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Youth Entrepreneurship in Agribusiness

Nigeria Country Report



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Table of Contents

Acknowledgements	4
Acronyms and Abbreviations	5
Executive Summary	6
1. Introduction	8
2. Conceptual Framework and Methodology	10
3. Status of Youth and Youth Policies in Nigeria	15
4. Case Studies of Youth Entrepreneurs	21
<i>Rural Youth Entrepreneurs</i>	<i>21</i>
CASE STUDY 1: Steve Okeleji – Fish producer and fingerling seller	21
CASE STUDY 2: James Ogabo – Fish breeder and Breeding Service Provider	27
CASE STUDY 3: Manir Umar Hussaini – Livestock and Dairy Enterprise	31
CASE STUDY 4: Yahya Olubunmi Adebayo – Fish processing and retail fish marketing	36
<i>Urban Youth Entrepreneurs</i>	<i>41</i>
CASE STUDY 5: Femi Aiki – Co-Founder and CEO of Foodlocker.....	41
CASE STUDY 6: Affiong Williams – Founder and CEO of ReelFruit.....	44
CASE STUDY 7: Job Oyebisi – Co-Founder and CEO of FarmCorps.....	45
5. Key Lessons from Case Studies	47
Policy and regulatory environment.....	47
Institutional and intermediary organization support environment.....	48
Technological and infrastructure environment	49
Individual factors.....	50
6. Recommendations for Stakeholders	51
7. Concluding Remarks	55
References	56
Appendices	60

List of Tables

[Table 1: Selected key factors and drivers for rural youth empowerment through entrepreneurship](#)

[Table 2: Shares of Youth \(15-29 years\) Unemployment \(in percent\)](#)

[Table 3: Percentage distribution of youth involved in agriculture by type of farming activity, age group and sex](#)

[Table 4: Support received by the Youth Entrepreneur](#)

[Table 5: Inputs, Outputs and Outcomes of current business venture](#)

[Table 6: Skills training support received by the YE](#)

[Table 7: Support received by the YE](#)

[Table 8: Inputs, Outputs and Outcomes of the business venture](#)

[Table 9: Skills training support received by the YE](#)

[Table 10: Support Received during the beginning of the business enterprise](#)

[Table 11: Inputs, Outputs, Outcomes associated with the venture](#)

[Table 12: Skills based support received](#)

[Table 13: Support received by the YE](#)

[Table 14: Skills training support received by the YE](#)

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Acronyms and Abbreviations

ADP	Agricultural Development Program
AFCTA	African Free Trade Act
AGOA	African Growth and Opportunity Act
APP	Agricultural Promotion Policy
APPEALS	Agro Processing, Productivity Enhancement and Livelihood Improvement Support
ARMTI	Agricultural and Rural Management Training Institute
ATA	Agriculture Transformation Agenda
CBN	Central Bank of Nigeria
CEO	Chief Executive Officer
CORY	Creating Opportunities for Rural Youth
ECOWAS	Economic Community of Western Africa
FIIRO	Federal Institute of Industrial Research Oshodi
FMARD	Federal Ministry of Agriculture and Rural Development
GSM	Global System for Mobile Communications
ICT	Information and Communication Technologies
IFAD	International Fund for Agricultural Development
IGO	Intergovernmental Organization
IITA	International Institute of Tropical Agriculture
ILO	International Labor Organization
MBA	Master's in Business Administration
NACCIMA	Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture
NAIC	Nigerian Agricultural Insurance Corporation
NARS	National Agricultural Research System
NBS	National Baseline Youth Survey of Nigerian Youth Development Fund (NYDF)
NEET	Not in employment, education or training
NEPC	Nigerian Export Promotion Council
NGO	Non-governmental organization
NYENET	Nigeria Youth Entrepreneurship Network
NYP	National Youth Policy
NYSC	National Youth Service Corps
SDGs	Sustainable Development Goals
SME	Small and Medium-Sized Enterprises
UK	United Kingdom
UN	United Nations
US	United States of America
USAID	United States Agency for International Development
VAT	Value-Added Tax
WAAPP	West Africa Agricultural Productivity Program
YE	Youth entrepreneur/ Youth entrepreneurs
YEAP	Youth Employment Agricultural Programme
YEDP	Youth Entrepreneurship Development Programme
YISA	Youth Initiative for Sustainable Agriculture in Nigeria

Executive Summary

Promoting rural entrepreneurship is recognized as an effective way to increase youth engagement in economic activities and address rural unemployment. However, the ideal pre-conditions remain largely unresearched. All age-groups face certain recurring challenges associated with agriculture and agribusiness. These include access to technology, weather uncertainty, poor market linkages and price risks. For young people, these challenges are typically exacerbated by a lack of relevant skills and experience.

Addressing these challenges requires answers to some key questions: Which factors drive the success of youth entrepreneurs in developing countries? What type of business 'ecosystem' is best suited for their development? What roles should the various stakeholders play in making youth entrepreneurship flourish nationally? How can young people expand their start-ups to become small, medium or large-scale businesses?

This report forms part of an international multi-country comparative study. It identifies key drivers for the success of youth entrepreneurship in Nigeria and examines challenges that the country's youth face on their way to becoming successful entrepreneurs. The report starts with a review of literature on the status of rural youth entrepreneurship in Nigeria. Seven detailed case studies of rural and urban agribusiness youth entrepreneurs (YE) then highlight specific challenges and opportunities. The insights gathered help address key policy and programmatic gaps. They also enable us to offer recommendations for strengthening youth empowerment through entrepreneurial opportunities.

In Nigeria, the government, private sector, NGOs and donors all support entrepreneurship in agriculture (including livestock and fishery). Several policies and strategies already facilitate the promotion of youth employment and entrepreneurship. Policy documents identify youth entrepreneurship development as a key strategy for agriculture and rural transformation. However, systematic translation of these strategies into investment and coordinated action remains limited. Entrepreneurship programs lack a systematic approach, operate in isolation, remain project-driven, involve few stakeholders and are poorly linked to other elements of a business ecosystem. Interventions have so far concentrated on training youth for employment rather than helping entrepreneurs to create jobs.

Some of the YE selected for study have links to research and innovation systems and have been able to upgrade their businesses in line with sector standards. However, none of them are fully integrated into larger supportive environments or a multi-stakeholder initiative on youth entrepreneurship. They have businesses of differing sizes, established at different speeds. Education up to undergraduate level seems to help accelerate business establishment and ultimate success. Vocational training for technical and business skill development nonetheless remains a necessary first step towards youth entrepreneurship. Scaling up then requires mentorship, with suitable incentives for the mentors.

Several insights emerge from the case studies. Both rural and urban YE emphasize challenges in accessing credit; many had to rely on family and personal funds to start their ventures. Urban YE, in particular, remark on high interest rates from banks as well as difficulties in matching funding from regional institutional investors. Access to finance is clearly crucial for setting up and expanding businesses.

Rural YE receive negligible institutional support; few have access to youth associations or Chambers of Commerce. They have to invest time and resources in accessing markets and getting updated market information. Skills training is also deemed helpful in strengthening youth entrepreneurship. Several YE

highlight that training by government, NGOs and international donors has helped them develop technical, business and managerial skills. Others emphasize that an exclusive focus on training can be misplaced, particularly when it is always the same entrepreneurs who benefit.

Personal motivation and a strong entrepreneurial mindset also play a key role. YE motivations range from helping solve the unemployment crisis and improving demand-supply linkages to proving the local business case for a novel industry. All YE emphasize the importance of detailed market analysis to understand the demand dynamics for local foods. In addition, many YE value their role as mentors to young members of their community. To sensitize youth to the benefits of agribusiness and help those who are interested get on the path to agri-entrepreneurship, some YE provide training, support and counseling.

Initial support from personal networks is perceived as critical. To various extents, all YE mentioned the importance of encouragement from family members, partners and business alumni, particularly in the early stages. Such encouragement includes financial backing, mentoring and network access. For urban YE, multinationals running competitions and providing mentoring are an additional useful source. International support structures are often more helpful than local ones – including from government – particularly in the early stages. Access to networks and mentoring is critical. Urban YE see university alumni, networking with entrepreneurs and/or established businesses, as well as mentoring from abroad as key. Our interviewees also highlight positive and negative aspects of the regulatory environment, the former being more pronounced than the latter. Challenges referred to include the government's tendency to support primary agriculture rather than market systems. YE also mention poor policy implementation and an opaque taxation system. The main operational challenges are logistics bottlenecks, poor access to finance and costly intra-African trade.

Our interviews and literature review highlighted the range of challenges that remain at policy, institutional, technology, infrastructure and individual levels. They all affect YE success. To accomplish the twin aim of food system transformation and youth involvement, Nigeria needs to take several key steps. This study concludes with some recommendations for policy makers, multinationals and the donor community. They include continuing efforts to improve infrastructure and technology access, creating and upholding regulatory product quality standards, improving YE access to credit and insurance, monitoring and evaluating policies and programs, and providing access to adequate and affordable education and training.

1. Introduction

Rural transformation is vital for the structural change needed for economic development. Achieving Sustainable Development Goals (SDGs) such as eliminating hunger and malnutrition depends heavily on rural transformation. Rural youth employment and entrepreneurship are key potential drivers of the process. The rural economy in many developing countries is characterized by a set of common phenomena: the proportion of young people in the countryside is increasing, but few of them view agriculture as an attractive profession, and therefore the farming population is ageing. Revitalizing the rural economy in developing countries will require strong engagement and empowerment of rural youth in agriculture enterprises.

Global youth population is projected to grow by seven percent to 1.3 billion in the year 2030, the target year for achieving the SDGs (UN, 2019). The ability of countries to harness this ‘youth bulge’ depends critically on several factors, including the provision of productive employment (UN, 2019). Of today’s 1.2 billion people aged 15-25, one billion live in developing countries, and half of those in rural areas. Unemployment is likely to be three times higher than for their adult counterparts. In sub-Saharan Africa, two-thirds of rural youth depend on agriculture for their livelihood (SFI Advisors, 2019). Empowering youth through promoting entrepreneurship is increasingly seen as an approach to inclusive economic development. Several recent global reports highlight the challenges and opportunities.

The International Labor Organization (ILO) reports that one-fifth of young people worldwide are currently ‘NEET’, i.e. not in employment, education or training. However, the ILO argues that these youth can benefit significantly from digital innovations by becoming early adopters, using acquired skills at the workplace and helping to realize their entrepreneurial aspirations. Several countries have recently focused on digital technology to promote youth entrepreneurship, promoting ICT innovations to facilitate market linkages, access to finance and acquisition of financial, entrepreneurial and digital literacy skills (ILO, 2020).

The United Nations’ (UN) 2018 World Youth Report estimated 13 percent overall youth unemployment in the previous year. Key challenges facing youth include the high cost of education, job insecurity, low wages and limited chances for on-the-job learning. Many national governments have so far failed to establish coordinated youth policies and programs, for example to create adequate employment and entrepreneurial opportunities. However, the UN report shows that countries are increasingly promoting youth entrepreneurship, with a growing programmatic focus on appropriate education to address employment challenges. The report states that helping aspiring youth acquire education and training can equip them with the acumen needed to navigate the world of business creation and development. It also highlights that besides skills training, most successful YE receive support. This typically takes the form of start-up grants, links to financial service providers, incubation of start-ups, technology, infrastructure, mentoring and facilitating access to potential investors (UN, 2018).

Innovations such as information and communication technologies (ICT) provide new opportunities. According to USAID (2019), interventions that seek to empower youth to start their own businesses are increasingly becoming part of the youth-oriented development agenda across the globe. Rural youth are well-placed to benefit from such technical innovations, as they are more likely than adults to own mobile phones and adopt financial, training and extension services which use these digital platforms. Innovative technologies can connect farmers to markets, thereby reducing transaction costs, and raising food system efficiencies and inclusion (USAID, 2019).

Several approaches can help address the employment and entrepreneurship challenges facing rural youth in developing countries. They include increasing the demand for staff through structural changes, training young people for agricultural jobs, as service providers or in self-employment. Further pathways include developing value chains, farmer-based organizations and agribusiness incubators for high-value crops and livestock products, and training rural youth for business opportunities there. Multi-stakeholder development of entrepreneurship ecosystems that connect large numbers of rural youth to market and business opportunities also shows some promise (SFI Advisors, 2019). Several successful examples of such multi-stakeholder approaches in agricultural development have been documented elsewhere (Winter et al, 2017). While they need to be adapted, such initiatives have been applied as a collective action tool to address issues related to climate smart agriculture, agricultural planning, and in building resilience of the market chains (Winter et al, 2017).

Rural youth nonetheless continue to face several constraints when engaging in agricultural enterprises. One major hurdle is limited access to many ingredients of agricultural success: land, credit, inputs (e.g. machinery, irrigation or improved seeds), agronomic and vocational training, insurance and lucrative markets. Farming is also becoming more challenging due to climate change, degradation of natural resources, water scarcity and loss of biodiversity.

Engaging youth in agribusiness is often heralded as an effective strategy for rural transformation. However, there is still limited clarity as to which interventions work best and why. This gap in evidence and knowledge prompts a number of research questions:

- What are the drivers of successful rural youth empowerment through entrepreneurship?
- Which policies and programs can help address challenges of rural youth entrepreneurship?
- What are the best approaches to developing youth entrepreneurship in rural areas?
- How can which models best be deployed to meet rural youth needs?
- How can different actors be incentivized to engage in rural entrepreneurship?
- Who is best placed to ‘deliver’ youth entrepreneurship?
- How can one ensure good governance and alignment of interests and activities across multi-stakeholder initiatives?
- What roles should private and public organizations play in generating opportunities?

We are addressing these questions in a series of country reports involving rural and agribusiness YE. The present country report focuses on Nigeria. The following section explains our methodology and conceptual framework. Section 3 examines overall youth employment in Nigeria, with a specific focus on policy, institutional and regulatory, technical and individual factors in the agriculture sector. Section 4 presents and synthesizes the YE case studies, whose key findings lead to recommendations in Section 5. The final section provides concluding remarks.

2. Conceptual Framework and Methodology

Entrepreneur development has been studied for a long time, particularly the factors contributing to success or failure. A broad set of enabling factors that drive the success of entrepreneurship has been identified. Entrepreneurship is likely to be successful in ecosystem that includes enabling policies and regulations, adequate infrastructure and financing, access to and adoption of technologies and innovation, as well as skilled entrepreneurially minded people. Such an ecosystem is typically the result of work by numerous stakeholders. They include academia, industry, government and entrepreneurs themselves.

Even within this kind of ecosystem, the development of youth entrepreneurship in rural agriculture poses additional challenges. First, rural youth typically have limited knowledge and business skills, as well as little or no exposure to the business environment. Second, while youth in general face risks associated with markets and technologies, the rural setting poses further uncertainties in terms of weather, production and price risks. Such risks are exacerbated by limited infrastructure for rural communities. Rural youth thus typically face a higher chance of business failure than urban entrepreneurs.

