk and pork products it is less than a quarter of the demand (NV20:2020, 2009).

1.1.7. Government policies and strategies for agricultural development

Prior to the mid-1980s economic development in Nigeria was largely rooted in development planning such that agricultural policies, programs and projects were given priority attention in the various plans. However, during the period from the mid-80s to the late-90s development planning was abandoned in favour of the structural adjustment plan. This opened the way for a diversity of policies and programs that have been conceived and implemented over specific eras.

In the period from 2001 - 2007 the National Economic Empowerment and Development Strategy (NEEDS I and II) was drawn up and implemented with the Presidential initiatives



aimed at developing selected agricultural commodities. This was followed by the Seven-Point Agenda (2007 - 2010) culminating in the preparation of the Food Security Strategy Document in 2009 which ushered in the need to lay emphasis on a value chain approach to agricultural development. During this period of strategic planning, the Nigerian Government also formulated sub-sector specific policies including:

1. the Land Resources Policy to guide the sustainable use of agricultural lands;
2. the National Cooperative Development Policy;
3. the National Agricultural Mechanisation Policy and;
4. the National Seed Policy which attributed to the private sector the primary responsibility for the multiplication and distribution of commercial seeds while government was responsible for the development of breeder and foundation seed, quality control and certification coupled with providing an enabling environment for the rapid development of the Nigerian seed industry.

In order to reduce rural exodus and empower the rural population to create jobs, wealth and contribute to poverty reduction, the National Policy on Integrated Development was formulated. This policy sought to integrate the Nigerian rural economy into the mainstream of the national development process through effective coordination and management.


From 2001 - 2009 some innovative programs and projects covering such areas of agricultural development as production, marketing, storage and financing were implemented. The most prominent of these programs and projects were the Special Program for Food Security (SPFS), the FADAMA II Program, the Presidential Initiatives on Cassava, Rice, Vegetable oil, Tree Crops and Livestock, the Fertilizer Revolving Fund (FRF) and the restructuring of the Nigerian Agricultural, Cooperative and Rural Development Bank (NACRDB).

In 2004, three key agricultural development and marketing companies were established. These included the Tree Crops Development and Marketing Company, the Livestock Development and Marketing Company and the Arable Crops Development and Marketing Company. Targets were among others, to strengthen agricultural production, provide useful marketing information and marketing outlets as well as storage and processing facilities.

To innovate and facilitate credit delivery, the Central Bank of Nigeria (CBN) developed new strategies based on the Trust Fund model with the aim of reducing risks faced by banks in agricultural lending for production, processing and marketing operations.

As a result of the implementation of these policies, strategies and specific initiatives, programs and projects, the agricultural sector recorded significant advances both globally and at the level of specific commodities. Notable, were the tremendous increases in the outputs of staples like maize, millet, sorghum, cassava, rice, vegetable oil and yam. Annual production of cassava for example increased from 33 million metric tonnes in 1999 to 46 million metric tonnes in 2006 while that of rice increased from 3.3 million metric tonnes to 4 million metric tonnes over the same period (FAO, 2017).

Despite these advances in agricultural development little attention was given to Agricultural Technical and Vocational Education and Training (ATVET), which could contribute substantially to further increasing productivity, creating opportunities for absorbing



unemployment and rejuvenating the ageing farming population by preparing youths to take up farming as a profession.

Before examining the past and current status as well as potentials of ATVET in Nigeria and the challenges that it faces, it may be very informative to first of all briefly review some literature on the broader Technical and Vocational Education and Training sub-sector in the country.

1.2. Overview of the Nigerian Technical and Vocational Education and Training system.

1.2.1. *Place of Technical and Vocational Education and Training (TVET) in the Nigerian educational system*


It is widely held that a nation's economic growth can be measured or analysed by the extent to which vocational training is embraced and developed therein. Vysotsky (2015) holds that technical and vocational education and training is the building of the knowledge, skills and professional attitudes of individuals in various fields in order to make them self-reliant, self-sufficient and independent.

The document of the Nigerian National Policy on Education (NPE, 2014) defines technical and vocational education as: *“A comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in relation to various sectors of economic and social life. Technical and vocational education is further understood to be:*

- an integral part of general education;
- a means of preparing for occupational fields and for effective participation in the world of work;
- an aspect of lifelong learning and a preparation of responsible citizenship;
- an instrument of promoting environmentally sound sustainable development;
- a method of alleviating poverty”

One of the key specificities of Technical schools is that they teach the theory and science behind various occupations, while Vocational training institutions on their part, take a more hands-on approach to teaching the skills needed to do the job successfully. Thus, vocational technical education can be defined as a training approach which encompasses knowledge, skills, competencies, structural activities, abilities, capabilities and all other structural experiences acquired through formal, on-the-job or off-the job training with the aim of enhancing recipients' opportunity for securing jobs in various sectors of the economy or even enabling the person to be self-dependent by being a job creator (Wright, 2017).

The Nigerian education system distinguishes technical education and vocational education as two different sub-sectors. In general, institutions in the technical education sub-sector are of tertiary but non-university level and have the role of educating middle-and technical-level manpower for commerce, industry, agriculture, health care and teaching.



The main role of vocational education in Nigeria is to train low-level workforce, such as operatives, artisans, craftsmen and master craftsmen for commerce, industry, agriculture and ancillary services. Vocational courses and programs are shorter, more focused and prepare trainees for immediate employment. They often result in a certificate of completion. This type of program focuses on a hands-on approach as well as teaching the learners general employment skills. The duration of the programs offered by vocational training centres is between 1 and 3 years, depending on the vocation.

Although the Nigerian educational sector is witnessing a proliferation of institutions at the primary, secondary and tertiary levels, not enough attention is paid to Technical and Vocational Education and Training (TVET), in spite of the existence of the National Board for Technical Education (NBTE) created in January 1977.

The NBTE was initially charged, among others, with coordinating all aspects of technical and vocational education falling outside the universities, determining the skilled manpower needs of the country in the industrial, commercial and other relevant fields, preparing periodic master plans for the balanced and coordinated development of polytechnics, determining financial needs of polytechnics, harmonising entry requirements, establishing and maintaining minimum standards in polytechnics and other technical institutions in the country. The board was later assigned the additional responsibility of accrediting academic programs in all technical and vocational education (TVE) institutions for the purpose of the award of national certificates and diplomas and other similar awards.

Government efforts for the development and promotion of technical and vocational education and training (TVET) did not pay off probably because Nigerians have historically considered it as an education programme meant for low level, less brilliant and less privileged or second-class citizens (Okoro, 1993, and Eze and Okorafor, 2012). Vocational Technical Education Curriculum according to Grubb (1985) has always had to battle against not only the resistance of academic curricula, but also the suspicion that they provide second-class education and respect to some individuals of lower class.

By 1993, there were clear indications that government needed to do something to realign technical and vocational education in the country.

Olakunri (2006) indicated that in order to achieve the objective of revamping and repositioning Technical and Vocational Education and Training (TVET) in Nigeria, the Federal Government came up with the strategy of using the Education Trust Fund (ETF), which was set up by law in 1993 to fund and upgrade the quality of TVE in the country. Over the period of 3 years (2005 - 2007) the Nigerian government through the Trust Fund, injected some ₦5 million into revamping and upgrading vocational and technical education in Nigeria, indicating the renewed interest in this domain and the resolute choice of encouraging Nigerian youths to embrace technical and vocational education (TVE) which is the direction the whole world is going now.

1.2.2. Structure of the Technical and Vocational Education and Training system in Nigeria

Formal Technical and Vocational Education and Training

The formal Technical and Vocational Education and Training (TVET) system in Nigeria is handled by institutions including Technical colleges, mono and polytechnics as well as

Vocational Enterprise Institutions (VEIs) and Innovative Enterprise Institutions (IEIs) which are all under the supervision of the National Board for Technical Education. With their 235 training institutions, Vocational and Innovative Enterprise Institutions occupy the first position (37.42%) Mono-technics account for 99 training institutions and are ranked 4th (15.76%). Technical colleges and Polytechnics come in 2nd and 3rd positions with 171 (27.23%) and 123 (19.59%) training institutions respectively. These data on formal TVET institutions in Nigeria as well as the number of programs and courses offered are provided in tables 3 & 4 below.

Table 3. Types and numbers of institutions delivering technical and vocational training in Nigeria

| Type of Institution | Education level | Ministry responsible | Number of institutions | Proportion (%) |
|---------------------|-------------------------|------------------------------|------------------------|----------------|
| Technical Colleges | Lower / Upper secondary | NBTE / Ministry of Education | 171 | 27.23 |
| Mono-technics | Tertiary | NBTE / Ministry of Education | 99 | 15.76 |
| Polytechnics | Tertiary | NBTE / Ministry of Education | 123 | 19.59 |
| IEIs / VEIs | Tertiary | NBTE / Ministry of Education | 235 | 37.42 |
| Total | | | 628 | 100 |

Source: UNEVOC (2019)

Table 4. Institutions, programs and number of available programs/courses offered as at June 2012

| Institution | Number of programs | Number of courses |
|---|--------------------|-------------------|
| Polytechnics, Mono-technics, Colleges of Health Technology | 11 | 94 |
| Technical Colleges | 10 | 41 |
| Innovative Enterprise Institutions (IEIs) and Vocational Enterprise Institutions (VEIs) | 8 | 20 |

Source: Temitayo & Fehintola (2018)

The entry point into the formal Technical and Vocational Education and Training system in Nigeria is the lower secondary level with vocational courses that are offered in such industry areas as welding and fabrication, carpentry, dressmaking, computer science etc. Trainees



are admitted on the basis of a pass in the Common Entrance Examination from primary school or the Primary School Leaving Certificate. The course duration is 3 years at the end of which graduates either seek work or go in for further technical training at upper secondary level.

The next level of training is the upper secondary level. The entry requirements at this level are a pass in the Junior School Certificate Examination. Courses are offered in Technical Colleges or Polytechnics and Vocational and Innovative Enterprise Institutions. Course work at this level lasts 1 to 3 years and upon graduation the trainees obtain the National Vocational Certificate or Trade Test. Graduates can seek work after obtaining their certificates.

Subsequent levels include the following:

- Programs offered at upper secondary level have a duration of 3 years leading to the National Technical Certificate / National Business Certificate and upon completion, graduates can proceed to TVET at post-secondary, non-tertiary level.
- Programs at post-secondary, non-tertiary level with a duration of 2 years that lead to the award of the National Diploma and National Innovation Diploma and open entry to advance TVET programs at the next level.
- Programs at post-secondary, non-tertiary level with a duration of 1 year leading up to the Advance National Technical Certificate and Advance National Business Certificate with the possibility for graduates to proceed to further education for the Professional Diploma;
- Higher National Diploma programs, which provide the possibility of advancing to the Professional Diploma and finally;
- Programs at the Professional Diploma level for a duration of 1½ years that enable graduates to proceed to the MSc level in the tertiary education system.

It should be noted that education levels above junior secondary are not strictly aligned with the International Standard Classification of Education (ISCED) approach, which are highlighted in the table below.

Table 5. ISCED and equivalent TVET education levels

| ISCED Levels | Equivalent Education Levels | ISCED Levels | Equivalent Education Levels |
|--------------|-----------------------------|--------------|---------------------------------------|
| 0 | Early childhood education | 5 | Short-cycle tertiary education |
| 1 | Primary education | 6 | Bachelors / equivalent tertiary level |
| 2 | Lower secondary education | 7 | Masters / equivalent tertiary level |
| 3 | Upper secondary education | 8 | Doctoral / equivalent tertiary level |



| | | | |
|---|--------------------------|--------------|--|
| 4 | Post-secondary education | non-tertiary | |
|---|--------------------------|--------------|--|

Source: UNEVOC (2019)

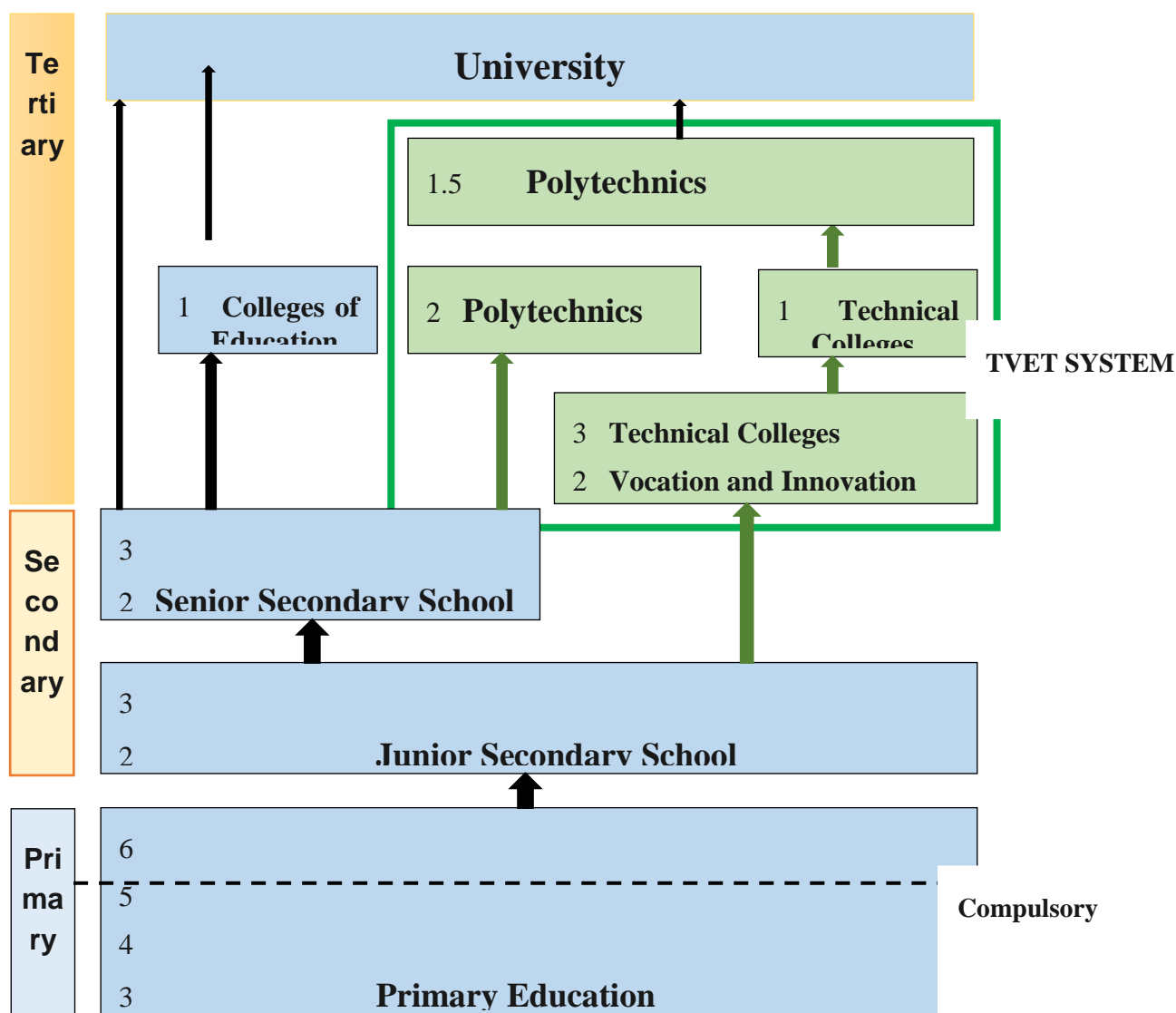
UNEVOC (2019) points out that the development, updating and assurance of the quality of curricula for the different levels of TVET in Nigeria is under the responsibility of the National Board for Technical Education (NBTE). The introduction of a new curriculum is initiated by the proposing institution, which submits a first draft that is reviewed at a pre-critique workshop and approved by the NBTE on the basis of the recommendations of the workshop.

Curriculum developers endeavour to integrate contents on technologies and related sciences as well as the acquisition of practical skills, attitudes, understanding and knowledge related to the different occupations targeted. However, the implementation of TVET curricula in Nigerian technical colleges does not seem to have been yielding the expected outcomes, as there are significant mismatches between labour market demands and the competency levels of graduates.

The possible routes or pathways that can be followed from basic primary to the tertiary (university level) education, through the general education and TVET systems are illustrated in figure 3 below.



Figure 3. Simplified representation of the Nigerian Education system with focus on TVET



Source: Adapted from AEI – NOORS (2019)

It should be noted that the education levels above junior secondary are not strictly aligned with the International Standard Classification of Education (ISCED) approach.

Non-formal Technical and Vocational Education and Training

The National Board for Technical Education in conjunction with the National Commission for Mass Literacy, Adult and Non-Formal Education (NMEC) and the National Directorate of Employment (NDE) offer non-formal Technical and Vocational Education and Training in Nigeria. Most of the programs that they have put in place target adults, adolescences and early school leavers and generally do not have any specific requirements with respect to entry. Certificates are delivered at the end of the training, which may target among others, such programs as arts and crafts, fabrication and welding, as well as livestock management. The basis of non-formal training in the different programs targeted is the 'Recognition of Prior Learning' (RPL). Participants acquire skills, which empower them forge ahead in life while continuing with life-long learning.



Informal TVET in Nigeria

In Nigeria, almost one in four children that enter primary school do not complete and cannot therefore proceed to the formal education system. Only the informal training pathway is open to them where, apprenticeships remain the most important form of skills development.

Apprenticeship is a contractual agreement undertaken by a master-craftsman (the trainer) and the apprentice (the learner) through which the apprentice is trained for a given duration on a prescribed work process through practical experience. It is a form of workplace learning, which enables the apprentice to have on-the-job training. The set-up for a training workshop is made up of the master (skilled trainer) and the apprentice (unskilled learner). The master has full control of the training generally without any input from the government.

Although there are very scanty official statistics on traditional apprenticeships, they provide the most significant form of training to informal sector workers and are likely to exceed other forms of vocational training providers by a very large margin.

Apprenticeships as a self-financed system, generally display high flexibility, combine work with learning, are accessible to youths with very little or no prior training, and are connected to the labour market in ways that the formal training systems find difficult to manage. However, their efficiency is hampered by the very little knowledge of the master craftspersons, who generally lack the ability to continuously upgrade their knowledge. In addition, the lack of standardized certification is problematic.


When the master craftsperson considers the apprentice qualified, he or she is released, usually with a certificate of qualification, but this does not comply with any official standards that can be recognized nationally.

1.2.3. Delivery of Technical and Vocational Education and Training in Nigeria

Delivery of training by Federal and State Technical Colleges, Mono and Polytechnics

The National Policy on Education (NPE, 2013) provides that the curricula of technical colleges shall be structured in foundation and trade modules and that the curriculum for each trade shall consist of five components including general education, theory and related courses, workshop practice, industrial training / production work and entrepreneurial training. The policy goes on to stipulate that for effective participation of students in practical works, the teacher-student ratio shall be kept at 1:20.

Considering that vocational education and training can be delivered at different levels of sophistication and that the system should respond both to the needs of the individual learners and those of the labour market, the curriculum for technical colleges has to integrate all of these issues. It should cater not only to the needs of different types of industries, but also to the different training needs of learners from different socio-economic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods. However, though UNEVOC (2019) indicates that curriculum for technical and vocational courses in Nigeria is developed in collaboration with the experts from the industry, vocational educators from the polytechnics and universities, and ministry officials, it would appear that the industry has not been closely involved in the process which may explain the mismatch between industry requirements in terms of knowledge, skills and attitudes and what graduates of the Technical and vocational education system exhibit upon



graduation. Curriculum development and implementation should permit the graduates to fit into any of the 3 options offered to trainees who complete technical college programmes as provided by the National Policy on Education.

These three options include:

- Securing employment either at the end of the whole course or after completing one or more modules of employable skills;
- Setting up their own businesses to become self-employed and thereby create employment for others;
- Pursuing further education in advanced craft / technical programmes and in post-secondary technical institutions such as Polytechnics, Technical Colleges of Education and Universities.

Delivery of technical training by Vocational Enterprise Institutions - (VEIs)

Vocational Enterprise Institutions (VEIs) which are private institutions admit candidates with a minimum of basic education certificate and cover multidisciplinary areas that prepare them for jobs in most industries. They are private institutions that offer vocational, technical, technological or professional education and training at post basic and tertiary levels to equip secondary school leavers and working adults with vocational skills and knowledge to meet the increasing demand for technical manpower, which the government cannot entirely satisfy. Their goal is to educate students to think creatively and transform knowledge through technological processes into wealth and a broader economic base. They run three-year modular programs, where each year of study could be terminal. According to the NPE (2013) VEIs cover all vocational and craftsmanship areas ranging from indigenous fabric making through welding, sheet metal works, motor vehicle repairs, domestic and industrial electrical wiring, construction, catering, performing arts, hairdressing and beauty through to art, fashion design, sport and agriculture among others. The qualifications obtainable are the National Vocational Certificate (NVC) Part 1, Part 2 and Final.

Delivery of technical training by Innovative Enterprise Institutions

Innovative Enterprise Institutions (IEIs) which are also private structures admit students with a minimum of 5 credits at senior secondary certificate. They run diploma programmes full time for a duration of 2 years, or part-time for durations of 3 to 4 years.

The primary role of Innovative Enterprise Institutions is to ensure that trainees obtain technical knowledge and skills that are relevant to specific industries to make them marketable or become entrepreneurs. For this, they teach practical skills linked to the needs of specific industry (tailoring, fashion design, software design, foundry, leather works, health, etc.) to their learners in order to enable them acquire professional skills, or forge their path through an alternative route to tertiary education.

Training in IEIs emphasizes the development of innovations using innate abilities and ensures that graduates understand how their expertise fits into improving the society and fulfilling national goals. The qualification offered by IEIs is the National Innovation Diploma (NID).

1.2.4. TVET skills qualification framework and quality assurance

Generally, a National Qualifications Framework (NQF) is the system that records the credits assigned to each level of learning achievement in a formal way so as to ensure that the skills and knowledge that have been learnt are recognised throughout the country. It is a set of principles and guidelines by which records of the achievements of learners are registered to enable national recognition of acquired skills and knowledge, thereby ensuring an integrated system that encourages life-long learning.

The objectives of the National qualifications framework are to:

- apply a single integrated national framework for learning achievements of all learners at a given level;
- facilitate access to, and mobility and progression within, education, training and career paths;
- enhance the quality of education and training, and
- redress any unfair discrimination in education, training and employment opportunities.


These objectives are designed to contribute to the full personal development of each learner and the social and economic development of the nation at large.

In the case of Technical and Vocational Education and Training, the three building blocks of the system include:

- A National Technical and Vocational Qualification Framework (NTVQF), which provides a structure for the TVET qualifications to be developed;
- An industry Sector Qualifications and Competency Standards Framework, which ensures that the graduates of the TVET system have the required skills and knowledge that meet the needs of industry;
- A national TVET Quality Assurance System that ensures all providers of TVET, including private and public meet the administrative and program delivery standards required by the Government.

In Nigeria, the National Skills Qualifications Framework (NSQF) is one of the portfolios of the National Board for Technical Training. The system seeks to develop, classify and recognize the skills, knowledge and competencies acquired by individuals, irrespective of where and how the training was delivered or how the skills were acquired. It gives a clear statement of what the learner must know or be able to do whether the learning took place in a classroom, on-the-job, or less formally. The framework indicates the possible points of comparison between different qualifications and how one can progress from one level to another, and provides the structure within which the National Skills Qualifications (NSQs) operate. The framework further aims to promote lifelong learning and ensure the provision of quality assistance and recognition (NBTE, 2019).

The importance of lifelong learning is its potential to enhance the employability of an individual in a context where the performance requirements for a particular occupation evolve significantly with time, while quality assurance is important because it ensures that



qualifications are designed to meet agreed criteria and that standards meet the specific requirements of the occupational sectors concerned.

1.2.5. Key challenges of Technical and Vocational Education and Training in Nigeria

Since the creation of the National Board for Technical Education (NBTE) in 1977 and the enacting of various decrees and instruments aimed at creating an enabling environment for the development and advancement of TVET in Nigeria (implementation of the national policy on education, decree No. 16 of 1985, together with the constitution of 1999, empowering the Ministry of Education to ensure Minimum Standards in technical and vocational education and training through the Federal Inspectorate Service (FIS) Department and other relevant services of the Ministry of Education, decree N°. 17 of 1991 formally establishing the National Commission for Mass Literacy, Adult and Non-formal education and decree N°. 31 establishing the Teachers' Registration Council of Nigeria - TRCN which became operational in June 2000), the technical and vocational education sector has rather been faced with a lot of challenges.

According to Egwu (2009) the most salient of these challenges include but are not limited to:

- Inadequate and obsolete infrastructure and equipment such as poorly equipped workshops, libraries and classrooms;
- Weak support structure for Students' Industrial Work Experience Scheme (SIWES),
- Staff shortages across board;
- Unattractive conditions of service for teachers;
- Inadequate funds for the implementation of TVET curricula;
- Inadequate collaboration between tertiary institutions;
- Unstable academic calendar;
- High incidence of examination malpractices and other social/academic vices;
- Inadequate capacity in the institution for internal/peer quality assessment and
- Brain drain or human capital flight.

Adavbiele (2016), argued that though the Education Trust Fund was set up to solve the bulk of these challenges, its very existence was seriously undermined by fraud, lack of proper accounting system and records, poor management and the lack of a suitable formula for the sharing of the funds among different tertiary institutions.

1.2.6. Mismatch between education / training and employment.

According to NISER (2013), the problem of graduate youth unemployment is critical in both urban and rural Nigeria. Generally, graduate youth unemployment has been high in urban as compared to the rural areas. This could be attributed to migration and the pull and push factors related respectively with urban and rural environments. In addition, considering that some 42.7% of the total population of unemployed youth in 2011 were graduates as compared to the current almost 50%, one can conclude that there is a significant mismatch between

education and especially agricultural technical and vocational education and training in Nigeria.

Still related to education and employment, from 2008 to 2012, over half of unemployed youths did not have an education past primary school level. This particular group has consistently accounted for over 50% of all unemployed youth. However, graduates of tertiary institutions also seem to be badly hit by unemployment too, as they account for about 20% of youth unemployment (NISER, 2013).

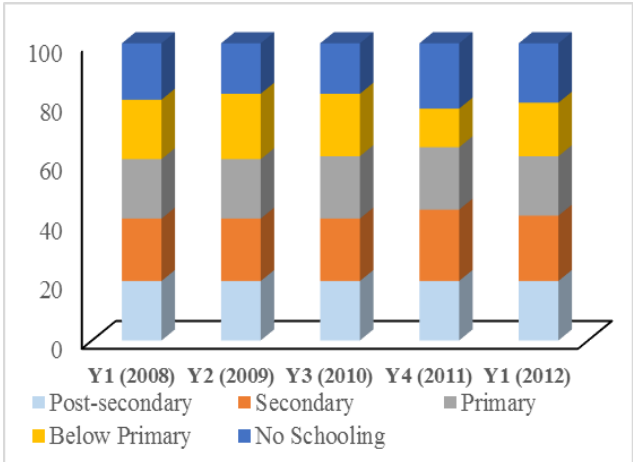


Figure 4. National Youth Unemployment Figures (15-34 years) by Education, 2008-2012

Table 6. Education and unemployment rates

| Year | Unemployment rate among graduates | | |
|------|-----------------------------------|-------|-------|
| | Rural | Urban | Total |
| 2003 | 8.3 | 17.3 | 25.6 |
| 2004 | 12.8 | 25.2 | 38.0 |
| 2005 | 13.3 | 19.0 | 32.3 |
| 2006 | 13.4 | 18.8 | 32.2 |
| 2007 | 13.4 | 18.7 | 32.1 |
| 2008 | 21.7 | 15.8 | 27.5 |
| 2009 | 19.8 | 19.2 | 39.0 |
| 2010 | 20.7 | 22.8 | 43.5 |
| 2011 | 25.6 | 17.1 | 42.7 |

Source: NISER (2013)

Unemployment rate among women in Nigeria has consistently been above the national unemployment rate since 2010. 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.

Despite the increasing level of unemployment and underemployment in Nigeria, between 2012 and 2014, over 3.1 million jobs were created in the formal, informal, and public sectors in the country (NBS 2014). With the estimation that over 1.5 million youth enter the Nigerian labour market annually, the rate at which jobs are created and the labour 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 de-creasing.



1.3. The need for improving Agricultural and Rural Training (ART) in Nigeria

The population of Nigeria is very high (201 million inhabitants) and is rising rapidly (at an annual growth rate of some 2.6%). This places the country in 7th position globally, with a 2.64% share of the world population. At this pace, it is estimated that Nigeria will become the world's third largest country by 2050. On the other hand, Nigeria's population is quite young as those under 15 years of age account for some 40% of the total population and it is expected that the population will get even more youthful over the next few decades.

In parallel to the high and rising population, the rate of unemployment and underemployment in Nigeria is very high (about 40%) with some 60% of those affected being youths. As a result of the inability of the labour market to absorb the youths seeking employment each year, an average of about 0.7 million of them are added to the ranks of the unemployed, leading to severe financial hardship and rising poverty. It is estimated that over 133.4 million Nigerians are living below the absolute poverty line of 1.90 US dollars per day.

Less favourable conditions in rural areas and the pull by opportunities and perceived better conditions in the country's urban centres have continuously attracted rising numbers of youths to urban towns in search of jobs. This has led to a rapidly growing urban population (currently estimated at 51.2%) against a declining rural population, which is progressively ageing, with fewer prospects of engaging in productive activities.

Since the 70s, Nigeria's economy has largely depended on crude oil and other extractive industries to the detriment of the construction and agriculture sectors which are labour intensive and unattractive to youths. Nonetheless, the contribution of agriculture to the Nigerian economy in her recovery from the 2004 to 2016 recession indicates that despite her rich oil resources, agriculture remains the base of the country's economy, providing livelihoods to the 84% of the population employed in the sector. This suggests that Nigeria's economic recovery and growth can be steadily propelled by the transformation of her agriculture.

However, Nigeria's agriculture is faced with a host of problems that have accounted for low production and productivity, which successive governments have tried to solve by formulating and implementing various policies. Prominent among the recent policies are the Agricultural Transformation Policy (2011 to 2016) followed by the Agricultural Promotion Policy (2016 - 2020) which have culminated to more or less mixed results.

The Economic Recovery and Growth Plan has singled out the transformation of Nigerian agriculture as a means of consolidating food security and food self-sufficiency. It is however clear that this transformation will only come about when the capacities and skills of small-scale rural farmers are continuously and sustainably upgraded. This requires carefully planned human capital development through training and capacity building.

In addition, government has targeted the development of small and medium sized agribusiness ventures by youths as a strategy for agriculture-based economic development. Whether these youths are new entrants into the field or are university graduates with the motivation to enter the sector, they require technical, managerial and entrepreneurial skills that can only be acquired through true professional training.



However, an underlying problem for agricultural transformation in Nigeria is the weakness of her Agricultural Technical and Vocational Education and Training (ATVET) system. While some attention was paid to Technical and Vocational Education and Training (TVET) in the past, very little attention has been paid specifically to ATVET given its specificities. This has left the system totally incapacitated and unable to deliver on the expectations of agricultural transformation.

A well-structured, adequately funded and operational ATVET system that is able to develop and uplift smallholder farmers through increased production and productivity, and to create and sustain decent jobs and occupations along key and emerging value chains, could be an instrument for the development and transformation of the Nigerian agricultural sector.

It is in a bid to improve the Nigerian ATVET system and the delivery of agricultural and rural training that responds to youth employment and the agribusiness development thrust targeted by government that the Federal Ministry of Budget and National Planning commissioned this diagnostic study with the following objectives.

1.4. Objectives of the study

The main objective of the study was to assess the Nigerian public and private, rural and agricultural vocational training system. Specifically, the study had to:

- Assess current challenges faced by rural dwellers in Nigeria, and identify key professions and needs in the rural sector (agriculture, livestock breeding, processing);
- Establish a diagnosis of the agriculture and rural TVET system, actors and initiatives in Nigeria;
- Map out donor interventions in agriculture and rural TVET and possible previous studies on that theme;
- Identify strengths and weaknesses, opportunities and threats of the agriculture and rural TVET in Nigeria;
- Propose terms of reference, based on the previous findings, for a feasibility study and action plan in support of the sector.

1.5. Expected outcomes of the study

The expected outcomes of the study were as follows:

- The Nigerian rural context and the challenges of Agricultural Technical and Vocational Education and Training (ATVET) sector are assessed;
- Priority needs in terms of skills and training are identified;
- Public and private vocational training system is mapped out:
 - Main characteristics of the overall plan link to the public policies (ERGP, SDGs);
 - Main characteristics of the ATVET centres and training offer (training design and planning, pedagogical and evaluation methods, training of trainers, main partnerships);



- Actors, organisation and steering are analysed and contact with them are taken;
- TVET environment is analysed, particularly its financing and governance;
- ➔ Main constraints are identified and principal ways of improvement of the ATVET system are mapped out;
- ➔ Terms of reference for a feasibility study and action plan in support of the Nigerian ATVET sector are written.



CHAPTER TWO

2. METHODOLOGY OF THE STUDY

2.1. Methodological approach of the study

The methodology of the study was more of a qualitative approach because it was essentially exploratory and was used to gain a clear understanding of underlying policies, strategies, choices made by the government as well as motivations and opinions of key actors of the Nigerian Agricultural Technical and Vocational Education and Training (ATVET) sector.

2.1.1. *Preparation of the study*

Initial contacts were made with the Nigerian parties through the intermediation of the AFD office in Abuja and the Executive Bureau of Réseau FAR International. This led to the identification of two Nigerian focal points in the persons of Mr. Aso Vakporaye and Mrs. Oluyide both Directors in the Federal Ministry of Budget and National Planning. The focal points were contacted and a list of potential stakeholders and actors to meet was drawn up.

Since the study was carried out at two levels (national and state levels) it was necessary that the focal points first of all identify potential stakeholders and actors at the National level in Abuja. These persons were met in order to obtain pertinent information on policies and strategies directed to agriculture and rural development, employment, wealth creation, poverty reduction in rural areas and the perception of the role of agricultural technical and vocational training on overall agricultural and economic development in Nigeria.