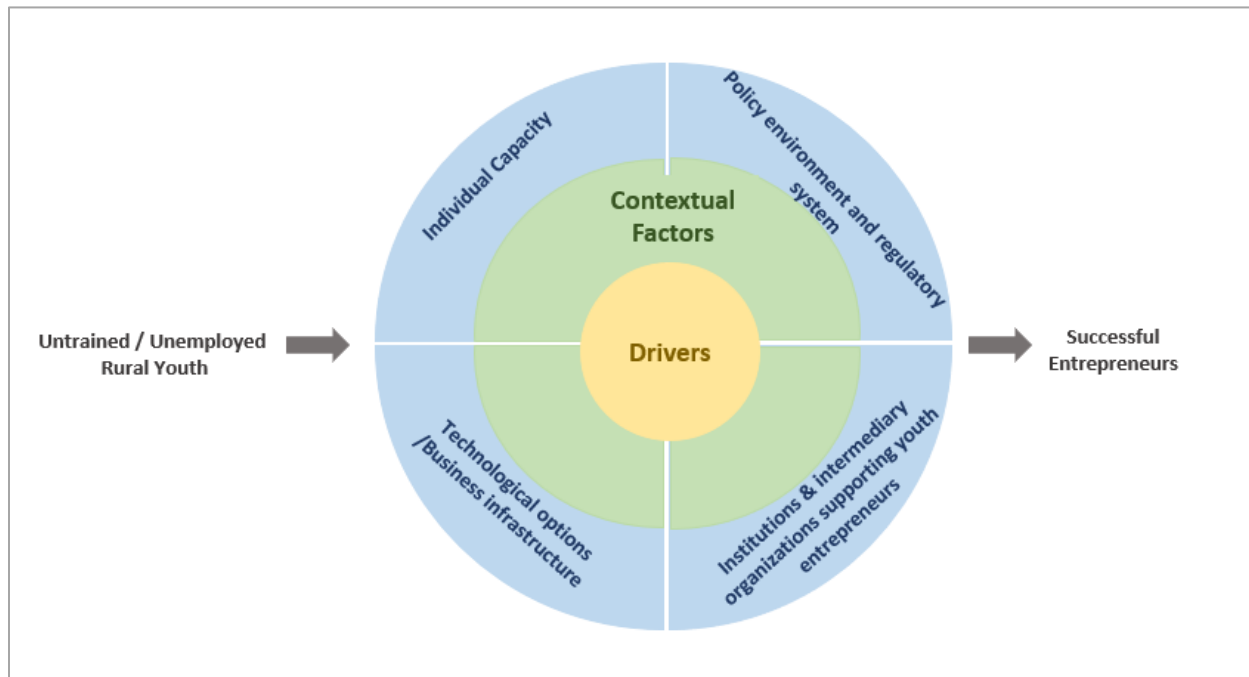
Evidence-based literature on youth entrepreneurship development remains limited. Understanding the issues, constraints, challenges and opportunities that rural youth face in initiating and successfully running their businesses requires studying them in their setting. In this paper we take two broad approaches to studying rural youth entrepreneurship and developing testable hypotheses. First, a systems approach places rural youth in the entrepreneurship ecosystem, as well as further embedding this within the broader food system. Second, we employ a multi-stakeholder perspective for analyzing and addressing the challenges. This two-pronged approach enables us to develop specific hypotheses to be tested through case studies. It also provides opportunities for identifying the relevant multi-stakeholder organizations, groups and individuals along the value chains.

The following section describes the conceptual framework, methodology, case study selection and data collection process.

Conceptual Framework

Figure 1 illustrates the conceptual framework used in this study for identifying a set of hypotheses tested through case studies. The framework allows delineation of contextual factors which are necessary but not sufficient, as well as drivers which are both necessary and sufficient for the successful development of rural youth entrepreneurship. It also enables evaluation of each case study across four 'key component' groups: policy environment and regulatory system, institutions and intermediary organizations supporting youth entrepreneurs, technological options and business infrastructure, and individual capacity and skills. Each of these components comprises a set of contextual factors and drivers that support and encourage rural youth empowerment through entrepreneurship, as presented in Table 1.

Figure 1: Framework for rural youth empowerment through entrepreneurship



Source: Authors' compilation

The advantages of using this framework are fourfold. First, it helps identify issues at the policy and entrepreneurship ecosystem level in various political economy settings. Second, it enables categorization and comparison of individual capacity and skill constraints that youth face in different policy and business environments. Third, it can trace needed interventions at the institutional and regulatory level, where gaps may work for and against youth engagement in agribusinesses. Finally, it is readily amenable to operationalization and application to a broader set of country case studies.

Table 1: Selected key factors and drivers for rural youth empowerment through entrepreneurship

Strategic Areas	Contextual Factors	Drivers
Policy environment and regulatory system	Political environment development for youth / youth migration Public-Private Partnership opportunities Infrastructure for business / access to assets (such as land, markets, etc.) Governance and judicial system Sound financial system	National youth policies / Social investment / youth development fund Harmonized policy system including an established entrepreneurship ecosystem Agribusiness strategies / policies (across agribusiness value chains) Export / market / trade opportunities Access to credit and insurance

	Regulatory environment	Regulatory support
Institutions and intermediary organizations supporting youth entrepreneurs	<p>Enabling business environment / financial services</p> <p>Existence of Chambers of Commerce</p> <p>Existence of technical institutions / skill development institutions / building youth capacity</p> <p>Existence of youth associations – networks and mentorships institutions</p> <p>Development of institutional partnerships in value chains</p>	<p>Multi-stakeholder approaches to youth and market opportunities</p> <p>Access to finance and credit</p> <p>Access to knowledge and skill development</p> <p>Support from Chambers of Commerce for youth development</p> <p>Farmer organizations, etc. encouraging youth development</p> <p>Agribusinesses courses available at technical institutions or post-secondary level</p>
Technological options / Business infrastructure	<p>Telecommunication infrastructure / ICT and its adoption</p> <p>Availability of technology and innovation</p> <p>Value chain development opportunities / agribusiness incubators / academic / research linkage</p> <p>Information and knowledge system supporting youth</p> <p>Rural roads, storage/logistics infrastructure</p>	<p>Connectivity / access to internet / Cost of mobile / data</p> <p>Access to new technology and its adoption by youth</p> <p>Youth are guided by an entrepreneur ecosystem with multi-stakeholder participation</p> <p>Access to relevant and reliable information</p> <p>Access to input and output markets / processing and storage facilities</p>
Individual capacity / Skills	<p>Working / family business experience</p> <p>Professional incubator facilities for the youth</p> <p>Access to knowledge and research</p> <p>Mentorship in business, networking and community support</p>	<p>Incentives and motivations</p> <p>Education / aptitude for learning</p> <p>Ability / soft skills exposure</p> <p>Business attitude and professional outlook and skills</p>

Source: Authors' compilation

Based on this conceptual framework, we developed four sets of hypotheses for studying the challenges and opportunities facing agricultural youth in developing their enterprises. Each case study presented has four sub-sections analyzing these hypotheses.

Policy and regulatory environment: This component refers to the policy environment, particularly to the constraints and support it poses for the development of youth entrepreneurship. It also highlights potential policy and regulatory changes needed to further promote youth entrepreneurship in agribusiness. Drivers of successful youth entrepreneurship include effective national youth policies, social investments, youth development funds, agribusiness strategies related to youth, access to credit and insurance, as well as market and trade opportunities. We hypothesize that an enabling policy environment that nurtures an entrepreneurship ecosystem and facilitates empowerment of youth entrepreneurs through multi-stakeholder participation is essential.

Institutions and intermediary organizations supporting youth: This component focuses on the roles played by relevant institutions and intermediaries in developing youth entrepreneurship. Key drivers include access to knowledge and skills development, support from Chambers of Commerce to pursue entrepreneurship ventures, and the availability of and access to agribusiness courses at technical or post-secondary institutions. We hypothesize that institutional support through multi-stakeholder approaches for connecting youth to agribusiness opportunities, providing credit, business education, skills development and partnerships can drive engagement of rural youth as entrepreneurs in agribusiness opportunities.

Technological options and business infrastructure: These factors and drivers relate to technological solutions, including access to mobile technology and other infrastructure needed to successfully run agribusinesses. Information and knowledge about markets and prices can be made available to entrepreneurs through ICT. Payment through mobile phones and other infrastructure for online transactions are increasingly important for small businesses in developing countries. The development of cold storage facilities for commodities, as well as logistical support for marketing produce locally and internationally is also needed. Finally, support to Research and Development (R&D) helps adapt technologies to local conditions and ensure continuous improvement so that YE remain competitive. We hypothesize that the availability of, and access to, appropriate technologies and infrastructure facilities help engage large numbers of agricultural youth.

Individual factors: Involvement of youth entrepreneurs in agribusiness also depends on individual factors for each YE. Studying these characteristics helps clarify the areas in which the youth may need help to develop specific technical skills and gain human, financial, political, social, and material capital for effectively initiating and expanding businesses. Key drivers include incentives and motivation to pursue entrepreneurial opportunities, education and aptitude, ability, soft skills and business attitude. We hypothesize that factors that contribute to the development of individual capacity and skills of youth will help generate numerous agricultural youth entrepreneurs.

Case Study Selection

The cases reported in this report were selected based on consultations with the national youth entrepreneurship units and their program managers. Other considerations included age of the entrepreneur, years in business operation, and nature of agribusiness value chains. In Nigeria, we began with a country level business ecosystem analysis to identify potential models of youth engagement in agribusinesses and rural enterprises. Based on the analysis and other selection criteria such as age, type of businesses, approachability, and main forms of support received (from the public, for profit and not-

for-profit sectors), we selected seven youth entrepreneurs for the study. Among them, four focus on rural agribusinesses. The other three are urban-based entrepreneurs seeking to connect farmers and aggregators better to markets and consumers.

Data Collection and Interview Process

Using the conceptual framework presented above, a detailed questionnaire was designed, and field interviews were conducted. The selected YE were personally interviewed in their business settings, as well as by phone. Policy makers and program managers responsible for youth programs in Nigeria were interviewed for further information. Field visits were conducted to selected YE business locations and operations. Discussions took place with a range of stakeholders, including leaders from governmental and industry institutions.

The detailed questionnaire was adapted to the urban YE context, and abridged interview templates were shared in advance. The interviews with urban YE were conducted online via Zoom and lasted between 1-1.5 hours. The interview format was semi-structured, a method that consists of asking common questions around chosen topics (as per the interview template), while still enabling the interviewer or interviewee to diverge and pursue a particular idea or response in more detail. The three urban interviews were recorded and transcribed to facilitate analysis of common challenges, opportunities and perceptions.

3. Status of Youth and Youth Policies in Nigeria

In this section, we present an overview of the status of rural youth and youth-related policies in Nigeria, within the context of studying opportunities for youth entrepreneurship development.

Youth Population in Nigeria

According to available data, in 2018, Nigeria had an estimated population of over 203.9 million, an annual population growth rate of 2.54 percent and a median age of 18.4 years (World Population Review; Central Intelligence Agency). As of 2016, over 41 percent of Nigeria’s population was below the age of 15. A large proportion of the population will thus soon be entering the labor market, requiring new job opportunities (National Bureau of Statistics, 2017).

Between 2011 and 2019, the share of unemployed youth increased from 9.5 percent to 16.2 percent, while the share of rural youth unemployment rose from 7.3 percent to 15.2 percent, respectively (Refer to Table 2) (ILOSTAT, 2020). Youth unemployment in rural areas was further exacerbated by the 2016 recession (Kalagbor et al, 2019). Policy makers have placed youth employment challenges at the center of their agenda. Without concerted policy and programmatic efforts, youth joblessness may pose serious political and socioeconomic challenges to national and state governments.

Table 2: Share of youth (15-29 years) unemployment (in percent)

Year	Total	Rural	Urban
2011	9.5	7.3	13.3
2013	9.4	5.3	16.4
2016	15.3	9.7	24.1
2019	16.2	15.2	18.8

Source: ILOSTAT (2020)

Youth Employment in the Agricultural Sector

The federal government recognizes the extent of the youth unemployment crisis in Nigeria and the role of agriculture in addressing it (NYP, 2019). In 2019, the share of agriculture in total employment was 35.1 percent (World Development Indicators). According to the most recent National Baseline Youth Survey (NBS), conducted in 2012, more than 37 percent of youth were engaged in agriculture. Of these, 48.4 percent were males and 51.6 percent females. Agriculture is a pivotal sector for youth employment in Nigeria, engaging more than one-third of the youth population in 2012 and today probably a higher proportion due to limited opportunities in non-farm sectors.

Table 3: Percentage distribution of youth in agriculture by farming activity, age and gender

STATE	AGE GROUP							
	15 – 19		20 – 24		25 – 29		30 - 35	
	Male	Female	Male	Female	Male	Female	Male	Female
Crop Production	64.4	35.6	55.4	44.6	54.4	45.6	60.4	39.6
Animal Husbandry	67.7	32.3	62.8	37.2	59.0	41.0	66.7	33.3
Aquatic	52.3	47.7	44.4	55.6	57.3	42.7	64.4	35.6
Others	100.0	-	-	-	100.0	-	79.7	20.3
National	63.8	35.2	56.5	43.7	55.2	44.8	61.6	38.4

Source: National Baseline Youth Survey (NBS 2012b)

According to NBS (2012b), youth agricultural firms and businesses generated a total of 16 billion dollars in 2012, of which crop farming activity had the highest contribution, followed by livestock, poultry, and fishing (NBS, 2012b). In this survey, males aged 15-19 were the most active youth group in crop production and animal husbandry, while those aged 30-35 were most active in the aquatic farming sub-sector. The most active female group was 20-24-year-olds in the aquatic farming sub-sector (See Table 3).

In recent years, several steps have been taken to stimulate the interest of youth in agriculture. These include the provision of special incentives such as credit facilities, skills training and internships (Kalagbor et al, 2019). Youth involvement in agriculture, including entrepreneurship, nonetheless remains limited. Contributing factors include inadequate knowledge of the potential of the agricultural sector, lack of access to relevant resources for profitable agricultural engagements, inadequate technical know-how for economically viable agribusinesses, lack of facilities to preserve agricultural products, inadequate access to the fair product marketing and food processing industries, inadequate access to funds, land, high-yield seeds and fertilizers, as well as a lack of political will to implement policies (Ajani et. al, 2015; Adesugba et. al., 2016; Ghebru et. al, 2018; Simelane et al., 2019).

Against the backdrop of these challenges, the following section outlines key existing initiatives for youth engagement and entrepreneurship in the agriculture sector related to the four sets of factors and drivers of the conceptual framework presented earlier.

Policy and regulatory environment for youth entrepreneurship

Policy initiatives focusing on youth entrepreneurship in Nigeria's agricultural sector are discussed below.

Nigeria Youth Policy (2019)

One of the key drivers identified for successful YE development is the presence of a national youth policy. Nigeria has one. The National Youth Policy (NYP) 2019, an update of NYP 2009, considers existing, new and emerging challenges. The policy targets everybody in Nigeria between the ages of 15 and 29. One of its thematic focus areas is to promote youth involvement in agriculture for national food security, social development and job creation.

The policy document discusses several major strategies. They include creation of the Nigerian Youth Development Fund (NYDF) with a special focus on credits and grants to youth entrepreneurs and 'agripreneurs'. Further approaches include enhancing agricultural extension services, increasing the number of providers to 1:1000 farmers by 2020 and 1:750 by 2022, with a priority on youth in agriculture, as well as improving youth access to farmland, establishing Agribusiness Incubation Centers, Enterprise Development Centers and Farm Settlements across the country. NYP 2019 also foresees provision of key infrastructural support such as ICT and social amenities to reduce rural-urban migration while creating jobs, an agricultural education curriculum focusing on practical skills such as entrepreneurship and business management, creating opportunities for youth in production for raw material exports, Nigerian cuisine ingredients for the diaspora, and processed products. The aim is to create opportunities for youth at every node of the value chain, based on comparative advantages in each geo-ecological zone (seed / seedling production, supply chain management / aggregation, processing, marketing, services including agricultural input supply, extension, mechanization, farming by proxy, and land matching program).

The policy recognizes that youth employment and entrepreneurship in agriculture and agribusiness are crucial for Nigeria's agriculture transformation. It also recognizes the extent of the youth unemployment crisis and its potential threat to economic and social stability. NYP 2019 states that by engaging youth in agriculture, Nigeria can address the challenges of youth unemployment, restiveness, an ageing farm

population, low productivity and poverty, as well as helping achieve sustainable food security. However, for several areas including export production and value chains, the policy does not provide specific targets or strategies for opportunity creation. There is also no discussion of YE access to insurance.

Agriculture Transformation Agenda (ATA) and Agricultural Promotion Policy (APP)

In 2010-11, the government of Nigeria established the Agricultural Transformation Agenda (ATA). This identified several value chains for which specific production targets were to be achieved in the following decade. These achievements would be enabled by boosting agricultural lending, input subsidies, developing crop processing zones, introducing high-yield crop varieties, and strengthening market access (National Association of Nigerian Traders, 2018). Over time, it was recognized that the ATA had failed to deliver on key policy drivers including access to credit, particularly for smallholders. Weak agribusiness strategies across the value chain led to insufficient access to improved seed varieties, and to rudimentary midstream logistics including warehouse and storage facilities (National Association of Nigerian Traders, 2018). The Federal Ministry of Agriculture and Rural Development (FMARD) also recognizes the inability of the country to meet its domestic requirement for food and the failure to meet the quality requirements for success in international markets (Ifeoma, 2019).

In 2016, the new government led by President Buhari introduced the APP, also known as the “Green Alternative”. This was intended as the national policy framework for driving growth and development of the agriculture sector. The policy covers the period 2016-2020, replacing the ATA which had been in place from 2011 to 2015. The APP also focuses on developing and launching entrepreneurship platforms that create a pathway for youth and women to engage in the agribusiness economy, expand capacity-building including technical training and access to financial services, and facilitate investment advisory support for potential entrepreneurs. The policy emphasizes export promotion through tariff reform, improvement in crop quality, involvement of the private sector and increased export orientation in specific crops.

The APP recognizes the low access rate for agricultural insurance. Measured by farmers enrolled and cropping area covered, the rate is only three percent. The Insurance Commission has licensed new agricultural insurance retailers, but the Nigerian Agricultural Insurance Corporation (NAIC) remains the dominant supplier. The APP proposed developing new products (e.g. microinsurance, weather-index insurance) and allowing private insurers to participate in government-sponsored programs.

Youth Entrepreneurship Development Programme (YEDP)

The Central Bank of Nigeria (CBN) launched YEDP in 2016, as part of its efforts to deepen credit delivery to address the challenges of unemployment, promote an entrepreneurial spirit among Nigerian youth and enhance the spread of small and medium enterprises (Central Bank of Nigeria, 2016). The program provides long-term working capital for startup and expansion projects by young graduates and non-graduates in several sectors. These include the farming of fish, poultry and snails (Central Bank of Nigeria, 2016).

The YEDP disbursed US\$500 thousand for 74 projects in the first two years since its inception in 2016 (Central Bank of Nigeria Annual Report, 2018). However, according to a 2019 report by the Carnegie Endowment for International Peace, obtaining CBN credit has remained challenging for small-scale and commercial farmers seeking to become entrepreneurs. According to the report, CBN’s Agricultural Credit Guarantee Scheme was poorly designed, badly implemented and difficult to access. For example, only one out of the 190 members of the Lagos State Chamber of Commerce’s farmers group who applied for a loan eventually received it (Carnegie Endowment for International Peace, 2019).

National Youth Service Corps (NYSC)

NYSC is a government scheme which aims to provide encouragement and develop common ties among Nigerian youth, as well as promote national unity (World Bank, 2018). A key focus is on training and mentoring young graduates in skills acquisition and entrepreneurship development (World Bank, 2018). The federal government currently allocates about US\$194 million to the program (Council on Foreign Relations, 2017). Three recent studies have highlighted that since the program began in 1973, its efficacy has been hampered by corruption, political and local security threats. Future success depends heavily on resolving these challenges (Chukwuemeka et al, 2014; Council on Foreign Relations, 2017; Oluwalogbon et al, 2019).

Institutional and intermediary environment

Some key institutional initiatives focusing on youth entrepreneurship, with a focus on the agricultural sector, are discussed below.

World Bank's West Africa Agricultural Productivity Program (WAAPP)

Officially ending in 2019, the WAAPP was a multi-year effort to transform West African agriculture by boosting productivity and sustainability. It aimed to reduce hunger, improve nutrition, create jobs and support collaboration across borders (World Bank, 2016). The program targeted six percent agricultural growth and increased food production and availability in West Africa (World Bank, 2016). WAAPP worked with scientists, researchers, extension workers and farmers to i) innovate, generate, disseminate and adopt improved technologies, ii) create enabling conditions for regional cooperation, iii) build human and institutional capacity across the region and iv) create youth employment, engage women and adapt to climate change (World Bank, 2016).

According to one success story highlighted by the World Bank in 2019, programs in fish farming, integrated aquaculture and novel ways of producing quality fingerlings have led young people and families either to start fish farming or expand their farms. This change has increased their incomes and livelihoods. The Bank also reports that WAAPP Nigeria trained interested students in selected schools on basic techniques for rearing fish to increase their interest in the fishery sector at a younger age. Although WAAPP has ended, due to its success in schools, the government has approved further such outreach schemes.

Nigeria Youth Entrepreneurship Network (NYENET) and Technology Fund

NYENET is a public-private partnership between the Federal Government of Nigeria, various ministries, departments and agencies, and the Anabel Group (Okoye et al., 2015). It aims to improve the organization and coordination of various entrepreneurship programs within the country (Okoye et al., 2015). Previously, entrepreneurship and empowerment programs for job creation were often hosted in several unrelated agencies. NYENET was designed as a platform to harmonize implementation and improve management, efficiency and effectiveness (Okoye et al., 2015). Although the results of this partnership are unclear, several recent initiatives by the Nigerian federal government show promise. For example, the Bank of Industry has allocated a technology fund of US\$20 million to support youth innovators and entrepreneurs. In addition, it also provides online training programs through its Youth Entrepreneurship Support Program for entrepreneurs in the age group of 18 and 35 years (Medium, 2020).

The Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture (NACCIMA)

Established in 1960, NACCIMA is an umbrella organization for various Chambers of Commerce (NACCIMA, 2019). Membership encompasses city, state and bilateral chambers, business/professional associations and corporate bodies (NACCIMA, 2019). NACCIMA engages in advocacy to influence public policies that promote free enterprise (NACCIMA, 2019).

Support from Chambers of Commerce is a key institutional driver for YE success. In recent years, NACCIMA has increased its support for youth engagement and entrepreneurship to reduce youth unemployment. In 2017, it launched a Youth Group to invest in the youth and economic future of Nigeria by providing education, entrepreneurial know-how and skills training to young people in business (NACCIMA, 2018.). NACCIMA also collaborates with institutions such as the Nigerian Export Promotion Council (NEPC) and Federal Institute of Industrial Research Oshodi (FIRO) in training and empowering youth in the areas of agriculture, agro-processing and non-oil export (NACCIMA, 2018).

Despite positive goals, Nigeria's business associations play a limited role in shaping government programs designed to help their small and medium-sized members. Chamber of Commerce members report that government officials rarely consult them and that getting access to financial institutions such as the CBN continues to be challenging (Carnegie Endowment for International Peace, 2019).

Technological options and infrastructure environment

Advances in agricultural technology remains limited in Nigeria. The National Agricultural Research System (NARS) has a poor record in generating and commercializing new agricultural technologies that meet local market needs (National Association of Nigerian Traders, 2018). Challenges include obtaining access to the output market, as well as addressing the gap between demand and supply of inputs such as improved variety of seeds. Post-harvest losses remain high, while illegal food imports deprive domestic farmers of market opportunities (National Association of Nigerian Traders, 2018).

According to APP, lack of quality market information restricts farmers' ability to identify opportunities, as well as hampering transparency and coordination. The policy further highlights limited investment in infrastructure and midstream logistics, including in warehouses, storage, processing systems and irrigation facilities.

As of 2018, 42 percent and 88 percent of the Nigerian population used internet and mobile subscriptions, respectively (World Development Indicators). The country is lagging behind in leveraging ICT due to weak governance and poor infrastructure (NYP, 2019; Global Innovation Index, 2018). Significant untapped opportunities remain for improving access to youth, as Nigeria currently ranks low in the Networked Readiness Index, which rates countries on performance in using ICT to boost competitiveness, innovation, and well-being. Published by the World Economic Forum, the 2016 ranking put Nigeria 119th out of 139 countries (World Economic Forum, 2016).

NYP 2019, APP, and several other government and non-government initiatives now aim to improve ICT infrastructure and access. Increased ICT use could enhance the involvement of youth in the agriculture sector and agribusiness. National licensing of the Global System for Mobile Communications (GSM) operators in the year 2000, for example, has opened up opportunities for engagement and economic advancement for millions of young Nigerians (NYP, 2019). To promote ICT for agriculture, the government has also proposed loans and grants to youth venturing into this domain (NYP, 2019).

Individual Factors

According to NYP 2019, Nigeria's youth do not only lack opportunities in agro-based enterprises. Many of them also do not adequately appreciate agriculture's potential. The policy highlights the popular youth view of the sector as non-prestigious, manual labor-oriented, demanding and lacking scope for commensurate economic returns. Lack of adequate agri-focused entrepreneurial education, training and extension services reinforces this negative opinion. Youth enrollment in agriculture vocational training

continues to be very low. There is a vicious cycle of lack of interest and lack of adequate funding in training, research, personnel and supporting infrastructure at tertiary educational institutions (Amadi et al, 2017). Inadequate extension services contribute to the lack of awareness and knowledge of technologies to improve agricultural productivity and minimize losses (APP, 2016).

In the agricultural sector, young Nigerians lag behind in motivation, education, ability and mentorship. The government recognizes these challenges and has proposed strategies to address them in NYP 2019. To improve youth motivation, incentives and skills, the policy proposes that graduates of agriculture shall be entitled to interest-free loans, using their NYSC certificate as collateral. Additionally, it aims to improve the proportion of extension services to clients, notably youth, as described above. The policy also mentions increasing public awareness of agriculture's immense benefits for youth and community development, as well as integrating vocational, technical and practical skills for agricultural entrepreneurship and business management.

In summary, several policies and strategies are in place in Nigeria that facilitate the promotion of youth employment and entrepreneurship. Policy documents in the agriculture sector identify youth entrepreneurship development as a key strategy for agriculture and rural transformation. However, systematic translation of these strategies into investments and programmatic action is limited. Most interventions focus on training for employment rather than developing entrepreneurs who can hire unemployed youth into their businesses. Established agribusinesses can hire only a limited number of young people; absorbing more of them into the jobs market requires greater entrepreneurship. Many youth entrepreneurship development programs lack a systematic approach, operate in isolation, remain project-driven, involve few stakeholders, and fail to link up well all the various elements of a business ecosystem.

4. Case Studies of Youth Entrepreneurs

In this section we present case studies from seven YE in Nigeria. Four are rural entrepreneurs: Steve, James and Olu are engaged in the aquaculture sector, while Manir works in livestock and dairy farming. Another group comprises the three urban agri-tech entrepreneurs Affiong, Job and Femi. They are co-founders and CEOs of e-commerce start-ups that use digital tools to link farmers with urban food markets. The case studies highlight their stories, including challenges, policy and institutional constraints, opportunities for agribusinesses, and lessons they have learned. The case studies focus on identifying driving factors that determine the development and success of YE activities.

Rural Youth Entrepreneurs

CASE STUDY 1: Steve Okeleji – Fish producer and fingerling seller

Summary

Steve Okeleji is a fish producer, fingerling (young fish) seller, and youth trainer. He represents a class of entrepreneurs who saw the potential for business early on in life. He faced several hurdles in building a business and had no support from external entities until a World Bank program helped him expand his business skills to assist other farmers in the area. Supported by links and collaboration with suitable partners, Steve is now an experienced agribusiness entrepreneur, who in addition trains an aspiring group of entrepreneurs. He manages a large business, in which former President Olusegun Obasanjo is an investor. Steve's story is an example of a young aspiring entrepreneur overcoming hardship and challenges to obtain success.

Background

Steve is 35 years old and has a degree in Aquaculture from Abeyakuta State University. Growing up in Ogun State, Steve comes from a family of farmers. His father owned a large farm and his mother was a schoolteacher. He is one of four sons in the family and spent most of his childhood on the farm. He acquired an interest in fish rearing from early childhood and decided to pursue it during his late teens.

Steve was only 19 when he started the fish production business. When his university closed due to frequent teachers' strikes, he used the time to develop a small aquaculture business that produced fish and supplied fingerlings to farmers. Encouraged by increasing demand for fingerlings, Steve started a fish farm. He created the necessary infrastructure by digging bore wells and using a generator for electricity. The business initially involved about five employees and gradually expanded. Steve is passionate about his work. As a good networker, he meets and engages with different people in the business to expand his operations.

Occupation before the present venture and the reasons for change

Steve originally wanted to be an engineer, but his academic scores were below those required for engineering school. Instead, he joined a Bachelor program in aquaculture. He was supported by his father, who believed aquaculture would be beneficial in the long run, given the emerging demand for fish in Nigeria. Before venturing into his own business, Steve worked as a fingerling distributor for a professor at his college who was already engaged in this business. Over time, Steve realized that the professor's production could not meet demand. Steve saw an opportunity to start his own fingerling farm.

Steve spotted his opportunity in northern Nigeria. In the south, an increasing number of fingerling suppliers were already competing to meet farmers' needs. Setting up in the north involved additional

effort and cost but offered the potential for high income. The key challenge was to create a supply system that could deliver the fingerlings to the customers on time.

The land Steve acquired and developed into a fish farm with developing water sources helped his business grow. However, Steve believes that factors like the lack of knowledge of business operations and industry best practices, as well as the significant capital costs, can adversely affect businesses owned by young people. He also identifies several other external constraints. These include the lack of mentorship by key players in the industry, scarce availability of soft loans and credit facilities, and limited human capital due to the unavailability of training or inadequate course content in tertiary institutions. A further constraint is the lack of access to a concise data collection system for business planning.

Challenges and support at the beginning of the business venture

Initially, growing fingerlings from broodstock did not seem difficult. However, when Steve wanted to expand the business, ensuring availability of water became a challenge. This was partly because his farm is in a dry region. He overcame this challenge by digging bore wells and shifting the farm operation to a nearby water source. Problems later reemerged as the farm became vulnerable to floods. Fingerling production was also jeopardized by unpredicted parasite infection. The combination of these factors drove Steve’s business to a grinding halt. The table below shows the support he received during business development and operation.

Table 4: Support received by the Youth Entrepreneur

Source of Support	Financial	Material / In-kind	Technology	Guidance & Training
Family members	Received support from father in the beginning	Shared farmland in early stages	Received support from father to understand basic farm practices	Received guidance from father on how to continue the business, despite early challenges and failures
Community	Received support from professor who loaned fingerlings A friend provided financial support to restart the business	None	Received fish-breeding technology support from professor	None
Private or political organizations	At a later stage of business, received support from a local politician (former president of Nigeria)	None	None	None
Development partners (including NGO projects)	Received funding from World Bank’s WAAPP which helped establish the training center	Received materials needed for running the center	Received technical support to develop the curriculum	Received technical assistance to run the project

The YE thus received support from his family, community and mentor but none from government organizations, especially in the early stages of his business.

Business details including cost, inputs, outputs and outcomes

Steve’s current business operation employs ten young people who are also trainees in the training center. Monthly expenditure is around \$10,000, while the monthly return of all operations, including the training center, is about \$6000. Steve is aware that the loss is due to insufficient support to maximize opportunities across the value chain. He is therefore readjusting his portfolio, helped by income from managing a private fish production facility. The table below lists the current inputs, outputs and outcomes.