The state where the field visits had to take place had to be selected upon the arrival of the international consultant in Abuja.


2.1.2. *Literature review for collection of secondary data*

While progressing with contacts and arrangements for fieldwork in Abuja, the consultant carried out an elaborate literature review of documents obtained from the Executive Bureau of Réseau FAR International, the French Development Agency Office in Abuja, the Nigerian Focal Points and the internet. This literature review sought to develop a clear understanding of Nigeria's past as well as current agricultural and rural development priorities and her economic and social situation in order to give appropriate orientation to the field study. It also helped lay the groundwork for the collection and analysis of relevant data from various institutions, stakeholders and actors. The documentary review was done over a period of some 3 weeks prior to the field study, which was expected to take place from the 24th of February to the 4th of March 2020 (See plan of action below).

2.2. Collection and analysis of data

2.2.1. *Preparation of data collection tools*

Primary data was collected from field actors predominantly with the use of semi-structured discussion guides rather than structured questionnaires. The advantages were that discussions were conducted within a fairly open framework which allowed focused, conversational, two-way communication. The interviewer followed a guideline but also kept



track of topical trajectories in the conversation that sometimes strayed from the guide. Not all questions were designed and phrased ahead of time. The majority of the questions were created during the discussion, allowing both the interviewer and the respondent the flexibility to go into details when needed.

The discussion guides were drawn up to enable the consultant collect the most complete and accurate data in a logical flow through semi-directive discussions, in order to reach reliable conclusions at the end of the exercise. Discussion guides were prepared based on the list of stakeholders and actors to meet. However, considering the diversity of the respondents and the fact that some of them were only identified during the field phase of the study, it became necessary to progressively draw up the discussion guides as the study unfolded.

2.2.2. Preparation of data analysis framework

A data analysis framework was developed to facilitate the analysis of data from the field discussions. To operationalize this framework, respondents were grouped into categories. This categorisation permitted the collection of viewpoints from actors in structures, institutions and organisations with common characteristics so that easy comparisons were made between them. On the other hand, comparisons were made between categories in order to have a clear picture of the views of an array of stakeholders and actors across organisations.

The categories contacted are presented in table 7 below. They included among others representatives of institutions at Federal and State level, relevant actors of rural development, programs and projects, actors of the agricultural and rural vocational training system (agricultural colleges, technical and research institutes), national and state professional guidance structures; producers' associations (cooperatives and unions of cooperative) as well as beneficiaries of the training and socio-professional integration system.

Table 7. Categorization of actors of the study

| Categories of actors / stakeholders | Characteristics | Number of actors |
|-------------------------------------|--|------------------|
| Category 1 | Federal Ministry of Agriculture and Rural Development and related departments | 1 |
| Category 2 | Federal Ministry of Budget and National Planning (NEDS Program...) | 3 |
| Category 3 | Federal Ministry of Youth Development | 0 |
| Category 4 | Funding agencies | 5 |
| Category 5 | Local government structures | 1 |
| Category 6 | Non-governmental organizations | 2 |
| Category 7 | Agricultural development programs and projects | 4 |
| Category 8 | Professional organisations (Cooperatives, Union of Cooperatives, Chambers of Agriculture...) | 3 |
| Category 9 | Specialised companies / development authorities | 2 |
| Category 10 | Training structures | 10 |
| Category 11 | Beneficiaries | 4 |
| Total | | 35 |

Source: Author (2020)

The data generated was analysed predominantly based on qualitative exploratory analysis techniques. The analyses were founded on a number of constructs relating to agricultural development in Nigeria.

For this it supposed that at the national and state levels, appropriate policies and strategies are conceived and implemented in order to give orientation to the overall development of the country's agricultural sector. In general these policies aim at improving income in agriculture and income distribution among rural households in general and farmers in particular, increasing production and productivity, adding value to agricultural products, contributing to rural development and the demographic situation, creating wealth and employment and generating earnings through exports among others.

The policies and strategies are in some cases implemented through programs, projects or specific initiatives that require public-private partnerships. In addition government may have to create companies, agencies and authorities targeting the development of strategic commodities like staples, export crops, livestock and fisheries. To facilitate access to funding through financial markets, government's action could be directed towards creating,



restructuring and revamping existing financial institutions that would ensure credit delivery through innovative and attractive models.

It was supposed that if all of these actions are properly integrated at federal, state and local government levels, the outcomes would be significant increases in crop, livestock and fisheries production and productivity.

The study envisaged that the farmers must occupy centre stage and be provided an enabling environment where access to land, inputs, information, financial resources, advisory and support services ensure the sustainable growth and development of their farm enterprises, and the capacity to inject the necessary resilience into their production systems in case of shocks. On the other hand, farmers need to develop the required professionalism and also get organised into functional and professional structures like cooperatives or other types of cluster organisations.

The study posited that the development of human capital, knowledge, skills and professional attitudes require a combination all of the factors available, which can only be achieved through training, delivered by a system that is adapted to the learners' milieu, realities and constraints. It is through this training that farmers would ensure increased and sustained production and productivity, of quality agricultural commodities that would enter the value chains developed.

The study also supposed that if in addition to this training link, the targeted beneficiaries were the more youthful population, the outcomes would be the reduction of unemployment among youths through the creation of rural and urban jobs, the reduction of the rural-urban drift, the reduction of poverty and the overall economic development of the country.


The analysis framework proposed was quite simple as it did not take into account all the relations that are developed at different levels. However, even in this simplified framework, where any of the key links is absent or does not function as expected, the entire system would break down. Dysfunction or breakdown of the system would also occur if extraneous factors linked to the political, socio-cultural, environmental, trade and sub-regional variables set in. The proposed simplified analysis framework is illustrated in figure 5 below.

2.2.3. Sample and sampling techniques

Apart from staff of the Ministerial departments earmarked who were identified by the Nigerian Focal Points prior to the field study, actors from the other organisations and institutions were selected in a way as to be satisfactorily representative of their categories. Where such selection was not possible, the respondents recommended by the Nigerian consultant were involved in the study. In all, some 35 actors / stakeholders were involved in the study (See appendix 1 for details).

2.2.4. Conduct of discussions and analysis of data collected

Discussions were held individually with the respondents, but where feasible and considering the number, typology of respondents and time constraints of the study, focus group discussions were organised. In any case, discussions were conducted using the previously prepared discussion guides.



Each discussion started with the introduction of the consultants, the explanation of the purpose of the study and the assurance of the respondents with respect to the confidentiality of the information provided. In this way respondents were reassured and developed a frame of mind that facilitated their total participation in the discussion.

Lead questions were asked and from the answers of the respondents, the consultants probed further to deepen the questioning. The active listening and semi-directive approach was used to encourage respondents to talk freely while staying as much as possible on course.

The discourse of each respondent was carefully recorded and later transcribed and typed into the computer. Using the analysis framework the contents of the transcriptions were mapped out accordingly and the discourse of the different respondents examined for points of convergence or divergence.

Further analysis of the data from the study focused on the following issues:

- The Nigerian agricultural sector, major challenges, key rural occupations and farmer's needs;
- A characterisation of smallholder farmers and small and medium size agricultural enterprise and value chain promoters, their challenges and needs;
- The range of advisory and support services provided to smallholder farmers, small and medium agribusinesses and value chain promoters in order to identify those areas that could constitute serious drawbacks even where trained and competent farmers and entrepreneurs operate;
- The Nigerian ATVET system including its organisation, the key actors, strengths, weaknesses, opportunities and threats to the system in order to characterise the areas where improvements can be made;
- The factors that are a key determinants for the success of interventions aimed at improving the ATVET system.

2.3. Restitution of the study

At the end of the study, a restitution session was organised in the office of the Deputy Director of Natural Resources and S/T Economic Growth, of the Federal Ministry of Budget and National Planning. The key findings of the study were presented to the Nigerian party and the French Development Agency in Abuja. For, this a PowerPoint presentation was prepared and shared with the interested parties. A copy of this document was also submitted to the Executive Bureau of Réseau FAR for review and validation. Recommendations made during the presentation were carefully noted for integration into the interim and final reports.

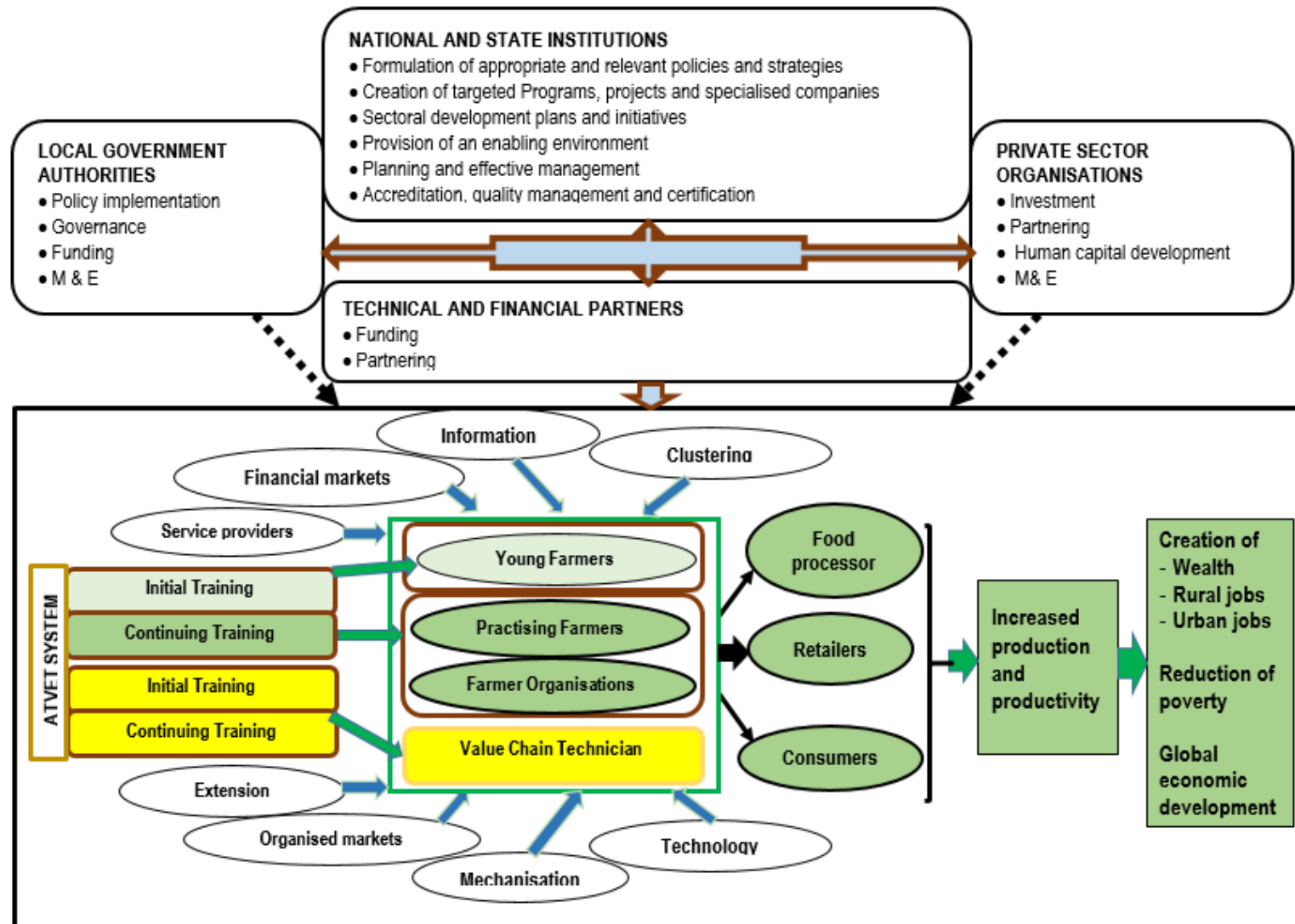
2.4. Elaboration of interim and final reports

This interim report was written at the end of the study and submitted to the Nigerian party, AFD Office Abuja and Paris, and the Executive Bureau of Réseau FAR International for review and comments. The review process led to amendments being proposed. These amendments



were integrated into the document, which was then consolidated, finalised and submitted as stipulated in the terms of reference of the study.

Figure 5. Simplified analysis framework for qualitative data collected; Source (Author, 2020)





CHAPTER THREE

3. RESULTS OF THE STUDY

3.1. The Nigerian agricultural sector, major challenges, key rural occupations and farmer's needs

3.1.1. The Nigerian socio-economic and policy context

Agro-ecological zones of Nigeria

Nigeria lies between latitudes 4° 1' and 13° 9' N and longitudes 2° 2' and 14° 30' E. The country is bordered to the west by Benin, to the northwest and north by Niger, to the northeast by Chad and to the east by Cameroon, while the Atlantic Ocean forms her southern limits.

Nigeria is divided into 6 geopolitical zones with their associated states as presented in table 8 below from the north to the south. It should be noted that the country has 36 states plus the Federal Capital Territory (FCT).

Table 8. Geopolitical zones of the country and associated states

| Geopolitical zones | Associated states |
|--------------------|--|
| North East | Borno, Yobe, Bauchi, Gombe, Adamawa, Taraba |
| North West | Sokoto, Kebbi, Zamfara, Katsina, Kano, Jigawa, Kaduna |
| North Central | Niger, Kwara, Kogi, Plateau, Nasarawa, Benue and the Federal Capital Territory (FCT) |
| South West | Oyo, Ogun, Ekiti, Osun, Ondo, Lagos |
| South East | Enugu, Ebonyi, Abia, Imo, Anambra |
| South-South | Edo, Delta, Bayelsa, Rivers, Akwa Ibom, Cross River |

Source: CGAP (2017)

The agro-ecology of Nigeria is commonly characterised by six distinct zones transiting in the north-south direction from the arid savanna in the north to the Atlantic coast in the south. These are the Sahel savanna, the Sudan savanna, the Guinea savanna, the derived savanna, the rainforests and the mangrove swamps of the far south. These 6 agro-ecological zones are sometimes grouped into three broad zones including: i) The northern Sudan Savannah; ii) The Guinea Savannah zone or Middle Belt; and iii) The southern rainforest zone.

Rainfall is uni-modal in the Guinea, Sudan and Sahel savannas and bimodal in the derived savanna, rainforest and mangrove zones of the country.

Based on rainfall and temperature the country can again be sub divided into eight sub-zones including the semi-arid, dry sub humid, sub humid, humid, very humid, ultra humid flood plains, mountainous and plateau zones, transiting from the north to the south. The key characteristics of these zones are presented in table 9 below.

Table 9. Characterisation of the agro-ecological sub-zones of Nigeria

| Sub-zones | % of country land area | Annual rainfall (mm) | Temperature (°C) | | Other characteristics |
|---------------|------------------------|----------------------|------------------|------|---|
| | | | Min. | Max. | |
| Semi-arid | 4 | 400 - 600 | 13 | 40 | <ul style="list-style-type: none"> → Soils yellowish brown or grey less leached and slightly acid → Soil texture generally coarse with iron pans at shallow depths |
| Dry sub humid | 27 | 600 - 1000 | 12 | 49 | <ul style="list-style-type: none"> → Organic matter content of the soils is relatively low, hence low fertility → Vegetation ranges from marginal to short-grass savannah suited for grazing |
| Sub humid | 26 | 1000 - 1300 | 14 | 37 | <ul style="list-style-type: none"> → Soils are deeply weathered and gravelly and low in fertility → Mostly acid to very acid with a considerable amount of organic matter → Vegetation is mostly scattered woodlands with shorter grasses and less trees in the North used for grazing |
| Humid | 21 | 1100 - 1400 | 18 | 37 | <ul style="list-style-type: none"> → Soils are light-textured and sometimes gravelly → Generally well drained, with an iron pan in some areas → Often shallow with low organic matter content and low fertility status → Vegetation is a mixture of trees and tall grasses |
| Very humid | 14 | 1120 - 2000 | 21 | 37 | <ul style="list-style-type: none"> → Loam to sandy loam deep soils with sandy clay loam or sandy clay subsoils → Soils rich in free iron but low in mineral reserves |



| | | | | | |
|------------------|---|-------------|----|----|--|
| | | | | | <ul style="list-style-type: none"> → High organic matter and nitrogen contents with good fertility → Luxuriant dense forest that is now being progressively reduced by human activity |
| Ultra humid | 2 | > 2 000 | 23 | 33 | <ul style="list-style-type: none"> → Typically deep soils with a sandy loam surface layer → Deeper layers are sandy clayey loam or sandy clay → Soils are rich in free iron but low in mineral reserves → Relatively high organic matter and nitrogen contents with good fertility → Soils in the mangrove areas are poorly aerated and water logged with high salt content from sea floods → Vegetation is dense rainforest |
| Mountains | 4 | 1400 – 2000 | 5 | 32 | <ul style="list-style-type: none"> → Soils are very shallow, mainly on steep slopes and often with exposed rock debris. → Very high risk of severe erosion |
| Plateau | 2 | 1400 - 1500 | 14 | 36 | <ul style="list-style-type: none"> → Soils are silty with very fine sand → Total nitrogen status of the soils is low to very low → High erosion and leaching of soils |

Source: FAO (2018)

This wide range of Nigeria’s agro-ecological zones offers a lot of opportunities for a diversity of crop production activities.

CGAP (2017) estimated that the crops grown by the highest proportion of smallholder farmers in Nigeria is maize (72% of farmers), followed by cassava (50%), yams (46%), beans (41%), millet (36%) sorghum (34%), paddy rice (24%) and taro (cocoyams) (21%).

In the humid tropical zone the major food crops are plantain, banana, rice, beans, maize and root crops such as cassava, yam, sweet potato, and cocoyam. In the sub-humid and humid middle belt, the main crops grown include cassava, yam, plantain, maize, sorghum and cowpeas while in the dry savannah zones of the north, sorghum, millet cowpeas and groundnuts are the most important food crops. In the south, the main export crops are oil



palm, cocoa and rubber. Furthermore, the low-lying and seasonally flooded areas of the south are increasingly used for swamp rice production.

3.1.2. Farming systems in Nigeria

In Nigeria farming systems are mainly smallholder-based and agricultural landholdings are fragmented and scattered such that farmers hardly have a piece of contiguous farmland that they cultivate. These systems consist among others of mixed farming (crops and animals), mixed cropping and several traditional cropping systems, which have evolved as responses to existing soil, climatic and social conditions (IITA, 2008).

Smallholder households are found in all of Nigeria's 6 geopolitical zones with 25% in the North central zone, 22% in the North West and 20% in the North East indicating that some 67% (more than 2/3) of smallholder farmers are in the northern part of the country. An equal 12% of the smallholder farmers are found respectively in the South West and South-south zones, while 9% are in the North Central zone.

This distribution of smallholder households explains why 66% of Nigeria's farmlands are located in the north, and the rest distributed between the middle belt and the south, with less than 1% of irrigated farmlands. Nigerian smallholders control some 80 to 90% of the country's farmlands, contributing immensely to food production.

There also exist medium and large scale farmers who account respectively for about 6% and 3% of farmers in the country. The characterisation of these different categories of farmers and their farms are presented in table 11 below.

Table 10. Characterisation of small, medium and large farms in Nigeria.

| Category | Size (ha) | Average size (ha) | Total holdings (%) | Area (%) | Irrigated area (%) |
|-------------------|-----------|-------------------|--------------------|----------|--------------------|
| Marginal farms | < 1 | 0.23 | 56 | 23 | 0.3 |
| Small farms | 1 – 2 | 1.42 | 24 | 36 | 2.2 |
| Semi-medium farms | 2 – 4 | 2.69 | 11 | 21 | 21.8 |
| Medium farms | 4 – 10 | 4.87 | 6.0 | 11 | 33.7 |
| Large farms | >10 | 13.51 | 3.0 | 9 | 42.2 |

Source: FMARD (2014); National Bureau of Statistics (2016)

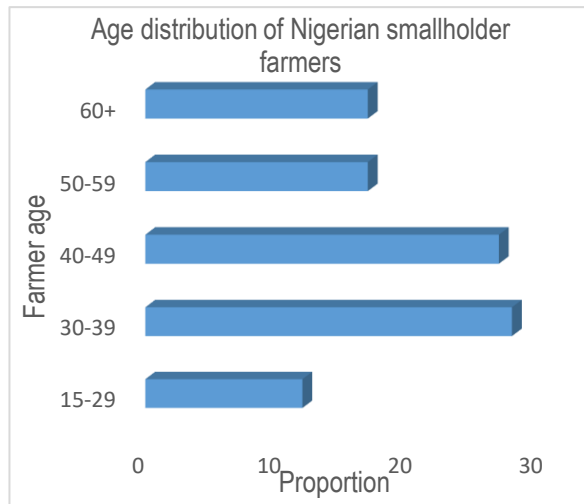
Typical farm sizes run by smallholder farmers are small, ranging from 0.5 ha (marginal) in the densely populated high-rainfall zones of the south to 4 ha (semi-medium) in the dry northern zones.

Smallholder farmers generally practise what is referred to as family farming as most of the factors of production (land, labour and capital) are provided by the family. The farm families therefore depend on the efficient use of the resources that are available to them, hence careful management of these resources is of the utmost importance for sustained production.

Majority (88%) of smallholder farm families are headed by men as against 12% of families that are headed by women with some 56% of them divorced, separated or widows.



Some 55% of the population of smallholder household heads in Nigeria are between the ages of 30 and 49 years while 33% are over 50 years old. Only about 12% of them are less than 30 years old. This clearly indicates that the population of Nigerian smallholder farmers is old or ageing with only a relatively small presence of younger farmers often referred to as ‘*next generation farmers*’. There is therefore an urgent need for the rejuvenation of this old and ageing population of farm labour in rural Nigeria.



Considering the high unemployment rates among Nigerian youths, farming could be an option for current and potential young smallholder farmers, but there is the need to create appealing opportunities, incentives and an enabling environment for them to enter and stay in the profession. Above all, they need to be trained and given the necessary competences to take up farming as a profession.

Figure 6. Age distribution among Nigerian smallholder farmers

The size of smallholder households tends to be large with an average of 5.5 persons per household. About 60% of these households have 5 persons or more, nearly 25% include 8 people or more while about 25% of Nigerian smallholder households include 4 or fewer persons. Table 11 and figure 7 below give more details of these household sizes indicating that households with 8 or more persons are in the majority (22%).



Table 11. Proportion of smallholder household sizes (Source: CGAP (2018))

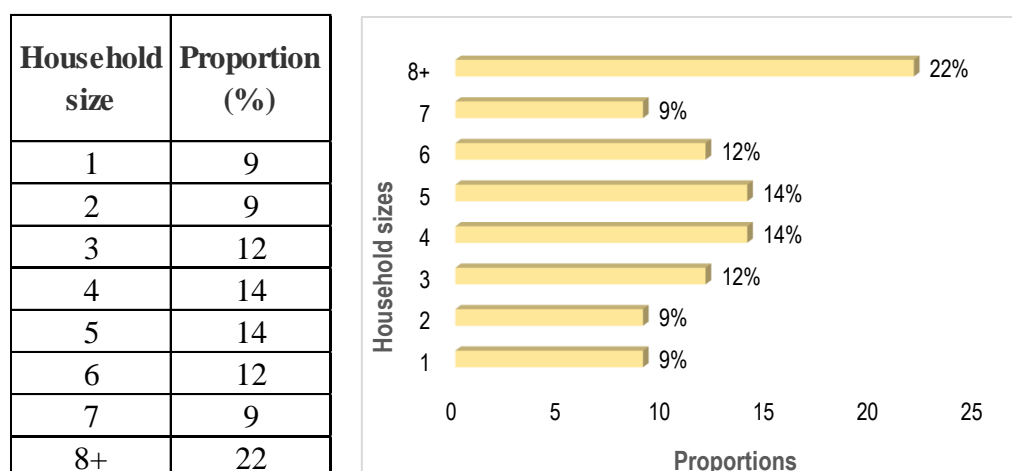


Figure 7. Representation of Nigerian smallholder household sizes

These large household sizes are significant because about 73% of households fall below the poverty line (the whole household lives on less than US\$2.5 per day), while only 27% of them are above the poverty line.

With respect to their level of education, it came out that 40% of smallholder farmers in Nigeria never attended school, 26% attended secondary school and 20% attended primary school while 5% of them attended higher levels of education. Only 4% of the farmers had attended post-secondary school as against 5% that had only been through some form of informal education.

The statistics on the level of education of smallholder farmers are very instructive as they indicate that although the majority of Nigerian smallholder farmers are currently uneducated, agriculture is not entirely reserved to illiterate persons. There are opportunities for educated youth in agriculture so long as they are motivated and have the relevant training, however, access to land and the necessary start-up capital are important determinants.

An analysis of land ownership by smallholder farmers across Nigeria revealed that 37.4% of them own individual land with purchase certificates, which provide solid security to the farmers. On the other hand, some 23.7% own individual land but under customary law, placing them in a precarious situation as concerns the security of their land. Some 27.1% of the farmers work on communal land with shared resources while only 0.3% of them farm on state-owned land. Some 6% of the farmers own farmland under other diverse arrangements.

Though a large number of farmers in the northern Guinea, Sudan and Sahel zones of Nigeria use ox-drawn ploughs for land preparation, there is overall little mechanization of farm work which imposes on farmers the use of rudimentary implements such as cutlasses and hoes to carry out most of their farming operations (FAO, 2018).

Generally, smallholders have limited access to inputs and other productive resources because they live in remote rural areas with difficult access. Consequently, they often use



simple, low-input technologies resulting in low productivity of land and labour and a continuous cycle of low income, low investment, low savings mobilisation and rising poverty.

3.1.3. Production of main crops in Nigeria

As concerns crop production activities in Nigeria, the Agricultural Policy Promotion document states that:

“First, the Federal Ministry of Agriculture and Rural Development (FMARD) will prioritize improving productivity into a number of domestically focused crops and activities. These are rice, wheat, maize, fish (aquaculture), dairy milk, soybeans, poultry, horticulture (fruits and vegetables), and sugar...”

“Second, FMARD will prioritize for export markets, the production of the following crops and activities: cowpeas, cocoa, cashew, cassava (starch, chips and ethanol), ginger, sesame, oil palm, yams, horticulture (fruits and vegetables), beef and cotton” (APP document, pg. 5).

Government policy for crop production is therefore focused first of all on domestic food crops that are key to food security and food self-sufficiency. Secondly, there is a clear determination on the part of government to transform export crop production that targets foreign markets, import substitution and export earnings.

Though the Federal Ministry of Agriculture and Rural Development determine the strategic nature of the crops grown in Nigeria, their production in various rural areas depends on the prevailing agro-ecological conditions and the comparative advantage that they offer in these localities. The preferences of the individual farmers with respect to the cultivation of these crops is also an important factor concerning whether they choose to grow them or not.

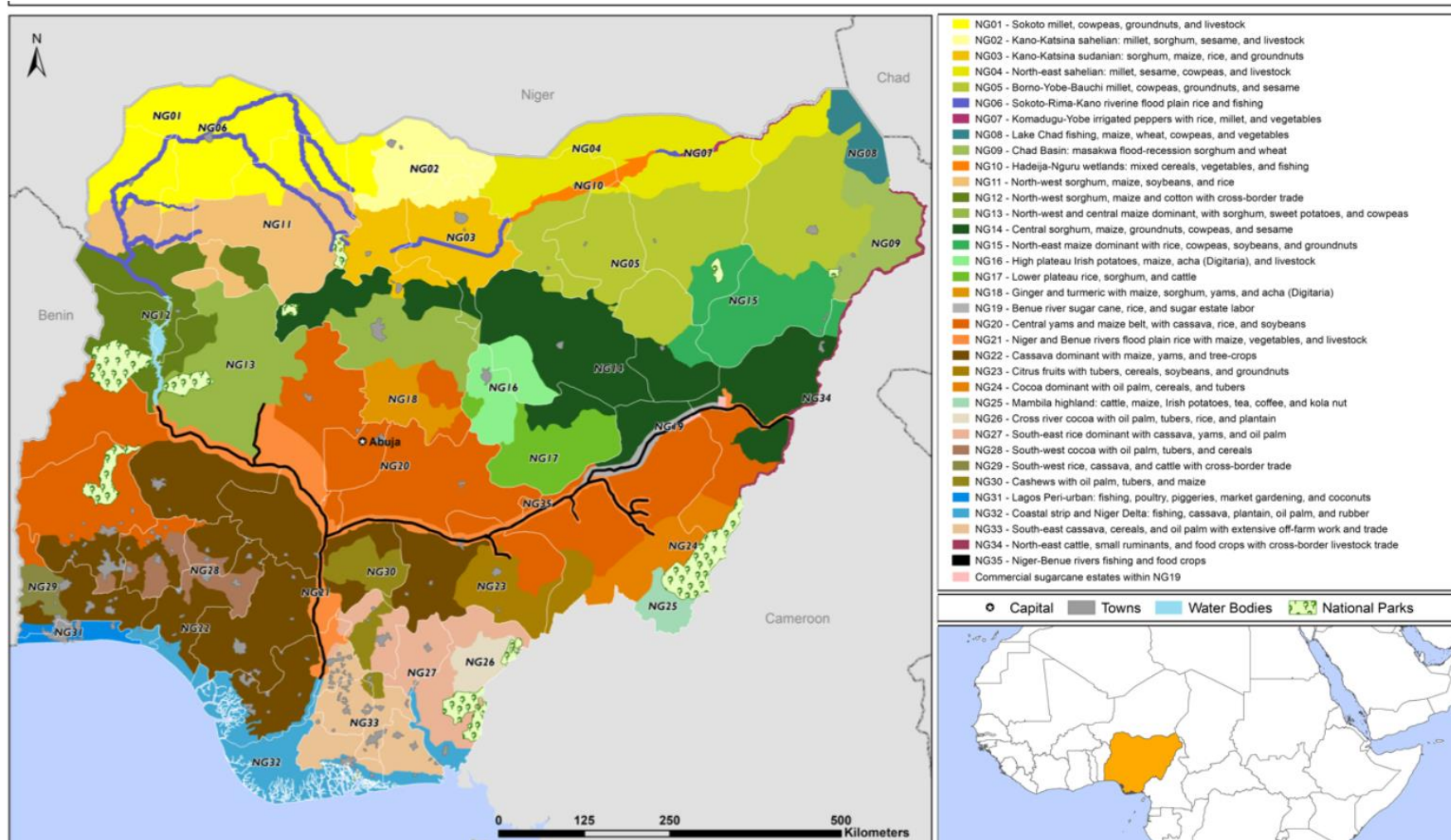
The USAID (2019) mapped out sub zones in which main crops are produced in Nigeria as summarised in table 12 and illustrated in figure 8 below. Details of the sub zones are presented in appendix 6.

Table 12. Summary agro-ecological sub zones and main crops grown in Nigeria

| Sub Zone Name | Crops grown |
|--|---|
| Sahel and Sudan Savanna (North-East, North-West) | Millet, cowpeas, groundnuts, sorghum, sesame, maize, rice, irrigated peppers, millet, vegetables, wheat, soybeans, cotton |
| Guinea and derived savannah | Maize, sorghum, sweet potatoes, cowpeas, groundnuts, sesame, soybeans, Irish potatoes, fonio, rice, ginger, turmeric, yams, sugar cane, cassava, vegetable |
| Southern rainforest | Cassava, maize, yams, fruit trees, citrus trees, groundnuts, oil palm, cocoa, tubers, soybeans, cereals, Irish potatoes, tea, coffee, kola nuts, plantains, rice, cashews, vegetable, coconut, rubber, sugar cane |

Source: USAID (2019)

Figure 8. Cropping zones in Nigeria



3.1.4. Crop yields and yield gaps

Yields of most of the crops grown in Nigeria are very low compared to the potential yields as determined by crop researchers. The 2018 production figures for some main crops in Nigeria and potential yields indicated by relevant research stations are presented in table 13 below.

Table 13. Average 2018 productions, harvested areas, yields and yield gaps of the major crops in Nigeria

| Main crops | Land area cultivated (ha) | Proportion of land area cultivated (%) | Production (Tons) | Farmer Yields (Tons/ha) | Potential yields (Tons/ha) | Yield gaps (%) |
|----------------|---------------------------|--|-------------------|-------------------------|----------------------------|-------------------|
| Cashew nuts | 61 248 | 17.51 | 97 863 | 1.6 | 2.5 | 36.0 |
| Cassava | 6 852 857 | 15.65 | 59 475 202 | 8.7 | 10.6 | 17.9 |
| Cocoa | 1 181 625 | 15.30 | 332 927 | 0.3 | 1.5 | 80.0 |
| Cotton | 321 315 | 12.40 | 291 207 | 0.9 | 4.0 | 77.5 |
| Ginger | 71 847 | 8.55 | 369 019 | 5.1 | 20.0 | 74.5 |
| Groundnuts | 2 911 705 | 7.44 | 2 886 987 | 1.0 | 2.5 | 60.0 |
| Maize | 4 853 349 | 7.14 | 10 155 027 | 2.1 | 6.0 | 65.0 |
| Millet | 2 795 829 | 4.37 | 2 240 744 | 0.8 | 7.0 | 88.6 |
| Oil palm | 1 329 527 | 3.40 | 980 000 | 0.7 | 12.0 | 94.2 ¹ |
| Potatoes | 371 341 | 3.02 | 1 363 358 | 3.7 | 25.0 | 85.2 |
| Rice paddy | 3 345 969 | 1.83 | 6 809 327 | 2.0 | 6.0 | 66.7 |
| Sesame seed | 500 000 | 1.28 | 229 167 | 0.5 | 1.0 | 50.0 |
| Sorghum | 6 125 132 | 0.95 | 6 862 343 | 1.1 | 4.5 | 75.6 |
| Sweet potatoes | 1 712 363 | 0.82 | 4 029 909 | 2.4 | 7.0 | 65.7 |
| Taro (Cocoyam) | 715 856 | 0.18 | 3 303 118 | 4.6 | 6.5 | 29.2 |
| Yams | 5 990 184 | 0.16 | 47 532 615 | 7.9 | 20.0 | 60.5 |

Sources: FAOSTAT (2018)

An analysis of the crop production figures presented in the above table brings out two key conclusions:

¹ Land area of about 150, 000 ha planted to oil palm by industrial plantations are not included



- In terms of land area cultivated to main crops by smallholder farmers, cassava is the leading crop grown on 17.51% of the cultivated land followed by sorghum (15.65%), yams (15.53%), maize (12.40%), paddy rice (8.55%), groundnuts (7.44%) and millet (7.14%). Oil palm and cocoa account respectively for 3.40% and 3.02% of the land area cultivated while the other crops including taro (cocoyams), sesame, potatoes, cotton, ginger and cashew nuts account for 5.55% of land put to cultivation;
- Yield gaps for all the main crops cultivated by Nigerian smallholder farmers are very high, ranging from 17.9% for cassava to 94.2% for oil palm, although the true range may likely be narrower owing to measurement errors that result sometimes in high or low values.