Table 5: Inputs, Outputs and Outcomes of current business venture

Inputs	Outputs	Outcomes
Personal fish production business	Fingerling production / fish production	Serving the local fish farmers and consumers
Aquaculture Training Center	Training graduates	Training aquaculture production / business entrepreneurs
Africa Aquaculture Training Network	Sharing lessons and experiences and convening youth leaders	Developing leadership and capacity for the aquaculture industry in Nigeria and other parts of Africa
Private fish production facility	Producing and processing fish (up to 500 tons per year)	Providing quality fish to the domestic and export market Generating youth employment in the area in fish industry

After several years of serious challenges, current operations have brought some relief and satisfaction for Steve, with the potential for better future earnings. Using the training approach, Steve reduced the losses that resulted from workers’ inexperience. He was also able to stop the continuous instability arising from experienced workers leaving when they knew how to produce fish and market them. The training center helps fill staff gaps.

Over the years, the business has developed a social network with leading entrepreneurs and politicians in the state. These connections have prompted Steve to chair the Blue-Echo Foundation. This non-profit under the [Aquatic Hub Afrique Network](#) provides training and support to youth, women, smallholders, fresh graduates and others in the aquaculture value chain. Steve is also the Managing Director and CEO of AQUASEAS Company Limited, of which former President Obasanjo is Chairman. AQUASEAS signed a concession agreement with the Bayelsa State Government to manage Africa’s largest aquaculture facility in Yenegwe. The 127-hectare Bayelsa Aquaculture Village can produce about 15,000 tons per annum. Steve has used his managerial and business skills to move from small individual business ownership to become a partner in a medium sized enterprise.

Current challenges faced by the YE

Steve finds it hard to attract trainees, as many people cannot pay the necessary fees. He is now looking for sponsors to support trainees whom he can later recruit. A major challenge Steve sees in fish production is the range of natural disasters; in his case, the most significant have been parasite infections and floods. Both occurrences completely wiped out his business. Steve’s problems were compounded by the lack of disaster protection and insurance mechanisms. He was not even aware of their existence, nor did he see the importance of insuring fish farms against disasters. As the industry develops further, Steve will require insurance to protect his business and investments.

Steve points out that fish and fingerling production businesses are locality-specific. Owners must constantly monitor changes in consumer preferences and competition from other states or countries. The cost of production and distribution needs to be kept under control. Productivity is also compromised if there is no innovation in developing new broodstock, which must further be disseminated to farmers through fingerling producers. There is also a need for collective action in the aquaculture industry, for example a multi-stakeholder initiative with state and federal policymakers; YE could join and benefit.

Prospects

Steve has been influential in sharing business practices with local fish farmers. This activity has increased with the establishment of the WAAPP training. Following formation of the Africa Aquaculture Trainers Network, Steve is intending to share his knowledge beyond his state and Nigeria with the rest of Africa. He sees good prospects for scaling up, but the business model of training others needs rethinking. Currently, the trained YE are moving away and starting their own fish production units, with varying degrees of success. Some YE are also moving away from their businesses due to the lack of mentorship, continuous training and skill-building. Steve believes a franchising model would be more appropriate, whereby newly trained YE could be initially supported in business by an experienced colleague. The experienced YE would provide training support and inputs from their own business for a fee.

Steve notes that the prospects for replicating his model in other areas is high: national demand is rising, and Nigeria continues to import fish. However, YE entering fish production and marketing business require handholding for some time to establish production units and connect to markets. They need to be part of an association or network for continuous information on production technologies and for links to consumers. Again, a multi-stakeholder approach to business and sector development would be useful. Steve was isolated and worked without a support network of fingerling producers in his area. Local institutions were not sufficiently developed to assist, and regional governments did not pursue a strategy to develop YE. A joint platform was missing for actors in the aquaculture value chains, including youth.

Institutional and regulatory environment

According to Steve, there are no regulations or restrictions for launching a fish production business in his state, as it is considered a farming activity. Specialized fingerling production units have emerged in several states with strong infrastructure support, typically initiated by large-scale businesses or politicians with sufficient resources to invest. These entities require licenses to operate as legal companies.

Steve did not depend on any association or Chamber of Commerce to start up and run his business. No such entity currently supports small-scale producers of fish or fingerlings. However, YE can benefit from several associations related to farming and farm businesses. Steve recommends that YE join an association, network or multi-stakeholder platform. When things go wrong in the business, they then have peers to share experiences and receive financial and other assistance. The table summarizes the skills training support received by Steve, described in more detail below.

Table 6: Skills training support received by the YE

	Business skills	Marketing skills	Technological skills
'Self-made'	None	Acquired basic skills from the mentor professor	Acquired from university and mentor professor

External informal help	Acquired basic business skills from family – mainly father	None	None
External formal training	None	Received training support from WAAPP to strengthen his marketing skills and train other YE	Acquired from training received at university; frequently received skills training
Self-financed formal training	Acquired business skills	None	Acquired technological skills

Steve initially learned about the methods of producing fingerlings from an undergraduate education program at the University of Abeyakuta. Later, during the development stage of the business, he got little support from local institutions. When parasites attacked, he received a poor diagnosis and incorrect solutions. All the fish died. According to Steve, connecting YE with technical centers is critical for business survival. Agribusiness incubators can routinely monitor challenges faced by small businesses and develop possible solutions.

Steve is constantly looking to increase his knowledge and share it with peers. However, he emphasizes that it is difficult for YE at the beginning of their journey to choose the knowledge they would like to acquire. He simplified the process by contacting international agencies and research institutions such as the International Institute of Tropical Agriculture (IITA) in Ibadan. Collaborating with these organizations’ youth programs has helped him share knowledge with numerous YE from Nigeria and abroad.

According to Steve, ensuring quality control in his business and production process is his responsibility. There are no strict regulations on inputs. However, farmers and consumers often reject low-quality products. Further policy support and regulatory mechanisms are required for optimum YE engagement in the fish business and avoidance of failures.

There are no directly relevant youth associations in the agriculture sector. Steve has not joined any others, as he doubts for various reasons whether they achieve their purpose. He has also found it difficult to develop institutional partnerships with the private and public sector. A platform that brings together small- and large-scale businesspeople with other actors in the industry would help YE engaging in fish production and marketing.

Technology and market access

Internet and mobile connectivity have been reliable and have helped Steve work efficiently. Maintaining a mobile phone is affordable in rural areas in Nigeria. Steve uses both a laptop and mobile phones to receive information, as well as connect with social and business networks.

Access to new technology has been made possible through the local university system and international agencies such as IITA in Nigeria, and other organizations in Africa. [WorldFish](#) and its projects have been useful for tracking new technologies in Nigeria’s aquaculture sector. Obtaining information on markets and prices is very important; businesses without reliable daily updates can fail. Steve has invested in connections with the business community to obtain the right information at the right time, in order to make the right decisions.

Steve developed his own method of finding new markets. For example, when the southern fingerling market was saturating, he ventured to northern Nigeria to identify new markets. This increased transport costs, but he obtained higher prices from fish farmers. Steve's networking skills have helped him get advice from various sources. He is also constantly developing new mentors as his business expands and activities are diversified. Currently, he is being mentored by former President of Nigeria Olusegun Obasanjo, who has entrusted him with the promise of considerable business investments.

Individual factors affecting the YE

Steve has gone through several ups and downs in his business during the last ten years. While the experience has been challenging, there have been rewards as well. He believes the support he received from his family and friends during hard times was crucial. In addition, Steve has been developing business skills at different levels to keep up with rapid growth. He also benefited from leadership skill training such as executive management programs, which introduced modern management techniques. Steve is also working on building trust with potential partners from different businesses.

Steve has also developed skills in expanding his social network, which has helped him expand into new markets. Furthermore, he has been successful in identifying political connections that often open new avenues for the business. He emphasized the importance of the geographical location of a business and how it plays a crucial role in connecting to a larger consumer base. Research on aquaculture conducted at southern universities has helped him keep abreast of developments in the fingerlings and fish production business.

Steve has been business-oriented since childhood, watching his father run the farm and learning from family members. The attitude of not giving up, looking for new opportunities to expand, and always taking charge of the situation has helped him build his self-confidence. In the last ten years as a businessman, Steve has developed management and people skills in addition to business and technical skills. These skills were not taught in any training program; instead, he has consciously followed a few role models to develop such skills. Whenever he goes to meetings or conferences, he develops a network of contacts to expand his business.

Impact on the community

According to Steve, his business has had a positive impact both on the youth and his community. He has been a role model to several YE who have trained in his center. The youth employed on his farm have learned new technologies and business skills. Some of them have moved on to develop their own farms and businesses. The gender impact of his business operation has been significant as around 30-40 percent of the employees and trainees are female. These female workers have gone on to develop fish farms and become self-sustaining members contributing to the family and community welfare.

Conclusion

Steve Okeleji is an example of a young person who ventured into business after learning skills from a mentor. With a college degree and the support of his family he was able to initiate and operate his business. Along the way he faced several challenges which he overcame through great tenacity. His response included expanding his business to fish production and marketing as well as developing and operating a training center for the youth in his region. In addition, by developing his social and business networks, he is currently engaged in managing a large-scale fish production operation, while looking after his own business on the side.

The policy system was neither a hindrance nor conducive for him to initiate his own business. He explored new markets on his own to supply fingerlings to northern states when confronted with local competition.

He faced several challenges related to production technology, which could have been overcome if an entrepreneurship ecosystem for the fish value chain had existed in his state. He took advantage of research conducted at a local university and the international research system (WorldFish) to further develop his business. In addition, he was able to use his fish production, management and leadership skills to expand his activities to fish production and marketing along with establishing an aquaculture training center for the rural youth. However, while Steve has been successful, the absence of a multi-stakeholder platform to support the fish value chain, and of an organized agribusiness incubation center for transferring technologies for commercialization, means that the youth trained by him have not been highly successful.

CASE STUDY 2: James Ogabo – Fish breeder and Breeding Service Provider

Summary

James is a fish breeder and on-site breeding service provider. Since his teenage years, James's desire was to become self-employed and independent. He wanted to have his own business and contribute to his country's development goal of youth empowerment, as well as bridge the gap between the demand and supply of fish in Nigeria. After acquiring fish breeding skills, he faced several challenges while setting up his business, including lack of access to credit, technology, and information. His motivation to pursue his venture stems from his education and skills training on fish breeding, rearing and processing, which he received through various government programs. He is a successful fish breeding service provider and is very passionate about his profession.

Background

James Ogabo graduated from the University of Agriculture, Makurdi, with a Bachelor degree in Agricultural Sciences. He pursued a postgraduate diploma in Public Administration and a Master's in Public Administration. He also obtained a national certificate in management from the National Institute of Management and the Youth Employment Agricultural Programme (YEAP) organized by Agricultural and Rural Management Training Institute (ARMTI). He further completed a certification in vocational training on fish breeding, rearing and processing from the Federal College of Freshwater Fisheries Technology in Niger State, a program sponsored by the FMARD.

James gained important leadership, management and entrepreneurship knowledge through this training, which motivated him to explore entrepreneurship further. He attended several agricultural workshops and seminars on human resource management, as well as completing a training course in agribusiness entrepreneurship. These vocational trainings completely changed James's mind, moving away from working *for* someone to running something himself in agribusiness. He learned about fish breeding, rearing and processing, and how to run aquaculture as a business model. He also acquired skills on mobilizing resources and agribusiness management skills. He was then all set to start his fish breeding business and calls himself a "fish breeder".

Occupation before the present venture and the reasons for change

After his vocational training, James wanted to transfer his knowledge into practice. He started out by buying four broodstock, which rapidly produced thousands of fingerlings. However, this first breeding experience was not ideal, as he achieved little success due to poor water quality (high pH) and insufficient hatchery facilities.

In 2016, James rented a pond in Buwari, Abuja, where he stocked 3000 fingerlings. Unfortunately, in the same year, flooding led him to lose his investments. James restocked the pond. The following year, thieves stole his fish. This series of unfortunate events did not deter him. He rented some land in Benue state and embarked on fingerling production; since then, he has recorded some modest success. He learned from his past experiences and is now performing much better with excellent return on his investment. His current breeding business employs four people, all under 35. James is also using his breeding skills to provide on-site services to small-scale fish farmers in his state. In addition, he is involved in training young fish breeders through state training programs.

Challenges and support at the beginning of the business venture

As an aspiring entrepreneur, James faced several challenges. Access to finance was one of them; it was difficult to approach risk-reducing institutions and credit facilities. James points out that the current government has initiated favorable agricultural policies. These include provision of loan facilities by CBN for Youth Corps members willing to take up agriculture as a venture for income and self-sustenance. Although Benue State has an enabling environment for business operations, the major challenge has been the lack of institutional and regulatory support. Access to new technology has also been difficult for James and other YE. He recalls facing a shortage of instructional and informative materials. With limited access to literature and other research materials in a business that was relatively new to the country, James had to make additional efforts to prepare himself. The table summarizes the support received.

Table 7: Support received by the YE

Source of Support	Financial	Material / In-kind	Technology	Guidance & Training
Family members	Received some initial assistance from father	Received help with building a pond for 2000 fish	None	Received useful advice
Government	None	None	Learned about innovations in agronomic practices	Attended session on conducting aquaculture as a business at Banjul, Republic of Gambia. Attended agribusiness workshop in ARMTI in Abuja and Kwara State, which was sponsored by FAO and FMARD
Development partners, including NGOs	None	None	None	Received some guidance and support from Community Links and Empowerment Initiative

James received support from family, government and IGOs/NGOs, but none from his community or the private sector.

Business details including cost, inputs, outputs and outcomes

James is involved in fingerling production, fish rearing, processing and training. Through his production facility, he provides quality fish to the market and fingerlings for rearing. In addition, as part of his training support activities, he has trained over 1500 Youth Corps members on aquaculture farming. The table below provides an overview of inputs, outputs and outcomes.

Table 8: Inputs, Outputs and Outcomes of the Business Venture

Inputs	Outputs	Outcomes
Personal fish production, broodstock, and feed	Fingerling production / Fish rearing and processing	Providing fingerlings for fish rearing to 'table size'; process and sell barbecue fish (roasted and spiced)
Training	Training graduates at and after an orientation camp on aquaculture farming, livestock management and agri-business. The federal government sends Youth Corps members for compulsory one-year community service in different states.	Over 1500 Youth Corps members have been trained, of whom several are currently practicing aquaculture farming
Training network	Sharing lessons and experiences, convening youth leaders	Creating leadership and capacity for the aquaculture industry in Nigeria and beyond
Private fish production facility	Producing 8 tons of fish per year, generating \$7-8000 as revenues, with a net profit of about \$3-4000	Providing quality fish for domestic local and regional markets

Current challenges faced by the YE

A key challenge faced by James is the lack of adequate funds to expand his business. His family does not have enough land for him to expand on, and renting land is expensive. The formal credit institutions are not ready to finance individuals like him seeking loans, and there are no insurance programs to protect investments if natural disasters strike. James would like to stay in fish production and breeding. However, his inability to expand space-wise has driven him to start an on-site fish breeding service. Even though he works only in his own state, providing this service requires frequent travel to remote farms. Furthermore, his state has no systematic approach to production; the fish value chain is not organized. Producers face market and price uncertainty due to lack of information.

Prospects

In addition to fish production and breeding, James owns farmland on which he grows cassava, maize and beans. He helps local farmers to adopt best agronomic practices. In addition, he plans to expand his business scope to create more youth employment opportunities and share knowledge to empower young people. He aims to advocate for aquaculture as a source of income for youth in his state. For this, he seeks to set up orientation camps for young farmers and secondary school students to discuss, organize events and boost knowledge and skills related to agriculture and aquaculture. James also wants to build a "Livestock Center", which could be used for practical demonstrations to students. In the long run, he aims to add poultry production as Nigeria's demand is rising.

Impact on the community

James is not just an entrepreneur but also a successful trainer. He gets immense pleasure from training YE and sharing his knowledge with farmers and students. His lecture topics include entrepreneurship skills for agribusiness, leadership skills development, mobilizing youth for community development, and knowledge on agricultural development.

Although training is not the largest source of his income – he earns some \$500 per month this way – James says the experience is satisfying and impactful. Major beneficiaries are Youth Corps members doing their one-year mandatory community service. James trains them on entrepreneurship skills for agribusiness. He has trained over 1500 Youth Corps members over two years. He also provides consultancy to earn additional income, engaging in capacity-building for rural youth and women. James has now trained over 1000 people on fish breeding and processing. His rural capacity-building drive, along with community cooperation, has raised the number of women engaged in agriculture. James says about 40 percent of his trainees have converted their knowledge into practice.

Institutional and regulatory environment

James has received some support from the cooperative Ehu-Enehi, in the form of networking and business promotion. He has not received support from any Chamber of Commerce. He states that it has been difficult to access and approach risk-reducing institutions and credit facilities. Lack of institutional support for the development of the fish value chain is a huge hurdle for young entrepreneurs venturing into aquaculture production and marketing activities. Lack of infrastructure and cold storage facilities also exposes the fish production system to market and price uncertainty and increases post-harvest losses. This lack of institutional support largely deters YE from entering the business. The table below shows the skills training support received by James.

Table 9: Skills training support received by the YE

	Business skills	Marketing skills	Technological skills
Self-Made	None	Learned the basic skills from an Aquaculture professor	None
External informal help	Learned some basic skills on running business from family, mainly father	Networked with friends who are in similar enterprise	None
External formal training	Learned some skills from FADAMA III, a World Bank-assisted project on agribusiness	Learned some skills from WAAPP	None
External formal training (institutional)	Learned agribusiness skills from ARMTI in Kwara State	None	Frequently received training at ag workshops
Self-financed formal training	Frequently received skills training	None	Sometimes attended training

Technology and market access

Access to new technologies in fish production is a challenge for a YE in Nigeria. Due to his inability to obtain a loan from formal institutional sources, James does not have access to a recirculating aquaculture system. Such systems regulate the water parameters for optimum conditions in which to raise fish, fry and fingerlings. With frequent deaths at all three growth stages, his productivity has been sub-optimal. Lack of information on fish demand and prices has been another major challenge. Fish producers have not been able to work together due to lack of organizational skills. According to James, the creation of an 'entrepreneurship ecosystem' for fish farmers may improve technological and market access in his state.

Individual factors affecting the YE

James comes from a farming background. He was able to educate himself in agriculture at the undergraduate level and public administration at the post-graduate level. He has invested in learning the technical and business skills needed to start fish breeding and move into production. James has considerable people skills. These are useful in expanding his on-site breeding services, which supplement his income from fish production.

Conclusion

After university, James launched a small breeding business. He obtained his training in fish breeding through a government youth program. James is ambitious and has always had a desire to become self-employed and independent. He is passionate about building youth capacity in agriculture and aquaculture. In order to improve his technical and business skills, he engaged in several government training courses. He is highly self-motivated and seeks to support fellow youth in initiating businesses. Financial support from his family was limited, but they did provide moral support in starting his own business. He has faced frequent challenges in expanding production. Diversification into production and on-site breeding, together with participation in training programs, has enabled him to maintain a decent standard of living as a young entrepreneur.

CASE STUDY 3: Manir Umar Hussaini – Livestock and Dairy Enterprise

Summary

Manir Umar Hussaini runs a small dairy livestock unit and accompanying enterprise that supply retail stores and value chains in and around Abuja. Initially trained by the FMARD-supported youth development program, Manir started with just a few cows. His dairy business has developed into a self-sustaining enterprise. He also trains youth in his community, which has helped them set up farms that supply milk.

Background

Manir is 36 and has a degree in Social Sciences. He comes from a middle-class family; his father worked as a federal bureaucrat. After several years in low-paid jobs, Manir was invited by FMARD to attend a six-month course on youth entrepreneurship. He obtained a certificate in management from the National Institute of Management and YEAP organized by ARMTI. He also completed vocational training sponsored by FMARD on fish breeding, rearing and processing, with certification from the Federal College of Fresh Water Fisheries Technology in New Bussa, Niger State.

The program brought selected youth from across the country to train in various entrepreneurship activities in New Bussa. Initially, Manir was not sure about the type of entrepreneurial activity he wanted to pursue, or what further support he might receive. The training included only limited information on raising resources to start an enterprise. Manir chose beef cattle production and dairy management

activities for his practical training, which he describes as ‘intensive and hands on’. The practical sessions helped him understand the production process of fattening cattle for beef production, as well as learning how to care for animals and acquiring technological know-how on running a small dairy operation. Manir was one of only three out of 50 participants who actually went on to run a successful business. He attended a YE follow-up training by FMARD, during which he received a calf – the only free investment support for his livestock production business.

Occupation before the present situation and the reason for change

Prior to setting up his own business, Manir was helping his father in several activities related to the family business. Undertaking these activities helped him develop some business and people skills. He was not under pressure to earn his livelihood as his parents were able to support him. However, he was ambitious to start his own business and always looking for opportunities. This was a frustrating period, as the business opportunities he was interested in required specific technical skills as well as considerable up-front investment. The invitation from FMARD came thanks to a contact of his father, who encouraged him to do the YE training.

Challenges and support in the initial period of the venture

The initial cost of starting a dairy farm was high. Manir needed a strong guarantor to obtain a loan from commercial banks. Funding constraints forced him to think about starting his business on a small scale. Starting small turned out to be a good approach and kept potential losses low in the event of failure.

Manir used the profit from selling his first calf to purchase three calves in the next cycle. The production operation took between 6-8 months, which gave him time to pursue other activities to earn additional income for survival. After he had about ten calves, he expanded into a larger operation on a leased farm outside Abuja. As income increased, Manir purchased land nearby to establish the cattle-fattening operation which he currently runs.

A major initial challenge was his lack of organizational, financial and management experience to complement his good knowledge on the production side. Manir quickly realized that this would be a major constraint for expanding his business. He enrolled for a Master’s in public administration, travelling to Ahmadu Bello University (ABU) twice a week for in-person courses. On the other days, he attended to his business operations.

The two-year program helped him gain the necessary business skills. He learnt about institutions that could support him in his entrepreneurial venture, as well as gaining confidence to communicate more effectively with his business counterparts, government authorities and other private businesses.

Table 10: Support received at the beginning of the business enterprise

Source of Support	Financial	Material / In-kind	Technology	Guidance & Training
Family members	Received initial support from his father	Received consistent encouragement and support from family members	Received limited technical support from family members since they were not involved in the agricultural operations	Received informal advice from father and other family members on business management
Community	None	Received useful advice from	Received support from local farmers to	Received support and appreciation from

		elders in the community	establish veterinary services	village community for establishing and expanding the business
Private organizations	Received support from local veterinary services for which he paid for all the inputs and the vaccines	Received networking support from veterinary assistants who connected him to people who could advise on suppliers of feed and other inputs	Received technical knowledge support for running the business	Received advice and feedback from buyers of the fattened cattle, which helped him identify suitable value chains for selling his animals
Direct government organization and support	Received subsidized grant to establish the dairy processing unit	Received the first calf from FMARD to start the fattening operation	Received operations and technology support for milk processing while he was establishing the processing unit	Received training on dairying and production practices for beef cattle in New Bussa

Manir received support from his family, community, government and private organizations, but none from development partners or IGOs/NGOs.

Details of venture costs, input, output and outcomes

Manir currently employs around 20 young people in his business, supervised by four senior managers. The business costs about \$800 per day to run and earns revenue of between \$1300-1500 depending on the type and quantity of products sold.

Table 11: Inputs, outputs, outcomes associated with the venture

Inputs	Outputs	Outcomes
Animal feed and veterinary treatments	Beef cattle, milk and milk products	Supplying quality cattle and milk products, which enhances local livelihoods
Technical training given to the youth employed on the farm and processing unit	Enhancing knowledge of cattle production, developing youth employment opportunities and generating income for youth in nearby communities	Providing the community with employment opportunities for both young men and women and training individuals to start their own businesses
Managerial and business supervision by supervisors and business owner	Creating business and marketing opportunities for the products; maintaining their quality and ensuring continued production	Creating a sustainable business able to overcome production and marketing challenges

Current challenges faced by the YE

Over time, Manir has bought additional land surrounding his farm, on which to graze his cattle. He currently owns around 40 acres to run beef cattle operations, produce milk and process it for yogurt. Manir has also expanded his activities to breeding cattle and supplying milk to a variety of markets, including Abuja. He has hired more local youth as business expanded but has faced the challenge of some moving to obtain higher wages on other farms after being trained by him. His farm has thus been becoming *less* efficient, as Manir has taken on the burden of training youth and the costs of their mistakes while learning.

Prospects

Manir produces and supplies yogurt for the Abuja market. This was possible through the support of FMARD, which subsidizes small milk processing units. To continue producing and supplying yogurt in the future, Manir requires a regular supply of milk from his dairy farm to the processing unit. To continue and further expand his operations, he also needs trained labor, which continues to be a challenge. To overcome this, Manir has started engaging young women from nearby villages. He has also trained local youth as milk suppliers to his processing unit, sealing this arrangement with a contract. As part of this contractual arrangement, Manir charges a fee for advising the newly established dairy farmers. The income helps him cover the costs of mistakes made by recently hired youth on his farm.

Impact on the community

In the process of establishing and developing his business, Manir has trained many young people from the surrounding area. They can establish their own dairy operations or work for existing ones. Manir helps to empower local women by providing employment opportunities. His farm has also become a model facility for learning about dairy and beef cattle operations.

Institutional and Regulatory Environment

Starting and registering an agribusiness can be a laborious process, depending on the exact type and on the relevant state and local authorities. The institutional mechanisms for quality control of food and agricultural products are largely determined by demand and supply. According to Manir, no strict food safety laws are followed, and the supervisory mechanisms are often seen as rent-seeking operations by the officials involved. The responsibility for producing good safe food falls solely on the business owners. If they produce poor quality, they will not survive in the value chain.

Table 12: Skills-based support received

	Business skills	Marketing skills	Technological skills
Self-Made	Learned some business skills through his own efforts	Learned some marketing skills through his own efforts	Strengthened technical skills through learning by doing
External informal help	Received family support in the beginning	Received family support in the beginning	Received help from a few friends who were producing beef cattle and from local farmers
External formal training	Studied for Master's in public administration	Studied for Master's in public administration	Organized one-on-one training on running the

			processing unit. This included training of existing staff in the production unit
External formal training (Institutional)	Attended seminars and conferences related to beef cattle production and marketing offered by the business association in Nigeria	Attended seminars and conferences related to beef cattle business operations offered by the business association in Nigeria	None
Self-financed formal training	Studied for Master's in public administration	Studied for Master's in public administration	None

Technology and market access

Technology for beef cattle production and dairying was available and easy for Manir to access. The technology for the processing unit came from a government program. In the beginning, marketing was not a challenge either. However, when he expanded into milk processing, availability of enough milk to produce the yogurt became a problem. Supplies had to be procured externally; Manir had to develop satellite farms manned by youth he had trained. He also had to develop a marketing channel to sell his processed products. Maintaining the quality of processed products has become a challenge, as this requires highly trained and skilled labor which is often difficult to find.

Individual Impact

Manir's focus and commitment to become an entrepreneur led him to start his own business. With the support of a government program and his family he is now a well-respected businessman in the community. He believes that his personal discipline, adaptability, sacrifice and skill-building efforts have significantly helped. He is seen as a role model for youth in the community. He is considered a trustworthy partner by those who supply him inputs as well as those who buy his products. People who are operating similar production activities come to him for advice.

Conclusion

Manir was able to start a business with the help of and modest support and a training program which taught him the technical skills. His personal commitment, both to expanding his business and acquiring networking skills through further education, helped him focus on the growth of his business and further diversify into dairying and milk processing activities. He also transitioned from a young entrepreneur with minimal support to a full-scale businessman by paying careful attention to the details of his business. A major success factor has been the proximity to Abuja, where he was able to identify markets for his cattle, milk and dairy products. He was also able to engage with the existing dairy value chain to supply milk to city markets. Market availability and the support received in product aggregation were key factors for his success. Family support was also key, as was his education in helping him engage well in negotiations with business operators. He was able to train more youth in his community, both serving his business and enabling them to take up their own entrepreneurial activities. With this network of trained youth, Manir identified challenges faced by young dairy producers and helped them handle these through links to the larger value chain of which he is part.

CASE STUDY 4: Yahya Olubunmi Adebayo – Fish processing and retail fish marketing

Summary

Olu is a fish producer, processor and retailer. She faced several hurdles in building her business, including a lack of credit. The training she received during her degree program and NYSC helped her tremendously. Having set-up her own fish farm, she now wants to upgrade her business into a medium-scale enterprise.

Background

Olu is 26 years old and comes from Ogun state. She is the eldest of four children and holds Bachelor and Master degrees in Aquaculture, specializing in fish processing. Prior to starting her own business in 2016, she served as a Fishery Officer in the Ministry of Agriculture on an NYSC program in Abia state. As an independent entrepreneur, she earns an average of \$4000 per month from her business. That is about ten times what she would have earned from a regular job in the public or private sector. Olu's story highlights some important lessons for YE in agribusinesses in Nigeria.

Olu comes from a family with an entrepreneurial culture. Her grandmother ran a small retail business in the neighborhood selling essential commodities. Olu's mother, a trained nurse, owned a small pharmacy that operated in the evenings. Olu grew up experiencing a business culture, and becoming a businessperson was always on her mind. Her mother had some reservations about her entering the processed fish business, but Olu received full support from her husband. Her education in aquaculture and the training she received in the field were likely the most significant factors contributing to her choice of business. She was especially attracted to the potential prospects of selling fish in an urban setting.

Olu started her business by buying a second-hand fish processing oven, using her own money saved from her NYSC salary. However, she quickly realized that she had to raise both the quantity and quality of her production. Once the business started gaining popularity, growing demand motivated her to diversify. Her husband helped her to quickly innovate and expand into owning a retail business. The business employs two people who produce dried fish in her processing facility, and another who packs the produce. Olu also has one part-time helper in her shop, as well as a motorbike delivery service bringing dried fish directly to customers. She advertises her products on Facebook and receives orders via mobile phone.

Olu put her first cast iron oven in her mother's back yard. Later, she moved it to her apartment for a few months. As the business expanded, she rented the processing facility from where the business operates today. Olu started with processing: she bought raw fish from farmers in and around Ibadan and processed them. However, the cost of production was high as raw fish was expensive. The high cost prompted her to start producing her own fish and adding value through the processing. For this, she purchased an acre of land outside Ibadan with the support of her husband and established some fishponds. The land was suitable for fish production, and had good access to roads, markets and Ibadan, where her processing facilities and retail store were located.

Olu now has the infrastructure to conduct her enterprise successfully. She uses a charcoal oven to process her fish and has an adequate supply of electricity to operate her processing facility. She also has a good internet connection, but at a relatively high price. She has needed to employ technical skills to optimize customer communication by mobile phone.

Occupation before the present venture and the reasons for change

At the University of Ibadan, Olu systematically learned about aquaculture technologies. The Faculty of Aquaculture and Natural Resources has designed a program that requires undergraduates to complete

practical sessions that teach them about real-world fish processing. During a trip to the National Marine Research Institute in Lagos, for example, researchers there displayed various species of processed fish including mackerel and tilapia.