These high yield gaps have sometimes been attributed to biophysical factors such as nutrient deficiencies and imbalances, water stress, flooding, soil problems, non-respect of cropping densities, weed pressure, pest and disease attacks, poor quality seeds, unavailability of farm inputs and soil fertility management problems. Other factors that could be responsible for these high yield gaps recorded are lack of credit to acquire farm inputs in quality and quantity, limited time dedicated to farm activities and lack of mastery of technical, agronomic and farm management best practices by smallholder farmers.

This implies that even practising farmers need training which should be *delivered through the continuing training approach.*

3.1.5. Livestock production in Nigeria


The livestock industry as an important component of general agriculture is expected to be a key contributor to national development. The livestock industry as an important component of general agriculture is expected to be a key contributor to national development.

Livestock production in Nigeria is an important component of the country's general agriculture and is expected to substantially contribute to economic recovery and national development. In addition to the livestock sector's capacity to generate revenue for the state, the industry provides employment, food, farm energy, manure, fuel and transport. The livestock sector accounts for about 6 - 8% to the Gross Domestic Product (GDP). It contributes 20 - 25% to the value added of agriculture, and about 36.5% to the aggregate protein intake by Nigerians (FMARD, 2017).

Poultry and ruminants comprising cattle, goats and sheep, constitute those farm animals largely reared by farm families in the country's agricultural system.

Poultry is one of the main agricultural industries in the country and the most commercialized of the agricultural sectors, with a net worth of USD 1.7 billion per year (FRN, 2017). The industry comprises about 180 million birds - the second largest chicken population in Africa after South Africa - producing some 650 000 tons of eggs and 300 000 tons of meat in 2013. Nigeria's egg production is the largest in Africa (FAOSTAT, 2017). Furthermore, poultry meat and eggs are the most consumed animal protein; unrestricted by any religion or culture in Nigeria.

Smallholder farmers generally integrate crops and livestock in order to allow for nutrient recycling, as the animals can be fed to crop residues like straw, damaged fruits, grains as



well as other by-products that would have posed major problems with respect to waste disposal.

CGAP (2017) estimates that about 67% of farm households both grow crops and raise livestock. More than half of smallholder farmers raise livestock both for consumption and income, and a minority raise livestock for consumption only.

Rearing systems of some main livestock species in Nigeria

Livestock rearing systems in Nigeria range from extensive systems, which are very low in external inputs, through semi-intensive to intensive systems, which are high external input systems.

As concerns cattle, goats and sheep, extensive or free-range systems are dominant in Northern Nigeria and are generally nomadic pastoralist systems with herd sizes from 100 to 300 heads of indigenous breeds. Animals graze mostly on uncultivated pastures with herders moving them from one place to the other in search of pastures and water. No feed supplements are provided to the animals. Production is mostly for local consumption, targeting products like beef, milk, hides and skins, manure and horns.

Semi-intensive systems are common in the southern regions of the country and are mostly agro-pastoral systems in which animals are reared alongside crop production using mostly family labour. Herd sizes range from 20 to 100 head with mainly indigenous breeds of animals that graze on demarcated rangelands.

As concerns intensive systems, herd sizes vary from 50 to 500 cattle in small scale operations, from 500 to 1000 in medium size farms and more than 1000 in large ranches. Breeds are either crosses or selected local breeds and animals are fed with high-quality forage with feed supplements and biosecurity measures provided. Productivity levels are high but costs are also high (FMARD, 2018).

In poultry production extensive systems account for about 50% of the chicken produced in Nigeria and are mostly concentrated in northern Nigeria in smallholder backyards where production is subsistence-oriented for home consumption. Flocks are constituted of a multitude of local species characterised by quite rudimentary production and husbandry practices. Levels of egg production are low with just some 50 to 65 eggs/year.

Semi-intensive poultry production systems are mostly concentrated in the south and middle belt and account for about 30% of the population of chicken produced. Flock sizes range from some 50 to 2000 birds with both improved and local breeds. Farmers provide housing, feed, water and biosecurity to the birds, but productivity levels are medium to low. The chicken produced are mostly sold through informal market channels.

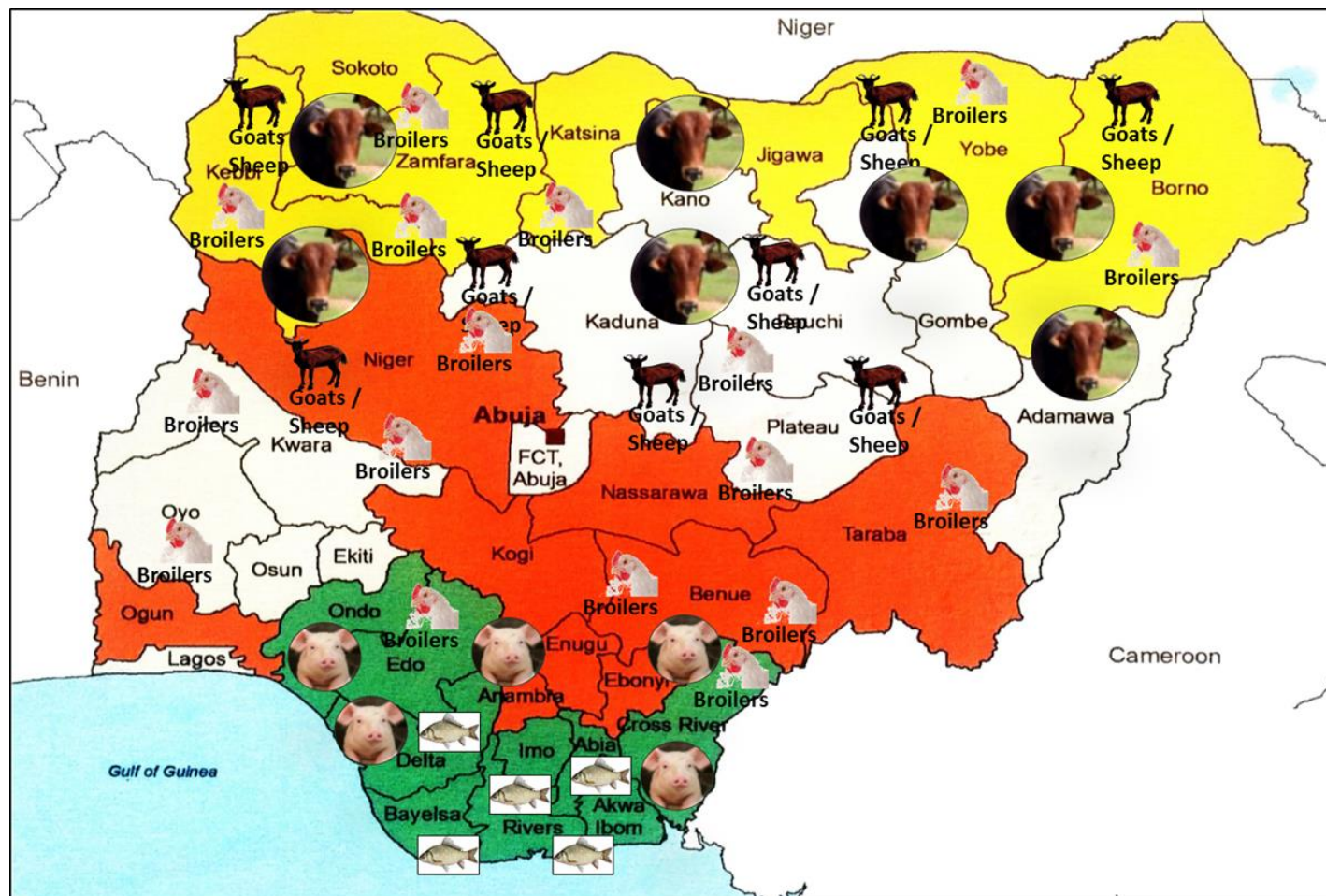
On the other hand, intensive poultry rearing systems are commercial, vertically integrated capital-intensive farms that account for about 21% of chicken produced in Nigeria. Such commercial farms are mostly in peri-urban and urban areas with some 2000 to over 100 000 birds of mostly exotic breeds. Some big farms have their own hatcheries, feed mills and processing units. Farmers provide appropriate housing, feed, water and biosecurity; though dangerous pathogenic diseases (Avian flu etc) have recently affected them. (PAN, 2018).



It comes out clearly that small subsistence farmers produce the largest share of animals in Nigeria and contribute most to national production. However, they are relatively inefficient, as they rely on indigenous breeds and use rudimentary production and husbandry practices. Consequently, there are major opportunities to boost productivity of the livestock sector, both through adopting enhancing practices and technologies within systems and through the facilitation of their movement from low-productive to more productive systems. **Farmers in livestock production zones will have to be trained to operate these shifts within systems and from lower to higher productivity levels.**



Figure 9. Livestock rearing zones in Nigeria



| Animal species | States of concentration |
|------------------------|--|
| Goats and Sheep | Sokoto, Kebbi, Kano, Jigawa, Katsina, Borno, Adamawa, Taraba, Kaduna, Cross River, Enugu, Kwara, Oyo, Osun and Anambra |
| Cattle | Sokoto, Kebbi, Kano, Jigawa, Katsina, Borno, Adamawa, Taraba, Kaduna and Cross River |
| Chicken | All 36 States and the Federal Capital Territory |
| Pigs | All Southern states |
| Fish | All states with water bodies, but the major regions are; Delta, Ondo, Rivers, Cross River, Borno |



Production figures of some main livestock species in Nigeria

Numerous physical, biological, socio-economic, technical and managerial factors interact to influence the nature and extent of animal husbandry practiced in any region including Nigeria. Climate can affect any animals' ability to survive and to be productive in many ways. Seasonal abundance of pasture in pastoralist systems imposes transhumance on cattle farmers, which may affect the level of production of their herds. Socio-economic conditions in a particular region impact on the consumption of particular species of animals and hence on their production. For example in Northern Nigeria, which is predominantly Moslem, pig production is very low because Islam does not encourage its consumption. Technical problems linked to disease control, reproduction management, nutrition, housing and the genetic quality of the stock can seriously impact on animal production.

Production figures of some major livestock species in Nigeria are presented in tables 14 and 15 below.

Table 14. Livestock production figures for poultry and cattle by system in 2018.

| Species | Extensive | Semi-intensive | Intensive | Total |
|---------|------------|----------------|------------|-------------|
| Poultry | 83 340 089 | 58 367 529 | 38 365 391 | 180 073 009 |
| Cattle | 17 211 309 | 3 889 804 | 283 548 | 21 384 661 |

Source: CGAP (2018)

Table 15. 2018 production figures of some main livestock species

| Animal species | Number of animals |
|-------------------|-------------------|
| Goats | 79 382 178 |
| Sheep | 42 971 860 |
| Cattle | 21 418 189 |
| Pigs | 7 499 165 |
| Poultry | 180 000 000 |
| Rabbits and hares | 4 678 |

An analysis of the livestock production data presented in the tables above leads to the the following conclusions:

- Smallholder farmers using extensive livestock rearing systems account for the bulk of the production of cattle (80.5%) and poultry (46.3%) as well as the other main and non-conventional livestock species in Nigeria;
- To keep pace with the increasing animal protein needs of the rapidly growing population of Nigeria, there is the need to substantially increase output from the livestock industry;
- For the production and productivity of these livestock species to be improved, smallholder farmers have to be trained in order to close the competency gaps they currently have. Capacity building for practising farmers will help them build resilience into their farming activities so as to move from low productivity to higher productivity



systems and thereby increase their farm income, mobilise savings, invest in quality and quantity inputs and eventually move out of poverty;

- Concurrently, initial training of young producers will capacitate them to enter directly into higher productivity livestock systems thereby increasing the number of farmers at that production level;
- In addition, appropriate support interventions must be provided in order to facilitate and sustain the scaling up of production, productivity, and the attraction of younger farmers who are more predisposed to use new technologies to boost production.

However, interventions should not be limited only to smallholder farmers, as this will not lead to the desired transformation of agriculture in Nigeria. They should also target practising semi-medium farmers to move them up to the medium level, and the medium farmers to consolidate and improve their entrepreneurship, agribusiness skills. In this way interventions will improve their ability to take up opportunities offered by existing or emerging value chains in order to contribute to the creation of wealth, and jobs, the development of their communities and the transformation of agriculture and the Nigerian rural milieu in general.

3.1.6. Fisheries production in Nigeria

Fish represents an important food component and one of the few sources of animal protein available to majority of Nigerians without limits. In 2015, the total fisheries production was estimated at 1 027 058 tons, to which marine catches contributed 36%, inland water catches contributed 33% and aquaculture 31%. The fishery sector contributed about 0.5% of national GDP that year (FAO FISHSTAT, 2018). Details are presented in table 16 below.

An analysis of the data presented in the table reveals that aquaculture has been contributing substantially to total fish production in Nigeria and has steadily increased over the last 17 years from just 25 718 tons in 2000 to 296 071 tons in 2017. Since 2000, total fish production has also been increasing steadily from some 467 095 tons to 1 212 355 tons in 2017.

Over the same period, consumer demand has been significantly higher than production. For example in 2010 demand was reported at some 2.66 million metric tons, with a per capita consumption of about 13.6 Kg, which was only met in part by imports of about 740,000 tons of fish.

Table 16. Statistics on fish production in Nigeria from 2000 to 2017

| Production systems | | Fish production from 2000 to 2017 | | | | | |
|--------------------|--------|-----------------------------------|---------|-----------|-----------|-----------|-----------|
| | | 2000 | 2010 | 2014 | 2015 | 2016 | 2017 |
| Captures | Marine | 309 062 | 323 599 | 405 362 | 372 457 | 357 099 | 496 206 |
| | Inland | 132 315 | 293 382 | 354 466 | 337 874 | 377 632 | 420 078 |
| Aquaculture | | 25 718 | 200 535 | 313 231 | 316 727 | 306 727 | 296 071 |
| Total | | 467 095 | 817 516 | 1 073 059 | 1 027 058 | 1 041 458 | 1 212 355 |

Source: FAO FISHSTAT



With the rising population of Nigeria, there is an associated increase in fish demand which has induced a clear national demand-supply gap that has been bridged by fish importations which cost the country's economy huge amounts of money. For instance, FAO FISHSTAT (2018) estimates that the Nigerian economy lost some 9.7 million US dollars to fish imports over the period from 2010 to 2017, with a per annum average of some 1.2 million US dollars.

An analysis of this situation clearly indicates that importation is not a sustainable solution to bridging the fish supply gap in Nigeria. The long term solution to this domestic fish supply gap lies in boosting domestic production through the training of farmers and young entrepreneurs and empowering them to take up and promote fish farming that is grounded on best practices of aquaculture and farm business management approaches.

3.2. Non-farm rural occupations and jobs

3.2.1. Diversification of rural employment in Nigeria

Agricultural activities constitute the major occupation of rural households in Nigeria. However, as most of these households cannot depend solely on agriculture to generate sufficient income to take care of their needs, they expand their activities to non-farm employment. Oluwatayo (2015) estimated that on average 37.4% of the rural populations in Nigeria depend on agriculture for livelihood with 40.5% male-led households and 33.3% female led households.

Furthermore, 13.1% of the rural population depend on trading while those in the civil service account for some 9.3% as against 10.7% of people in private salary jobs. Artisans account for 29.5% including 30% of males and 29% of females. The artisan occupations include pottery, carpentry, shoemaking, bricklaying, hairdressing and barbing, blacksmithing, weaving / basketry, tailoring, laundry, transportation, plumbing, electricity works, tiling, etc.

More details on the diversification of rural occupations are given in table 17 below.

Table 17. Sources of livelihood in rural Nigeria

| Livelihood sources | % Total | % Male | % Female |
|--------------------|---------|--------|----------|
| Farming | 37,4 | 40,5 | 33,3 |
| Trading | 13,1 | 11,4 | 15,3 |
| Civil service | 9,3 | 8,4 | 10,4 |
| Private salary job | 10,7 | 9,7 | 12,0 |
| Artisans | 29,5 | 30,0 | 29,0 |

Source: Oluwatayo (2015)

According to the ILOSTAT (2019), the proportion of Nigerians who are employed² in agriculture has been declining steadily over the years from some 49.93% in 1991 to 36.38%

² Employment is defined as persons of working age who are engaged in any activity to produce goods or provide services for pay or profit, whether at work during the reference period or not at work due to temporary absence from a job, or to

in 2019. Concomitantly, the proportion of males employed in agriculture has dropped from 53.5% to 44.89% while that of females has also dropped from 45.09% to 26.14%. The evolution of these statistics of employment in agriculture are illustrated in figure 10 below.

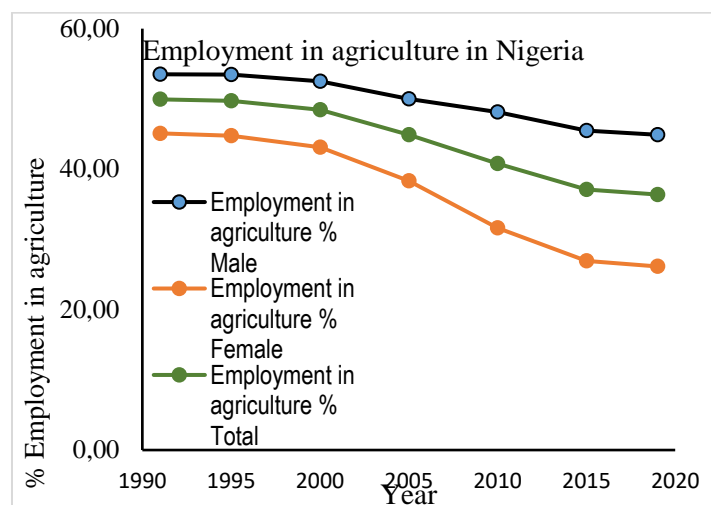


Figure 90. Evolution of employment in Nigerian agriculture

From the analysis of these statistics, it comes out that non-farm activities tend to influence agriculture because farm labour is sometimes deployed to the non-farm sector for such activities as storage, processing, transportation, distribution and marketing of agricultural products.

3.2.2. Prospects of job creation by SMEs in rural Nigeria


Whereas ILO argues that fewer women are “employed” in agriculture (*producing goods or providing services for pay or profit*) in Nigeria, they actually form the backbone of the sector, providing an estimated 60 - 80% of all labour (especially in subsistence-oriented farming). However, they have less access to resources and limited decision-making power over their plots resulting in a gendered gap in harvest value and hence in farm income.

Women are therefore more likely to be involved in small household and non-farm enterprises that tend to generate low productivity and offer less potential to grow, adapt and change.

The prevalence of non-farm enterprises in rural areas of Nigeria is high, but only 10% of them employ paid labour. In 2015, some 63% of all households were operating non-farm enterprises (NFEs), including many rural households that were also otherwise engaged in agriculture (World Bank, 2018). This rate was particularly high in the South West (74%) and North West zones (67%) of the country.

In rural Nigeria NFEs present options for a dual economy (farm and off-farm activities, with the majority operated by a single person (called household enterprises). Only a small fraction of these enterprises hire workers who are not members of the “household” (World Bank,

working-time arrangement. The agriculture sector consists of activities in agriculture, hunting, forestry and fishing (ILO, 2019).



2018). Prospects for job creation depend on the success and well-being of these micro enterprises, which in turn depend on the socio-economic characteristics of the owners.

Given the high proportion of households engaged in agriculture and operating non-farm enterprises, the World Bank (2018) estimates that agricultural revenue has a direct bearing on the well-being of 40% of Nigeria's enterprises, and 50% of the labour force.

Women are more likely to be involved in these small household enterprises, which generally exhibit low productivity and dynamism (potential to grow, adapt and change). On the contrary, men with higher educational attainment are more likely to operate medium type enterprises, which are larger than household enterprises in size, sales, and capital use, and seem to be better able to grow and to create additional jobs.

Women involved in medium agribusinesses, tend to make different strategic decisions, choosing low risk activities that can be entered with low levels of investment and which generate more profits. Ekerebi and Adeola (2017) established a gender gap in profits as high as 39% between female-led and male-led small and medium enterprises in Nigeria.

This indicates that if rural farming women are given relevant capacity building in agribusiness including crop and animal production, natural resource management, farm management and financial literacy, their levels of production and productivity would significantly improve. They will better manage the income generated and will consequently uplift their standards of living and those of their families and contribute to the economic growth of their communities as a whole.

3.3. Current challenges and potentials of the agro-pastoral sector in Nigeria

3.3.1. Major challenges of the agro-pastoral sector

Because of the major divestments in the agricultural sector following the oil boom in the 1970s, the sector faces many challenges. The key challenges relating to crop production are presented in the section that follows:

Challenges relating to crop production

1. Ensuring food security and food self-sufficiency for a rapidly growing population

Food security is a current issue in Nigeria as the cost of food imports in the country has been growing at an alarming rate. According to FAO (2019), between 2004 and 2006, the total number of undernourished Nigerians was 9.1 million. This number jumped to 23.1 million people (11.5% of the total population) corresponding to a leap of 281.32% in the period between 2016 and 2018. Wasting and stunting in children under 5 years of age is estimated at 10.8 and 43.6%, respectively (SOFI, 2018)

Between 2007 and 2010, the country's food imports were estimated at some 98 trillion Nigerian Naira (NGN) (about US \$628 billion). In 2010 alone, Nigeria spent NGN 632 billion on wheat imports, NGN 356 billion on rice imports, NGN 217 billion on sugar imports and NGN 97 billion on fish imports (Akinwumi, 2013).

However, data from the Central Bank of Nigeria showed that food importation figures dropped drastically to US \$6.5 billion in 2018 (Popoola, 2018). These apparent substantial improvements notwithstanding, the overall picture is that Nigeria is grossly food and



nutrition insecure with the constant danger that the country could slip into acute food insecurity without warning due to the erosion of agricultural productivity by national insecurity.

Food insecurity prevalence in the low-income urban households stands at 79% while in the rural areas it is estimated at 71%. The rural areas have become even more vulnerable to malnutrition, erratic supply of food items, unaffordable food costs, low quality foods and sometimes complete lack of food. This situation is more prevalent in many parts of the northern regions of Nigeria prone to the ongoing crisis.

As Nigeria's population, with its growth rate of 2.6% continues to expand, the food and nutrition requirements of the country will also increase with the likelihood that food and nutrition insecurity might assume alarming dimensions if firm mitigation measures are not put in place.

The challenge here is that the bulk of food production in Nigeria is in the hands of smallholder farmers who use inefficient systems, leading to low production and productivity. This difficult situation is further compounded by growing investments in the use of arable land for biofuels production, to the extent of losing more than 136,000 ha of land that could have been used in producing food crops for human consumption.

The overall implications of these trends will be unfavourable terms of trade against Nigeria, desertification, increased adverse effects of climate change leading to increased poverty, and the disempowerment of indigenous citizens, who will be left with less land for food production.


2. Access to land for crop production activities

Land tenure systems in Nigeria are outdated as the last land act dates as far back as 1978. This implies very difficult access to land especially by youths who are motivated to take farming for a livelihood. The land system is characterised by several actors including government, community leaders, families, lawyers, middlemen and estate agents among others. While the urban land market is relatively more formal, the rural land market is informal and in most cases the transactions are not documented thereby making ownership rights sometimes questionable as tenure security is low.

According to the World Bank (2014), majority of the landowners in Nigeria (71.2% males and 68.4% females) inherited it from their families, while only 7.0% of males and 2.2% females purchased the land they own. On the other hand, some 6.8% of males rent land as against 11.8% females, while 7.1% of males use land offered by their communities as against 5.9% of females. Some 7.9% of males use the land that they can have access to, free of charge as against 11.8% females. Generally, this land is owned either by the state or by the local government authority.

With respect to land ownership structure in Nigeria, men typically own more land compared to women. It is indeed much easier for men to access land than women, however, women are more predisposed to rent land or use state-owned or local government-owned land free of charge for their farming activities so long as they can have access to it.

As the population continues to grow while arable landmass remains fixed, the key challenge will be how to increase crop and animal production to cover the food needs of all Nigerians.



This is especially critical in a context where fragmentation of smallholder land into small holdings (an average of 1.8 ha of land per farming household), imposes huge constraints to mechanisation or production operations.

3. Access to and use of quality farm inputs available to farmers at the right place, in the right time and at affordable prices

Quality certified seeds that yield better and are more tolerant to pests and diseases are not readily available to smallholder farmers in their remote localities, at the moment they need them and at affordable prices. There are some 32 private licensed seed companies in Nigeria with about 13 main ones, which provide about 50% of the total certified seeds marketed by the formal seed sector, but cover only about 3 - 5% of the total seed requirements for the entire country.

Nigerian farmers require an estimated 1,000,000 metric tons of improved seeds each year to grow cereals and pulses, compared to the 20,000 to 50,000 tons currently supplied through the formal sector, which accounts for about 2 - 5 % of the volume of seed needed (World Bank, 2015). The gap in quality seed provision is enormous and must be covered if farmers' crop production and productivity must be increased.

To fill this gap between seed supply and demand, farmers turn to farm-saved seed and planting material (seeds *saved from previous growing seasons or obtained from other farmers*) which is often of poor quality, resulting in low crop stands and low productivity of land and labour. Though private seed companies could have been very instrumental in closing this gap, they survive under very unfair competition from subsidized seed supplied through Agricultural Development Projects (ADPs), and a debt load created by government seed procurement programs that delay payments to the private companies for seeds supplied or in some cases do not honour their commitments at all.

In addition, low soil fertility and inadequate access to fertilizers (both organic and inorganic), in combination with inefficient fertilizer procurement, distribution and use contribute to further lowering of crop yields and consequently increase the yield gaps described earlier.

Fertilizer consumption in the country is low, estimated at about 600,000 - 700,000 tons annually compared to the potential market size of about 10 - 12 million tons. Available information suggests that only 11 - 30 % of subsidized fertilizer reaches smallholder farmers at the subsidized price. The parallel sales of "subsidized" and "market" fertilizer tend to create an avenue for the lower priced subsidized fertilizer to be diverted for sale at higher market prices that cannot be afforded by the majority of smallholder farmers.

As concerns farm mechanization, the 14 million farm households and farmers' groups in Nigeria use an estimated 30,000 tractors. This represents a ratio of 1 tractor to some 467 farm households or 0.1 tractor to 1 km² of arable land. When these ratios are compared with those of South Africa (43 tractors per km²), Brazil (116 tractors per km²) and India (128 tractors per km² of arable land), it comes out clearly that the level of mechanization of Nigerian agriculture is very low.

The low level of processing of agricultural produce that adds value and creates jobs is another impediment to developing the sector. It is estimated that Nigeria loses significant



values of between 15 - 40% of its post-harvest output due to its inability to process most of the farm produce and lack of efficient storage and transport systems particularly in the rural areas.

The key challenge here is how to provide seeds, fertilisers, tractor services and transformation equipment to smallholder farmers in their different localities in the quantities and quality required, at the appropriate time and at prices that are affordable.

4. Access to information, capacity building and advisory services to farmers through a functional agricultural extension and advisory service

Nigeria has the largest National Agricultural Research and Extension System (NAERES) in Sub-Saharan Africa today yet, there is little sustainable agricultural growth that would ensure national and household food security and improved rural livelihoods. Compared to the Food and Agriculture Organization (FAO) best practice of one extension agent serving between 500 and 1,000 farm households, the current ratio of extension agents to farmers in Nigeria is between 1:5000 and 1:10 000, with a total workforce of about 7000 public agents (NAERLS, 2017; FMARD, 2017).


In addition to this low coverage of farmers by extension workers, extension agents are inadequately trained, and of low morale due to poor career prospects, as well as poor work environment. Furthermore, 28% of extension agents are female and 60% are over the age of 40, demonstrating the aging of the extension workforce and lack of new entrants.

With respect to their level of education some 50.6% of the field extension agents have an Ordinary National Diploma (2 years of agriculture related training after High School), in most states in the north, while most of them in the southern states have an HND (additional 2 years of training after Ordinary Diploma). Most of this training focuses on the basics of crop or livestock science, with insufficient attention to post-harvest management, business and market elements, or functional skills such as communication, counselling and advisory services, farming systems analysis, and group and cooperative facilitation.

Continuing training of Agricultural Extension Agents has not been regularly delivered for the following reasons:

- inadequate funding for most of NAERLS programs to permit sustained training of Agricultural Extension Agents;
- lack of funds for Agricultural Development Programs (ADPs) to send their extension staff for the trainings organized by NAERLS;
- the deterioration of the quantity and quality of extension staff in ADPs as a result of the departure of the most competent ones in search of better opportunities after withdrawal of funding by the World Bank;
- majority of Agricultural Extension Agents are not attached to donor-funded projects / programs that can cover the cost of training.

To remedy this situation, the Federal Ministry of Agriculture and Rural Development has proceeded since 2016, to the recruitment of cohorts of youths within the framework of the N-Agro program. NAERLS, Agricultural Universities and an NGO (Sasakawa) developed a curriculum for their initial training. The private sector participated in the review of this



curriculum but few private companies have bought into the program, and the employment and payment of the recruited youths at the end of their training has been left in the hands of the state governments which themselves are constrained by the lack of funds.

From the above information, it is clear that there is an urgent need to strengthen the existing training system in order to ensure the initial training and mentoring of young graduates to grow into competent and professional extension advisors. Such a strengthened and functional training system will also ensure continuing training and support to practising extension and advisory staff who will in turn provide proximity training and support to smallholder farmers and emerging agribusiness entrepreneurs at local level.

5. Adapting to climate change and attenuating its effects

Agricultural growth in Nigeria is mainly attributable to expansion of cultivated land area and because farming is mostly rain-fed (non-irrigated), such growth depends largely on favourable weather. Almost all smallholder farmers rely on rain-fed agriculture with poorly developed off-season farming due to very low levels of irrigation development and insufficient mastery of irrigation techniques (less than 1% of cropped land is under irrigation). Climate change makes it more difficult for farmers in such rain-fed systems to plan ahead of time, based on past experiences.

Efforts have been made by the FAO country office in Nigeria to introduce climate smart agriculture approaches to some smallholder farmers in the country but these initiatives require relevant capacity building in order to address trade-offs and synergies between the three pillars of productivity, adaptation and mitigation.

Although, crop insurance exists in Nigeria, it imposes an extra cost on resource-poor farmers and is usually only used when financial institutions require it as a condition for formal credit. In its present form, crop insurance is not a viable option for coping with risks imposed by climate change and other risk factors associated with agribusiness.

The major challenge for agricultural and rural transformation is therefore how to empower smallholders to cope with climate change while continuing to produce in such a way as to ensure food security and food self-sufficiency while providing raw materials to existing and emerging value chains for transformation and value addition.

6. Access to agricultural finance

Access to credit for financing small farms and non-farm businesses is constrained by the fact that high operating costs and inadequate or lack of risk management in banking make loans more expensive, rendering them uneconomical for many small farm businesses. CGAP (2017) estimates the rate of financial inclusion of smallholder farmers at 26%. Financial inclusion here means that they have an account with a financial institution or with a mobile money operator.

The most common accounts among smallholder farmers are bank accounts, which constitute 21%, followed by Non-Bank Financial Institution (NBFI) accounts (8%) and mobile money accounts (< 1%). Women own fewer formal financial accounts (19%) compared to men (31%). Those who are under 30 years old comprise 24% of owners of bank accounts, while those between 30 and 39 years own 26% of accounts. Smallholders in the age range of 40 to 49



years own 30% of formal accounts while those between 50 and 59, own 25% of the accounts as against 29% for smallholder farmers 60 years old or more.

In terms of accessing credit, only about 18 % of smallholders received credit during 2018, from both formal and informal sources. Despite the fact that the agricultural sector accounts for about 40 % of the total GDP of the country, its share of credit from commercial banks is only 2% (CBN, 2018).

Because of the high risks associated with agricultural lending, commercial financial institutions usually require substantial collateral in order to extend credit to farmers, who unfortunately do not often have sufficient collateral to benefit from such institutional credit.

Microfinance institutions have progressively played an increasing role in agricultural financing. However, their efforts have also been constrained by their lack of in-depth knowledge of the specificities of smallholder agriculture, which often requires short-term credits to finance the production cycle. The low level of technical training of farmers leads to low production and productivity and hence low rates of reimbursement of credits. Above all, the wide distribution of farm families in remote rural areas makes access to them very difficult.

In all, high regulatory costs, limited financing opportunities and reticence of banks and Microfinance Institutions (MFIs) to finance agriculture are seriously hindering the growth of farm holdings and the development of value chains in rural areas of Nigeria.


7. Dysfunctional and poorly organized markets for agricultural products

Marketing involves getting the agricultural products from the farmers to the consumers. Access to markets is one of the biggest challenges faced by smallholder farmers, which directly affects their income and living standards. A World Bank (2017) survey of smallholder farmers revealed that they use a wide variety of marketing outlets including: direct sales to the public (69%), sales to retailers (51%), sales to wholesalers (25%), sales to processors (6%), sales to middlemen / trading companies (5%), sales to a cooperative (2%) and other outlets (1%). As concerns the place of sales, 86% of smallholder farmers sell their farm produce in the local markets, 51% of them sell in the village while 14% do so in regional markets. Some 13% of smallholders sell their farm products at the farm gate either to neighbours or to ambulant merchants.

Lack of market facilities and poor government regulations pose serious threats to farmers, where after harvesting they are unable to sell off their produce at good prices. Hence, this leads to massive post-harvest losses and food wastage, which is entirely another challenging, issue facing the agricultural economy.

8. Challenges relating to livestock production

The Nigerian National Livestock Transformation Plan (2019-2028) aims at ensuring that the livestock sector becomes a catalyst for building national prosperity. It proposes strategic interventions to support improved performance and sustainability of livestock production and value addition. However, the livestock sector faces a lot of challenges that must be removed for improved performance, and transformation to occur.



Prominent among these are conflicts between grazers and farmers in relation to access to grazing land. As the population of the country is growing herd sizes and farm lands are also growing, leading to reduction in range lands that can be used for grazing. Over the period from 1976 to 1995, some major changes occurred in land use in Nigeria. Land area used for intensive farming characterised by row cropping and minor grazing within smallholder systems grew by 4.74%. This was followed by extensive systems involving animal grazing and minor row crop cultivation which expanded by 2.37% of the country's total land area, while flood plain agriculture grew by 1.27% taking up a good portion of the space used by cattle as routes to water sources or across marshy land. Other land uses including tree crop plantations, extensive smallholder rain-fed agriculture with denuded areas, irrigation projects, livestock projects and arable rain-fed plantation crops collectively expanded by 0.85%. This progressive and rapid expansion of both crop and animal production activities have resulted in overlapping of land suitable for both purposes with associated violent conflicts resulting in loss of life and property, displacement of people and temporary / permanent halt of their production activities.

Many stakeholders perceived the National Grazing Reserves Bill that was proposed in 2016 to solve the farmer-grazer problems in Nigeria as rather embodying more problems than solutions to existing issues, and as such, the Assembly dropped it.

Despite the recurrent conflicts that free grazing engenders, animals are often allowed to graze freely due to the high cost of concentrates and feeds. Environmental impacts of increased herding and agriculture have been the excessive removal of vegetation, lowering of the water-table and desiccation of the land, with a resultant gradual change in climate and vegetation.

Unpredictable climate change and weather patterns in turn contribute to desert encroachment, drying up of water sources, soil erosion and bush burning. The effects of these factors are net decrease in grain yields, forage and pasture crops for livestock as well as changes in the epidemiology and dynamics of livestock diseases, pests and vectors.

Lack of financial resources leads to little investment in infrastructure including houses, cattle dips etc., which results in poor animal health and substantial drop in production and productivity. In addition, most farmers have a low level of education or are even illiterate making it difficult for them to use improved animal production techniques where traditional techniques have failed or yielded less profit.

In order to increase domestic production of raw materials for agro-based industries to reduce the current high food import bills that continue to grow at an average rate of 11 % per annum, there is a clear need for agricultural production to be increased. This increase needs to happen not through bringing additional land under cultivation but rather through upgraded productivity by well-trained actors.

Because of the country's massive size and diversity and a decentralized approach to the implementation of agricultural policies and initiatives conceived at the federal level, different regions may face different constraints. To address the challenges that are specific to specific local areas, states or groups of states, an approach that is state-specific and locality-specific would be necessary, involving all categories of players who can contribute to overturn the challenges highlighted.



3.3.2. Potentials of Nigerian agriculture

Agriculture is the economic mainstay of the majority of households in Nigeria, and is a significant sector in the overall economy of the country. It is a major source of employment for the large and growing population and contributes an average of about 40% to GDP. It is a major source of raw materials for the agro-based industries and generates the most foreign exchange revenue of the non-oil sectors.

A wide diversity in the country's agro-ecology


Nigeria's diverse range of agro-ecological zones makes it possible to produce a wide variety of agricultural products. Less than 50 % of the country's arable land is under cultivation, mostly by smallholders and traditional farmers using rudimentary production techniques that are associated with low yields. This means that there is a significant proportion of arable land in Nigeria that can still be put to use for crop production. The Comprehensive Africa Agricultural Development Program (CAADP) of the Africa Union's New Partnership for Africa's Development (NEPAD) noted the low productivity in most of its member states and determined that crop yields would need to grow by 6% annually in order for the Millennium Development Goals concerning food security and poverty reduction to be realized. In practical terms, this implies that if the factors, which limit the productivity of major crops, are effectively redressed crop yields would increase remarkably. Considering that crop yields in Nigeria are between 20 and 50 % that of comparable developing countries with similar climates and environmental conditions, increasing yields annually by 6% would lead to very large gains.

Potentials for seed production and distribution

Huge potentials exist for the production and distribution of seeds through an improved informal seed system that is handled mostly by farmers, groups, associations or cooperatives that are trained in aspects of on-farm seed production, quality assurance (isolation, field inspection, roguing etc.), quality control, processing (cleaning and size-grading), packaging and distribution. This would ensure the local and timely availability of quality seeds in the required quantities at affordable prices such that in using them, farmers contribute to increasing yields and hence bridge the huge yield gaps observed in virtually all crops.

Potentials for irrigated agriculture during the off season

For decades, access to irrigation has been a serious challenge to Nigeria's agriculture that has depended largely on rainfall. Overall access to irrigation (smallholder, medium and large farms) as at 2011 stood at 3% but reduced to 1.6% by 2012 and increased slightly to 1.7% in 2016. This level of access is negligible and creates a large opportunity for increased production and productivity. It is reasonable to expect huge increases in production if the level of irrigation were to increase substantially (to 20 % and above for example). The Nigerian vision 2020 targeting 10% of cultivated land being irrigated by 2015 and 25% being irrigated by 2020 has not been met. Widespread adoption of small-scale irrigation has the potential to transform Nigerian agriculture. IFPRI (2018) estimates that approximately 1 million ha of land are suitable for irrigation targeting maize, vegetables, and rice. Such a system could bring more than US \$600 million in increased income for farmers in the dry season alone. These projected increases in production and productivity are particularly impressive, as the proposed areas for new irrigation projects constitute only about 4% of



total arable land in Nigeria indicating that a relatively small change in land area put to irrigated cultivation can yield a high return. In addition, irrigation projects would yield other benefits such as improved supplies of clean water for both drinking and use for livestock.

Potentials in fish farming

The Nigerian fisheries sub-sector currently contributes about 3 - 4% to the country's annual GDP and is an important contributor to the population's nutritional requirements, constituting about 50% of animal protein intake. In addition, the sub-sector generates employment and income for a significant number of artisanal fishermen, fish farmers and small traders. Although capture fisheries increased by some 107 % over the period from 2000 (441 377 tons) to 2017 (916 284 tons) while aquaculture production increased dramatically over the same period from 25 718 tons to 296 071 tons, domestic fish production still falls far below the total demand, which was estimated at 3.85 million tons per year in 2019. The huge demand – supply gap for fish in Nigeria is an indicator of the enormous potential that exists in Nigeria for aquaculture, which can be exploited especially by trained youths to create wealth and jobs and substantially reduce the fish import bill that stands at some US \$1 billion annually.

Potentials in the livestock sector

Livestock development is an important component of Nigerian agriculture with abundant social and economic potentials. Domestic production of livestock products is far below the national demand, resulting in large imports of livestock and livestock products. Despite the numerous technical, social, management and environmental constraints that the livestock sub-sector faces, it displays a strong comparative advantage in regards to supporting the country's growth, economic and social development. The comparative advantage of the livestock sector derives mainly from the presence of a numerically large and varied animal stock, as well as the existence of a strong traditional know-how in animal husbandry. Secondly, the sector makes an important contribution to GDP (6 - 8%); and its capacity to generate employment for a significant proportion of the population with key significant redistributive effects and contribution to food security, nutrition and poverty eradication. Other strengths include the fact that livestock serve as a store of wealth to cope with climatic and economic shocks; it is resilient in the sense that it can rebuild or restock quickly after climatic shocks, particularly drought.

Potentials for the development of extension and advisory services

Concerning agricultural extension practices, there is the potential for the performance of the extension and advisory service delivery system in Nigeria to be improved. This can be done by reviving the existing system and strengthening the N-Agro program to reach an increased proportion of smallholder farmers on their farms in order to help them diagnose the problems they are facing and to work out solutions to these problems in a participatory approach.

Whatever the case, in order to bring about an increase in productivity and to transform the country's agriculture, a lot of relevant and targeted training as well as carefully planned interventions are needed to tap into the potentials presented by the Nigerian agroecosystem



3.3.3. Organisation of farmers in Nigeria

For practising farmers to tap into the potentials highlighted in the section above, they need to be organised. Presently, grassroots structures under which farmers are organised in Local Government Areas of Nigeria are referred to as Primary Cooperative Societies. Generally, the Primary Cooperative societies at the base come together to form a Federation of Cooperatives at the level of a state. At the national level there are a number of apex structures that bring under one umbrella a number of Federations of Cooperatives. For example the Cooperative Federation of Nigeria brings together all the 36 State Cooperative Federations under its canopy.

In most rural areas, majority of smallholder farmers are not necessarily members of cooperative societies, but are active in other informal groups that play the roles of cooperatives.

Global centralised statistics of membership of Nigerian farmers in Cooperative societies at the level of the 774 Local Government Areas in the country are not readily available. However, the National Bureau of Statistics (2015) reported the number of Farmers' Primary Cooperative Societies at some 1919, while GFRAS (2017) placed membership of Primary Cooperatives Societies under the canopy of umbrella Federations at some 2000 organisations. Despite unavailability of global statistics on farmer's cooperatives in Nigeria, it can be seen from information on some prominent Federations of Cooperatives that a significant proportion of farmers are members of cooperative societies.

The organisation of Nigerian farmers either into formally registered cooperatives or into informal groups is a strength in that these organisations can serve as channels to get across to a large number of farmers in case of an intervention. See table 18 below.

Table 18. Membership statistics of some prominent cooperative federations in Nigeria.

| S/N | Organisations | Membership | Key Characteristics |
|-----|---|------------|--|
| 1 | Cooperative Federation of Nigeria (CFN) | >4 500 000 | <ul style="list-style-type: none"> Cooperative Federation of Nigeria (CFN) is the Umbrella Body for all cooperatives in Nigeria. It was formed in 1944 as "Nigeria Co-operative Federation Ltd CFN federates some 2000 Primary Cooperative societies covering about 50 000 grassroots members <ul style="list-style-type: none"> Services offered include: Training, capacity building, facilitation of access to credit, mediation and coordination <p>CFN is present in all of the 36 states of Nigeria and the FCT where its member structures are Cooperative Federations at state level</p> |
| 2 | Farmers' Development Union (FADU) | 500 000 | <ul style="list-style-type: none"> Some 65% of the members of FADU are women; Services offered include: Management advice, technical training, facilitation of access to credit, representation and defence of members' interests. |



| | | | |
|---|---|--------|---|
| | | | FADU is present in 29 of the 36 states |
| 3 | Apex Farmers' Association of Nigeria (AFAN) | 84 000 | <ul style="list-style-type: none"> • AFAN is a merger of All Farmers' Association of Nigeria and National Farmers' Association of Nigeria • Services offered include: Support to groups and Primary Cooperatives in the production of cassava, rice, purchase and distribution of inputs (fertilizers and farm chemicals) |

Source: GFRAS (2017)

3.3.4. Key drivers of agricultural transformation, the creation of wealth and agricultural jobs in Nigeria

Value chains

The main priority of the Agricultural Transformation Agenda (ATA) implemented over the period from 2011 to 2016 was to “**restart the clock**” and reintroduce the Nigerian economy to sustainable agriculture centred on a business-oriented attitude driven by the private sector. The ATA was an important first step towards rediscovering agriculture. Consequently, many companies, individuals and donors took a renewed interest in Nigerian agriculture. They are keen to invest in it again as agriculture is now viewed as a business that could provide a reasonable basis for further wealth and job growth in the country.

Building on the shortcomings of the Agricultural Transformation Agenda (ATA: 2011 - 2016), the Agricultural Promotion Policy (APP) implemented from 2016 to 2020 had the strategic focus on how to take advantage of the initial progress made, to transition Nigeria to a new plane in terms of agribusiness performance. The primary thrust of the new policy has therefore been to close the demand - supply gap recorded in crop and livestock production. Gap closing would also include tackling issues related to input, financing, storage, transport and market access that are present in **key value chains**.

One of the specific objectives of the APP (2016 - 2020) was therefore to **integrate agricultural commodity value chains into the broader supply chain of Nigerian and global industry**, driving job growth, increasing the contribution of agriculture to wealth creation, and enhancing the capacity of the country to earn foreign exchange from agricultural exports.

The commodity value chain approach seeks to focus on agricultural enterprise development across successive stages of **input supply, production, storage, processing/utilization, marketing and consumption**.

Figure 11 below maps out key jobs and occupations that existing and emerging agro-pastoral commodity value chains will create. It should be noted that the jobs identified are not exhaustive but are rather just indicative of the potential that the value chains approach has for the creation of new and attractive jobs / occupations for youths. The links between these jobs and the general structure of a value chain are summarised in table 19 below.

Table 19. Potential areas of job creation in Value chains of some agro-pastoral commodities



| Links of the Value chain | Areas for job creation |
|----------------------------------|---|
| Pre-production | Input supply, Seed production, Quality control, Tractor hiring services, Farm equipment installation and maintenance, Irrigation and water management, etc. |
| Production | Crop production (priority crops), Nursery management, Livestock production (priority species), Aquaculture |
| Post-harvest / collection | Primary processing (cleaning, size grading, packaging, labelling, storage...) |
| Processing | Industrial transformation, packaging, labelling, warehouse storage etc. |
| Distribution | Transportation, bulk breaking, agricultural insurance, etc. |
| Support Services | Counselling, Extension education, Advisory services, etc. |

Priority crops

The next focus of the Agricultural Promotion Policy has been the **prioritization of crops and animals** on which interventions have been focused. To this effect, in the implementation of the initial phase of the APP (2016 - 2018) emphasis has been laid on achieving improved domestic food security and boosting export earnings. For domestic crops, the initial focus has been on expanding the production of **rice, wheat, maize, soybeans and tomatoes**. For export crops, the initial focus was on **cocoa, cassava, oil palm, sesame and gum Arabic**. From 2018 onwards, the export focus has been on **bananas, avocado, mango, fish and cashew nuts**.

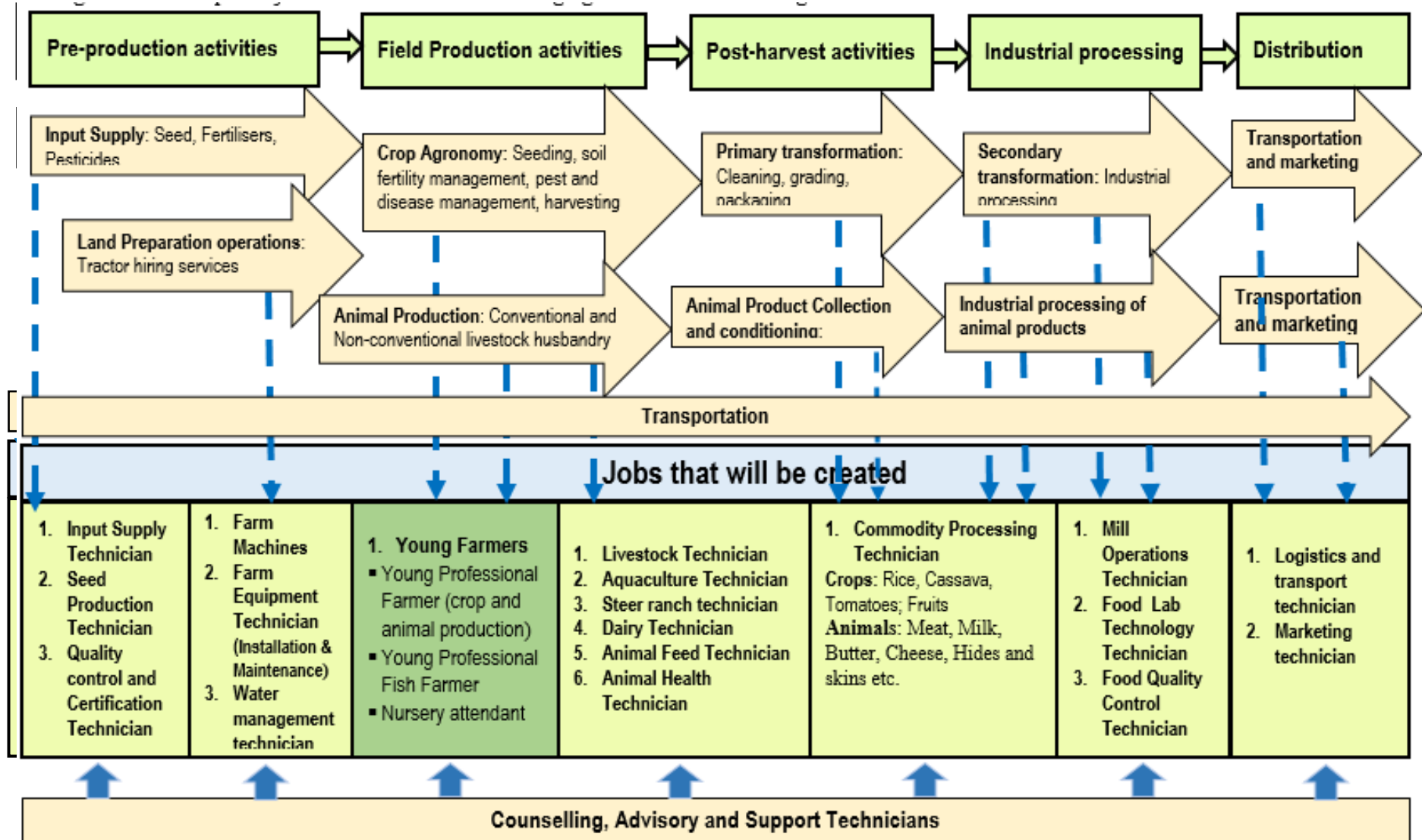
Market orientation to the agricultural transformation stood out as the key to targeted interventions, with focus on:

- stimulating agricultural production on a sustainable basis;
- stimulating supply and demand for agricultural produce by facilitating linkages between producers and off takers;
- stabilizing prices or reducing price volatility for agricultural produce through market-led price stabilization mechanisms such as commodity exchanges, negotiated off-take agreements, contract farming, extended farm-gate price under value chains coordination mechanisms, agricultural insurance, etc...

However, for all of these benefits to be drawn from the sector, youths will have to be attracted to agriculture and to take up major roles in it especially in the development of value chains around the priority crops identified.



Figure 11. Example of jobs that will be created along agro-value chains in Nigeria





3.3.5. Potential role of Nigerian youths in the development and growth of agricultural value chains

The Agricultural Promotion Policy (2016 - 2020) cited **participation and inclusiveness** as the key driver of agricultural transformation. Focus has been on maximizing the full participation of stakeholders including farmers' cooperatives, associations, and other groups, as well as NGOs, CBOs, CSOs, development partners and the private sector.

In addition, the Federal Government of Nigeria (FGN) places a premium on the inclusion of youths and women in the current agricultural promotion and transformation as they have a prominent role to play. Bringing youths into agriculture will lead to the creation of jobs, the absorption of those who are not employed and consequently, the reduction of unemployment. As discussed in Chapter 1 of this report, Nigeria's population is youthful (18.9% of the population was between 15-24 years of age in 2015), and the proportion of youths continues to grow yearly, which is accompanied by a growing rate of unemployment among them. At least 66% of unemployed youth in Nigeria are between 15 and 24 years of age. The rate of female youth participation in labour is 26.5% compared to 33.4% for male youths. On the other hand, more female youths are unemployed (19.1%) than males (17.6%). Similarly, the share of youths not in employment, education or training (NEET) is higher for females (24.5%) than for males (18.3%).

Analysis of the Nigerian job market trends by the World Bank (2017) led to the following major conclusions:

- Some 26.5 million (50%) of the 53 million Nigerian workers between ages 15 and 64 were working in low productivity agriculture. **This implies that agricultural productivity will be substantially improved if the capacities and competencies of the workers are built through training;**
- Only 32% of young people (15-24) are working, compared to 77% of adults (25-64). The gap is explained partly by the fact that many young people are still in school, but also by the greater difficulties they face in finding a job when they look for one. **This employment gap will be considerably reduced if a significant proportion of the youths are trained and empowered to create self-employment or employ their peers especially in agricultural value chains;**
- About 71% of the active 15 to 19 age cohort works in agriculture as opposed to 31% for the 30-34 age cohort indicating that youths who enter agriculture very young, tend to move on to other occupations that meet their aspirations in terms of the use of modern technologies. **Focus should therefore be on the category of youths who are older (20 - 35) who will readily stay in the sector. However, the integration of modern technologies into agricultural activities that reduce the drudgery of work and facilitate market access will attract and maintain youths in the age range of 18 to 20 in the sector;**
- Because of the challenges they face such as early marriage, childbirth, lower educational attainment, and limited ability to own land and other assets, school-to-work transition for women is more constrained than for men. **This means that the inclusion of young females in the agricultural sector will require specific strategies and flexible organisation;**



- On average, rural youths in Nigeria allocate 70% of the time that they spend working to their households farms, and pay much less attention to such downstream activities as food processing, transport, trading, and service provision. **This indicates that there is the need not only to improve approaches to production agriculture in rural areas, but also to sustainably develop associated value chains focused on post-harvest transformation.**

Based on food demand projections in Nigeria as compared to supply, it is clear that employment in the food production and processing sectors will grow in the near and more distant future. According to Treichel (2010) this **growth will be significant for priority commodities as meat, poultry, oil palm, cocoa, fish, rice and maize**. The food industry (food away from home) shall also induce significant growth for commodities like tomatoes, potatoes and spices.

Development of the value chains of these commodities, which have high employment potential, will stimulate growth and employment in agriculture and offer a lot of opportunities to the Nigerian youths in particular and the country as a whole to prosper.

However, for this to happen, the youths who are motivated to seize the opportunities as well as practitioners who are already active in these value chains must be trained on best practices of each segment of the chain. This training needs to be handled by a system that is well structured, professional, and firmly anchored in local territories close to the beneficiaries but flexible enough to effectively and efficiently adapt to evolutions in the agribusiness-related job landscape.

3.3.5. Preparation of Nigerian youths for entry into the agricultural sector and practising farmers to improve production and productivity

Quantitative forecasts of young new entrants who will need training

In the preceding section, a general analysis of the different components / links in agro-pastoral value chains led to the conclusion that a large number of jobs can be created along the different links of these value chains. Such jobs range from Professional Farmers to middle-level Technicians in various domains.

It came out too that well-trained qualified persons should fill such jobs, and that youths will be the most suitable candidates for such training. The variability of jobs and levels of qualifications required, imply that candidates for the trainings would also need different entry qualifications. The qualifications will range from the primary school to post-secondary certificates (Junior & Senior Secondary School Certificates) in order for the trainings to be aligned with the existing educational and TVET system, and for their organisation to be in conformity with the provisions of the Nigerian National Policy for Education and related acts. This supposes that there should be yearly cohorts of youths ready to enter the training system.

Available statistics indicate that there is a substantial population of youths, from among whom those motivated to enter the agricultural sector will be mobilised and trained. This is partly revealed by national statistics on primary and secondary school completion for the period from 2012 to 2016 presented in table 20, and the details for 2016 presented in table 21 below.



Analysis of these data indicate that the rate of dropout between primary and secondary school is very high implying that a considerable proportion of young Nigerians do not continue their education after primary school. Those of them who hold the Primary School Certificate and are of age (17 years and above) can enrol for a lower level ATVET training that prepares them to enter production agriculture.

This level corresponds to the Professional Young Farmer, Professional Young Fisherman or other occupational levels that will be identified through the functional analysis of specific value chains.

Table 20. Youth transition from Primary to Senior Secondary levels

| Level ³ | 2012 | 2013 | 2014 | 2015 | 2016 ⁴ |
|--|------------|------------|------------|------------|-------------------|
| Primary 1 - 6 (Age: 6 - 11) | 24 893 442 | 26 158 375 | 25 801 197 | 25 442 532 | 25 591 181 |
| Junior Secondary (Age: 12 - 14) | 5 277 527 | 6 168 764 | 6 203 094 | 6 180 291 | 5 968 142 |
| Senior Secondary (Age: 15 - 17) | 4 934 722 | 5 152 805 | 4 292 489 | 4 910 944 | 4 475 309 |

Source: Nigeria Education Indicators (Ministry of Education, 2016)

Table 21. Statistics of transition and completion of school by JSS and SSS students for 2016.

| Gender | Junior Secondary (JSS: Age 12 - 14) | | Senior Secondary (SSS: Age 15 - 17) | |
|---------------|--|---------------------|--|---------------------|
| | 2016 Enrolment | Completion rate (%) | 2016 Enrolment | Completion rate (%) |
| Male | 3 093 546 | 43.31 | 2 417 192 | 33.19 |
| Female | 2 874 596 | 38.87 | 2 058 117 | 28.71 |
| Total | 5 968 142 | 41.13 | 4 475 309 | 30.98 |

Source: Nigeria Education Indicators (Ministry of Education, 2016)

³ Youths who successfully complete primary and secondary school and do not move on to tertiary (College, Mono-Technic, Polytechnic or University education) and who are not employed are considered as "Not in Employment, Education or Training – (NEET)". They qualify for ATVET training so long as they have the required prerequisites. Children aged less than 17 years do not qualify for the training and are therefore not included in the statistics of potential beneficiaries of ATVET training.

⁴ Slight discrepancies with statistics of the Nigeria Digest of Education Statistics (2019) (Table 2) may be due calculation errors



Analysis of the data presented in table 21 above indicates that with a completion rate of 41.3% for Junior Secondary Schools, some 3 513 445 children aged 12 - 14 do not transit to Senior Secondary School and may have entered the informal sector for work or may have remained unemployed. Similarly, on the basis of a completion rate of 30.98% for Senior Secondary Schools, it is estimated that some 3 088 858 youths of age 15 - 17 years do not transition to tertiary education and may as in the previous case (JSS) have entered the informal sector or remain unemployed over the period under consideration.

In addition to dropouts from the secondary school system and those who have regularly completed their schooling and are motivated to enter the agricultural sector (60% attraction rate), some **4 100 786** youths could potentially be mobilised and trained throughout the country to take up occupations in production agriculture and agribusiness as indicated in table 22 below. This would give an average of some **110 832 youths** per state (for 36 states and the FCT).

Table 22. Potential beneficiaries of initial agricultural and rural training for agribusiness and value chains in Nigeria

| Population segment | Number | Average per State |
|---|------------------|-------------------|
| National Population | 201 000 000 | |
| Population of youths (15 - 35) :50% | 100 500 000 | 2 716 216 |
| Total number of unemployed youths : 18.4% of youth population | 18 492 000 | 499 784 |
| Number of unemployed urban youths (15 - 35) : 52% | 9 615 840 | 259 888 |
| Number of unemployed rural youths (15 - 35) : 48% | 8 876 160 | 239 896 |
| Number of urban youths likely to embrace agribusiness: 42% | 4 038 652 | 109 153 |
| Number of rural youths likely to embrace agribusiness | 6 213 312 | 167 927 |
| Total number of youths that will potentially be trained | 10 251 964 | 277 080 |
| Total number of youths that will be trained (40% attractiveness of training programs per year) | 4 100 786 | 110 832 |

Source: Roz Price (Institute of Development Studies, 2019).

The above estimates indicate that a Nigerian ATVET system that is functional and operates in a way as to offer training to all the unemployed youths in order to settle them in the agricultural sector, would train about **277,080** youths in each state (**36 states plus the FCT**) giving a total of **10,251,964** youths over the national territory.

However, if the training programs attract **40%** of the unemployed youths then an average of about **110 832** youths will be trained each year in each state (plus the FCT) and injected into the agricultural sector and its related value chains, giving a total of **4,100,786** youths in the national territory.



This will contribute immensely to increasing production and productivity, to the creation of wealth and jobs, the reduction of youth unemployment, the rejuvenation of the farm labour force and to the overall development of the Nigerian economy.

Quantitative forecasts of the populations of practising farmers to be trained by the ATVET system

For Nigerian agriculture to be transformed to the level where it keeps pace with the growing population in terms of food security and food self-sufficiency and also increasingly generate earnings from the export of agricultural products, practising farmers need to be trained.

Although it is the responsibility of the agricultural extension service to provide continuing training to practising farmers, the Agricultural Technical and Vocational Education and Training system needs to play a leading role in this training offer. This is all the more relevant where the extension service is weak, as is the case in Nigeria in order to bridge the yield gaps that crop and animal production has been recording over the years in the country.

An FAO (2016) study revealed that although continuous learning is crucial to farm success, only about 50% of small farmers generally participate when such training was offered. Based on these statistics, some projections on the number of practising farmers that the ATVET system could train in Nigeria are presented in table 23 below.

Table 23. Projections of the number of farmers that will receive continuing training

| Population segment | Proportion (%) | National Figures | Average per State | Average Participation per State (50%) |
|--|----------------|------------------|-------------------|---------------------------------------|
| National Population | | 201 000 000 | | |
| Estimated population of farmers: 70% NP | 70,0 | 140 700 000 | 3 802 703 | 1 901 351 |
| Population of large scale farmers: 4% PF | 4,0 | 5 628 000 | 152 108 | 76 054 |
| Population of medium scale farmers:8% PF | 8,0 | 11 256 000 | 304 216 | 152 108 |
| Population of smallholder farmers: 88% PF | 88,0 | 123 816 000 | 3 346 378 | 1 673 189 |
| | | | | |
| Segmentation of smallholder farmers by commodity | Proportion (%) | National Figures | Average per State | Average Participation per State (50%) |
| Farmers in maize production: 72% SHF | 72,0 | 89 147 520 | 2 409 392 | 1 204 696 |
| Farmers in cassava production: 50% SHF | 50,0 | 61 908 000 | 1 673 189 | 836 595 |
| Farmers in yam production: 46% SHF | 46,0 | 56 955 360 | 1 539 334 | 769 667 |
| Farmers in beans production: 41% SHF | 41,0 | 50 764 560 | 1 372 015 | 686 008 |
| Farmers in millet production: 36% SHF | 36,0 | 44 573 760 | 1 204 696 | 602 348 |
| Farmers in sorghum production: 34% SHF | 34,0 | 42 097 440 | 1 137 769 | 568 884 |
| Farmers in sorghum production: 21% SHF | 21,0 | 26 001 360 | 702 739 | 351 370 |
| Farmers in poultry production: 46.3% SHF | 46,3 | 57 326 808 | 1 549 373 | 774 687 |
| Farmers in fish production: 1.05% SHF | 1,2 | 1 485 792 | 40 157 | 20 078 |



NP = National Population
PF = Population of Farmers
SHF = Smallholder Farmers

Source: FAO (2018); Roz Price (Institute of Development Studies, 2019); Author (2020)

N/B: It should be noted that smallholder farmers grow more than one crop in the same farm; as such, the sum of the farmers involved in the production of the various individual commodities will be much higher than the total number of smallholders in the country.

Projections presented in the above table indicate that the ATVET system functioning normally will be training some **1,673,189** smallholders per year in each state, giving a total of **61,908,000** small farmers in the entire national territory.

However, for this performance level to be achieved, the Agricultural Technical and Vocational Education and Training system must be well structured, well organised, adequately funded, staffed with qualified and competent persons, transparently and sustainably managed.

In the section that follows, the current ATVET system in Nigeria is presented and analysed in order to bring out the strengths and opportunities that can be capitalised and the weaknesses and threats that must be addressed in order to bring it to the level of performance that permits it to handle the fluxes of beneficiaries presented here.

3.4. Current status of agricultural and rural training in Nigeria

One of the focuses of the United Nations Millennium Development Goals (MDGs) was on basic education, and especially on universal primary education. The need for post-basic education and training, did not come out clearly. This was in large part due to the fact that vocational education and training was absent in most poverty reduction strategies of majority of developing countries which incidentally depend on agriculture for growth and development. In these countries, vocational agricultural education and training has been receiving very little attention from public powers. However, it is becoming more and more evident today that, human capital is one of the key pillars of strategies for poverty reduction. In other words, the training of especially youths who make up the bulk of the populations of most developing countries can help to harness the demographic dividend that they offer in order to bring about sustainable development and growth.

In these developing countries, economic growth will be driven by the creation of decent work through the transformation of agriculture, the inclusion and strengthening of the private sector, the provision and maintenance of physical infrastructure, improved market access for private businesses and the availability of credit facilities to economic operators. In addition, human capital formation, particularly in the education and vocational training system must be a key priority in order to transform output growth to job creation.

In Nigeria in particular, considering that agriculture is the mainstay of the country's economy, Agricultural Technical and Vocational Education and Training (ATVET) must be effective and efficient enough to turn farmers and other actors in the agriculture and food system into skilled entrepreneurs who run their farms and businesses as economic and productive sustainable enterprises. The training and placement of skilled and qualified youths will be essential for farms and companies in the agro-processing sector to sustainably



increase the level of production, productivity and income as well as their competitiveness on domestic and international markets.

In this section, we examine the Nigerian ATVET system and its capacity to deliver this training and to contribute to the transformation of the agricultural sector.

3.4.1. Agricultural and Rural TVET system, actors and initiatives in Nigeria

In accordance with the Universal Basic Education model, Nigeria's education system encompasses three different levels. These include the basic education sub-system, which lasts for 9 years and covers 6 years of primary and 3 years of junior secondary education, the post-basic/senior secondary education, which last 3 years, and the tertiary education, which spans from 4 to 6 years, depending on the program of study.