It was here that Olu had her ‘business moment.’ Conspicuously missing were the processed products of catfish, which was commonly eaten in Ibadan, including in poorer households. Olu asked the researchers why there were no processed catfish products on display, and whether the same processed products could be made from raw catfish. Not obtaining the answers she was looking for, Olu mulled this over for several days and began researching online for various solutions for processing catfish and its products. Her objective was to ensure that processed catfish could be available throughout the year, including during periods of high demand. She was keen to experiment with processed catfish and had several discussions with Ibadan fishery scientists about food safety and catfish processing research. This experience increased her confidence in starting her small-scale business.

When Olu finished her undergraduate degree and began looking for opportunities to start a business, she was attracted by the potential prospects of selling fish. With a population of around eight million, the city of Ibadan has a huge potential to become a market for innovative products – and this is what drove Olu toward starting her small-scale business.

Olu, being independent-minded, sees things differently and did not want to work for another entity. She saw a business opportunity that could run from home and help support her family. With skills from her education and NYSC, she had the confidence to start a business. She was also able to benefit from brainstorming ideas with her husband, who holds a Master’s in Animal Science. The business has helped her both financially and socially, as she has been able to deliver fish to people who live far away or could not previously afford it.

Challenges and support received at the beginning of the business venture

Olu’s major challenge was convincing her family – particularly her mother – that processing fish could be a sustainable business model. A second challenge was financing. She needed an oven to process the fish, which was expensive. Another challenge was finding a packaging method that could make the home-processed fish appealing to customers. Her products had to stand out in the market against several competitors; thus, Olu had to allure customers to her products with a reasonable price. The following table provides an overview of support received by the YE.

Table 13: Support received by the YE

Source of Support	Financial	Material / In-kind	Technology	Guidance & Training
Family members		None	Received some technical support from spouse who has a degree in Animal Science	Received some business advice from mother and grandmother
Community	None	None	Received help with understanding community fish consumption needs from an alliance on promoting fish business	Received technical support through interactions with the community and working with other technical persons in the alliance

Private organizations	None	None	None	Initial interactions with supermarkets were useful to identify their needs and determine the level of packaging needed
Direct Government organization & support	None	None	Technology requirements on a larger scale were clear as she worked in NYSC	Learned about the fish industry in the NYSC

Olu received support from family members, community, government and the private sector, but none from IGOs or NGOs.

Business details including cost, inputs, outputs and outcomes

The fixed cost of the initial operation included payment for the oven and personal labor. The business started as a small ‘needs-based’ processing operation. Currently, about 75 percent of the total revenue goes to meeting the cost of operation, including raw fish production, labor and running a retail store. Monthly revenue from the business is around \$12,000; with roughly \$8,000 in expenditure, net income is \$4,000 per month. Olu re-invested initial earnings to help the business grow steadily.

Olu employs three fulltime people in the processing activity – two in processing and one in packaging. In addition, a part-time shop assistant takes care of customers when Olu is away. She also occasionally hires the motorbike to deliver products to customers’ doorstep when needed.

A major fixed input is the land purchased to run the fish farm. Olu obtained support from her then-future husband to buy an acre in a village nearby. In addition, she invested in three ovens for processing the fish and is currently renting the processing facility. The current operation processes and sells about 1.4 tons of dried fish every month.

Current challenges faced by the YE

A major problem is insufficient finance to expand the business. So far, Olu has been spending her own funds (personal and returns from her business) to grow the business. She now needs serious investors to support her ambitions. In addition, she is studying to acquire further product development skills. Olu points out that while there is increasing awareness and demand for fish oils as a good source of Omega-3 fatty acids, extracting oil from catfish and making it palatable is a challenge. She intends to address this in the future.

Apart from additional investments, Olu requires institutional support to expand up to a medium-scale business. Currently, she is not part of any business association or Chamber of Commerce; Olu feels they are neither suitably structured nor equipped to meet her unique needs. She is not aware of any business association in her locality that focuses on catfish value addition.

To move into export, Olu would need to learn about the relevant standards and food safety regulations and get external certification. This requires institutional support from the state government. Such safety regulations and stringent measures while testing her products could currently be a challenge for Olu, as she is a small business owner with limited capacity. Her current products are not tested by any agencies. As her business grows, she must ensure that it can pass any scrutiny by food safety regulators.

Prospects

One of Olu's main concerns is potential disease that could affect her fish. Several broodstock are increasingly vulnerable to disease, which has reduced productivity. Olu sees a need for continuous public research investment in developing new broodstock. Furthermore, processed fish are susceptible to contamination that could easily turn into an epidemic in her region, and that worries her.

Olu has big ambitions for her business. They include expanding fish production, increasing her retail presence and creating an online sales platform. She is aware that these things will take time, and that she requires additional land and more diversity in her products, for example with fish oil. She does not expect growth to be an easy ride in the near future, due to competition.

Quality is still a concern for Olu. She needs to improve her product quality to become more competitive. However, that would require additional investments which she currently cannot afford.

Impact on the community

Since the business is not yet sourcing its products from farmers, it remains a family enterprise. Although the business is fulfilling the demands of consumers in the community, connecting with other farmers and external markets is still 'work in progress'. At present, the business does not have a significant impact on unemployed youth. However, it has employed some young women, which Olu believes contributes to gender empowerment. As a woman, Olu has been a role model for many female graduates from her Faculty of Aquaculture at the University of Ibadan.

Institutional and regulatory environment

Olu's business is currently not insured. According to her, the small-scale nature of the business does not warrant insurance. This is despite specific risks associated with fish production, mainly related to natural disasters such as flooding and disease outbreaks. Obtaining a license to operate the business was not difficult, but some of the related processes are time-consuming. Olu's business is currently not supported by any Chamber of Commerce, despite her ambitions for further development and exploration into new markets. The following table provides an overview of sources from which Olu has received skills training.

Table 14: Skills training support received by the YE

	Business skills	Marketing skills	Technological skills
Self-Made	Learned from her own research	Learned from her own research and networking	None
External formal training (Institutional)	Received formal training from NYSC	None	Received training from University of Ibadan and degree in Aquaculture
Self-financed formal training	Received some training using her own finances	Received some training using her own finances	Received some training using her own finances

Olu's knowledge source for running her business has been her technical training at the University of Ibadan, as well as her Master's in Aquaculture specializing in fish processing. She is continuously updating her knowledge through online research and interactions with university researchers.

Ensuring quality control for her products is an issue. There is allegedly no formal regulatory system that sets the quality and monitors the processed fish market in Ibadan. Olu herself is making efforts to maintain the quality of her products. In order to expand the business, quality certification will be important. Olu is exploring certification to international standards, as the process within Nigeria is not well developed, nor fully trusted.

According to Olu, there are no youth associations for YE like her in Ibadan, as none focus on the fish processing business. Olu is not a member of any farmer-based organization. Instead, she is part of a community alliance on fish businesses, where she learned about demand in the community.

Technology and market access

Internet and mobile connectivity are affordable and reliable in Ibadan, according to Olu. Besides getting information on the internet, Olu advertises her products via Facebook. Further expansion of her business will also crucially depend on the accessibility and affordability of ICT infrastructure.

Olu's technology access and skills come from her training at the University of Ibadan. She believes she can always go back to learn about, and adopt, innovations. For example, she has successfully adopted the 'carcinogen-free' method of fish processing; this avoids contamination of processed fish by the oven fuel. Olu is also experimenting with several recipes to produce varieties of processed catfish products.

Market and price information is crucial to set prices and benefit from market unpredictability. Olu relies on her mobile phone to check the prices of raw and processed fish in different markets. She prices her products accordingly to obtain premium value. She also takes into consideration the buying power of low and middle-income households and prices fish to meet their needs.

Olu has been responsible for developing her own market. Initially, she reached out to retail outlets and supermarkets to give her products shelf-space for a marginal profit. However, receiving the orders turned out to be an exhausting operation. Instead, she decided to develop her own network of customers via word of mouth and Facebook. In addition, she used the retail outlet to deliver her product to customers' doorsteps. Her business does not depend for survival on middlemen or other such entities, particularly thanks to online marketing.

In addition to processing fish for business, Olu has been recycling waste from processing by drying and pulverizing it. She is still at an early stage of experimentation here but believes that efforts to maximize the resources are a key to future success.

Individual factors affecting the YE

Olu's curiosity to learn more about the industry and export markets means she spends a fair amount of time on the internet and her phone. For Olu, the learning process is a constant feature of her growing business. She does not have any mentor at this stage. However, she is in close touch with researchers and lecturers at the university. They have provided technical support.

As the demand for her products is volatile, Olu is constantly adapting prices and her model. Feeling "independent" because of the business is key to her happiness and motivation. She has no interest in a different job. Although she is gaining business skills every day, Olu believes formal training would help her address the financial aspects.

Olu is confident about her knowledge and the business. She is willing to take risks and explore opportunities within her product line. Her curiosity, willingness to learn and support from her husband

have all been keys to success. Her customer-oriented strategy, reliability and timely service are all helping the business grow.

Conclusion

Olu had all the right ingredients to become a successful young entrepreneur. She comes from a family that had already helped her develop relevant entrepreneurial skills; her education in aquaculture introduced her to potential business opportunities. She learned improved techniques of processing fish through an educational program that emphasized the development of business skills. Olu was able to access relevant technology through her university, which served as an incubation center for her business. She lives in Ibadan, an urban area with high demand for processed fish. She was thus able to establish a good retail market well linked with her production and processing system. With higher education and access to digital technology, Olu takes orders through Facebook and can schedule processing to match actual need.

Despite these successes, Olu faces challenges to expansion. There is no formal institutional support for fish processing entrepreneurs in the Ibadan region. Other new entrants to this business area may not be as successful as Olu, as there is no 'entrepreneurship ecosystem' or multi-stakeholder platform to help them and support emergence of a value chain. Olu was also mentored by her university professors, an advantage not normally available to rural youth.

Urban Youth Entrepreneurs

The four case studies above focused on rural entrepreneurs. While these stories demonstrate great business potential, stimulating entrepreneurship among rural smallholders can be difficult. Many smallholders tend to be 'survivalists'. They often struggle to take risks, secure capital and access relevant markets (FAO, 2015). In addition, rural entrepreneurs often find it hard to employ substantial numbers of youth. This limits their potential to achieve major impact.

Urban agri-businesses can facilitate agricultural transformation, for example by strengthening the local food market system (FAO, 2019). Their success can directly influence smallholders' entrepreneurship and income. Understanding challenges and opportunities for urban SMEs can provide insights into promotion of rural employment.

The following section summarizes key findings from interviews with three owners of 'urban tech agri-businesses'. Quotes in italics come from the individuals named in the study titles.

CASE STUDY 5: Femi Aiki, Co-Founder and CEO of Foodlocker

Summary

Foodlocker's vision is to become the one-stop shop for farm-fresh foodstuff and grocery items in Africa. By aggregating the outputs of smallholder farmers and consumer goods companies, the company aims to overcome logistical and infrastructure gaps in the local food value chain.

Femi Aiki and Jennifer Okoduwa founded Foodlocker (www.foodlocker.com.ng/) in late 2017. The company began with six employees; that number has since more than tripled. At the time of this interview,

all employees including the founders were aged under 36. Foodlocker is currently focusing on 'strategic markets' like Ibadan, Lagos, Warri, Abuja, Ogun, Port Harcourt and Uyo. The supply chain includes around 750 smallholders.

Clients range from retailers and large food processors to schools, cooperatives and hospitality businesses. According to Femi, *'our juicy spot is to combine B2B and B2C.'* Maintaining a broad customer base has allowed the young company to better manage risks and seasonality issues. Foodlocker's data analytics platform enables demand forecasting, specifically to understand how demand is trending for selected products. Broken into small chunks for farmers, these data insights translate into practical planting recommendations. Influencing value chain actors is critical to Foodlocker's approach.

Background & Motivation

Femi grew up on a poultry and vegetable farm. In Nigeria, he obtained a first-class degree in Chemical Engineering and then moved abroad. His academic and professional experience included an MBA and employment with Amazon UK, which he describes as *'very entrepreneurial.'*

Femi was motivated to start a business that used tech solutions to tackle business challenges in Africa, operating at the intersection of demand and supply for food. *'This was the core of what we wanted to solve – to connect the supply side with the demand side and do this with a market-driven approach.'* Describing himself as always open to alternative learning opportunities, Femi was quick to build additional skills like data science. Initial analyses of the Nigerian food sector highlighted major bottlenecks around efficient food procurement; demand and supply were disconnected. *'Most people start with supply and say, 'I'm going to produce tomatoes.' But we wanted to start with demand. So, our first objective was to understand demand – and then build supply for that demand.'*

Femi says that success here requires a very broad and open mind. International exposure and being a bit adventurous also help. The co-founders spent their first two business years getting to know the market better. They focused mainly on transaction visits to potential clients and sources. The aim was to identify potential supply sources, build a network with prospective buyers and understand the demand trends of key food players.

Institutional Support

Foodlocker has received various forms of support. Femi emphasizes the importance of mentorship and introductions to new networks. While securing working capital is always critical, *'it does not necessarily give you sustainable progress...money is not going to guarantee your future.'* Mentorship was helpful for learning more about best practices in running a business and how to better tackle local market distortions. Mentors abroad, in particular, provided access to 'superior information'. They also facilitated introductions to prospective clients. This kind of support has been *'more valuable than receiving a couple of million dollars.'* Regular engagement with other entrepreneurs was also helpful. This took place, for example, through Sahel Capital, Founders Factory Africa, the Impulse Accelerator Program and other business aggregators.

International support has been a dominant feature of Foodlocker's progress. The company received funding and entrepreneurship support from, among others, Ajayi Solutions, Founders Factory Africa, the Impulse Accelerator Program, Mass Challenge, private Angels and the EU-funded Technical Centre for Agricultural and Rural Cooperation (CTA). Impulse Program support from multinationals like OCP Group helped, as did CTA insights into smallholder farmers and how to build technology solutions for them.

Such support contrasts with the far smaller number of funding opportunities in Nigeria. Many local investors *'want to make quick money and get out, don't understand the sector enough and why it is important to invest in, are risk-averse, discriminatory, or just not willing to commit for the long term'*. Switching from targeting local investors to discussing with international investors gave Foodlocker a considerable boost.

Working with Nigerian agricultural aggregators, however, has been critical. The Agricultural Development Programs (ADPs) were less relevant. Government backing has also been limited. *'Support for entrepreneurship is practically non-existent...regardless of all the noise around diversifying the economy, support for the agricultural sector has been miniscule.'*

Regulatory and Operational Issue

Government policies have been both positive and challenging. Positive examples include exemption of food businesses from the COVID-19 lockdown. (It appears, however, that overzealous law enforcement agents and agencies always seek to extract rent from entrepreneurs). Femi also comments favorably on the 2019 Finance Act, which included some promising provisions for tax simplification. Setting up the actual business was relatively straightforward, particularly as the process is now online. However, a lot more regulatory and tax relief is required. So is greater security for farming communities: kidnappings and other harm to farmers is rampant, including in the southwest where Foodlocker operates.