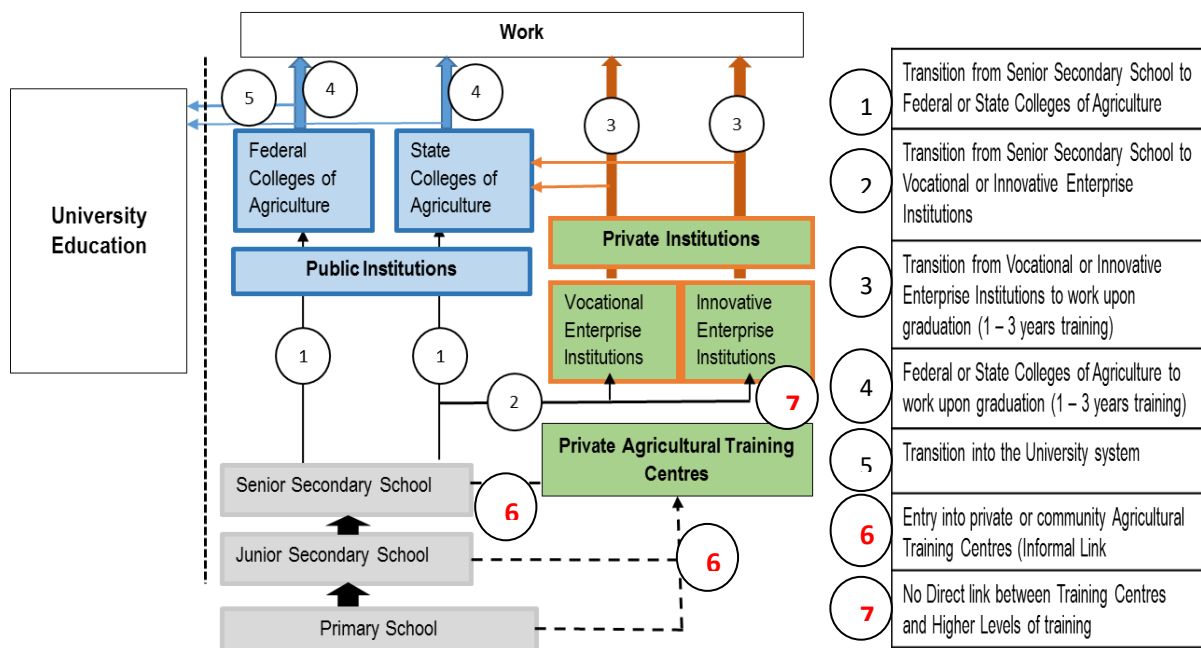
At the tertiary level, the system consists of a university level and a non-university level. The non-university level is composed of mono-technics, polytechnics, and colleges of education. It is this bracket of institutions that provide Technical and Vocational Education in general and ATVET in particular.

Agricultural Training within the Nigerian Technical and Vocational Education and Training system

Currently, Federal and State Colleges of Agriculture, universities and other specialised training providers, provide formal agricultural training in Nigeria. Private institutions which generally fall in the category of mono or polytechnics and which can be either Innovative Enterprise Institutions or Vocational Enterprise Institutions also provide agricultural and rural training. Apart from these institutions, which are mandated to provide Agricultural Technical and Vocational Education and Training (ATVET), a number of organisations including national and international non-governmental organisations, international donor organisations, university institutes and various programs and projects are engaged in informal agricultural and rural training. The structure of this ATVET system is illustrated in figure 12, Below.



Figure 10. Sketch illustration of the structure of the ATVET system in Nigeria



At the foundation level, there are mostly private training centres, which have emerged to fill the vacuum left by the public sector with respect to the provision of training at this level. This is because the current ATVET system does not provide for public training centres at the grassroots level specialised in agricultural training. These private centres do not have a direct link with other ATVET institutions at the higher levels including Vocational Enterprise Institutions, Innovative Enterprise Institutions and either Federal or State Colleges of Agriculture. However, graduates from Junior Secondary Schools transition through these training institutions and either move on to work or enrol in Agricultural Colleges for further training.

On the other hand, graduates from Senior Secondary Schools with the required prerequisites enrol directly in Colleges of Agriculture from where they graduate, and either move on to work or transition to the University for further education.

It came out from the study that agricultural training institutions, which are in the non-university education sector, are indeed structured like university sector institutions. In addition, they are progressively shifting their practices towards those of university-sector education institutions, characterised by course delivery along the same lines as in the university.

Key actors of the Nigerian ATVET system

The different actors of the ATVET system in Nigeria include public sector structures such as ministerial departments and agencies, research institutes, the private sector including national and international NGOs, Farmer's organisations (groups, cooperatives and associations), private training institutions (VEIs & IEIs), Agricultural Development Programs and Projects (ADPs) and Local Government Areas (LGAs) among others.

The Ministerial Departments and Agencies intervene at the federal level through various Federal Ministries including: (i) The Federal Ministry of Education (ii) The Federal Ministry of Agriculture and Rural Development and (iii) the Federal Ministry of Labour. At the level



of the various states, the ministries intervene through the State Ministerial Departments and Agencies. The federal ministries are more concerned with policy issues, while the implementation of these policies are in the portfolio of state ministries. Issues at the local levels are handled by the Local Government Councils with the direct participation of the concerned beneficiaries.

Public sector ministerial departments.

→ The Federal Ministry of Education and its different agencies

In accordance with the National Policy for Education (2004), vocational training and hence Agricultural and Rural training are under the tutelage of the Federal Ministry of Education which has placed it under the direct supervision of the **National Bureau for Technical Education (NBTE)**.

In this direction, the National Bureau for Technical Education is charged with the following:

- Coordination of all aspects of technical and vocational education falling outside the universities;
- Evaluation of the skilled manpower needs of the country in the industrial, commercial and other relevant fields;
- Periodic preparation of master plans for the balanced and coordinated development of polytechnics;
- Determination of financial needs of polytechnics;
- Harmonisation of entry requirements into TVET institutions;
- Establishment and maintaining of minimum standards in polytechnics and other technical institutions in the country;
- Accreditation of academic programs in all technical and vocational education (TVE) institutions for the purpose of the award of national certificates and diplomas and other similar awards.

Another important actor under the Federal Ministry of Education is the Tertiary Education Trust Fund (TETFUND), which was created in 2011 by an act of the National Assembly to replace Education Tax Fund Act N° E4 and the Education Tax Fund (Amendment) Act No 17, 2003.

The Fund was set up to administer and disburse education tax collections to the Federal and State tertiary educational institutions in Nigeria. These funds come mainly from the 2% education tax paid by registered companies in Nigeria on the basis of their assessable profits.

TETFUND's major areas of intervention are:

- Provision of essential physical infrastructure for teaching and learning;
- Provision of didactic and instructional materials and equipment;
- Facilitation of research, Book Development and Publication;
- Training and development of academic staff;

- Other needs which are judged by the Board of Trustees as being critical and essential for the improvement of quality and maintenance of standards in the educational institutions.

All tertiary institutions can benefit from the funds provided by TETFUND however, private institutions seem to face a lot of difficulties to access these funds.

→ The Federal Ministry of Agriculture and Rural Development (FMARD)

FMARD plays a key role in agricultural extension and extension education. As such, it contributes to the continuing education of extension workers through its State Ministries and Agricultural Development Programs.

Under the Youth and Gender Division of the Department of Extension, the Federal Ministry of Agriculture and Rural Development organises short courses with the aim of promoting and supporting youth engagement in agriculture within the framework of the Youth Employment in Agriculture Program (YEAP) put in place some 5 years ago with support from the FAO.

Through the N-Power Agro program, FMARD trains volunteers on extension service delivery, advisory services and ICTs. After this training, volunteers are equipped with the necessary materials to work. The training lasts 2 years and its certification is under the National Skills Qualification system of the NBTE.

Several ATVET actions have been developed in collaboration with GIZ targeting skills building for youths in Colleges of Agriculture. Areas of interest include crop production, animal husbandry and fisheries. Similarly, in collaboration with the FAO, FMARD had developed the Junior Farmer Field and Life School as well as the Livelihood Improvement Family Enterprise (LIFE) program. Through the LIFE program, some 150,000 cooperatives were identified nationwide covering crops, livestock and fishery value chains, and 85% of them assisted to set up activities using the cluster model with focus on production, agro processing/value addition, and services.

Other Ministries that collaborate with FMARD to advance ATVET in Nigeria are:

- The Federal Ministry of Youth Affairs;
- The Federal Ministry of Labour and Employment through the National Directorate of Employment (NDE);
- The Federal Ministry of Industry, Trade and Investment through the Small and Medium Enterprise Development Agency of Nigeria (SMEDAN) and the Industrial Training Fund (ITF).

→ Agricultural Development Programs

Agricultural Development Programs (ADPs) are the implementation organs of the State Ministries of Agriculture, Natural Resources and Rural Development. They are semi-autonomous and focus on the small farmer using essentially the integrated rural development strategy in their operations. ADPs originated from the approach to integrated agricultural and rural development in 1972 in Northern Nigerian, with two pilot projects assisted by the World Bank in Gombe and Gusau. The success of these projects encouraged other state governments to embark on similar such projects with the assistance of the World



Bank. Since then, Nigeria has continued to witness agricultural development programmes of various dimensions.

The components of the ADPs include crop production, on-farm adaptive research, farm input distribution, media support, infrastructural development, rural agro-industrial scheme, farmer training, and staff development and program funding. The farmer training scheme have been carried out by extension workers using various approaches.

When the World Bank provided funds, Agricultural Development Programs were very effective and significantly contributed to agricultural development in all 36 states of the country. Today, they are plagued with such problems as insufficient funding, inadequate qualified extension staff, lack of equipment and vehicles, irregular payment of allowances and motivation to extension staff and inadequate delivery of farm inputs to farmers. All of these have led to irregular or no training of farmers on prevalent issues related to crop and animal production and the development of value chains.

→ National and International NGOs

Well over 46,000 Non-governmental organisations (NGOs) are registered in Nigeria probably encouraged by the 20 million euro assistance provided by the European Union. GFRAS places at some 6% the proportion of these NGOs that either directly intervene in the area of agricultural development or run programs that indirectly impact on agriculture.

Some of the local NGOs that are involved in agricultural training in Nigeria include PIND, TOPAN, YISA, etc.

PIND (Partnership Initiatives in the Niger Delta) is a not-for-profit organisation created some 10 years ago and funded by the SHEVRON Corporation. The NGO works in the 9 Niger Delta states which are commonly referred to as the oil states. They include Endo, Akwa-Ebom, Cross River, Aba, Imo, Rivers, Delta, Bayelsa and Ondo states. The key areas on which the organisation focuses are economic development projects in agriculture, construction and ICT. In the agricultural domain, crops that are of interest include cocoa, oil palm and cassava while the livestock targeted include poultry and aquaculture. The organisation trains young and practising farmers and helps them to engage in sustainable production and value chain development.

TOPAN (Tomato and Orchard Producers' Association of Nigeria) targets small scale tomato and orchard farmers as well as other smallholder rural farmers, youths aged between 15-35 years and women, cooperatives and farmers' groups, logistics providers, agricultural processors, policy and decision makers, marketers, hotels, supermarkets, households, etc. The organisation provides advisory services through regular farmer field days, support services for entry into agriculture such as starter parks, farming tools, loan facilities, seeds, fertilizer, agro-chemicals, weather information, etc.

The organisation's training programs are short and/or long-term knowledge and skills-based training programs delivered through seminars or workshops (capacity building workshops) of new and practising farmers on new tomato and orchard farming technology, participatory training needs assessments for capacity building, development and delivery of custom training modules and capacity building programmes.

TOPAN works with farmers from all 36 states of Nigeria and the Federal Capital Territory.



Youth Initiative for Sustainable Agriculture (YISA) is an agro-knowledge based Organization of young graduates of agricultural disciplines and other youths between 15-40 years of age with genuine interest in agriculture and agro-based businesses. YISA is present in 17 of the 36 states of Nigeria. The organisation's programs are designed to educate, encourage, inspire and motivate young people to take up agriculture as a business for food production and the creation of gainful employment of youths and to reverse the current trends of the ageing of Nigerian Farmers who generally use crude tools and implements for their agricultural production activities.

YISA training is delivered through Rural Farm Schools based on the incubation model in which practical skills are acquired through training farms, which generate income from the sales of produce to support trained youths start up their own on-farm or off-farm businesses. The key commodities targeted include rice, fish, bee farming, snails, wheat, cassava, sorghum, oil palm, and cocoa.

→ The private sector

The private sector in Nigeria is the engine of economic growth as it makes a significant contribution to creating jobs, increasing trade, providing goods and services to the poor and generating tax revenue to fund basic public services such as health and education. The Nigerian private sector accounts for about 90% of GDP with the informal private sector covering some 65% of the GDP (IMF, 2017). With this significant contribution of the informal sector to the Nigerian economy, it is clear that the economic development in the country depends hugely on the state of affairs of the informal sector. Therefore, sustainable and inclusive economic development and job creation are not likely to be achieved unless the potential and needs of the informal sector are adequately addressed.

Players of the Nigerian informal sector including smallholder farmers are confronted with a range of challenges including inadequacy of technology, education, markets, land and physical infrastructure, limited access to finance, and limited skills development. Therefore, policy interventions to support the sector must be directed first of all at creating more formal jobs to draw workers out of the informal sector, and secondly, to address identified challenges in the informal sector towards improving productivity and incomes especially through training and skills development.

Jobs along agricultural commodity value chains for example have a high potential for taking players out of the informal to a more formal economy and public-private initiatives can play a leading role in this shift. However, private sector initiatives in agricultural training and skills development in Nigeria are not well structured and coordinated and as such, the link between them and public sector training institutions is not firmly established.

→ International Technical and Financial partners (Funding organisations)

A number of international donor or funding organisations are present and support programs in various areas of development including agriculture and specifically agriculture and rural training. The organisations whose interventions contribute to ATVET include the FAO, GIZ, and IFAD. Based on a direct request from the Federal Ministry of Budget and National Planning, AFD is getting interested in the domain of agricultural and rural training in Nigeria.



These technical and financial partners fund and participate in ATVET initiatives independently but they have recently created a collaboration and information exchange platform where they discuss issues concerning their work in Nigeria. This platform is important because through their exchange of information, these organisations will better plan, align and leverage their actions to build synergies and avoid duplication of actions and wastage of funds.

→ Universities and Faculties of Agriculture

In the strict sense, universities do not fall in the bracket of institutions that provide agricultural vocational education and training. However, there are 3 Federal Universities (Abeokuta, Makurdi and Nsukka) that are universities of agriculture and 24 other universities (Ahmadou Bello, Bayero, Yola, Akure, Obafemi Owolowo etc.) that have reputable Faculties of Agriculture that offer degree courses in agriculture and related disciplines. In addition, there are State as well as private universities in Nigeria that also offer degree courses in agriculture.

However, according to Youth Initiative for Sustainable Agriculture (YISA), only some 4.3% of the youths who had attended higher-education courses, studied agriculture and the majority (60.8%) of those who took agriculture courses were male.

Many observers point out that in most Nigerian universities, agriculture is generally imposed on students who upon entry into tertiary education do not fulfil the conditions for admission into the faculties that offer the disciplines of their choice. They are advised to rather offer agriculture and hence go through years of course work without a real uptake of the practices of the occupation. Upon graduation, they remain under the misconception that agriculture does not pay and therefore go out to seek white collar jobs because from the onset they neither had the attraction nor the passion for agriculture.

→ Intermediate and lower level agricultural training institutions

The National Policy on Education provided for technical and vocational education in Technical Colleges, Mono and Polytechnics, and Innovative / Vocational Enterprise Institutions, targeting a variety of trades. However, the policy document did not initially include agriculture as one of specific vocational and technical training areas (4th Edition: NPE, 2004). It is only in a later edition (6th Edition: NPE, 2013) that agriculture was included. This tends to indicate that apart from the challenges imposed on the technical and vocational education sector, the Nigerian government did not originally consider agricultural vocational training as one of the key areas to be developed through her technical and vocational education and training system.

ATVET is provided by Federal Colleges of Agriculture, State Colleges of Agriculture and Vocational / Innovative Enterprise in addition to private initiatives promoted by NGOs, CBOs and CSOs. Some statistics on the formal training structures are highlighted in table 24 below.



Table 24. Types and numbers of agricultural technical and vocational education and training institutions in Nigeria

| No. | Types of institutions | Numbers |
|--------------|---|---------|
| 1 | Federal Colleges of Agriculture | 17 |
| 2 | State Colleges of Agriculture | 20 |
| 3 | Vocational (VE1s) and Innovative Enterprise Institutions (IEIs) | 5 |
| Total | | 42 |

Source: NBTE (2019); UNEVOC (2019)

The proportion of Public Agricultural Colleges (Federal and State) and Private agricultural training institutions in Nigeria as compared to the number of institutions that offer technical and vocational education and training is rather low. This is reflected by UNEVOC (2019) statistics which indicate that out of 171 Technical colleges recorded, only 37 (21.64%) of them offer courses in agriculture and related disciplines.

On the other hand, it came out from NBTE (2016) statistics that as at July 2016 only 5 (3.4%) out of the 147 Vocational Enterprise Institutions and Innovative Enterprise Institutions registered with the Board offered courses in agriculture and related disciplines (table 25 below).

Table 25. List of VEIs and IEIs that offer Agricultural Technical and Vocational and Training in Nigeria

| No. | Vocational / Innovative Enterprise Institutes | State | Qualifications awarded |
|--|---|---------------|----------------------------|
| 1 | Umuebe Farm College, Abakaliki, | Ebonyi State. | NID Innovative Agriculture |
| | | | NID Vocational Agriculture |
| 2 | Offer Centre Institute of Agriculture, Oluponna, Iwo, | Osun State | NID Agriculture |
| | | | NVC Agriculture |
| 3 | FCFM-Afaka Entrepreneurship Centre, Kaduna, | Kaduna State | NID Innovative Agriculture |
| | | | NVC Vocational Agriculture |
| 4 | Benson Idahosa School of Basic & Applied Studies, Benin-City, | Edo State | NID Innovative Agriculture |
| 5 | Aquatech Institute of Fisheries Management, Ibadan, | Oyo State | NID Agriculture |
| NID = National Innovative Diploma NVC = National Vocational Certificate | | | |

Source: NBTE (2019)



An initial analysis of the statistics available brings out clearly that the number of public and private institutions that offer professional agricultural and rural training in Nigeria is low compared to those that offer general and technical education.

The Federal Ministry of Education (FME, 2017) places the average annual flux of students in Federal and State Technical Agricultural Colleges at some 27,000. The proportion of students that graduated from agriculture and related courses each year is very low compared to those in other speciality areas.

For example, table 26 below presents statistics of fulltime and part time students that turned out of 13 agriculture specialities (Agricultural Engineering, Agricultural Engineering Technology, Agricultural Extension and Management, Post-Harvest Technology, Agricultural Bio-Environmental Engineering, Animal Health, etc.) in Polytechnics and Colleges of Technology for the 2014/2015 school year. When compared to the figures for accountancy alone, it comes out clearly that agriculture courses at National Diploma and Higher National Diploma levels are some 3 - 4 times less attractive to Nigerian youths than a course like accountancy.

Table 26. Summary out-turn from 13 agriculture courses and accountancy in Polytechnics and Colleges of Technology for 2014/2015 school year

| Programs | ND | | | HND | | | TOTAL | | |
|----------------------------------|------|--------|-------|------|--------|-------|-------|--------|-------|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Agricultural Courses (13) | 1336 | 1139 | 2475 | 593 | 519 | 1112 | 1929 | 1658 | 3587 |
| Accountancy (Alone) | 3495 | 2760 | 6255 | 3488 | 2413 | 5901 | 6983 | 5173 | 12156 |

Source: NBTE (2019); UNEVOC (2019)

On the other hand, very little statistics are available on the proportion of the graduates that either transition to work in the agricultural sector as employees in the public and private sectors or are self-employed on farm enterprises that they have created.

According to NBTE a good proportion of students of agriculture graduate with excellent grades without adequate exposure to the practical training that would ensure skills development, although an evaluation of the practical content of senior agricultural courses reveals a 56% coverage. This may lead to the conclusion that the curriculum is relevant to intermediate agricultural manpower development. This is however not the case as agricultural school leavers and graduates of college programs have continued to find themselves ill-equipped to move into the agricultural sector and take up production and other value chain activities confidently.

The Nigerian Government in her Agricultural Policy document underscores the need to increase the number of trained cadres of agricultural manpower in the country and the improvement of their stock of knowledge in all areas of agriculture in order to ensure that



all farmers who need extension services are effectively covered. In addition, the government mapped out the regular training of farmers in all subsectors of agriculture, the fostering of professional and post-graduate training in agriculture by providing adequate funds, the facilitation of on-the-job training of recruits into various Agricultural Development Programs (ADPs) and the general education of the public on the value of agriculture and its related branches.

However, the Nigerian Agricultural Technical and Vocational Education and Training (ATVET) system has not met these training objectives with respect to either the initial training of motivated youths or the continuing training of practitioners.

3.5. Practices of ATVET in Nigeria

There are very divergent approaches and practices of ATVET in Nigeria. Two main approaches are distinguished including **initial training** and **continuing training**.

3.5.1. Initial ATVET training

The EU Commission (NRDC, 2011) defines Initial Vocational Training as a work-based training process or activity for apprentices, trainees or learners, which leads to a formal qualification, to gain entry into a specific occupation, profession, job or sector. Some educators think that this perception of initial vocational training is rather limiting as it considers only the vocational pathway. They argue that it should be an alternative pathway to the academic route that contains many elements of an academic education, which can ultimately, lead to a tertiary level, university education, or the acquisition of skills that can enable transition to work.

The Nigerian ATVET system is built on this hybrid approach, which imparts mostly knowledge (theoretical learning) but also attempts to develop skills (practical skills acquisition) in the learners to enable them to proceed to further education or transition to work. The most crucial issue here is the direction to which the system should be predominantly tilted.

Providers of initial agricultural and rural professional training in Nigeria are either in the formal, non-formal or informal channels, as presented in the section that follows.

Formal approach to initial ATVET

Formal training is characterised by the fact that it is provided by the state education system and leads to a recognised qualification. Training is delivered through formal and rigorously structured processes. In Nigeria, this approach to Agricultural Technical and Vocational Education and Training focuses on the initial training of mostly youths in colleges of agriculture, public and private mono and polytechnics including VEIs and IEIs, who have the necessary entry requirements and pass the entry examinations.

Training institutions enrol junior or senior secondary school leavers depending on whether they are offering courses at the National Diploma or Higher National Diploma levels. Admissions are done in accordance with the procedures in force and through recognised agencies (Joint Admissions and Matriculation Board - JAMB, West African Examination Council - WAEC and the National Business and Technical Examinations Board - NABTEB). Training lasts up to 2 to 3 years in agricultural techniques and related areas but with focus on knowledge acquisition and some practical work in demonstration units on campus. Course



work is based on a curriculum developed either by the National Board for Technical Education (NBTE) or under the supervision of the Board. These institutions are required to adhere strictly to the provisions of the curriculum, though they can introduce some modifications using the window provided by NBTE for local context. Staff recruited by the institutions in accordance with due process deliver courses. They can be either full-time or part-time and their competencies are further built through training of trainer programs.

At the end of the course, students are expected to go through the 6 weeks Students Industrial Work Experience Scheme (SIWES) to access the necessary exposure to real work experience. Upon completion of the SIWES, the students present and defend a report in front of a jury constituted to that affect. It should be noted that practitioners of the agricultural sector are invited to sit in the jury and thus contribute to verifying whether the students have acquired the skills targeted. Furthermore, practical skills are expected to be acquired through student's projects with mentors. These projects are also defended in the college in front of a panel constituted by lecturers and professionals.

In addition to the technical training that is given to students enrolled on the longer programs, some colleges offer what they refer to as “**short vocational courses**” of very variable durations of about 1 week to up to 6 months.

Some details of the practices used by Oyo State College of Agriculture and Technology (OYSCATECH) are presented in Box 1 below to illustrate this approach.



Box 1. *Brief presentation of Oyo State College of Agriculture and Technology*

Oyo State College of Agriculture and Technology (OYSCATECH)

Vision: The vision of the Oyo College of Agriculture and Technology Igboora is to become the centre of excellence for agriculture and technology advancement through the training of youths for innovation, food sufficiency and job creation.

Key Strategic Objectives: Production of trained agricultural and technological manpower through full and part-time courses and training; Provision of technical knowledge, skills and expertise in agriculture and growth, commerce and economic development of the state; Giving exposure on professional studies on agriculture and technology through linkages, collaboration, workshops, conferences and seminars.

Courses: Originally a monotechnic, OYSCATECH is today transforming into a polytechnic with 3 faculties and 6 departments, 4 of which are in the field of agriculture (Plant science, Animal science, Agricultural engineering and Agricultural extension). Courses are streamlined along university standards and practices.

Student enrolment in agriculture: Very low (126 students) compared to the other faculties in the college (\approx 1000). In some agriculture departments there are as few as 5 students (more lecturers than students)

Specificities of the college: The college was in cyst condition and is just emerging such that its present situation is not a reflection of its true capacity; Graduates always excel in what they do; competency is acquired in the college but the biggest problem is funding;

Plans: (i) Establishment of farm estates for income generation. (ii) Injection of practical training into course delivery. (iii) Training of outsiders admitted into level 2. (iv) Training of farmers around the community in cassava production using specific varieties; (v) Provision of consultancy services to those who need them; (vi) The college will position itself as training provider for the Youth Employment in Agriculture Program - Oyo State (YEAP0); (vii) Strengthening of training on the fish value chain

Governance and funding: Governance of the college is ensured by the Governing Council, which pilots the affairs of the college and gives strategic orientation to the institution. Funds for the running of the college come mostly from the state government as well as some contribution from parents through tuition fees and other charges. For the past few years funds have not been forthcoming leading to recurrent strike actions by the teaching staff, but recently however, the State government has made available funds to pay salaries and improve infrastructure. In addition, the college has benefited from funding provided by the Tertiary Education Trust Fund (TETFUND)



A variation to this approach is developed and applied by a private training institute (Aquatech Institute of Fisheries Management - Ibadan) in Oyo State as illustrated in Box 2 below:

Box 2. Brief presentation of Aquatech Institute of Fisheries Management - Ibadan

Aquatech Institute of Fisheries Management - Ibadan

Status: The idea of the college was borne by a private promoter who is a university graduate with a PhD in fisheries management.

Key Strategic Objectives:

- provide manpower that can think and operate outside conventional notions and thereby impact their immediate environment and society at large,
- provide knowledge and skills needed for self-employment and ultimately make graduates of the institute job creators rather than employment seekers,
- produce technicians and technologists capable of carrying out strategic management of businesses and industries linked to agriculture and related fields.

Courses: Aquatech is a monotechnic in the category of Innovative Enterprise Institutes, but is transforming into a polytechnic to cover not only fisheries management but also other domains of agriculture and agricultural technology

Student enrolment: At the inception of the college, student enrolment was quite encouraging but over the years, the number of students has dropped partly because of the difficult procedures imposed by the Joint Admissions Matriculation Board (JAMB), and what the founder refers to as inconsistent government policies.

Specificities of the college: The college leases the facilities it has developed (fish ponds, feed mill, poultries, piggeries, etc.) to interested persons to generate some income. These facilities also serve to expose students to real work situations on-campus, during their training.

Plans:

- Consolidate existing facilities so as to generate more income,
- Liaise more with outside professionals to expose students to work situations in the real workplace,
- Provision of short courses to motivated persons
- Provision of consultancy services to the community
- Strengthening of training on the fish value chain

Governance and funding: A Governing Council ensures governance of the college. The institution has not benefited from any funds from the State or Federal Government Funds. It depends almost entirely on the equity contribution of the founders, tuition fees aid and on income generated from leasing out of facilities in the college.



Lessons drawn from these two variants are as follows:

- *Admissions to both public and private institutions throughout the country are administered by the same agencies including JAMB, WAEC and NABTEB;*
- *ATVET is not reserved only to public institutions. Within the framework of a public-private partnership, private institutions that meet the conditions for the provision of ATVET and respect the regulations in force, can play a leading role in the system;*
- *For the same training pathway and end qualifications (ND or HND), training practices can differ significantly depending on whether the institution is a public or private institution;*
- *There is very irregular and at times, no inspection by the National Bureau for Technical Education to ensure that training delivery is in conformity with set norms.*

Non-formal approach to ATVET

This approach is an apprenticeship-based training approach which does not involve the state and which focuses on skills development and addresses participants with different educational backgrounds. Trainings are non-formal because they do not lead to the award of an official certificate.

In Nigeria, they are delivered by some registered organisations including mostly Non-governmental organisations, companies, social partnership organisations and public-benefit bodies. The duration of the trainings, vary from some 3 months to up to 9 months. Generally, training is not based on a curriculum drawn up by or under the supervision of the National Board for Technical Education as is the case with colleges, mono and polytechnics. Experts of the organisation or training masters selected based on their competences and the availability of facilities permitting them to carry out practical training, do delivery of the course contents. Variants are noted with respect to the age (15 to 24 years of age for MAFITA and 18 to 35 years for new entrants in the case of PIND, IFAD and IART). Training may target older much more experienced farmers (PIND, IART) or vulnerable youths (MAFITA).

Most of the training providers that use this approach also encourage a strong involvement of the communities from where the master trainers are drawn. This is to ensure the sustainability of the training and its multiplication in the community. Training also strongly focuses on the building of entrepreneurship skills of participants by the master trainers and regular practice in the farm which could be the trainer's or the participant's farm.

The acquisition of practical skills accounts for about 70%, while theoretical issues take only 30% of the training. This is feasible because training is essentially subject-specific (production, storage, transformation, marketing...) or commodity-specific (cassava, fish, oil palm, vegetables etc.).

At the end of the training, certificates of participation are delivered to participants but these certificates do not fall in the range of the National Skills Qualification Framework of the National Board for Technical Education.



However, MAFITA has successfully secured the support of the NBTE to put in place a certification system based on the apprenticeship training approach that it developed over the years in Kaduna, Kano, Katsina and Jigawa states in the north of Nigeria.

Box 3. Brief presentation of the MAFITA model of training.

Mafita Training Model

Status: Mafita is an Economic Growth Program principally involved in Local Economic Development. Mafita means “*The Way Out*” in Hausa. It was established in 2015 in the four northern states of Kano, Kaduna, Jigawa and Katsina

Key Strategic Objectives: Prepare youths especially females in the local communities to find full-time skilled employment or self-employment and avoid migration to urban centres for such capacity building.

Courses: MAFITA offers courses in 28 skills areas, 4 of which are directly related to agriculture including Rice processing, Livestock farming, Poultry farming and Aquaculture. Courses typically have a duration of 9 to 12 months.

Trainee participation: No financial contribution by the beneficiaries, care-givers or community members; focus in on the necessity for inclusion; articles produced by trainees are sold for income generation, Master craftsmen are awarded Certificates of Master Crafts Person to participate in the training; A small feeding stipend and transport costs are paid to the trainees during training. Mafita partners with polytechnics to facilitate the delivery of skills training for training of trainers

Specificities of the model: Skills development project to accompany vulnerable youths of working age.

Training is done in Community Skills Development Centres - COSDECs (formerly Business Apprenticeship Training Centres - BATCs owned by the government, which were selected and rehabilitated). Capacitation of TVET trainers and Master Crafts Persons in the communities focuses on Recognition of Prior Learning so it eliminates the barrier of prerequisite academic qualifications for entry into the program. COSDECs are designed to operate as a 'One-Stop-Shop' involving skills delivery including foundational skills, vocational, entrepreneurial and life skills training and business support services to beneficiaries; Apprenticeship serves as a key entry point.

Plans: Work is underway with the State government to realign assistance and empowerment for self-employment; The Departments of Vocational Education and Training in collaboration with the Agencies that will take over the functions of MAFITA have been empowered and prepared to continue with the implementation of the actions of the project

Major challenges:

MAFITA training activities were more in the informal sector but the project engaged discussions with the NBTE to facilitate the production of curricula that suited the National Vocational Skills Qualification Framework;

Change in mind-sets in the local communities required a lot of work and commitment of project staff.



Mafita Training Model

Major challenges:

MAFITA training activities were more in the informal sector but the project engaged discussions with the NBTE to facilitate the production of curricula that suited the National Vocational Skills Qualification Framework;

Change in mind-sets in the local communities required a lot of work and commitment of project staff.

Major successes:

Apprenticeship Management Committees set up at the level of each training centre are willing to take over the functions of the project and ensure continuity and sustainability;

Government buy-in, adoption and willingness to fund the training and socio-professional integration model;

Governance and funding:

Management Boards manned by community members ensure governance; Funding in the pilot phase was provided by DFID, but the State governments are going to provide the funds necessary, when the program comes to its end in April 2020.

Lessons learnt here include the following:

- *Many local and international organisations in Nigeria use the non-formal approach to agricultural training mainly because of its great flexibility;*
- *Some state governments can work with NGOs and other training providers to train and settle youths to agriculture in their states;*
- *Training approaches that involve the communities in which the training centres are located are more successful and ensure continuity and sustainability when funds are withdrawn;*
- *NBTE can work with training providers in the non-formal system to develop National Occupational Standards that lead to recognition of the certificates awarded throughout the national territory;*
- *Short courses targeting participants with a wide range of qualifications.*

Short ATVET courses for participants with multiple levels of education are conducted for groups of people made up by graduates of agriculture and non-agricultural fields together with non-graduates, practising farmers and even people who have not been to school. Lectures are given in some aspects of crop and animal production, transformation, storage, marketing etc., followed by demonstrations or hands-on capacity building on related technical topics. In addition to this, some capacity building on entrepreneurship is also provided. According to this category of players, these training sessions are usually not in excess of 5 days considering the impatience of farmers and the fact that they would not



willingly stay away from their farms for more than a few days. In this case, emphasis is not laid on technical aspects of the training but rather on entrepreneurial aspects, which the farmers need if they have to transform their agricultural activities into agri-business ventures built more on value chains of the various strategic commodities. The number of participants generally varies from some 20 to 50 persons.

Experts or resource persons specially selected for that purpose provide training. This practice of ATVET is common among the following stakeholders:

- Youth Employment in Agriculture Program (YEAP) of the Federal Ministry of Agriculture and Rural Development (FMARD);
- Youth Initiative for Sustainable Agriculture (YISA);
- Tomato and Orchard Producers' Association of Nigeria (TOPAN);
- International Fund for Agricultural Development (IFAD);
- Foundation for Partnership Initiatives in the Niger Delta (PIND);
- Institute for Agricultural Research and Training (IAR&T);
- The Skills Development for Youth Employment of the GIZ and
- Food and Agricultural Organisation (FAO).

It should be noted that actors in this category may be involved in other approaches to training delivery as discussed above.

3.5.2. Continuing training

Continuing training is training undertaken by persons after their initial training or practitioners in a given occupation. In agriculture, continuing training may be necessary to solve a specific technical problem or it might be offered to bridge competency gaps with respect to an emerging technology.

In Nigeria, continuing training of farmers is generally provided by the extension service, Agricultural Development Programs (ADPs), specialised training institutions like the Institute for Agricultural Research and Training (IAR&T). Public colleges organise a few continuing training sessions for farmers in their localities while private institutions are more active in continuing training since participants pay some fees to attend.

Considering that continuing ATVET training needs to be organised at the farmer's level and that this requires substantial amounts of funds for regular organisation, and considering the weakness of the extension system, many Nigerian farmers do not benefit from this form of training.

The lesson learnt here is that innovative approaches to continuing training need to be developed to help farmers identify and analyse their farm problems and then go on to devise appropriate solutions to the problems.

3.5.3. Foundation education in agriculture

As government's strategy to catch the interest of children in agriculture in their early age, foundation education in agriculture is provided in primary and secondary schools. Many stakeholders refer to this approach as the '**Catch them Young Approach**' to attracting the



younger generation of Nigerians to agriculture. The National Policy on Education provides for the inclusion of agricultural science in the primary and secondary school curricula as one of the pre-vocational courses.

Agricultural science education in primary and secondary schools in Nigeria does not therefore fall within the scope of ATVET, but its goals include provision of sufficient food to the entire population as well as creating employment opportunities for school leavers. It is believed that agricultural science education creates room for the production of scientists early enough in the country’s secondary schools who will investigate agricultural problems, analyse them and interpret the results of such investigations and bring about the desired solutions that will facilitate overall agricultural development. Government believes that food security in Nigeria can be achieved through the inclusion of more practical sessions in the teaching and learning of agricultural science in both primary and secondary schools. However, the education offered tends to be more theoretical than practical permitting the students to pass their examinations but not really developing and sustaining their interest in the sector.

3.5.4. Higher education in agriculture

Some Nigerian universities specialise in higher education in agriculture and related fields but this level of agricultural education is not really in the domain of Technical and Vocational Education and Training handled by the NBTE.

As indicated in section 4.1.3.1 (f), there are 3 Federal Universities and 24 State and Private Universities that offer courses at tertiary level in agriculture related disciplines. Some graduates from the ATVET system, move on to enrol in these courses.

3.6. Curriculum design and delivery

The approaches to curriculum design and delivery are as variable as the practices of ATVET as a whole. These approaches are summarised in table 27 below.

Table 27. Various approaches to curriculum design and delivery by training organisations / institutions in Nigeria

| Approaches | Characteristics |
|--|--|
| <p>Approach 1: Initial training in Colleges of Agriculture and related fields</p> | <ul style="list-style-type: none"> ➔ Curricula are designed by NBTE and submitted to the training institutions for delivery; ➔ Contents of the curriculum are strictly respected during course delivery; ➔ There is however the possibility for introduction of new contents through a window that is referred to as ‘local context’, but with the supervision of NBTE; ➔ Though curriculum review is possible in order to make it abreast of technological evolutions in the domain, the curricula are not regularly reviewed and are currently out of phase with |



| | |
|---|--|
| | <p>contemporary issues in the field of crop and animal production as well as the transformation of farm produce;</p> <ul style="list-style-type: none"> → Course delivery is done by qualified trainers recruited on the basis of due process; → However, course delivery does not continuously link with the profession / real work environment. At times excursions / field trips are organised to expose the students to work experience but it is not clear what role these excursions and field trips play in skills acquisition. |
| <p>Approach 2: Apprenticeships for durations of up to 9 to 12 months with strong involvement of community-based trainers (MAFITA)</p> | <ul style="list-style-type: none"> → Curricular and other training documents are developed on the basis of the Competency based approach to training and also grounded on Recognition of Prior Learning (RPL); → Delivery of course content is done in training centres but with the intervention of selected farmers who provide practical training on their farms; → There is some of form of alternation between the training centre and work environment during the learning process and practical learning is under the supervision of Master trainers or Master Crafts Persons. |
| <p>Approach 3: Apprenticeship for durations of 3 to 6 months: (IAR&T, PIND)</p> | <ul style="list-style-type: none"> → Course manuals and guides are designed by the Training Organisation; → Course contents are typically tailor-made to suit the typology of trainees / participants in the course sessions as well as the objectives of the organisation; → Depending on the level, some curricula are developed in conformity with university process and submitted to NBTE for approval. |
| <p>Approach 4: Very short courses grouping participants with variable educational backgrounds (YEAP, YISA, TOPAN, IFAD, PIND, IAR&T, GIZ, FAO)</p> | <ul style="list-style-type: none"> → Training manuals and guides are tailor-made without the intervention of NBTE; → Course delivery is done by resource persons / master trainers / experts; → The approach to content delivery is mostly the ‘incubation approach’ tagged to production cycles or ‘gestation periods’; → Technical skills acquisition related to ‘Farmer Field Schools’ or Farmer ‘Business Schools’ are usually pre-season, in-season and off-season. |



| | |
|--|--|
| | <ul style="list-style-type: none">➔ Content delivery is typically hands-on practical training;➔ There is some follow up of trained participants after the training. |
|--|--|

Source: Field discussions

3.7. Training of trainers

The recruitment of trainers in public colleges follows due procedure, which is generally as follows:

1. All teaching staff apply for recruitment upon emission of a call for application to teach in the college by the administration of the institution ;
2. Applicants are invited to an interview in front of a panel constituted by the administration ;
3. Only the most competent candidates are selected because only they can deliver the training up to expectations, selection is done on the basis of the following:
 - The certificates presented ;
 - Past experiences ;
 - Number of research papers published, and
 - Practical skills.
4. The recruited staff are placed under the mentorship of more experienced teachers.

In private colleges teaching staff are a mix of full-time and part-time staff who in some cases are given greater latitude to engage in other activities in addition to their teaching job.

To a certain degree all of the actors of training provide basic training to trainers with respect to pedagogic methods. The level, approach and duration of the training however differ from one structure to the other. In addition, the content of the training depends essentially on the domain of activity handled. In the case of the FAO for example, training is done either by local or international experts or by former workers of the organisation and therefore they do not really need any further training. In the case of the Foundation for Partnership Initiatives in the Niger Delta (PIND), care is taken to make sure that master trainers have the necessary competence and facilities to run the trainings but where necessary the apprentices and master trainers may follow some course modules together delivered by staff of the organisation or resource persons engaged for that purpose.

3.8. Donor interventions in ATVET in Nigeria

Many donors ranging from national to international governmental and non-governmental organisations have designed and are undertaking interventions in the ATVET sector in Nigeria. These interventions include the following:

1. Provision of funding for construction / rehabilitation of infrastructure required for training and retraining;
2. Support to the design of training content in the form of curricula, training guides and manuals;



3. Support to training delivery in the form of provision of funds for didactic materials and equipment, field trips, allowances to trainers, etc.
4. Support to the training of trainers;
5. Support to the socio-professional integration of trained beneficiaries through the provision of start-up funds or kits, provision of training on financial literacy or facilitation of access to financial institutions for loans;
6. The use of state-specific approach to interventions in the ATVET sector.

A mapping of these interventions and the states where donor interventions are carried out, are presented in table 28 and 29 below presents a mapping of these interventions.

Table 28. Mapping of the interventions of some donors in Nigeria

| Types of interventions | PIND | GIZ | IFAD | DFID (MAFITA) | FAO |
|--|------|-----|------|---------------|-----|
| Provision of funding for construction / rehabilitations | √ | | | √ | |
| Support to training content design (curriculum / guides / manuals | √ | √ | √ | √ | √ |
| Support to training delivery | √ | √ | √ | √ | √ |
| Support to training of trainers | √ | √ | | √ | |
| Support to socio-professional integration of trained beneficiaries | √ | √ | √ | √ | √ |
| State-specific approach to interventions | √ | √ | √ | √ | √ |

Table 29. States of intervention of some donor organisations in Nigeria

| No. | States of Nigeria including the FCT | ATVET Interventions by Financial and Technical partners in the various states | | | | |
|-----|-------------------------------------|---|-----|------|---------------|-----|
| | | PIND | GIZ | IFAD | DFID (MAFITA) | FAO |
| 1. | Kebbi | | | √ | | √ |
| 2. | Sokoto | | √ | √ | | √ |
| 3. | Zamfara | | | √ | | √ |
| 4. | Katsina | | | √ | √ | √ |



| | | | | | | |
|-----|-------------|---|---|---|---|---|
| 5. | Jigawa | | | √ | √ | √ |
| 6. | Kano | | | | √ | √ |
| 7. | Kaduna | | | | √ | √ |
| 8. | Bauchi | | | | | √ |
| 9. | Plateau | | √ | | | √ |
| 10. | Gombe | | | | | √ |
| 11. | Adamawa | | √ | | | √ |
| 12. | Yobe | | | √ | | √ |
| 13. | Borno | | √ | √ | | √ |
| 14. | Niger | | √ | √ | | √ |
| 15. | Kogi | | | √ | | √ |
| 16. | Nassarawa | | | √ | | √ |
| 17. | Oyo | | | | | √ |
| 18. | Kwara | | | | | √ |
| 19. | Esin | | | | | √ |
| 20. | Ekiti | | | | | √ |
| 21. | Osun | | | | | √ |
| 22. | Ogun | | √ | √ | | √ |
| 23. | Benue | | | √ | | √ |
| 24. | Taraba | | | √ | | √ |
| 25. | Enugu | | | √ | | √ |
| 26. | Ebonyi | | | √ | | √ |
| 27. | Anambra | | | √ | | √ |
| 28. | Ondo | √ | √ | √ | | √ |
| 29. | Edo | √ | | √ | | √ |
| 30. | Delta | √ | | √ | | √ |
| 31. | Bayelsa | √ | | √ | | √ |
| 32. | Imo | √ | | √ | | √ |
| 33. | Rivers | √ | | √ | | √ |
| 34. | Abia | √ | | √ | | √ |
| 35. | Cross River | √ | √ | √ | | √ |



| | | | | | | |
|-----|-----------|---|---|---|---|---|
| 36. | Akwa Ibom | √ | | √ | | √ |
| | FCT | | √ | √ | √ | √ |

Source: Field discussions

N.B. Apart from the FAO which has interventions in all the states of Nigeria, most of the other donor organisations have interventions in specific states. The interventions of the FAO are not strictly in the domain of Agricultural Technical and Vocational Education and Training but most of them involve some aspect of training or capacity building. They include rice, banana and plantain projects, livestock development, fisheries and aquaculture, crop pests and animal diseases, youth employment in agriculture and Food security programs.

The General trends are that some 40% of donor interventions target all aspects of ATVET renovation including construction / renovation of infrastructures, while 60% of them target all the other soft aspects but not infrastructure. When donors direct their support at the formal more structured aspect of ATVET, they tend to cover infrastructure construction and the other soft aspects like curriculum innovation (MAFITA) or review (GIZ). Whereas, where interventions target non-formal or informal aspects of ATVET, the organisation does not target the hard aspects, which involve important investments.

Overall, a cross analysis of interventions concerning ATVET renovation and development leads to the conclusion that they should be holistic as such as approach will lead to a number of structural benefits including:

- An improvement of the learning environment to enhance teaching and learning in a conducive setting;
- The improvement of training delivery methods so that they focus on the realities of the profession;
- The adaptation of training contents to the needs of the trainees, the community and the profession;
- The availability of didactic materials, equipment and learning situations that reinforce practical skills development rather than the simple transmission of theoretical knowledge;
- The creation of new occupations which lead to the creation of decent jobs;
- The involvement of local actors to encourage joint and transparency management of the system.

3.9. Socio-professional integration and settlement of trained youths

Different stakeholders have divergent perceptions and approaches to support for the socio-professional integration and settlement of trained youths.

The Tomato and Orchard Producers' Association in Nigeria (TOPAN) for example argues that direct financial support may not be the best approach to helping young graduates start an activity in the agribusiness domain. Support that can produce the best results should rather focus on the facilitation of access to land for production activities, quality inputs at an affordable price, machinery services and continuing training.



TOPAN thinks that overall, it is necessary to make agriculture a sector that offers decent jobs to youths so as to build their self-esteem and to change the perception that society has of them. So according to them, these graduates should not be transformed into ‘beggars’ or dependents. They should be capacitated to as much as possible become self-reliant. Monitoring of the youths before and after they receive any assistance is of the utmost importance to make sure that the assistance is put to the use for which it is destined.

The FAO, GIZ, PIND and IFAD do not give financial support in cash but rather in the form of materials, tools and equipment. In all of these cases, the benefactor must participate in the venture and not consider it as free assistance or a gift. Such participation is generally in the form of land for production activities or pens for the raising of animals.

In all cases, the funding organisations facilitate access of the beneficiaries to financial institutions and help them build credibility so that they can on their own access soft loans to grow and develop their enterprises. The cases of PIND and MAFITA are very peculiar and are presented in the boxes that follow:

Box 4. PIND Approach to support to trained young farmers for the initiation of their farm business activities

- Cash Start-up funds are not provided to those who have been trained,
- A financial arm of PIND called **Access to Finance Project** facilitates access of agribusiness promoters to financial institutions for soft loans at a negotiated interest rate;
- Loans are extended to those of them who want to start a farm business or enter one of value chains targeted by the foundation (oil palm, fish, cassava...);
- PIND provides funds to Micro Finance Institutions (MFIs) and then works with them to build the capacity of SMEs to access the funds at a controlled interest rate;
- The involvement of the community introduces a revolving fund mechanism such that community members in their turn benefit from the loans extended;
- Monitoring of trainers and participants is done by enumerators who go out to evaluate what is going on;
- Staff of the program supervise the monitoring and evaluation process and collect relevant data for reporting;
- Other post-training activities include coaching, mentoring and seed grant support are provided by PIND.
- Particular attention is paid to capacity building on financial literacy;
- PIND engages in advocacy actions targeting government, civil society and local communities through public decision-making, local governance and economic development to support trained youths in their socio-professional integration process.



Box 5. MAFITA approach to support to trained young farmers for the initiation of their farm business activities (MAFITA means 'The way out' in Hausa)

- Cash start-up funds are not provided to those who have been trained;
- Demand for improvement of local economic conditions drives self or wage-employment of trained participants;
- Working tools, equipment, material and inputs are distributed to trained youths to assist them start their business activities;
- MAFITA designs effective strategies for access to finance that help micro-lenders deliver financial products, which serve beneficiaries, and micro and small enterprises (MSEs);
- Graduates of the training programs who opt for self-employment are assisted to develop their project ideas into viable start-ups;
- MAFITA ensures the provision of information on job opportunities and requirements, thereby simplifying access of graduates to the labour market;
- The use of Master Crafts Persons (MCP) in looking for placements, further expands the opportunities that are available for the employment of trained beneficiaries;
- The transformation of Government-owned Business Apprenticeship Centres (BATCs) into Community Skills Development Centres - COSDECs has led to buy-in by the local communities of the project areas, who willingly participate in the placement of trained youths;
- Some 12 Community Skills Development Centres (COSDECs) have been established and have trained some 3,500 master craftspersons (MCPs) who have participated in the training of some 21,000 apprentices or COSDEC trainees of which 50% are female;
- Incubation through an apprenticeship scheme facilitates engagement of graduates in work;
- MAFITA has developed 18 National Occupational Standards (NOS) and instruments for assessment and certification in apprenticeship in order to ensure quality training for the informal sector in which it operates. These instruments were developed in collaboration with NBTE, which guarantees recognition, by the labour market of the qualifications awarded;
- The success rate of the trained youths who have sought employment or are self-employed is estimated at some 70%.



3.10. Analysis of Strengths, Weaknesses, Opportunities and Threats to ATVET

The current situation of ATVET in Nigeria is characterised by specific strengths, weaknesses, opportunities and threats presented in the sections that follow.

3.10.1. Strengths of the ATVET system

Some of the key strengths of the ATVET system in Nigeria include:

1. The existence of a National Policy for Education which is reviewed in conjunction with technological developments and evolutions in the political, social, economic and environmental context of the country;
2. The existence of strong agricultural development policies including the Agricultural Promotion Policy (APP 2016 - 2020) which was drawn up to replace the Agricultural Transformation Agenda (ATA) that preceded it. Presently, a new policy is being drafted as a replacement to the APP, and it is intended that some of the important issues that featured in the ATP but were not included in the APP would be taken care of. A National Livestock Transformation Policy (2018 - 2035) also exists. Both policy documents are key to charting a path for agricultural and rural development through training;
3. The existence and functioning of policy implementation structures related to ATVET. These include the National Board for Technical Education, the Industrial Training Fund, the Tertiary Education and Training Fund, Institutes with a mandate for research and training, Agricultural Colleges, VEIs and IEIs and training centres which are engaged in some form of agricultural and rural training;
4. A favourable environment for public - private partnerships in the domain of ATVET;
5. A strong decentralised approach to agricultural development and ATVET delivery in the perspective of agricultural transformation at the levels of States and local government areas;
6. Strong political will of the Federal and State governments to advance agribusiness and strategic value chains that can contribute to economic development of local areas, states and the nation as a whole.

3.10.2. Weaknesses of ATVET system

On the other hand, the weaknesses of the ATVET system include:

1. The inexistence of a clear strategy specifically addressing **ATVET** at all levels of the education and training system.
2. Inadequate funding of ATVET provision structures, sometimes engendering protracted breakages in training delivery as a result of strike action by trainers and other support staff.
3. A weak focus on a proportionate acquisition of knowledge, skills (knowhow) and professional attitudes through a well-structured Competency Based Approach to the initial training of youths who are motivated and want to go into agriculture and agribusiness based on the value chains of strategic crops and the comparative advantage that specific states offer to the development of these commodities.



4. The informal apprenticeship approach to skills development for youth employment does not receive enough attention in such a way as to offer a response to the employment problem of masses of youths who lack the necessary qualifications to access mono-technics, polytechnics and colleges or who are vulnerable and cannot access training offered by the formal and non-formal systems.
5. A university system at crossroads between general education and technical and vocational agricultural training which was not one of its original missions. In an effort to deliver such training, some universities are trying to set up specialised vocational training centres or introducing modules on entrepreneurship. If such measures are not carefully streamlined, they would not yield the expected outcomes of building university graduates into competent manpower that is directly operational upon graduation.
6. Colleges, mono and polytechnics which are engaged in initial training and the majority of training organisations that are engaged in capacity building do not lay enough emphasis on financial literacy to facilitate access by youths to financial markets and the products and services offered by these markets.
7. There is a serious mismatch between the curricula of public and private training institutions and the requirements of the agricultural labour market, such that graduates from these institutions generally do not have the competences and skills that are required in the sector. This may also be attributed to the lack of well-trained and qualified trainers in the sector who are able to impart skills through innovative approaches to the learners.
8. In most of the training structures, there is a lack of up-to-date data on graduates, their whereabouts, their past and current activities, their employers and their level of satisfaction concerning the performance of the employees.
9. There is the lack of a well-structured and functional guidance and counselling system, which should help to put youths in a proper career path in the agricultural sector.
10. The approach to training delivery focuses more on theoretical than practical training which in combination with unadapted curricula further worsens the problem of skills mismatch of graduates with respect to agricultural and rural occupations and the needs of the profession.
11. The ATVET system is not perceived as one of the key pillars in agricultural and rural development especially concerning the development of agro-industries, which will contribute to overall economic development of the country. The image that ATVET projects does not contribute to vocational attractiveness and the acceptance and participation of youths in its programs.

3.10.3. Opportunities of the ATVET system

With respect to the opportunities that are open to the ATVET system in Nigeria, the following were identified:

1. There is a strong will of government both at the Federal and State levels to leverage agriculture and especially agribusiness and value chains as drivers of economic development.



2. The diverse agro-ecological conditions of the country offer great potentials for the production and transformation of strategic commodities at local level using simple and adapted technologies and processes, and hence to settle down, create jobs and wealth and thereby contribute to the overall economic development of the country.
3. The high population of youths is an opportunity to draft them into agriculture and thereby benefit from the population dividend that they offer.
4. Youths and women are getting increasingly interested in the agricultural sector especially in the different segments of value chains for some key commodities as well as some non-conventional commodities. The development of courses addressing these openings are opportunities that the ATVET system can use to improve on its scope and level of professionalism.
5. Advances in technological developments offer a significant opportunity for their applications in the agricultural sector in a bid to reduce drudgery, increase productivity and facilitate market access thereby attracting increasing numbers of youths to the sector.
6. The readiness of private industries and stakeholders to fund and support the development of ATVET in the country is an opportunity that training structures can seize to grow their resilience and responsiveness to the changing landscape of ATVET in the country.

3.10.4. Threats to the ATVET system

1. One of the greatest threats to ATVET is the increasing drift of able-bodied youths from rural to urban areas with the resultant abandonment of farming in the hands of the ageing or aged farmers.
2. Succeeding governments especially at state level may not give adequate attention to agricultural development and hence agricultural technical and vocational education and training. Budgetary allocations for the development of ATVET may drop, resulting in the system's inability to deliver on its missions.
3. Climate change may take a heavy toll on agriculture pushing younger farmers to opt out of the sector, and discouraging new entrants who are graduating from one or the other ATVET system from effectively entering into the system.
4. Heightening insecurity may discourage international donors from coming in and putting up funds to finance ATVET.



CHAPTER FOUR

4. RENOVATION AND DEVELOPMENT STRATEGY OF THE NIGERIAN ATVET SYSTEM

The theory underpinning the economic importance of Agricultural Technical and Vocational Education and Training (ATVET), is based on the concept of human capital which treats human knowledge and skills as means of production - an asset that can potentially generate income, and can be increased through investment, for example in education and training. ATVET is one of the most straightforward ways of investing in human capital because it generates productive skills, which are traded in labour markets. Consequently, ATVET affects an individual by increasing their potential income through increased production and productivity.

In the previous chapter, in-depth analysis of agricultural production in Nigeria indicated huge gaps in the yields of priority crops as well as significant demand-supply gaps in the production of major animal species. Among the numerous factors responsible for these shortfalls in production, mastery of good agronomic and livestock rearing practices stood out as a very important factor. Such mastery depends on the level of initial training of farmers at entry into the occupation as well as the effectiveness of continuing training and information of these farmers over the years.

In the previous chapter also, it came out however that the Agricultural Technical and Vocational Education and Training (ATVET) system in Nigeria has not been able to provide adequate quality initial training to young farmers and entrepreneurs or continuing training to practicing farmers, due to its inherent weakness. This weakness is partly due to the lack of a national strategic approach to professional (vocational) agricultural training, the structure of the ATVET system itself and the insufficient attention that agriculture has received from government as compared to crude oil since the 70's.

The National Policy on Education provides for introductory training in agricultural sciences, at foundation level in primary, junior secondary and senior secondary levels as a pre-vocational approach to agricultural training. This is intended to prepare post-primary and post-secondary school youths to develop interest in agriculture and to build a career in the sector. However, the level of attractiveness of youths to agriculture is very low. This is primarily because of the general negative perception of the sector by society on account of its labour-intensive nature, the low level of application of modern technologies to agriculture and the consequent perception by youths themselves that agriculture is a lowly profession which is reserved for persons who have failed in all other areas of work.

Aside from these issues, the structure of the formal ATVET system put in place is characterised by what may be referred to as the 'missing foundation', because it focuses on intermediate and higher level entry points but pays very little attention to the base where smallholders operate. The system does not offer a clear option for the entry of young school leavers, dropouts from secondary schools, returnees, etc. who are motivated to take up farming and to make a living out of it, and who through their production activities can feed agro-industries with the raw materials needed for transformation.



On the other hand, the current system is making an effort to train youths in Colleges of Agriculture, Vocational and Innovative Enterprise Institutions for entry into production and middle level positions of the Nigerian sector. However, the results obtained have fallen far short of expectations. Few graduates from these institutions actually enter and build careers in agriculture resulting in what may also be referred to as the “**weak middle**”.

In order to renovate the existing ATVET system, a lot of attention will be paid to these two levels of the system. That is the base or foundation (**post-primary school youths who are trained and supported to settle down and produce on-farm**), and the middle level (**post-secondary school youths who are trained and supported to settle down to pre-production, on-farm production, value chain development and other specialised service provision activities**)

4.1. Strategy for the renovation of the ATVET system in Nigeria

The current ATVET system needs to be transformed in all of its segments through a holistic approach that redefines certain basic principles of the system and realigns its goals to the needs of smallholders, medium and large agro-industries and the exigencies of a developing agricultural sector against the background of rapid technological development. This implies a total change in paradigm.

The renovation of the agricultural technical and vocational training system in Nigeria will be built on 4 key pillars which provide strategic orientation to the process. These pillars include:

- A two tier and double-track approach;
- A robust public-private partnership strategy;
- A flexible and responsive system that is deeply anchored in the territories;
- A system built on a concerted approach to governance.

These four pillars of the renovated ATVET system will be subsequently considered as the 4 strategic orientations which will be analysed in terms of strategic objectives and corresponding strategic axes that will contribute to the overall strategy. The axes will be broken down into the different implementation actions and activities in order to lead to the achievement of the objectives and hence the global strategy. This detailed analysis is presented in the sections that follow.

4.1.1. Strategic orientations for the renovation of the ATVET system

In the strategy proposed for the renovation of the ATVET system in Nigeria, the 4 pillars identified will not be stand-alone independent schemes, but rather closely integrated processes that evolve in close synergy to lead to a vibrant, resilient and sustainable system. Detailed analysis of the different strategic orientations are presented in the next sections.

Strategic orientation 1: A two tier and double-track approach.

The objective of this approach is to improve the production and productivity of smallholder farmers in Nigeria and build the capacities of young entrepreneurs to create and competently manage small and medium agribusinesses and agro-industries driven by value chains of priority crops and animal species.



Considering that agriculture in Nigeria is predominantly in the hands of smallholder farmers, whose practices are characterised by low production and productivity any transformational action must focus first of all on these smallholder farmers.

Entry points for interventions directed as boosting smallholder production and productivity include increasing access to quality seeds and materials, promoting best agronomic practices and enhancing value chains. The application of good agronomic practices requires sufficient mastery of the said practices which can only be achieved through training.

A key strategy therefore to boost agricultural production and productivity, to rejuvenate the agricultural work force and provide sustainable jobs to the growing population of youths, is to attract them, train them and facilitate their entry into the sector. On the other hand, the continuing training of practising farmers will contribute to substantially boost their production and productivity.

It is important therefore that the renovation of the ATVET system puts in place a robust and vibrant component that is dedicated to the initial professional training of motivated new entrants, and the continuing training of practising smallholder farmers.

The training of this category of beneficiaries will be developed and delivered in specialised training centres, which will either be public or private training centres.

It must be noted that training of increasing numbers of youths on its own, will not necessarily boost production if no action is taken to facilitate their socio-professional integration and stabilisation in the activity. **The renovated ATVET system must therefore develop a complementary system dedicated to the settlement of the trained young farmers.**

Considering that individual young farmers will eventually encounter problems that they may not be able to tackle individually, but which can only be solved collectively, the renovated ATVET system will develop mechanisms that facilitate the clustering of the young farmers around the priority commodities that they produce. In so doing, problems related to access to farm inputs, farm mechanisation and product transformation services, markets, information technology and continuing training will be tackled in a collective and more sustainable manner.

In parallel to the training and settlement of young farmers (to respond to increased production and productivity), **the ATVET system will focus on training of youths at intermediate level (most preferably post-secondary school youths) to create and manage small and medium agro-industries and agribusinesses driven by value chains of priority crops.** This will be in line with the agricultural and livestock transformation policies advocated by the government to ensure the creation of jobs and wealth, to accelerate economic recovery, and contribute to territorial and national development.

The complementary socio-professional integration support system described in the case of young farmers, will have to be polyvalent and capable of also supporting trained agribusiness and value chain operators to set up small and medium processing plants focused on priority commodities produced in the territories where they are settled.

The strategic axes of this first strategic orientation are summarised in table 30 that follows.



Table 30. Summary presentation of strategic axes and targets

| AXES | Description of axes | Description of targets |
|--------|--|--|
| AXIS 1 | Training of young and practising farmers in training centres | Initial training of post-primary school youths |
| | | Continuing training of practising farmers |
| AXIS 2 | Training of agribusiness and value chain operators in Colleges of Agriculture, Mono and Polytechnics | Initial training of post-secondary school youths for agribusiness and value chain development |
| | | Continuing training of practising agribusiness and value chain operators |
| AXIS 3 | Socio-professional integration of trained youths | Support to the socio-professional integration of trained young farmers, agribusiness and value chain operators |

To be able to operationalise these three axes and thereby achieve the objectives of this first strategic orientation, a number of key actions will be undertaken as summarised in table 31 here below.

Table 31. Summary presentation of strategic actions to be undertaken

| ACTIONS | Description of actions to be undertaken |
|----------|---|
| ACTION 1 | <p>Identification of pilot states and training institutions:</p> <p>One of the very first actions will be to identify the states and training institutions (training centres and colleges of agriculture) that will be involved in the pilot phase of the ATVET renovation process, This identification will be done on the basis of objective criteria, some of which will be reviewed in the next chapter.</p> |
| ACTION 2 | <p>Assessment of resources:</p> <p>Assessment of infrastructures, material, human and financial resources that are available, as well as the resources that will be needed by each state and institution to launch the renovation process will be carried out. Based on these two indicators, there will be the assessment of the needs gaps to be filled.</p> <p><i>N/B: Strategies to fill the resource gaps will vary from one state to the other and from one institution to the next.</i></p> |
| ACTION 3 | <p>Rehabilitation / construction of infrastructures and acquisition of didactic materials and equipment.</p> <p>In order to improve on the learning environment, there shall be the need to rehabilitate some infrastructure and construct essential ones where need arises.</p> |



| | |
|------------------------|---|
| | <ul style="list-style-type: none"> - Existing infrastructures like Administrative blocks, classrooms, halls, dormitories, refectories and kitchens, farm buildings, pedagogic workshops etc. shall be rehabilitated. - Where they do not exist, essential infrastructure like boreholes, water tanks, conduit pipes, toilets / latrines, and security fences shall be constructed. |
| <p>ACTION 4</p> | <p>Training needs assessment and development of reference documents / training packages / curricula:</p> <p>Renovation of the training will necessarily require renovation of training methods and contents, which will be clearly defined in reference documents, training packages, or curricula.</p> <p>The occupations / jobs, for which training will be developed, will be identified through the analysis of priority crops in the various regions / states concerned. The training documents that will be developed will have to respond adequately to the needs identified.</p> <p>The development of these documents is a process that has to be carried out methodically. It will involve different categories of actors and should end up with contents that are easy to understand, interpret and apply.</p> <p>The training documents must have a certain degree of flexibility to enable adaptation to local content and a more extensive review in case of major evolutions.</p> |
| <p>ACTION 5</p> | <p>Training of trainers:</p> <p>In this case, two options are available as follows:</p> <ol style="list-style-type: none"> 1. Six (06) resource centres for the training of trainers within the framework of the ATVET system are set up in the 06 geo-political zones – North East, North West, North Central, South East, South West and South-south. The resource centres are rehabilitated, equipped and staffed to provide training to Instructors of Training Centres and Trainers of Colleges of Agriculture. A single curriculum that focuses on ‘Agricultural Training, Instructional Design and Education Engineering is developed for the training of trainers and instructors in these Resource centres. The Resource centres also serves for the training of Principals / Provosts of Colleges of Agriculture on Agricultural Training Systems Design, Management of Training Structures, Performance Monitoring and Evaluation, etc. <i>The advantage here is the flexibility of the approach as governance, funding and management of the resource centres will be better mastered by the ATVET system</i> 2. Negotiations are made with Colleges of Education that have a Department of Agricultural Sciences, to undertake the training of trainers, instructors and Managers of Agricultural Colleges and Training Centres. The risk is that training content is structured according to university standards with little emphasis on the acquisition of competencies on Pedagogy. This will simply |



| | |
|------------------------|--|
| | <p>lead to the perpetuation of the ineffective approach to agricultural training use in universities, which till date is not responding to the needs of the agricultural labour markets.</p> |
| <p>ACTION 6</p> | <p>Training of beneficiaries:</p> <p>The admission of the first cohorts to the renovated training program shall be launched as soon as all is set to start training activities.</p> <p>The duration of training for the different pathways shall be determined based on the course hour load and the qualifications targeted. As such the training of beneficiaries shall unfold in accordance with this and other important criteria.</p> <p>Although it will be best to determine a training approach through concerted discussions, the “alternation system” or “dual training system” in which training is done alternatively in the working environment and in the training structure tends to give the best results with respect to skills and knowledge acquisition.</p> <p>Other important questions to answer prior to launching of the training are as follows:</p> <ul style="list-style-type: none"> i) Will the training be subject to tuition fees or not? ii) Will trainees receive a stipend to cover essential needs or not? iii) Will master farmers (reference farmers) and internship masters be involved in the training or not? iv) If they will be involved in the training, what will the conditions for their participation? v) Will only trainers or instructors handle all of the training in the colleges / centres or will resources persons will be involved? vi) How will the trainees be assessed and what approaches will be used? vii) How will the training system be assessed? <p>It should be noted that the questions highlighted are not exhaustive and there will be the need to push the reflection deeper to make sure that training activities unfold smoothly.</p> |
| <p>ACTION 7</p> | <p>Socio-professional integration of trained youths:</p> <p>a). Development of the socio-professional integration system:</p> <p>The socio-professional integration of youths is a complex process that needs to be carefully, planned, structured and empowered before its deployment on the field. In order to backstop the trained youths to start productive activities, it will be necessary to first of all develop a system that will be in charge of the entire process.</p> <p>It is advantageous to develop such a system much earlier in the ATVET renovation timeline than at the end of the training of the first cohorts of youths.</p> <p>Careful attention must be given to what the support will focus on, who to support, what support to provide (financial or material), how the support will be delivered, monitoring the activities of the beneficiaries and evaluation of the process. It will also be important to determine the role that the local actors will play in the system.</p> |



| | |
|--|--|
| | <p>To ensure sustainability of the system, these local actors will be involved from the design to the testing, fine-tuning, consolidation and institutionalisation of the system. Eventually, beneficiaries of the system will be involved in it so that process of training and support to the settlement of subsequent batches continues.</p> <p>b). Backstopping of the social integration of the trained youths.</p> <p>This backstopping will first of all be individual and later on collective, with the clustering of the young professionals around key commodities / activities in which they are involved.</p> <p>This is a crucial step in the renovation process because, its successes will strongly project the image of the system as a whole, and will lead to its attractiveness to potential beneficiaries.</p> <p>The backstopping process will be accompanied with carefully planned communication so as to improve on the visibility and the attractiveness of the renovated system through the “success stories” that it records.</p> |
|--|--|

These actions will not necessarily be implemented in a serial order. On the contrary, a timeline shall be designed and programming done such that implementation of activities will lead to the attainment of expected outcomes in the shortest time frame and the most efficient way. Parallel implementation of some actions will therefore not be excluded.