Challenging policies and regulations abound. Import substitution policies, such as banning importation of tomato paste, are a double-edged sword. Farmers typically lack the necessary capital, inputs, market knowledge and know-how to benefit. Foodlocker often struggles with logistical bottlenecks, for example when shipping via Lagos. Regulatory requirements do not differentiate sufficiently between small, medium and large businesses; medium-sized companies typically fall into the same regulatory category as multinationals. The definition of a 'small' business is antiquated; inflation has made it irrelevant. For public adverts, small businesses pay the same fees to the Advertising Practitioners Council as do larger ones. They are also required to hire auditors and incur other costs (e.g. logistics fees, multiple taxation) that are certainly too high for their small revenue streams. Extortion can also be very damaging. Policy implementation is often a *'people's problem...somebody always wants to collect money somewhere.'* Youth entrepreneurship policies look good on paper, but often don't work. *'The government does not really understand business and [is] not actually reaching out to us to [do so].'*

Company Vision and Impact

Foodlocker sees significant growth potential. Expansion is typically driven by sourcing needs, sales targets and/or access to technology and talent. Within Nigeria it is decided state by state, as some are more conducive to entrepreneurship than others. The company also plans to explore market entries in north, east and southern Africa.

Foodlocker continues to invest its profits back into the business – including into new technology that helps monitor and influence smallholders' production. The company believes it can make a unique contribution in this area. Foodlocker aims to involve 20,000 farmers in the medium-term. However, it focuses less on the number and more on how well it can support them. *'If we buy from 20,000 farmers, the big question for us is whether [they] are actually better off than before.'*

CASE STUDY 6: Affiong Williams, Founder and CEO of ReelFruit

Summary

ReelFruit (<http://reelfruit.com/>) is a 'first-of-its-kind' company that offers dried fruit snacks, made in Nigeria and sold in the world. The company was founded in 2012 by Affiong ('Affi') Williams and sells products across the market, including to 350 Nigerian stores, airlines, schools and hotels. ReelFruit also exports internationally, e.g. via Amazon. The company pursues a West African regional sourcing strategy, depending on reliability and bulk. Employees look for the highest potential markets and '*backward integrate from there.*' ReelFruit engages a variety of actors across the value chain. It buys fruit from large farms, aggregators or directly from food processors (for crops like mango which are less frequently grown by smallholders). The company employs 55 full-time and 22 part-time staff, with further expansion expected. '*Our growth is outstripping the speed at which we can raise money to expand.*'

Background & Motivation

Affi founded the business at the age of 26. A key motivator for starting her own company was to help solve the unemployment crisis, while further improving a sector hampered by broken value chains and low processing capacity. Her vision was to '*add value to food produced locally, while selling to a global market.*' She was also attracted to the dried fruit space, given that it was novel in Nigeria and a way to add value to fruit produce that would otherwise go to waste. Affi initially focused on building a market for dried fruit products. Several years later, she conducted primary agricultural development activities with mango farmers. This led her to understand how market creation was the key first step to developing the entire value chain. '*It's very exciting that we were the first company to introduce dried fruit into the local market...our learning started in the market and we've been learning non-stop since 2012.*'

Institutional Support

Personal networks have been critical to ReelFruit's success – particularly in the form of financial, mentoring and networking support from Affi's family and husband, an entrepreneur himself. Other entrepreneurial networks have also been helpful: '*I've been lucky to have access to a large pool of professionals and businesspeople in Nigeria, due to my social networks.*' In addition, ReelFruit benefited from business support platforms like Partners in Food Solutions. PFS connects African SMEs to senior experts in US-based food conglomerates, with the aim of solving specific challenges related to R&D and food safety. Such interactions have been incredibly helpful in preventing costly errors, as well as helping ReelFruit bring products to markets more quickly. Technology platforms like Amazon have enabled considerable expansion of the customer base.

Accessing institutional capital as well as negotiating transactions has been '*really tough.*' Affi finds that donor support has been most helpful when few strings are attached – she cites a '*transformational grant*' from IDH Sustainable Trade. NGO support is often strictly tied to reaching a specific number of smallholders, often cumbersome to measure for a business start-up. It also tends to over-focus on training. Offering too many training sessions can lead to participants signing up for reasons beyond learning and development, for example to gain per diem fees.

Raising enough funds to expand the business continues to be a major hurdle. Borrowing from banks is challenging, particularly because of high interest rates and the need for collateral. '*Money is not everything; but at some point, it really is the biggest constraint. I've had so much training to become 'investment-ready.' But the problem is finding the investment, not that I'm not ready.*' Affi suggests that foundations and NGOs should explore more innovative hybrid funding models, for example supporting SME funds that provide capital or grants to entrepreneurs.

Government Policy

On the positive side, ReelFruit benefited from a grant from the federal government in the early stages of the business. Affi also points out that the government has launched several SME competitions to kick-start innovation. However, she worries that the government tends to be *'inundated by the scale of the need, quickly realizes the money can't go around – at which point the whole thing grinds to a halt.'*

Meanwhile, intra-African regional trade can be *'impossible.'* This is especially true in West Africa, where rules of the Economic Community of West African States (ECOWAS) are barely implemented, and each country maintains protectionist policies. Registering a Nigerian product in Ghana, for example, can cost up to \$10,000. The region is also plagued by poor transport infrastructure, which for ReelFruit makes the cost of moving goods prohibitive. Affi's expectations for the African Free Trade Act (AFCTA) are limited, as many existing policies suffer from a lack of coherence and weak implementation. At least support structures like the African Growth and Opportunity Act (AGOA) have facilitated easy expansion to the US market, tax free.

Affi argues that policies improving the micro- and macro-economic climate are most critical. ReelFruit is strongly impacted by larger market dynamics. The broader business climate affects local demand, export dynamics and the willingness of international investors to enter the market. *'The government wants to take on the role of an investor, but [would be] better off just creating an enabling environment for private capital.'*

The government develops many of its agricultural interventions through or with the CBN. However, Affi argues that this is not really the bank's mandate. Slow implementation is perceived to be a significant challenge: SME loans communicated by government often take years to bear fruit. While there is *'a lot of talk about supporting farmers'*, it appears that the government does not have the capacity from a financial or technical standpoint. Moreover, much of the focus is on primary agriculture, for example subsidizing loans for rice farmers, which is difficult to scale sustainably. Extension farmers and local agriculture boards often lack the necessary skills and infrastructure to provide meaningful support.

Company Vision and Target

Once a more reliable supply chain and market are secured, ReelFruit's vision is to meet the growing demand by incorporating more smallholders into its value chain. *'We want to work with small farmers and really help them improve practices.'* The company currently tracks a variety of indicators, including local employment, amount of raw material that would otherwise go to waste, and innovation (e.g. introducing new manufacturing approaches). Affi sees ReelFruit's biggest impact in helping create a market for the entire fruit value chain. *'Focusing on building the urban food market or strengthening processors – that's the sustainable way to improve rural livelihoods.'* She hopes that ReelFruit has demonstrated a workable model around adding value to local agri-produce and gainfully employing a significant number of people across the value chain. In particular, she underlines the importance of building good links between demand and supply, as well as focusing on quality over quantity.

CASE STUDY 7: Job Oyebisi, Co-Founder and CEO of FarmCorps

Summary

FarmCorps (<http://farmcorps.net/>) helps food companies to source and aggregate quality grains and raw foods from smallholders and other local farmer groups. The company was founded by Job Oyebisi and

two partners in 2015/16 and became operational in 2018. Securing demand and purchasing agreements from multinational companies has been the hardest part of the business journey. However, FarmCorps has now has several large companies in its customer base. Using popular platforms like WhatsApp has been critical for easily reaching and clustering farmers, thus facilitating procurement for new orders. FarmCorps consists of a three-person management team and five employees who focus on tech, sales and marketing. The company is ambitiously seeking to expand to five Nigerian states and reach 10,000 farmers.

Background & Motivation

Job describes himself as always having been interested in tech and entrepreneurship, particularly with respect to mobile solutions. A key factor was the experience gained before university, while working at a college. *'I saw the challenges facing students – including the difficulties of finding a job – and I knew I wanted to create something for myself.'* Necessity became a defining motivation for starting his business. Inspiration for his choice of sector came while studying Natural Sciences at Ife University. Living in a suburb, he was curious as to why food was so expensive in Lagos and cities in general. *'I realized that the agriculture supply chain was broken – and my journey started from there.'*

Institutional Support

Competitions and alumni connections related to Job's university played an important role in the early stages of his business. For example, he participated in numerous funding competitions around topics such as local market creation through mobile technologies. In the 2015 Barclays Africa Supply Chain Challenge, his agriculture-focused idea won a stipend of \$5000. This enabled him to travel to South Africa, meet other entrepreneurs, and fund his first feasibility study. He also participated in a competition organized by Dell Agriculture around innovative solutions to food challenges. He learned about many of these initiatives through university, either through marketing pamphlets or former alumni working for multinationals. He emphasizes the value of transparency in the multinational application process.

Job views mentorship as a most effective type of support. For example, he recalls benefiting from targeted mentorship by Microsoft Nigeria staff, as well as resources like Microsoft Platform software, training materials and business model canvasses. *'Funds are not always necessary for support to be helpful.'* Government programs were less impactful for his business journey; they require personal relationships and time-consuming application processes. Most of Job's support originated from abroad, ranging from accelerator and impact investor programs to competitions from international banks and tech companies based in Lagos. Family and friends also played an important role in the early stages, e.g. by offsetting initial costs. Accessing donors' farmer data analytics was also helpful.

Government Policy

Job notes some helpful developments in the regulatory space. These include federal tax exemption for entities earning less than \$26,000 as well as an improved SME registration process. Job sees some potential in government policies that encourage local protection. However, a multitude of policy challenges persist, for example multiple taxation by federal, state and local governments.

5. Key Lessons from Case Studies

Based on the review of literature and case studies, several key lessons emerged from the case studies of youth entrepreneurship in agriculture in Nigeria. Young people in Nigeria can operate in a broad set of opportunities in agriculture. First, YE can engage directly with farmers and farmers-based organizations as service providers. Second, YE can operate specific segments of the agricultural commodity value chains. Third, they can collaborate with large scale agribusiness enterprises and serve these in meeting their specific needs. And finally, YE can initiate their own production and processing businesses which can be supported by agribusiness development facilities such as agribusiness incubators.

Insights from the case studies related to policy, institutional, regulatory, technological, and individual challenges; related lessons learned are discussed below.

Policy and regulatory environment

An important policy driver to ensure success for YE is the presence of a national youth policy and fund. In the case of Nigeria, a national youth policy exists. The NYP 2019 discusses strategies for youth involvement in agriculture through improving access to credit/finance, access to land for agricultural purposes, education/mentorship/capacity building, agribusiness supportive infrastructure, and opportunities for youth employment in agriculture. As the policy is relatively new, its impact on rural youth entrepreneurs is yet to be seen. None of the YE interviewed as part of this study appear to have benefited from the policy.

Access to insurance is another important driver for YE success and the analysis shows that this has been a significant challenge for YE. At the country level, access to insurance is below 3 percent (measured by farmers enrolled and cropping area covered) (APP, 2016). While APP has proposed developing new products (e.g. microinsurance, weather-index insurance) and allowing private insurance companies to participate government-sponsored insurance programs, challenges remain. The case studies showed that all rural YE faced challenges in accessing insurance, given the lack of availability of insurance products to minimize the risk of loss to the business due to natural disasters such as parasite infections and floods.

Access to loans and credit has also been a challenge for the YE's. Most of the rural YE from the case studies relied on self-financing or help from their families to start their business. In the past, policies such as ATA had failed to deliver on key policy drivers including access to credit particularly to smallholders (National Association of Nigerian Traders, 2018). There are also reports that schemes offered by big credit agencies like CBN's Agricultural Credit Guarantee Scheme aimed at helping large- and small-scale commercial farmers jump-start their businesses are poorly designed, badly implemented, and difficult – if not impossible, to access (Carnegie Endowment for International Peace, 2019).

Tech entrepreneurs also cited access to finance is their Number One challenge, amid high interest rates from banks and the need to match funding from regional institutional investors. While they too initially kick-started their businesses through self-financing and support from family and friends, the urban agri-tech YE also benefited from international financial support and mentorship, e.g. through multinational, donor and/or incubator support. However, while access to finance was cited as key challenge by all interviewed YE, it is worth noting that the government recognizes this challenge and has proposed some important measures to improve access to credit from the policies like the NYDF (NYP, 2019).

Another key policy driver is a harmonized policy system which requires a strong political and governance structure—in the Nigerian context, corruption and security threats have constrained the impact of certain policies. For instance, NYSC has been plagued with corruption issues, political threats, and geographical

threats which has adversely affected participation rates, increased inefficiencies, and reduced the impact of the program (Council on Foreign Relations, 2017; Oluwalogbon et al, 2019; Chukwuemeka et al, 2014). Notwithstanding this, some of the rural YE from the case studies have benefited from agribusiness and entrepreneurial training received from the NYSC program of the government. In many cases, these helped YE's in thinking towards the direction of becoming entrepreneurs; in addition, specific agribusiness skills acquired during trainings were useful in setting up their businesses. One YE is also providing training and mentorship through this program, in order to develop skills of other youth and encourage them to pursue entrepreneurial ventures.

Receiving market and export opportunities is another key policy driver- in this regard the experience of YE from the case studies has not been very positive. YE have mostly created their own network to find market opportunities with very little support. One YE mentioned that he travelled significantly to obtain better market access, which has also added to his cost burden in the form of higher transport cost. The urban YE mentioned the challenges of trading across Nigerian states and with other countries in the region. Even in the context of export opportunities most YE do not have adequate information regarding export quality standards. FMARD recognizes the failure of domestic agricultural products to meet the quality requirement for success in international markets (Ifeoma, 2019). The government acknowledges these challenges and have provided policy guidelines to improve market access and promote export quality products (APP, 2016).

A formal regulatory system is another key driver to ensure that quality standards set for agriculture produce are met. One YE from the case studies points out that there is no regulatory mechanism which sets the quality standards and monitors the processed fish in Ibadan markets. The APP acknowledges that there is lack of regulations on quality standards for produce inspection, grading, food safety and traceability customized. The policy plans to enforce these quality standards customized to Nigerian conditions for both large and small-scale growers. It also highlights that FMARD would set and enforce quality standards, food safety for markets that ensure emergence of modernized, safe processing zones (APP, 2016).

Three tech entrepreneurs also highlighted both positive and negative aspects of the regulatory environment. Positive aspects included VAT exemption on some food types, some simplification following the New Finance Act 2019, quicker business registration, and some tax easing. Noted challenges included the government's tendency towards primary agriculture support vis-à-vis market system support, poor policy implementation, and 'an opaque taxation system' given little coherence across government. Finally, one YE highlighted the importance of the government's macro-economic climate, which impacts the ease of doing business as well as the likelihood for investors to provide financing for Nigerian SMEs.

Institutional and intermediary organization support environment

Based on the case studies, it is evident that institutional support from Chambers of Commerce or associations – which is a key institutional driver – is lacking. Most of the YE did not receive such support due to lack of awareness about its availability, no business/youth associations focused on fish processing and small-scale fish production, and the lack of efficacy of such associations due to internal politics and a lack of agenda. While a national Chamber of Commerce with affiliated state entities does exist in Nigeria, commerce, these play a limited role in shaping government programs meant to help their small and medium-sized members (Carnegie Endowment for International Peace, 2019). Government officials rarely consult them, and it is also difficult for members of the chamber to get access to financial institutions (Carnegie Endowment for International Peace, 2019). Nevertheless, it may be noted that NACCIMA recently started a Youth Group with a strong focus on youth entrepreneurship, with initiatives such as

collaborating with institutions to provide training and empowering youth in the areas of agriculture and agro-processing (NACCIMA, 2018).

Access to knowledge and agribusiness courses through technical institutions are also important drivers for the success of YE. Formal training received from the government, not-for-profit, and private institutions have been extremely useful for YE. This includes formal education at universities and trainings focused on leadership, management, agribusiness, technology, and entrepreneurship knowledge. Some YE also stated that a key challenge has been getting access to necessary and continuous training at times. Another YE note that providing training at his training center has been a challenge, as most participating YE lack the financial resources to pay for the training. Several national policies including the NYP have proposed strategies to improve access to skills trainings for YE.