Strategic orientation 2: A robust public-private partnership approach to ATVET renovation

The objective here will be to mobilise private sector human, material and financial resources in order to improve the quantity, quality and efficiency of agricultural training provision based on mutually profitable and healthy competition.

Public sector provision of agricultural technical and vocational education and training in sub-Saharan Africa has been characterised by low performances due to a number of factors amongst which are:

- low utilisation of available capacity due to insufficient diagnostic studies at the inception of initiatives;
- poor manpower planning leading to understaffing and sometimes overstaffing;
- laxity and indiscipline of teaching and support staff who are civil servants and are not often concerned about the achievement of results;
- over-capitalisation due to inadequate planning, delays and unavoidable wasteful expenditures, surplus infrastructure capacity and sometimes, tied aid resulting in compulsory acquisition of sophisticated equipment with little maintenance possibilities;
- heavy overhead costs that derive from poor planning;
- inefficient management and
- political interference.



The renovated ATVET system in Nigeria will therefore seek to be practical and efficient involving the joint responsibility of all parties concerned, including public sector institutions, private sector organisations and farmers, vocational training institutions as well as relevant educational institutions and research institutes. Such a robust public-private partnership will build a sustainable system through fair cost-sharing mechanisms that will lead to better performances and increased rates of success.

The participation of the private sector is critical because it will take part in the practical training of the learners through their immersion in functional enterprises, for work experience in real professional situations. Above all, the private sector will participate in risk sharing, and spearhead innovative approaches through focus on service delivery, full-asset utilisation, mobilisation of additional funds and accountability. Exchange of experiences and good practices between public and private institutions will pave the way for the development of a solid and sustainable system.

One strategic axis has been identified for this strategic orientation as follows:

AXIS 4: Development of a multi-actor partnership involving public and private sector stakeholders.

The Key actions of this strategic axis that will lead to the attainment of the objective set are presented in table 32 below.

Table 32. Actions in respect of public-private partnership development

| ACTIONS | Description of actions to be undertaken |
|------------------------|---|
| <p>ACTION 8</p> | <p>Constitution and operationalisation of concertation platforms:</p> <p>To ensure that the renovated ATVET system functions within the framework of a strong public-private partnership, thoughtful consideration will have to be given to the identification of stakeholders and the composition and launching of concertation platforms at the Federal, State and Local Government levels as well as at the level of the training institutions.</p> <p>There may be the need for the composition of governing councils of Agricultural Colleges to be reviewed taking into consideration the direction that these institutions may take as concerns the ATVET renovation process.</p> <p>In training centres (public and private) where joint management organs did not exist in the past, it will be necessary to create Management Boards constituted of representatives of a wide range of community stakeholders.</p> |
| <p>ACTION 9</p> | <p>Monitoring and evaluation of strategic plans:</p> <p>Multi-actor platforms shall be different from the steering organs of the ATVET system. However, they will play a major role in the monitoring and evaluation of the implementation of strategic plans drawn up at the different levels of the system. Monitoring and evaluation will conclude with the necessary reporting / feedback to higher levels.</p> |

The partnerships will therefore uphold and promote ATVET training provision characterized by a favourable environment in which training is well structured, governed, funded and regulated in such a way that qualifications obtained from all training structures involved in



the renovation process are recognised and designed to facilitate transition to decent and fulfilling work in the sector.

Strategic orientation 3: A flexible but firm and responsive system that is well anchored in the territories

The objective of this third strategic orientation will be to develop a favourable environment for agricultural and rural training by putting in place appropriate adapted governance and funding mechanisms at all levels of the system and as well as regulatory and qualifications frameworks that recognise qualifications awarded and facilitate transition of trained beneficiaries to decent and fulfilling work.

For the ATVET system to attain this objective, it must be sustainable. To that effect, the system must primarily target the 3 pillars of sustainability which are:

- **Technical sustainability:** the system must have technical characteristics that are adapted to its purpose. The characteristics necessary for its implementation must be clearly defined and acquired through training and support by an appropriate expertise - consultants, resource persons etc. Its procedures must be identified in a clear, complete and transparent manner and the tools necessary for its functioning adapted to the functions targeted. The information, management, control, correctional and disciplinary systems must be functional and adapted to the needs of the global ATVET system.
- **Economic / financial sustainability:** the system must have the necessary financial resources that will enable it to implement the functions that it is assigned. For the system to operate sustainably, these financial resources themselves have to be perennial. This means that in addition to such funding sources as the Federal Government, State Governments, Local Governments, TETFUND, ITF etc. the renovated ATVET system must develop alternative mechanisms for funding such that when external funds are no longer available the entire system does not crumble.
- **Social sustainability:** the system will have to be recognised and approved by different social entities with which it will interact (communities, territories, civil society, the state, the nation....).

In addition to these three main pillars of sustainability, the system will be expected to build into its structure and mode of functioning two other elements of sustainability, which are:

- **Organisational sustainability:** the system will have to put in place mechanisms that are clearly defined and functional (its organs, criteria and decision making processes must be clearly defined, tools necessary for decision making - information system, management system, control system, etc, should be adapted to local realities and thoroughly mastered by the different players). In addition, the system must have the means and the capacity to anticipate and face up to unexpected “crises” or “shocks”.



- **Judicial / legal sustainability:** the system will need to have the legal capacity to operate without any risks of breaching the law in force, and its different organs and their functions must be defined to operate within the strict confines of the law.
- Overall, the system must be flexible but firm and responsive, and deeply anchored in the territories of the respective training structures that they cover. Such territorial anchorage will ensure buy-in of local actors who will adhere to its activities, support these activities and take ownership of them, when external funds are no longer available. Furthermore, it should be capable of adapting to evolutions in the social, economic and political demands of various stakeholders.

The axis identified for this strategic orientation is:

AXIS 5: Territorial anchorage of the renovated ATVET system

The strategic actions that will be put in place to meet the objective targeted are summarised in table 33.

Table 33. Summary of strategic actions in respect of territorial anchorage of the renovated ATVET system

| ACTIONS | Description of actions to be undertaken |
|------------------|---|
| ACTION 10 | <p>Strategic communication around pilot institutions:</p> <p>Strategic communication shall be carried out around pilot training institutions identified in Action 1 of Strategic orientation 1. Communication efforts will have a clear agenda and a master plan, which will involve creation of awareness about what the training institutions, will be embarking on to secure the interest of the different categories of stakeholder in the communities. Focus will also be on the promotion of the institutions while urging potential beneficiaries and local actors to participate actively in the building of that aspect of the link in the ATVET renovation process.</p> |

Strategic Orientation 4: A system built on a concerted approach to governance

The objective of this strategic orientation is to build a steering platform between ministerial departments for planning, discussion, validation and steering of the renovation process based on actions that will be related to the monitoring and evaluation of the system's activities, with the view of facilitating its upscaling while ensuring its sustainability.

For this objective to be attained, the renovated ATVET system will involve key ministerial departments and agencies, relevant institutions and representatives of a cross sector of stakeholders at all levels in strategic decision making and steering.

Through this concerted approach, the ATVET system will be methodically planned and initiated at a small scale. In addition, it will have the necessary ingredients to permit its progressive growth to a national system that will benefit all the 36 states (and the FCT) as well as the 774 local government areas of the country without losing its relevance, effectiveness and efficiency.



The key ministries will include:

- The Federal Ministry of Education with its key agencies like NBTE, TETFUND, IART, etc;
- The Federal Ministry of Agriculture and Rural Development;
- The Federal Ministry of Labour and Employment;
- The Federal Ministry of Youth Affairs, and
- The Federal Ministry of Budget and National Planning.

These key ministries will eventually be broadened out to include other ministries, which will then constitute the steering organ of the ATVET renovation strategy.

Activities here will include high-level negotiations, discussions and decisions with respect to the character, direction and promptness that the renovation process will take.

The overall strategy for the ATVET renovation process is illustrated in Figure 13 below.

4.2. ATVET Strategy Implementation

Successful implementation of the strategy outlined in the sections above must address issues relating to the following:

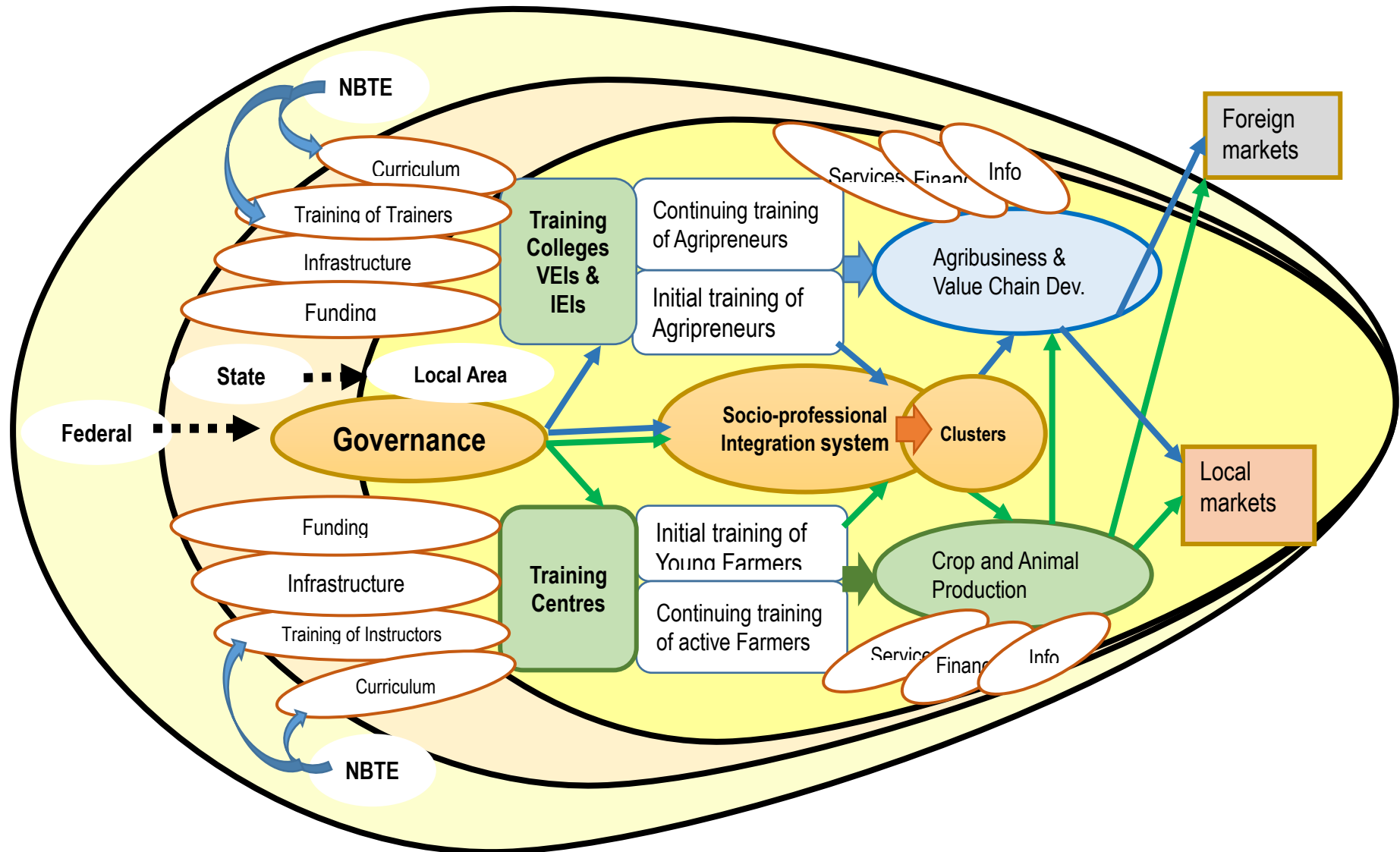
- Who will be charged with piloting the implementation process for the renovation of the ATVET system in Nigeria?
- Where will the activities of the renovation process be carried out?
- When will these activities be carried out?
- How will they be carried out and
- With what resources (human, material and financial) will the activities be carried out in order to reach the goals and objectives set.

Considering the complexity of the entire process, it is important that the renovation of the Nigerian ATVET system be piloted by a specific organisation with a visible leader who heads a team of motivated persons dedicated to a common and shared vision. This organisation must be represented at the Central (Federal) level to ensure overall coordination, and at State levels, which will serve as the interface between the grassroots and the Federal levels. It will also be necessary to have coordination organs for the implementation of different activities at the level of training institutions and their respective territories. Necessary measures will have to be put in place to ensure that there is internal monitoring even at this grassroots level of the training structures and their respective territories.

When all of these orientations are taken into consideration, the best alternative will be to create a Program charged with the implementation of the ATVET renovation process. The organisational structure of such a program will cover all the levels of governance while the respective components of the program will be the constituent axes, which are like different projects. A detailed presentation of the structural organisation of the proposed program and the strategic plan for its pilot phase are presented in the next chapter.



Figure 11. Illustration of the overall ATVET renovation strategy





CHAPTER FIVE

5. IMPLEMENTATION OF THE ATVET RENOVATION PROCESS

5.1. Program for the renovation of ATVET in Nigeria

As proposed in the previous chapter, the renovation of the ATVET system in Nigeria, would best be entrusted to a program which is given a certain degree of autonomy, and which will take the lead in the implementation of the entire process and will develop the necessary flexibility and adaptability, to quickly adjust to any changes that emerge.

An iterative approach of “**Testing - Evaluation - Readjusting - Validation - Adoption**” will be used in program implementation and the development of solutions to obstacles encountered. In other words, the ATVET renovation process will be developed through a series of mini-projects and in smaller portions at a time. This will allow the program team to take advantage of what they learn during the development of earlier parts or components of the system and to incorporate external feedback from project stakeholders in order to advance to the next step. In so doing, all the stakeholders will be involved and contribute to the advancement of the process.

The main advantages of this approach are that major risks will be identified and addressed early in the program; changes in requirements will be identified and efficiently prioritized; utilisation of human resource in the program team will be optimized while progress and quality will be continuously monitored and corrected.

5.1.1. Structure of the ATVET Renovation Program

The program shall be represented at all levels of governance in the country. As such, it will have a central Coordination Unit at the Federal level, which will be placed under the responsibility of a National / Federal Coordinator who will have under his direct authority the following components:

- Administrative and Financial Component;
- Liaison and Public Relations Component;
- Training Development, Delivery and Inspection Component;
- Monitoring and Evaluation Component;

At the levels of the States, there will be State Coordination Units placed under the authority of State Coordinators who will be charged with supervising program activities at their level and overseeing the proper functioning of training institutions in their states. To facilitate program actions, State coordination units will be structured as follows:

- Administrative and Financial Unit;
- Skills Development Unit;
- Support to Agribusiness and Value Chain Development Unit;



→ Monitoring and Evaluation Unit.

Three States including Oyo, Kaduna and Delta states were preselected for entry into the pilot phase of the program. The criteria used, are presented in table 34 below. It must be note that these criteria are not exhaustive and can be modified for subsequent phases of the program.



Table 34. Criteria for pre-selection of pilot states to enter the ATVET renovation program


| Selection criteria | Assessment criteria for pre-selection of states to enter the ATVET Renovation Program | | |
|--|--|---|---|
| | Oyo State | Delta State | Kaduna State |
| Geopolitical zone | South West | South-south | North East |
| Population of smallholder farmers | 4 474 220 (3.63% of total: Ranked 5 th) | 3 569 655 (2.89% of total: Ranked 12 th) | 4 802 307 (3.89% of total : Ranked 3 rd) |
| Potential population of young farmers to be trained | 320 749 | 255 903 | 344 269 |
| Willingness of state government to fund and develop ATVET | Strong willingness manifested through the ambitious agribusiness development initiative; Funding of Colleges of Agriculture | Strong support to Agricultural development activities initiated by PIND; Support to Songhai training in the state; State Agricultural and Rural Development Authority | Significant support of the state government to the ADP responsible for Extension and Advisory services; Funding of Agricultural College |
| Existence of Colleges of agriculture that can be integrated in an ATVET program | Oyo State College of Agriculture and Technology (Public); Federal College of Animal Health and Production Technology, Ibadan (Public); Federal College of Forestry – Ibadan (Public); Aquatech Institute of Fisheries Management, Ibadan (Private); | Delta State College of Agriculture, Ozoro; | College of Agriculture and Animal Science - Kaduna (Public); Samaru College of Agriculture - Zaria (Public); Federal College of Forestry Mechanization – Afaka (Public); FCFM - Afaka Entrepreneurship Centre, Kaduna (Private) |
| Existence of functional or non-functional Training Centres that can be integrated into an ATVET program | Two (02 non-functional Government Training Centres located in Awe and Fashiola (Fashiola Farms); Many private training farms / centres (Psaltry International Ltd, Adbola Anjuwon, His Favours Integrated Resources Farms, etc.) | Songhai-Delta Agricultural Centre, Amukpe, | 23 Business Apprenticeship Training Centres (BATC) in all 23 LGAs of the state (Public), |
| Past and current experiences in ATVET | Federal College of Agriculture Ibadan; Federal College of Animal health and Production Technology – Ibadan; State College of Agriculture and Tecnology - Igboora; | Youth Agricultural training (IITA Agripreneur model); | LFN Agricultural Training School Dogon Dawa |



| | | | |
|---|--|--|--|
| | | Youth Agricultural Entrepreneurs Program (YAGEP) and Skills Training and Entrepreneurship Program (STEP) | |
| Existence of initiatives that will benefit ATVET renovation and can benefit from the program | Existence of the Oyo State Agribusiness Development Agency (OYSADA) created to promote agribusiness, secured land, training to farmers and technicians that will handle key services provision, etc. | Delta State Fisheries Development Program; Delta State Agricultural Procurement Agency; Delta State Communal Farming Project, etc. | Kaduna State Integrated Development Project; Kaduna State Commercial Agriculture Development Project, etc. |
| Current performance of State ADP | Fair performance; Needs improvement in training and deployment of trained staff and provision of other support services | ADP quite weak in its provision of services to farmers in Delta State; Needs reinforcement through staffing and training | The ADP is considered the best-functioning ADP in Nigeria, 129 agents, giving them a ratio of one agent to 4700 farming families |
| Existence of opportunities for partnerships to renovate and develop ATVET | OYSADA, IITA Ibadan, IART Ibadan, French Embassy Agriculture Support Project | Institute of Agricultural Research and Development; Partnership Initiatives for Development in the Niger Delta (PIND) | MAFITA Training program; IFAD Training Program |
| Existence of Agricultural Research Institutes that cover the zone where the state is located | IITA, IART, NAERLS, National Horticultural Research Institute, Cocoa Research Institute, etc. | Institute for Agricultural Research (IAR) – Zaria; NAERLS Zaria; National Animal production Research Institute – Zaria, etc. | Rubber Research Institute – Benin, Edo state, Nigerian Oil Palm Research Institute – Benin, etc. |
| Propensity of Local Governments to support development initiatives | Very strong | Very strong | Very strong |

Remarks:

- ➔ The three states pre-selected represent 03 geopolitical zones with different agro-ecologies and priority crops around which training and value chain development will focus. The experiences gathered and lessons learnt in the solving the problems encountered will be capitalised and integrated in the program for expansion within and out of the zone;
- ➔ These criteria are not exhaustive as other criteria will emerge, based on program performance in the implementation phase ;



The Principals / Provosts / Directors of Agricultural Colleges and Training Centres will have functional relations with the State Coordination Units, in parallel with the hierarchical relations that they will maintain with their tutelary authorities. Governing Councils and Management Boards shall be charged with piloting the renovation process respectively in Agricultural Colleges and Training Centres.

To ensure transparent and efficient management of Funds, a system of disbursements by instalments, justification of expenses and disbursements of subsequent instalments shall be instituted at all levels.

Interventions at the level of training institutions will be based on strategic plans that are mounted by the respective institutions to cover a particular period. At the end of that period, the advancement of the ATVET renovation process will be evaluated and necessary budgetary adjustments made in accordance with the achievements of the previous strategic plan.

5.1.2. Operationalisation of the Renovation Process

To operationalise the ATVET Renovation Program, the following 09 steps are envisaged:

1. Creation of the Program for ATVET Renovation in Nigeria (Pilot Phase);
2. Creation of Coordination Units and appointment of Coordination Teams (Federal and State levels);
3. Identification of training structures to enter the pilot phase of the ATVET Renovation Program; evaluation of the situation of resources that the institutions have (land, infrastructures, materials, equipment, staffing situation etc.); evaluation of resource gaps and development of plans to fill gaps (they will vary from one training structure to the other);
4. Training needs assessment and identification of training pathways;
 - Evaluation of needs with respect to priority commodities;
 - Analysis of value chain links and identification of training needs for both initial and continuing training.
5. Development of Reference Documents / Training Packages / Curricula for the different training pathways identified: competences to be acquired, course hour load & duration of training for each pathway, etc.
6. Rehabilitation / construction of infrastructure and acquisition of equipment and materials:
 - Essential and Urgent rehabilitations;
 - Construction of critical infrastructure (water system - boreholes, water tank, conduit pipes, toilets, kitchens, etc);
 - Acquisition of equipment and materials.
7. Training of trainers and co-construction of training methods and tools;
8. Admission of first cohorts of trainees / learners and launching of training with periodical evaluation of advancement of training;




9. Development of the Socio-professional Integration Support System.

5.1.3. *Benefits of an integrated approach*

The systemic approach to ATVET development involves an integration of both the hard and soft aspects of an intervention. The hard aspects focus on investments, maintenance and replacement of investments, like construction / rehabilitation of infrastructure, acquisition and maintenance of materials and equipment. Soft aspects of an intervention involve curricular, pedagogic methods, knowhow, competencies, managerial ability, computer programs, training of trainers; capacity building for different actors, etc that are intangible, but that are necessary for results using the hard components. For example in the case of ATVET renovation and development, construction of buildings, acquisition of didactic materials, land for demonstration plots, tractors, computers and other equipment will not lead to the achievement of training goals if qualified and competent trainers using relevant curricula, adapted pedagogic methods are available and effectively carry out training. Similarly, putting at the disposal of a system only the soft aspects without a suitable environment where training activities will be carried out will not yield any satisfactory results. Partial, inconsistent and poorly coordinated approaches to ATVET renovation may explain the rather mixed results obtained by many past interventions in sub-Saharan Africa.

In Cameroon for example, World Bank interventions in the 80s targeting the development of agricultural and rural training focused in large part, on the hard aspects. With the aid of other donor organisations, the government embarked on the training of trainers. Little attention was paid to involvement of territorial actors, public-private sector partnerships, mechanisms for sustainable funding, the development and regular review of curricula to adapt to the rapidly evolving ecosystem of the agricultural labour market, a qualifications framework that delivers qualifications recognised nation-wide etc. As the World Bank funds phased out, and the economic crisis hit hard, the agricultural and rural training system that had been set up, crumbled. This was due among other factors to the lack of adapted funding mechanisms, little buy-in by the private sector, unadapted curricula that were unsuitable for the training of youths for employment by the private sector or for self-employment and not only in the public service.

Since 2008, a program funded by the French Development Agency was created to renovate and develop the ailing agricultural and rural training system. From its inception, this program adopted the integrated approach with the development of relevant regulatory frameworks, the training of trainers, the training of members of management Boards, the development of new training contents and methods, the construction and rehabilitation of buildings and other infrastructure, and the progressive involvement of the private sector. By supporting the trained youths with start-up grants, some 80% of the 4000 youths settled, went on to develop farm enterprises, which are growing and contributing to increased production of a number of key commodities. Today, the level of attractiveness of the new ATVET system to youths has significantly improved from 1 applicant to 1 training place at the onset of the program, to about 4 applicants to 1 training place, in training centres and colleges of agriculture.



Drawing from this experience, the Program for the renovation and development of the Nigerian ATVET system will not be fragmented and partial but rather holistic bringing together all aspects as recommended by the CAADP (2012), systemic approach.

5.1.4. Focus on Monitoring and Evaluation

Indicators for the monitoring and evaluation of program actions shall be identified, mapped out and classified by the coordination teams. However, focus will be on key issues in order to ensure the successful implementation of program activities at all levels. These issues pertain to:

→ The Relevance of program actions at all levels:

Monitoring and evaluation will be participatory so that representatives of agencies and stakeholders (including beneficiaries) work together in designing, carrying out and interpreting the results of the action. This will help in identifying locally relevant evaluation issues, to improve on accuracy and relevance of reports, to improve program performance, empower participants and build their capacities. This approach will develop leadership at all levels and build strong teams in order to sustain organisation learning and growth. In this way, the relevance of the program shall be maintained at all levels and throughout its lifespan.

→ Effectiveness of program activities:

The program coordination teams will make sure that program activities are effectively carried out in a timely manner so that the objectives set from the onset are met. Factors that will be crucial in the achievement of targets, or that led to some drawbacks in the implementation of program activities will also be identified and the necessary adjustments made in subsequent phases.

→ Efficiency in resource management:

The program will only achieve its targets if it is efficiently managed. Resources including funds, expertise, time, etc., will have to be managed in such a way as to achieve expected results at the least economic costs. The economics of the initiation and running of the program (Economics of Training and Socio-professional Integration of the beneficiaries) will be evaluated at an appropriate time. The objective will be to determine the returns on investment and thereby pave the way for sustainability, as continued support by stakeholders will only be justified by a program that generates visible benefits on the youths, their local communities and states.

→ Sustainability of program functions:

It will be critical for the program to determine right from the beginning how the functions that it will develop shall continue even after external funds and assistance phase out. Factors such as economic, ecological, social, and cultural, and especially equity aspects must be taken into account in the implementation of the program.

Sustained interest in the program and therefore stakeholder willingness to take over its functions will only be achieved if the short, mid and longer-term effects and impacts of the interventions are visible and clearly felt by all. A sensible, logical and feasible exit strategy



will therefore be worked out early in the life of the program and progressively consolidated as program implementation proceeds.



CONCLUSION

The Federal Ministry of Agriculture and Rural Development holds that education and training are a key instrument for shaping and fulfilling the goal of agricultural and rural transformation, which seeks to improve the living conditions of smallholder farmers in the countryside. It is also about boosting the rural economy in order to enable specific groups of people including rural women and youth as well as disadvantaged segments of the population to gain for themselves and their children more of what they want and need. This boost to the rural economy and subsequent employment opportunities for rural youth may lead to lower rural-urban migration. Increased income and, consequently, increased demand by the rural populations, along with a more productive workforce would positively contribute to economic growth. For example, in the agri-food sector, higher productivity can lead to a higher supply of food, improved food quality, and lower prices due to larger production volumes, less waste, and more efficient use of resources. On the other hand, food security along with higher incomes in the agri-food sector may lead to better nutrition and even higher productivity in the long run.

However, it came out from this study that such agricultural transformation in Nigeria is being slowed down as a result of the following:

- low production and productivity of generally small farms that are handled by smallholders who do not use suitable production practices as a result of the lack of knowledge on these practices;
- difficult access to inputs and services that are critical for production and transformation for value addition;
- low attractiveness of agriculture especially production agriculture to youths as a result of its labour intensive nature and especially;
- the very weak Agricultural Technical and Vocational Education and Training system which is also poorly coordinates and does not adequately prepare the youths for entry into the agricultural labour market.

The Nigerian ATVET system however has tremendous potential to build the capacity of rural youths, women and organizations to transform their farming practices and bring about increased agricultural production and productivity, the creation of wealth and jobs and contribution to overall economic and social development of country. For this to occur, the existing ATVET system needs to be completely renovated so that it can seize the numerous potentials of the Nigerian agriculture and livestock sectors to develop the following:

- a true competency based approach for skills acquisition by young people of ages 18 - 35 who will be motivated to enter agriculture and to bring about a total change in the perception of jobs and occupations in the sector;
- a demand-driven system for the continuing training of practising farmers who will substantially increase their production and productivity;
- a training approach that addresses value chains of priority crops in agro-ecologies where they enjoy comparative advantage over other commodities.



To that effect, it is recommended as follows:

1. RECOMMENDATIONS TO THE FEDERAL MINISTRY OF BUDGET AND NATIONAL PLANNING

- Considering the opportunities that exist for the transformation of agriculture, the employment of youths, the creation of wealth and the overall economic development of the country, it is recommended that the Federal Ministry of Budget and National Planning should pursue discussions with AFD to identify key areas of intervention in the ATVET sector. Concretely, this will require the facilitation of the feasibility study envisaged in 3 pre-selected states (Oyo, Delta and Kaduna);
- In pursuit of this effort, MBNP should initiate partnerships and create working groups with sectoral ministries and other technical and financial partners who would take up different aspects of any interventions that will be identified;
- The Federal Ministry of Budget and National Planning should work out strategies for the coordination of the different Ministerial Departments and Agencies (MDAs) involved, so as to avoid the dispersion of efforts through unnecessary duplication of efforts and resultant depletion of funds. With respect to the possibility of creating a program charged with the implementation of the ATVET renovation process, NBNP should co-opt the Federal Ministry of Education which has the necessary competence in the domain of Technical and Vocational Education and Training;
- The approach that should eventually be adopted by MBNP should focus on a parallel, two-pronged or double track arrangement. Such an approach should focus on the one hand, on the training and support to smallholder family agriculture. On the other hand it should also encourage the development of commercial agribusiness handled by trained, qualified, competent and especially motivated promoters who build value chains for the different commodities in which they are involved, and thereby contribute not only to wealth and job creation but also to the overall economic development of the country. This approach is critical for rural food security, the generation of jobs for rural and urban youths, social cohesion and poverty alleviation;
- The Ministry should investigate the possibilities of initiating a program ATVET renovation in Nigeria aimed at ‘Skills Development and Employment of Youths in the Agro-pastoral Sector’, in collaboration with competent MDAs, State Governments, pilot Agricultural Colleges and Training Centres. Focus should be on government buy-in, and the willingness of local communities and various actors who manifest their will to take ownership of such a program so as to ensure its sustainability once funds are used up. The feasibility study that is envisaged should deepen this reflection and consolidate the strategy proposed in this study.



2. RECOMMENDATIONS TO THE FRENCH DEVELOPMENT AGENCY (AFD)

- It is recommended to the French Development Agency to facilitate detailed feasibility studies which should be carried out to have deeper and clearer insights into the status of ATVET in the 03 pre-selected states, in order to make well informed decisions on whether or not to embark on interventions or whether to support ongoing interventions or not;
- In order to optimise the chances of succeeding in interventions for the renovation and sustainable development of ATVET in Nigeria, AFD should use a holistic and integrated approach rather than concentrating only on the hard aspects of such interventions (infrastructures, materials, equipment, staffing, etc.), or its soft aspects (curriculum, capacity building for trainers, instructors, and other support staff, reforms etc.). One aspect alone without the other will only lead to a partial, limited and unsustainable system with a performance level that will not be much different from the present one.

3. RECOMMENDATION TO THE INTERNATIONAL NETWORK FOR AGRICULTURAL AND RURAL TRAINING (RIFAR)

To RIFAR, it is recommended that:

- Studies of this magnitude should not be underestimated as they are given the appellation of pre-studies. Precise and reliable information needs to come out of the studies in order to lay the groundwork for future and more elaborate studies. For that reason, more time should be given to the consultants to carry out more complete enquiries with the possibility of doing careful triangulations to ensure that the information presented is reliable.



PERSPECTIVES

The thrust by government to leverage a business approach to agriculture is an opening that can be used to attract more youths to agriculture, in emulation of their peers who succeed. This way, the perception by youths in particular and society as a whole that agriculture is an occupation for the poor and especially those who have missed their career paths will drastically change.

Local transformation of farm products will generate jobs even in urban areas and provide openings for import replacement with substantial gains in foreign exchange. On the other hand, the renewed interest by government and various stakeholders in agriculture will require relevant and consistent interventions in the development of ATVET, which cannot be left to the government alone. Technical and financial partners will need to continue playing a significant role in this direction.

Efforts undertaken to strengthen linkages between agricultural training and employment, need highly targeted support mostly at the local level where the relationships between school and enterprise are easier to establish and promote. This readjustment can only come about if there is greater institutional flexibility so that it stimulates local initiatives. As the support measures do not always reach the training establishments, they run the risk of reinforcing the rigid structures or of creating new bureaucracies that are little able to infuse dynamism into the ATVET systems.

At the level of each establishment it may be necessary to put in place units that are in charge of relationships with enterprises. Such units would have as function, the collection, analysis and exploitation of data concerning the local enterprises, their activities, and if possible, their needs. Other activities that could be placed under the responsibility of these units would be well designed and targeted continuing training, placement of trainees and organisation of their work experience, provision of advisory and support services for the socio-professional integration of trained graduates and their follow up.

In conjunction with a more formal training system, it may be necessary to develop support for apprenticeships and traineeships, which could be organised around those youths who have successfully completed the formal education offered in primary and junior secondary schools.

Budget allocations to the ATVET systems shall need to be reviewed as they are only a comparatively tiny slice of the national budgets. Alternative funding mechanisms such as levy grants should be given due consideration.

Negative perceptions and stereotypes of trainees and students of agricultural training institutions and practitioners still prevail, and significant steps will have to be taken to eradicate these, largely by addressing issues of quality and attractiveness of ATVET.