Urban tech entrepreneurs stated that access to networks and mentoring was critical. University alumni, networking with entrepreneurs and/or established businesses, as well as mentoring from abroad were key, including through matchmaking platforms like 'Partners in Food Solutions'. International support structures were more helpful than local ones, particularly in the early stages. Support from local investors has been difficult to attract, while government interactions were deemed cumbersome. Meanwhile, many of the urban YE benefited from fund competitions organized by multinationals as well as other international impact acceleration programs. NGO and donor support were perceived as more challenging, because of the frequently narrow focus on metrics and over-emphasis on trainings, as well as the tendency to provide conditional funding.

Technological and infrastructure environment

Access to mobile and internet services is a key technological driver, as it can help provide access to information and knowledge and build a network for YE. Mobile and internet usage has been useful for all YE interviewed to network, advertise, obtain market information, receive bulk orders, and gain updates on latest technologies. YE have stated that mobile and internet services are affordable. Given this, the use of ICT could enhance the involvement of youth in the agriculture sector and in agribusiness. The national licensing of GSM operators in the year 2000 and provision of credits and grants through NYDF to youth venturing in ICT are positive steps (NYP, 2019). However, there are still huge untapped opportunities in leveraging information and communications technologies to boost competitiveness, innovation, and well-being (World Economic Forum, 2016). For tech entrepreneurs, ICT is even more critical and fundamental to their business models, given that it links food demand and supply. While ICT was typically reliable in urban settings, the interviewed YE noted that accessing large numbers of farmers could be challenging if mobile phones were not widespread in rural areas. Nevertheless, they mentioned the benefits and successful experiences of using even simple tools like WhatsApp groups to connect with groups of farmers.

Access to efficient and affordable infrastructure is a necessary driver to ensure YE productivity. One of the YE pointed out that the cost of production and distribution in the fish and fingerling business are extremely high and need to be controlled. Access to inputs for fish processing was also raised as a concern. It was also highlighted that the productivity of fish production is compromised if innovation to develop new broodstock lags behind. One YE pointed that he has received access to new technology through the local university system and international agencies such as IITA in Nigeria, and other organizations in Africa. Lack of water access and expensive fish extraction procedures were a few other challenges raised by YE.

Based on the literature review, several other infrastructure challenges also emerged including post-harvest losses, poor quality midstream logistics e.g. warehouses, storage, processing systems. The APP

acknowledges these challenges and has proposed policies to make fishery/aquaculture inputs available through hatchery development and enhancing fish breeding. It has also proposed policies to promote availability of pest and disease control services and enhance traceability, and irrigation policies to facilitate optimization existing large dams for irrigation.

Several of the urban YE complained of day-to-day operational and logistical challenges and bottlenecks. Intra-African trade was described as costly, while Nigeria's ports are viewed as less efficient compared to neighboring countries. Moreover, road blockages and poor networks made it challenging to expand even within Nigeria.

Individual factors

All YE in the case studies acknowledge that key individual drivers such as ambition, the attitude of not giving up, taking responsibility, receiving some form of agricultural and entrepreneurial education, mentorship have been extremely helpful. Additionally, personal initiatives through networking with businessmen, political affiliates, and through social networks also helped YE in their business expansion initiatives. One of the YE was able to establish contact with the former president of Nigeria Hon. Obasanjo, which has resulted in a joint venture into a larger enterprise management. The willingness to go the extra mile to serve customers has helped the YE to retain their loyal customers to sustain their business. All YE recognize their role as mentors and try and give back to the community by training and mentoring youth interested in agribusiness and entrepreneurship.

The three tech entrepreneurs founded their business in their 20s, after working abroad for some time. They all have a strong entrepreneurial mindset, which played a key role in their business journey. Their motivations ranged from helping solve the unemployment crisis and improving demand-supply linkages, to proving the business case of a novel industry in-country. They are driven by the potential impact on employment and local agricultural market by bringing in innovation. All of the urban YE emphasized the importance of conducting detailed market analyses, to understand the demand dynamics for local food. To various degrees, all YE also acknowledged the importance of initial support from personal networks such as family members, partners, and business alumni, particularly in the starting up stage. The support was in the in form of financial backing, mentoring, and facilitating networks.

6. Recommendations for Stakeholders

Based on the results of the case studies presented above, we present a set of recommendations for a range of stakeholders including policy makers. We end this section with suggestions for developing a multi-stakeholder initiative in a business ecosystems approach.

Policy Makers

NYP 2019 focuses on strategies for engaging youth in agribusiness activities. The document provides broad-based strategies, but most are not accompanied by specific targets. Including these would make it possible to monitor and evaluate policy progress.

Access to insurance has been identified as a challenge for rural YE. It would thus be useful to include strategies on access to insurance for youth participating in agriculture in NYP 2019. This could include strategies to enhance access to insurance for SME entrepreneurs working in agribusiness through government insurance schemes and/or by partnering with private insurance companies.

Access to credit, especially when setting up a business, has also been a challenge for YE. Some of the existing credit mechanisms are poorly designed, badly implemented and difficult to access. Policies such as NYDF to provide discounted credit facilities to YE are a step in the right direction. Design and implementation concerns should be addressed by frequent assessments of loans granted (such as those by CBN) to identify and address emerging problems and strengthen the policy. Involving more local financial institutions would be helpful to improve accessibility to rural YE.

To promote mentorship by YE and help grow their businesses, the government should promote contractual arrangements like the one between the dairy farm YE (from the case studies) and newly established dairy farmers. Under such a contract, the YE can charge for advice to emerging businesses in his or her field and in return be guaranteed supply of certain useful inputs for his or her own business.

A strong political and governance structure requires security, transparency and accountability. The Nigerian government has faced persistent corruption allegations and political threats such as those which have reduced the efficacy of NYSC over the years. Addressing these issues requires strong transparency and accountability policies. This underlines the need for including monitoring and evaluation as part of the policy process. Security threats which have hampered participation in NYSC should be addressed by taking strong safety measures in and around NYSC sites as well by ensuring that there is access to safe transport there and back.

ICT including mobile and internet services have been useful for all YE to network, advertise and get market information and updates on latest technologies. It is therefore important to continue to tap into the potential of ICT and improve local penetration at low cost. Efforts are already underway in this direction. Challenges remain in other areas of infrastructure support. They include the lack of advanced fish breeding techniques, lack of water access to meet localized needs, post-harvest losses, poor-quality midstream logistics and lack of cheap inputs for fish production. Policy makers need to increase encouragement of agricultural innovation and minimize these infrastructural constraints. Some efforts like the Agro Processing, Productivity Enhancement and Livelihood Improvement Support (APPEALS) Project are already underway. This project is being implemented by FMARD in collaboration with the World Bank and other stakeholders; its objectives are in line with the APP (World Bank, 2020). In particular, the aim is to enhance agricultural productivity of small and medium-scale farmers, improve value addition along priority value chains and provide infrastructure support to agri-business clusters (World Bank, 2020).

Market access has been a challenge for YE due to limited support from the government and other associations such as Chambers of Commerce. There needs to be an increased focus on improving market access for all YE, including smallholders living in rural areas with limited transportation access. The linkage between policy makers and Chambers of Commerce, and between Chamber of Commerce and YE also needs to be strengthened. Policy makers should involve Chambers of Commerce in the policy process, in order to better understand YE concerns and realities. Chambers of Commerce or associations should also improve access for YE and focus on providing information to YE based on local needs.

One case study highlighted how a small business with limited knowledge and resources was able thrive because of the presence of a well-established value chain. The government should focus on developing strong value chains and improving their access to YE.

To create export opportunities for YE, international quality standards need to be met. This is currently often not the case. Policies need to increase incentives for YE to produce export-quality wares, while also improving rural YE access to export markets.

The regulatory framework needs to be strengthened by introducing quality standards and monitoring measures for YE agricultural products. Quality standards and monitoring mechanisms for produce inspection, grading, food safety and traceability need to be customized to specific Nigerian conditions for both large and small-scale growers. This is important to ensure that products are competitive in domestic and international markets.

To ensure adequate skill development opportunities for YE, policy makers should focus on creating programs which i) introduce the concept of entrepreneurship which helps young individuals to consider it as a possible employment pathway ii) cover broader entrepreneurial topics including financial and business management and leadership, and iii) meet localized/specific training needs such as for fisheries in particular regions. The government should continue collaboration with universities, the private sector, NGOs, development organizations and existing YE to open further entrepreneurial centers which can provide free or subsidized training. One of the case studies highlighted that a very small proportion of youth who received entrepreneurial training went onto pursue entrepreneurial venture. For programs focused on specific entrepreneurial training, selected youth must be self-motivated to venture into an entrepreneurial activity. It is also imperative to follow up with participants after training to help them set up and sustain their businesses.

The general perception of agriculture as a productive form of employment is not very positive. Continued efforts must therefore be made to improve youth motivation, incentives, skills and mentorship, and to increase public awareness of the immense benefits of agriculture for youth and the country as a whole.

Several of the urban agri-tech YE noted the importance of improving the macro-economic climate, to attract more international investors. They highlighted that government support programs typically focus on primary smallholder agriculture. It could be helpful to broaden the focus and support urban agriculture e-commerce businesses, which seek to link demand to supply. Urban agri-tech YE also noted that applying for government funds is very time-consuming, with the need for several in-person meetings. These are often in Abuja, meaning a long journey for many YE. The process also lacks transparency. There seems to be potential for simplifying the application process and running more of it online.

NGOs and Development Organizations

NGOs and development organizations have a significant role to play in providing training and financial support to YE. NGOs and development organizations working at grass-roots level can assess local entrepreneurship training and financial needs. Institutions like YISA and the World Bank currently provide such support through collaborations with educational institutions, government and successful YE who are willing to provide mentorship.

Development organizations should continue capacity-strengthening. The FAO and ILO do so for YEAP, strengthening state and federal capacity to provide an enabling environment for youth to engage in agriculture profitably (FAO, 2017). Such institutions can also help strengthen the capacity for monitoring and evaluation of existing policy and programs focused on YE. They can additionally help with advocacy to increase public awareness of the immense benefits of agriculture.

All the urban agri-tech YE highlighted the importance of mentorship. To be useful, advisory support must be sustained and targeted around a specific business challenge. YE noted that NGO trainings can be helpful but are not alone sufficient to strengthen youth entrepreneurship. Many entrepreneurs apparently attend the same training several times, sometimes just to collect per diems or for other inappropriate reasons.

Some urban YE said that highly conditional NGO funding can be challenging. An example is the practice of restricting funding to a certain type of expense and/or linking it to specific impact metrics such as reaching a certain number of farmers. YE suggested that support for start-ups could benefit from a more holistic and long-term approach, for example with more flexible funding. Some YE mentioned the value of NGOs sharing data and research on smallholder groups, as well as supporting farmers in growing certain crops through improved techniques. This suggests that there may be interesting opportunities for NGOs to partner with urban YE businesses. The NGO could focus on the supply side (i.e. supporting smallholders with particular crops), while the YE agri-businesses would focus on the demand side, securing the smallholders a market.

All of the interviewed urban agri-tech YE benefited greatly from spending time abroad. They found this helpful both for gaining experience and useful skills and for accessing potential investments for their start-ups. Encouraging international exchange programs for high-potential YE could be a useful way to support local agricultural entrepreneurship.

Private sector / Entrepreneurs / Businesses

YE need to undertake personal initiatives to network and expand their business. Establishing contacts with businesspeople and other affiliates can be extremely helpful. YE should collaborate with each other by forming associations where they can share information, conduct trainings and network. YE should continue investing time in their roles as mentors to potential entrepreneurs and other community members working in the agriculture sector. Through mentorship and other channels, successful YE should also promote the benefits of agriculture for youth employment.

One YE in the case studies suggested a franchising model among YE in Nigeria, which has great potential. Existing YE can train other youth and help them set up their own small business. Since the new YE will need support in the initial period, the YE mentor can provide the newly trained YE with relevant inputs from his/her business venture as well as continued support and guidance for a fee. This model can be extremely successful especially in areas where organized public sector support is missing.

Multinationals: All the interviewed urban YE highlighted the value of mentorship and/or financial support from multinational businesses operating in Nigeria. 'One-on-one' advice from a multinational employee around a specific business challenge was particularly appreciated. Where this is not possible in person, online alternatives include the volunteer advisory platform 'Partners in Food Solutions.' Multinational business competitions and access to superior techniques such as business model canvasses were described favorably. International businesses' support for youth should be encouraged.

7. Concluding Remarks

This report brings together a set of case studies of rural and urban youth entrepreneurs in Nigeria. We reviewed the literature on youth employment and entrepreneurship in Nigeria to help us understand youth policies, strategies and institutional support for youth entrepreneurship development. Case studies of local YE then helped us analyze the issues, constraints, challenges, opportunities and solutions for their participation in agribusiness entrepreneurship. Finally, we developed a set of recommendations for Nigeria based on the drivers of youth entrepreneurship at policy, institutional, technical and individual levels.

An overview of youth unemployment in Nigeria underscores the need for productive avenues to gainfully employ the growing youth population. As identified by the national government, there is a strong case for employing youth productively in the agriculture and agribusiness sector. A potential route is to help young people build entrepreneurial agribusiness ventures. The public, private and non-government sectors as well as donors have been supporting youth with skills training, financial resources and access to technology.

The YE case studies combined with existing data and literature highlight key challenges that remain at the policy, institutional, technology, infrastructure and individual levels. Accomplishing the twin aim of food system transformation and effective youth involvement in that process will require Nigeria to take several key steps. These include continuing efforts to improve infrastructure and technology access, creating and upholding regulatory product quality standards, improving YE access to credit and insurance, monitoring and evaluating policies and programs, and providing access to adequate and affordable education at educational and training institutions.

The results presented can be useful in terms of engaging policy makers and program managers at the country level for further refining their interventions. Developing more evidence in the context of other developing countries which are in various stages of development will help in the cross-country comparison of the findings and lessons sharing. Additional studies are currently underway for Bangladesh, India, and Indonesia, to enable the comparison of similarities and differences in approaches and outcomes.

Moreover, the Nigeria country cases presented here provide several insights for future research. First, they help identify evidence and knowledge gaps in developing policies and programs aimed at youth entrepreneurship in Nigeria and in other developing countries. In particular, understanding the processes through which youth policies and strategies are developed are key for defining systematic ways of their formulation, adoption, implementation, and refinement. Second, the country level ecosystem of youth entrepreneurship should be studied in terms of how such ecosystems could be nurtured in various country and sectoral contexts. Third, additional research is needed on how to link youth entrepreneurship to sectoral policies and develop multistakeholder platforms to implement them at the national and decentralized levels. Fourth, while imparting appropriate technical skills to youth, assessing the needs for associated investments to make them successful for youth entrepreneurs requires additional research. Finally, the role of continuous dialogue and consultation with youth in refining youth entrepreneurship interventions cannot be overemphasized.

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Appendices

Appendix I: Images of YE Steve Okeleji

Image 1: Steve conducting a training for other YE



Image 2: Image of a fishpond



Appendix II: Images of YE Yahya Olubunmi Adebayo

Image 1: Olu with her business products



Image 2: Olu with her certificate of achievement



Appendix III: Images of YE James Ogabo

Image 1: James's training certificate



Image 2: James's conducting a training and this picture shows him doing a process demonstration



Image 3: James's training local youth from state youth services



Image 4: James's during a field trip with his youth trainees



Image 5: James's during a training and information sharing session