The need for learners to gain competencies and sharpen their skills by working on real tasks in a real work environment ought to be the core of agricultural technical and vocational education and training. Knowledge of scientific principles relating to the tasks executed and the job done should gravitate around this push for skills acquisition.



TERMS OF REFERENCE

ASSESSMENT OF AGRICULTURAL TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (ATVET) IN NIGERIA


CONTEXT AND JUSTIFICATION

Nigeria with its population of about 201 million inhabitants, and GNI of about US\$400 billion, is ranked as the 27th largest economy in the world in terms of nominal GDP and the largest economy in Africa, ahead of South Africa. Over the years, Nigeria has depended heavily on the crude oil industry, which accounts for some 2/3 of state revenues but only contributes to about 9 percent of her gross domestic product (GDP) and only about 2.7 percent of the world's oil supply. The volatility of oil prices continues to influence the growth performance of the country because of her dependence on the oil and extractive industries to the detriment of the agricultural and construction sectors, which are highly labour and employment-intensive, therefore leading to high and growing unemployment, underemployment and poverty rates.

About 40 percent of the Nigerian population is under the age of 15, and the population growth rate is estimated at some 2.6 percent per annum. The National Bureau of Statistics (NBS) estimated that the unemployment rate in Nigeria averaged 12.31 percent during the period from 2006 until 2018, reaching an all-time high of 23.10 percent in 2018. Presently, around 40 percent of the potential working population in Nigeria is either unemployed or underemployed, with some 60 percent of them being young people between the ages of 15 and 29. As the country faces a major population boom, it is estimated that it will become the world's third largest country by 2050 and that its current poverty and underemployment situation will further worsen.

According to recent estimates by the National Bureau of Statistics (NBS), the average number of new entrants into the Nigerian labour force is currently estimated at 1.8 million a year as against 1.1 million new jobs that are created. This means that about 0.7 million people are added to the ranks of the unemployed each year. For youth employment to match the pace of population growth the World Bank points out that Nigeria needs to create between 40 - 50 million additional jobs by 2030. To reduce poverty and promote more inclusive growth, these new jobs need to be more productive and provide higher incomes than were available in 2016.

Nigeria's GDP grew at an average rate of 7 percent per year between 2000 and 2014, but following the collapse of oil prices over the period from 2014 to 2016, the GDP growth rate dropped to 2.7 percent and the economy slipped into a recession in 2016. The resultant effect of this was a contraction of economic activities and the loss of over 500,000 jobs, a drop in labour productivity, stagnant wages, overall high cost of living and a decline in retail sales, among other effects. This prompted the government to launch in March 2017, the National Economic Recovery and Growth Plan (ERGP) for the period from 2017 – 2020. The main aims of the plan were to diversify the economy, restore economic growth, create jobs, empower the youths, develop the human capital and infrastructure, improve business environment and bring about technological growth to Nigeria. In 2017, the Nigerian economy started to emerge from recession with a GDP growth of 0.8 percent. This recovery was driven by higher oil prices and production as well as increase in non-oil revenue generated from the agricultural sector, which contributed some 21.97% to nominal GDP.



This indicates that agriculture has potential to stimulate growth and support national efforts aimed at boosting the economy. Indeed, the agricultural sector remains the base of the Nigerian economy, as it provides the main source of food, jobs, foreign earnings and livelihood for most rural households. It is in this line that the Federal Government launched for the period from 2011 to 2016 the Agricultural Transformation Agenda (ATA) to attract private sector investment in agriculture, reduce post-harvest losses, add value to local agricultural produce, develop rural infrastructure and enhance access of farmers and other value chain actors to financial services and markets. The ATA set out to create over 3.5 million jobs for the teeming population of youths and women, in particular, along the value chains of priority agricultural commodities including rice, sorghum, cassava, horticulture, cotton, cocoa, oil palm, livestock, fisheries, etc. Although the ATA served its core purpose of helping refocus Nigeria's attention on agriculture, the plan did not deliver on all the targets identified. In 2016 – 2020 therefore, the Agricultural Promotion Policy (APP) was put in place by government to readjust and solve the problems not handled by the ATA. The basic strategy of the Agricultural Promotion Policy was for Nigerians to produce enough fresh, high quality foods for the local markets, to serve the export markets successfully and earn foreign exchange.

Though the Economic Recovery and Growth Plan gives Nigerian agriculture the second highest priority and proposes the third most important deliverable outcome to be agricultural transformation and food security, the transformation that the sector must go through will only come about when majority of small scale rural farmers are upgraded incrementally and consistently on a sustainable level. This requires carefully planned human capital development of these smallholder farmers through training and capacity building. In addition the entry of youths into small and medium sized agribusiness ventures which can eventually grow into big holdings, requires technical, managerial and entrepreneurial skills that can only be acquired through training. However, a particularly striking feature of the agricultural sector in Nigeria is the weakness of the Agricultural Technical and Vocational Education and Training (ATVET) system.

As part of a joint exercise with the Federal Ministry of Budget and National Planning, which sought to identify the bottlenecks of job creation in Nigeria, the French Development Agency (AFD) initiated a study in an effort to undertake a preliminary diagnosis of the Agricultural and Rural Technical Vocational and Educational Training system in Nigeria.

This study revealed among other issues that Nigerian smallholder farmers continue to face challenges related to reliance on rain-fed agriculture, difficult access to mechanization to reduce drudgery, poor quality of planting materials, difficult access to fertilizers, microcredits and extension services. In addition, high cost of farm inputs, difficult access to land especially for youths, poor mastery of production techniques, post-harvest handling and transformation of farm products continue to constrain agricultural production and productivity.

It also came out that though initiatives have been put in place by public and private players as well as national and international non-governmental and donor organisations to improve the agricultural and rural training system in Nigeria, it remains weak with respect to certain key areas. These include the development and delivery of adapted curricula, the training of trainers, the construction and rehabilitation of training infrastructure, the acquisition and use of appropriate equipment and materials, access to funds and above all, the linkage of training with the professional work milieu. Such linkage is important to ensure exposure of learners to real work experiences, and to facilitate their transition to work in the sector.



The ATVET system is characterised by a **“missing foundation”** because it focuses on intermediate and higher level entry points and pays very little attention to the base where smallholders operate, and a **“weak middle”** because very few graduates from these intermediate and higher levels end up entering and building careers in agriculture. This is largely because of the huge mismatch between their qualifications and the needs of the agricultural labour market.

Furthermore, some efforts have been deployed in the socio-professional integration of trained beneficiaries but a lot still has to be done in order to make the system more attractive to youths who would be motivated to settle down to agriculture and create employment and wealth while contributing to the economic development of their communities and the nation at large.

The pre study concluded that there is the need to create a program and to give it the responsibility to renovate and develop the Nigerian ATVET system based on a proposed strategic plan. The plan envisages firstly, the building and strengthening of the foundation of the agricultural sector through the initial training and socio-professional integration of young farmers into production agriculture and the continuing training of practising smallholder farmers to tackle the problems of food security and food self-sufficiency in the country and to produce quantity and quality raw materials for agro-food industries. The study further recommends that in parallel to this, the system should develop and consolidate the training of middle-level agribusiness and value chain operators.

There is therefore a need for an in-depth feasibility study to be carried out, aimed at generating detailed and precise information for a pilot phase of the ATVET renovation process in Nigeria.


This feasibility study shall be carried out specifically in 3 Nigerian states where interventions shall be implemented and the lessons learnt will be used to contribute to renovating the ATVET system nation-wide. The 3 states concerned are OYO, DELTA and KADUNA states that were pre-selected on the basis of 12 objective criteria:

- geopolitical zones of the states;
- population of smallholder farmers;
- potential population of young farmers to be trained;
- the willingness of state governments to fund and develop ATVET;
- existence of training centres that can be integrated into the ATVET program;
- existence of colleges of agriculture that can be integrated in the renovation program;
- past and current experiences of the states with regards to ATVET;
- existence of initiatives that will benefit ATVET renovation and can benefit from the program;
- current performance of State ADP;
- existence of opportunities for partnerships to renovate and develop ATVET ;
- existence of Agricultural Research Institutes that cover the zone where the state is located;
- propensity of Local Governments to support development initiatives.

It is against this background that the present terms of reference were drafted with the following objectives.

OBJECTIVES

- Carry out an in-depth assessment of existing public and private, rural and agriculture vocational training initiatives in Oyo, Delta and Kaduna states of Nigeria;

- 
- Map out the strengths, weaknesses, opportunities and threats of the existing initiatives;
 - Identify and characterise the technical and financial partners of the ATVET initiatives and their support actions;
 - Formulate clear interventions that will be implemented by the French Development Agency in conjunction with the Ministry of Budget and National Planning and other related MDAs and State governments in view of the renovation of the ATVET system in the respective states;
 - Map out existing or emerging initiatives that can contribute to the success and sustainability of the interventions drawn up;
 - Define the organ that shall be charged with the renovation of the ATVET system in Nigeria, as well as its organisational structure at the different levels of governance (Federal, State and Local Government);
 - Define mechanisms for the funding of the structure charged with the renovation of the ATVET system and strategies for its sustainability.

EXPECTED OUTCOMES

- An in-depth assessment of existing public and private, rural and agriculture vocational training initiatives in Oyo, Delta and Kaduna states is carried out;
- The experiences, successes and failures as well as opportunities and challenges faced by these initiatives are clearly mapped out;
- Technical and financial partners of existing ATVET initiatives as well as the actions they have engaged to support them are identified and characterised;
- Priority needs of youths with respect to initial training in production agriculture, agribusiness and strategic value chain development are identified and characterised;
- Continuing training needs of practising farmers, agribusiness and value chain operators are identified and characterised;
- Strategies for support to the sustainable start-up and growth farms, agribusinesses and value chains set up by trained beneficiaries are characterised;
- Concrete interventions for the improvement of the ATVET system are formulated;
- Existing or emerging initiatives that can contribute to the successful implementation and sustainability of the interventions proposed are mapped out;
- The organ that will be charged with the implementation of the ATVET renovation process and its organisational structure at all levels of governance are defined;
- Funding mechanisms for the renovation process and strategies for sustainability identified and characterised.

INSTITUTIONS AND RESOURCES PERSONS TO MEET

Relevant actors of rural development and rural vocational training at Federal and State shall be contacted. Other informants and practitioners to be contacted include recognised training organisations (training centres, colleges, mono and polytechnics, programs and projects, research institutes); Federal and State authorities and professional guidance structures; chambers of agriculture; producers associations, etc. **(See list of proposed actors attached. This list is not limited to the actors earmarked).**

DELIVERABLES

Restitution of results to stakeholders during a workshop organised to that effect.

An Interim report produced and submitted in accordance with the stipulated timeline,

A final report that includes a strategic action plan of action in support of the renovation and development of the ATVET system in the 3 selected states in view of its progressive extension to the other Nigeria states.

PROFILE OF THE CONSULTANTING ORGANISATION

A national or international consultant or consulting firm with expertise in the design and management of Agricultural and Rural Training Systems, Agricultural Educational Technology, Instructional Design or Engineering as well as Regional / Local Development issues shall be recruited for the feasibility study.

The consultants must demonstrate:

Mastery of spoken and written English,

- Quality training in Agricultural TVET design, economics-sociology;
- Have at least 5 to 10 years of experience in designing agricultural and rural TVET systems;
- Demonstrate willingness to work under the supervision of AFD Nigeria;
- The consultants shall work in direct collaboration with the International Network for Agriculture and Rural Training (Réseau FAR International).

PLANNING

| Activities | Duration |
|---|----------|
| Literature review, fieldwork, interim report, restitution | 35 days |
| Main report writing | 6 days |
| Main report finalization | 2 days |

LIST OF ACTORS TO CONTACT FOR THE FEASIBILITY STUDY

| Area of Interest | Institutions, organisations or persons | Address / contacts |
|---------------------|---|--|
| Funding of ATVET | Federal Ministry of Budget and National Planning | The Minister MBNP – Abuja Nigeria |
| | Industrial Training Fund (ITF) | General Director, ITF Jos Nigeria |
| | Tertiary Education Trust Fund (TETFUND) | |
| | Donor Organisations | GIZ, IFAD, ActionAid, FAO |
| Governance of ATVET | Federal Ministry of Agriculture and Rural Development | The Minister, FMARD – Abuja Nigeria |
| | Federal Ministry of Education | The Minister, Ministry of Education – Abuja, Nigeria |
| | National Board for Technical Education (NBTE) | Executive Secretary, NBTE Kaduna, Nigeria |
| | National Universities Council | |



| | | |
|--|--|---|
| Curriculum design, review, delivery and quality assurance of curriculum content and implementation | National Board for Technical Education (NBTE) | Executive Secretary, NBTE Kaduna, Nigeria |
| | Open University of Nigeria | Plot 91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi-Abuja. |
| | Federal Ministry of Education | The Minister, Ministry of Education – Abuja, Nigeria |
| | Institute of Agricultural Research and Training | Director, IART Ibadan |
| | Agricultural and Rural Management Training Institute | Km 18, Ilorin-Lokoja Highway, ARMTI, Nigeria Tel: +234 706 852 7803 |
| | Offices of State Governors | |
| Competency approach to course organisation, delivery and assessment | National Board for Technical Education (NBTE) | Executive Secretary, NBTE Kaduna, Nigeria |
| | Open University of Nigeria | Plot 91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi-Abuja. |
| | Federal Ministry of Education | The Minister, Ministry of Education – Abuja, Nigeria |
| | Institute of Agricultural Research and Training | Director, IART. Ibadan |
| | SIWES Directorate | National Open University of Nigeria Plot 91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi-Abuja. |
| Assessment of students / trainees and Mechanisms for support to socio-professional integration of graduates | Federal Ministry of Agriculture and Rural Development | The Minister, FMARD – Abuja Nigeria |
| | Ministry of Youth and Development | The Minister, Ministry of Education – Abuja, Nigeria |
| | Ministry of Labour and Employment | The Minister, Ministry of Labour and Employment – Abuja, Nigeria |
| | National Directorate for Employment | The Minister, Ministry of Labour and Employment – Abuja, Nigeria |
| | SIWES Directorate | National Open University of Nigeria Plot 91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi-Abuja. |
| | National Business and Technical Examinations Board (NABTECH) | No. 1, Benin-Agbor Road Ikpoba Hill, P.M.B 1747, Benin-City, Edo State, Nigeria. |
| | Training institutions | |
| | Beneficiary trainees | |



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APPENDICES

Appendix 1: List of players with whom discussions were held during the mission

| Nº | Organisation | Name of persons contacted | Contacts |
|----|--|--|---|
| 1 | Ministry of Budget and National Planning | Mr. Patrick Aso Vakporaye | +234 (0) 703 497 4477 |
| 2 | | Mr Bappah Tijjani | +234 (0) 803 599 8464 |
| 3 | | Dr. Sydney E. Inegbedion | +234 (0) 802 3432012 / +234 (0) 803 278 1018 |
| 4 | Federal Ministry of Agriculture and Rural Development | Mrs. Karina I. Babangida | +234 (0) 803 6468 832 |
| 5 | | Sulieyman S. Aliyu | +234 (0) 806 5378 034 |
| 6 | National Board for Technical Education (NBTE) | Prof. Masud Elelu | +234 (0) 803 409 4189 |
| 7 | Industrial Training Fund | Mr. Faruq D.A. Wase | +234 (0) 803 703 2558 |
| 8 | International Institute for Tropical Agriculture (IITA – Ibadan) | Mr. Adedeji Julius | +234 (0) 703 842 9654 |
| 9 | AFD Agriculture Officer | Mr. Laurent Jean | +234 (0) 909 324 2419 |
| 10 | Executive Director: International Institute for Local Development | Mr. Sola Akinde | +234 (0) 806 016 5000 |
| 11 | Tomatoes and Orchard Producers Association of Nigeria, TOPAN | Mr. Oyeleke Bola Job | +234 (0) 703 009 0366 |
| 12 | Youth Initiative for Sustainable Agriculture | Mr. Ogezi Ernest | +234 (0) 803 567 1455 |
| 13 | | Mr. Raymond Ogbiji | +234 (0) 803 756 2876 |
| 14 | Youth Employment in Agriculture Program (YEAP) | Mr. Manir Umar (<i>Poultry Farming</i>) | +234 (0) 803 317 5150 |
| 15 | | Mr. Samuel Akor (<i>Aquaculture</i>) | +234 (0) 806 039 0571 |
| 16 | | Mr. Ogirinye Innocent Adoga (<i>Seeds and Farm machines</i>) | +234 (0) 806 020 4892 |
| 17 | Business Development Coordinator: Foundation for Partnership Initiatives in the Niger Delta (PIND) | Mrs. Adetoun Oluwole | +234 (0) 908 756 8780 |
| 18 | GIZ Nigeria, Abuja Country Programme Manager; Country Office Abuja, Nigeria | Mrs. Ana Garcia Vinambres | +234 (0) 805 529 9996 |
| 19 | | Miss Patricia Kormeh Karmawa | +234 (0) 815 088 3115 |

| | | | |
|----|--|-------------------------------|---|
| 20 | IFAD Country Programme Manager Country Office in Nigeria, c/o RUFIN, PMB 2851 Garki , Abuja FCT, Nigeria | Mr. Ben Odoemena | +234 (0) 908 756 8780 |
| 21 | FAO Country Programme Office: Assistant Representative | Mr. David Fehintola | +234 (0) 803 408 8321 |
| 22 | Commissioner of Agriculture Oyo State – Ministry of Agriculture and Rural Development Secretariat, Ibadan | Hon. Ojekunle Jacob Ojenuyiwa | +234 (0) 802 365 7852 / +234 (0) 805 787 9995 / +234 (0) 809 927 8355 |
| 23 | Oyo State College of Agriculture and Technology: Acting Rector | Mr. Isiaka O. Adekunle | +234 (0) 803 722 7985 / +234 (0) 705 943 1991 |
| 24 | Oyo State College of Agriculture and Technology: Deputy Rector | Dr. Oluwasanjo Ariya Okuniola | +234 (0) 706 583 5386 / +234 (0) 708 443 5369 |
| 25 | Oyo State College of Agriculture and Technology: Director of Academic Planning | Dr. Mosobalaje M. A. | +234 (0) 803 436 0735 |
| 26 | Oyo State College of Agriculture and Technology: Dean – Faculty of Plant and Environmental Sciences | Dr. N.B. Bello | +234 (0) 806 978 7575 |
| 27 | Oyo State College of Agriculture and Technology: Dean – Faculty of Animal and Fisheries Technology | Dr. Olubuniu Adagu | +234 (0) 703 383 2479 |
| 28 | Oyo State College of Agriculture and Technology: Dean – Faculty of Agricultural Extension, Home and Rural Economics | Dr. N. K. Ralean | +234 (0) 803 436 0735 |
| 29 | Oyo State College of Agriculture and Technology: Dean – Faculty of Engineering | Dr. D. Lasisi | +234 (0) 706 260 6974 |
| 30 | Oyo State College of Agriculture and Technology: Head Public and Alumni Relations Unit | Mrs. Opeyemi Olawore | +234 (0) 805 572 3592 |
| 31 | Institute of Agricultural Research and Training – Moor Farms: Deputy Director | Dr. Saka J. Olaide | +234 (0) 703 589 5802 / +234 (0) 805 511 0141 |
| 32 | Institute of Agricultural Research and Training – Moor Farms: Agricultural Extension | Dr; Oyegbami Ajoke | +234 (0) 803 365 7990 |
| 33 | Institute of Agricultural Research and Training – Moor Farms: Animal Production / Micro Animals | Dr. Yemi A. Popoola | +234 (0) 803 363 0017 |
| 34 | Institute of Agricultural Research and Training – Moor Farms: Nutritionist / Agricultural Value Addition Program (AVAP) | Mr. Emmanuel C. Omenna | +234 (0) 805 500 7555 |

| | | | |
|----|--|-----------------------------|-----------------------|
| 35 | Aquatech Institute of Fishery Management Ibadan – Founding Director | Dr. Omidiran Victor Ayobami | +234 (0) 803 523 4342 |
| 36 | MAFITA – DFID Project- Nigeria | Mr. UMAR Nuhu Mohammed | +234 (0) 809 702 7127 |
| 37 | | Mrs. Sybil Ferris | +234 (0) 909 699 7586 |

Appendix 2. List of State Colleges of agriculture in Nigeria

| No. | State | Name | Location |
|-----|-----------------|--|----------------|
| 1 | Adamawa State | Adamawa State College of Agriculture | Mubi |
| 2 | Akwa Ibom State | Akwa-Ibom College of Agriculture | Obio-Akpa |
| 3 | Anambra | Anambra State College of Agriculture | Igbariam |
| 4 | Benue State | Akperan Orshi College of Agriculture | Yandev - Gboko |
| 5 | Borno State | Mohamet Lawan College of Agriculture | Maiduguri |
| 6 | Borno State | Regional Agricultural Training School | Maiduguri |
| 7 | Delta State | Delta State College of Agriculture | Ozoro |
| 8 | Edo State | Edo State College of Agriculture | Iguariakhi |
| 9 | Jigawa State | Jigawa State College of Agriculture | Hadejia |
| 10 | Kano State | Audu Bako School of Agriculture | Dambatta |
| 11 | Kebbi State | College of Agriculture, Zuru | Zuru |
| 12 | Lagos State | School of Agriculture, Ikorodu | Ikorodu |
| 13 | Nasarawa State | College of Agriculture, Lafia | Lafia |
| 14 | Niger State | Niger State College of Agriculture | Mokwa |
| 15 | Oyo State | Oyo State College of Agriculture | Oyo |
| 16 | Plateau State | Plateau State College of Agriculture | Gakarwa |
| 17 | Rivers State | Rivers State Institute of Agricultural Research and Training | Onne |
| 18 | Taraba State | College of Agriculture, Jalingo | Jalingo |
| 19 | Yobe State | Yobe State College of Agriculture | Gujba |
| 20 | Zamfara State | Zamfara State College of Agriculture | Bakura |

Source: NBTE (2019); UNEVOC

Appendix 3. List of Federal Colleges of Agriculture in Nigeria



| No. | State | Name | Location |
|-----|---------------|--|------------|
| 1 | Borno State | Federal College of Fisheries and Marine Technology | Baga |
| 2 | Ebonyi State | Federal College of Agriculture, Ishiagu | Ishiagu |
| 3 | Gombe State | Federal College of Agriculture | Dadinkowa |
| 4 | Imo State | Federal College of Land Resources Technology | Oweri |
| 5 | Kaduna State | College of Agriculture and Animal Science | Kaduna |
| 6 | Kaduna State | Samaru College of Agriculture | Zaria |
| 7 | Kaduna State | Federal College of Forestry Mechanization | Afaka |
| 8 | Kogi State | College of Agriculture, Kabba | Kabba |
| 9 | Niger State | Federal College of Freshwater Fisheries Technology | New Bussa |
| 10 | Niger State | Federal College of Wildlife Management | Bussa |
| 11 | Ondo State | Federal College of Agriculture | Akure |
| 12 | Oyo State | Federal College of Animal Health and Production Technology, Ibadan | Ibadan |
| 13 | Oyo State | Federal College of Forestry | Ibadan |
| 14 | Plateau State | Federal College of Animal Health and Production Technology | Vom |
| 15 | Plateau State | Federal College of Land Resources Technology | Kuru - Jos |
| 16 | Plateau State | Federal College of Forestry | Jos |
| 17 | Plateau State | Samura College of Agriculture (DAC) | Zaria |

Source: NBTE (2019); UNEVOC

Appendix 4. Colleges of agriculture and related discipline enrolment summary by institutions: 2014/2015

| No. | Institutions | Location | Pre-HND | | ND1 | | ND2 | | ND3 | | HND1 | | HND2 | | HND3 | | TOTAL | | |
|-----|---|-------------|---------|----|-----|-----|-----|-----|-----|----|------|-----|------|-----|------|---|-------|-----|------|
| | | | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M+F |
| 1 | Audu Bako College of Agriculture, Danbatta, Kano | Kano | 294 | 12 | 295 | 7 | 418 | 0 | 0 | 0 | 124 | 1 | 125 | 0 | 0 | 0 | 1256 | 20 | 1276 |
| 2 | Binyaminu Usman College of Agriculture, Hadejia Jigawa | Jigawa | 107 | 1 | 275 | 54 | 175 | 51 | 0 | 0 | 89 | 5 | 42 | 2 | 0 | 0 | 688 | 113 | 801 |
| 3 | College of Agriculture, DAC-ABU, Kabba | Kogi | 10 | 8 | 23 | 28 | 19 | 23 | 0 | 0 | 21 | 11 | 21 | 11 | 0 | 0 | 94 | 81 | 175 |
| 4 | College of Agriculture, Lafia | Nasarawa | 0 | 0 | 329 | 103 | 321 | 98 | 0 | 0 | 377 | 144 | 357 | 149 | 0 | 0 | 1384 | 494 | 1878 |
| 5 | College of Agriculture, Zuru | Kebbi | 453 | 59 | 516 | 88 | 376 | 93 | 0 | 0 | 129 | 37 | 158 | 33 | 0 | 0 | 1632 | 310 | 1942 |
| 6 | Edo State College of Agriculture, Iguoriakhi | Edo | 30 | 18 | 42 | 18 | 76 | 45 | 0 | 0 | 36 | 22 | 46 | 14 | 0 | 0 | 230 | 117 | 347 |
| 7 | Enugu State College of Agriculture, Iwollo | Enugu | 0 | 0 | 18 | 8 | 0 | 0 | 0 | 0 | 13 | 17 | 0 | 0 | 0 | 0 | 31 | 25 | 56 |
| 8 | Federal College of Agricultural Produce, Kano | Kano | 0 | 0 | 191 | 42 | 161 | 39 | 0 | 0 | 26 | 1 | 0 | 0 | 0 | 0 | 378 | 82 | 460 |
| 9 | Federal College of Agriculture, Akure | Ondo | 0 | 0 | 99 | 46 | 77 | 45 | 0 | 0 | 59 | 34 | 68 | 25 | 0 | 0 | 303 | 150 | 453 |
| 10 | Federal College of Agriculture, Ishiagu | Ebonyi | 0 | 0 | 92 | 40 | 66 | 61 | 0 | 0 | 56 | 71 | 67 | 53 | 0 | 0 | 281 | 225 | 506 |
| 11 | Federal College of Agriculture, Moor Plantation | Oyo | 0 | 0 | 292 | 156 | 288 | 147 | 0 | 0 | 125 | 92 | 127 | 69 | 0 | 0 | 832 | 464 | 1296 |
| 12 | Federal College of Animal Health & Production Technology | Ibadan-Oyo | 0 | 0 | 357 | 231 | 300 | 241 | 49 | 26 | 114 | 54 | 95 | 59 | 16 | 6 | 931 | 617 | 1548 |
| 13 | Federal College of Animal Health & Production Technology, | Vom-Plateau | 0 | 0 | 298 | 208 | 64 | 37 | 0 | 0 | 80 | 42 | 34 | 16 | 0 | 0 | 476 | 303 | 779 |
| 14 | Federal College of Fisheries & Marine Technology | Lagos | 0 | 0 | 393 | 26 | 219 | 16 | 0 | 0 | 8 | 5 | 8 | 2 | 0 | 0 | 628 | 49 | 677 |
| 15 | Federal College of Forestry Mechanisation, Afaka | Kaduna | 0 | 0 | 87 | 32 | 128 | 51 | 0 | 0 | 36 | 33 | 27 | 12 | 0 | 0 | 278 | 128 | 406 |
| 16 | Federal College of Forestry, Jericho Hill | Oyo | 0 | 0 | 161 | 103 | 150 | 106 | 0 | 0 | 124 | 50 | 51 | 31 | 0 | 0 | 486 | 290 | 776 |
| 17 | Federal College of Forestry, Jos | Plateau | 0 | 0 | 151 | 73 | 144 | 102 | 0 | 0 | 41 | 15 | 70 | 34 | 0 | 0 | 406 | 224 | 630 |

| | | | | | | | | | | | | | | | | | | | |
|----|--|---------|----|----|-----|-----|-----|-----|----|----|-----|----|-----|----|----|----|-----|-----|------|
| 18 | Federal College of Horticultural Technology | Gombe | 0 | 0 | 102 | 20 | 95 | 18 | 0 | 0 | 45 | 7 | 44 | 7 | 0 | 0 | 286 | 52 | 338 |
| 19 | Federal College of Land Resources Technology, Owerri | Imo | 0 | 0 | 313 | 247 | 296 | 230 | 0 | 0 | 78 | 65 | 84 | 66 | 0 | 0 | 771 | 608 | 1379 |
| 20 | Federal College of Land Resources, Kuru | Plateau | 0 | 0 | 40 | 18 | 55 | 25 | 0 | 0 | 42 | 18 | 47 | 12 | 0 | 0 | 184 | 73 | 257 |
| 21 | Mohamet Lawan College of Agriculture, Maiduguri | Borno | 0 | 0 | 250 | 79 | 198 | 95 | 0 | 0 | 201 | 36 | 175 | 35 | 0 | 0 | 824 | 245 | 1069 |
| 22 | Oyo State College of Agriculture, Igbo-Ora | Oyo | 0 | 0 | 323 | 351 | 299 | 285 | 0 | 0 | 37 | 27 | 34 | 28 | 0 | 0 | 693 | 691 | 1384 |
| 23 | Plateau State College of Agriculture, Garkawa | Plateau | 0 | 0 | 156 | 128 | 183 | 178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 339 | 306 | 645 |
| 24 | Samaru College of Agriculture, DAC ABU, Zaria | Kaduna | 0 | 0 | 58 | 6 | 55 | 10 | 0 | 0 | 11 | 8 | 16 | 3 | 0 | 0 | 140 | 27 | 167 |
| 25 | Yobe State College of Agriculture, Gujba | Yobe | 0 | 0 | 170 | 15 | 141 | 20 | 0 | 0 | 92 | 5 | 119 | 2 | 0 | 0 | 522 | 42 | 564 |
| 26 | Akperan Orshi College of Agriculture, Yandev | Benue | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 27 | Anambra State College of Agriculture, Mgbakwu | Anambra | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 28 | College of Agriculture & Animal Health, Bakura | Zamfara | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 29 | College of Agriculture & Animal Science, DAC-ABU Kaduna | Kaduna | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 30 | College of Agriculture, Jalingo | Taraba | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 31 | Federal College of Wildlife Management New Bussa | Niger | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 32 | Federal College of Fresh Water Fisheries, Baga - Maiduguri | Borno | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 33 | Federal College of Fresh Water Fisheries Technology, Bussa | Niger | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 34 | Niger State College of Agriculture Mokwa | Niger | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 35 | Samaru College of Agriculture DAC-ABU, Zaria | Kaduna | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |



| | | | | | | | | | | | | | | | | | |
|-------|-----|----|------|------|------|------|----|----|------|-----|------|-----|----|---|-------|------|-------|
| TOTAL | 894 | 98 | 5031 | 2127 | 4304 | 2016 | 49 | 26 | 1964 | 800 | 1815 | 663 | 16 | 6 | 14073 | 5736 | 19809 |
|-------|-----|----|------|------|------|------|----|----|------|-----|------|-----|----|---|-------|------|-------|

Appendix 5. Agro-ecological sub zones and crops grown

| Code | Sub Zone Name | Crops grown |
|------|--|---|
| NG01 | Sokoto | Millet, cowpeas, groundnuts |
| NG02 | Kano-Katsina Sahelian | Millet, sorghum, sesame |
| NG03 | Kano-Katsina Sudanian | Sorghum, maize, rice, groundnuts |
| NG04 | North-East Sahelian | Millet, sesame, cowpeas |
| NG05 | Borno-Yobe-Bauchi | Millet, cowpeas, groundnuts, sesame |
| NG06 | Sokoto-Rima-Kano riverine flood plains | Rice |
| NG07 | Komadugu-Yobe | Irrigated peppers, rice, millet, vegetables |
| NG08 | Lake T Chad | Maize, wheat, cowpeas, vegetables |
| NG09 | Tchad basin flooded recession | Sorghum, wheat |
| NG10 | Hadeija-Nguru wetlands | Cereals, vegetables |
| NG11 | North-West I | Sorghum, maize, soybeans, rice |
| NG12 | North-West II | Sorghum, maize cotton |
| NG13 | North-West and Central | Maize, sorghum, sweet potatoes, cowpeas |
| NG14 | Central | Sorghum, groundnuts, maize, cowpeas, sesame |
| NG15 | North-East | Maize, rice, cowpeas, soybeans, groundnuts |
| NG16 | High plateau | Irish potatoes, maize, fonio |
| NG17 | Lower plateau | Rice, sorghum |
| NG18 | Nasarawa | Ginger, tumeric, maize, sorghum, yams, fonio |
| NG19 | Benue river | Sugar cane, rice |
| NG20 | Central belt | Yams, maize, cassava, rice, soybeans |
| NG21 | Niger and Benue river flood plains I | Rice, maize, vegetables |
| NG22 | South central | Cassava, maize, yams, tree crops |
| NG23 | South-East I | Citrus fruits, tubers, cereals, soybeans groundnuts |
| NG24 | Adamawa East | Cocoa, oil palm, cereals, tubers |
| NG25 | Mambila Highland | Maize, Irish potatoes, tea, coffee, kolanuts |
| NG26 | Cross River | Cocoa, oil palm, tubers, rice, plantains |
| NG27 | South-East II | Rice, cassava, yams, oil palm |
| NG28 | South-West I | Cocoa, oil palm, cereals, tubers |
| NG29 | South-West II | Rice, cassava |
| NG30 | Upper South Central | Cashews, oil palm, tubers, maize |



| | | |
|------|-------------------------------|-------------------------------------|
| NG31 | Lagos peri-urban | Market gardening, coconuts |
| NG32 | Coastal strip and Niger Delta | Cassava, plantain, oil palm, rubber |
| NG33 | South-East III | Cassava, cereals, oil palm |
| NG34 | North-East II | Various food crops |
| NG35 | Niger-Benue river | Various food crops |
| NG36 | | Commercial sugar cane estates |