

GUEST ARTICLE

**Youth Employment and Wealth Creation through Agricultural Entrepreneurship:
The Delta State Model as Evidential Case for Paradigm Shift**

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ABSTRACT

This paper demonstrates with live evidence from Delta State, Nigeria, that conventional theorems indicating youths are not interested in agricultural occupation is yielding to the paradigm shift towards youth agricultural entrepreneurship models underpinned by key enablers and drivers. The paper gives extensive review of anecdotal literature and empirical research about the necessity, relevance, approaches and potential impacts of mainstreaming and targeting youths in agricultural policy and programme design. The paradigm shift is corroborated by field evidence from the Delta State Youth Agricultural Entrepreneurship Programme (YAGEP) which gives empirical proof of critical enablers and drivers of youth agricultural entrepreneurship. An array of factors comprising holistic training, branding and mentoring, start-up support, sustainable cost-subsidized access to technologies, inputs, finance and information in tandem with market guarantee and risk mitigation work to ensure the survival, profitability and sustainability of the agricultural enterprise. By its successes, lessons and insights, YAGEP typifies a role model in the deployment of youth agricultural entrepreneurship for curbing youth unemployment, developing the agricultural value chain and promoting economic diversification.

1.0 INTRODUCTION

Agriculture and agribusiness constitute huge opportunities for profitable youth employment, economic diversification and inclusive growth in Nigeria. However, youth participation in the Nigeria's agricultural value chain is much below potential, like many countries in Sub-Saharan African (Yeboah and Jayne, 2016). Meanwhile, Nigeria's agricultural population, particularly the farming segment of the value chain, whose average age is estimated at 60 years, is ageing at a faster rate relative to the rate of youth entry (Adesugba and Mavrotas, 2016). Insufficient youth participation in agriculture implies that the agricultural economy misses the transforming impacts of perhaps the most energetic, most productive, most innovative, most entrepreneurial and most physically and mentally vibrant segment of a country's labour force (Naamwintome and Bagson, 2013).

In Nigeria, the problem of low youth participation in agricultural labour is clearly evident. One study put the pooled national estimate at 27.1% and ranging from 17.8% in Southern Nigeria to 36.5% in Northern Nigeria (Ameyawand Maiga, 2015). This situation is clearly ironic considering that Nigeria is endowed with large youth population, estimated at 60% of the country's population and youth (15-34 years) labour force accounts for 51% of the country's labour force.

Given this scenario, Nigeria is confronted with a development paradox that despite the tremendous employment opportunities in agriculture and agribusiness, unemployment rate among youth (15-34 years) is estimated at 34.9%, accounting for 61% of total unemployment in the country (NBS, 2020). With an additional youth underemployment rate estimated at 28.2%, the total number of Nigerian youths that are either unemployed or underemployed as at 2nd Quarter of 2020 is estimated at 25,277,736, more than the populations of Senegal and Sierra Leone combined.

The paradoxical coexistence of humongous but untapped agricultural employment opportunities alongside mounting youth unemployment signifies a real national development dilemma. Underlying this dilemma is the two-pronged policy challenge. One side of the policy challenge is to use youth entrepreneurship energies to modernize, transform and develop the agricultural value chain. The other side is to use the agricultural value chain as a strategic economic platform for growing youth entrepreneurship for food security, job creation and inclusive growth.

2.0 A REVIEW OF THE LITERATURE

Conceptual literature on entrepreneurship is dominated by the descriptive approach, rather than definitional. From the descriptive perspective, entrepreneurship is conceptualized in terms of aptitude (skills), attitude (behaviour) and action-ability (capability) of a person. While the 'skills' element refers to ability to start and run an enterprise



profitably, attitude infers being innovative, creative, competitive, risk-taker, proactive in seeking, finding and utilizing economic opportunities.

Youth is a socio-demographic concept, basically defined in terms of age. However, the age classification of youth varies across climes and contexts. The African Youth Charter 2006 defines youth as people between the ages of 15-35 years while Nigeria's 2009 National Youth Policy defines youth as persons aged 18 to 35 years. However, the National Youth Policy 2019-2023 defines youth as persons between the ages of 15 to 29. The definition of youth has a social dimension which alludes to distinctive youth attributes, peculiarities, developmental needs and opportunities for economic participation (MYSD, 2019). In this regard, National Youth Policy 2019-2023 adopts strategic thrusts and thematic priorities which include sustainable economic engagement of youths, employment creation through youth entrepreneurship, youth involvement in agriculture for national food security and economic diversification as well as the use of information and communication technologies (ICTs) for youth creativity, productive innovation and job creation (MYSD, 2019).

In recent years, the mounting necessity to curb youth unemployment through the agricultural economy has elicited increased debate on and research attention to the factors that influence youth participation in agriculture and agribusiness. On the one hand, there is the traditional notion that agriculture is innately unattractive and unrewarding to youths, that is, youths do not like agriculture and are not interested in farming. On the other hand, modernist models of youth employment posit that interest and participation of youths in agriculture and agribusiness can be cultivated through deliberately targeted and tailored policies and programmes underpinned by “enablers and drivers” of youth employment along the agricultural value chain.

In the literature, ‘enablers’ imply production infrastructure, technology and facilities that enhance the economic competitiveness, productivity and profitability of agriculture and agribusiness. In a similar vein, ‘drivers’ include policy framework, programme model, organizational approach, institutional services (such as finance, training, mentorship, access to production inputs, market linkage) and elements of the agribusiness environment which together provide a conducive setting for profitable and sustainable youth participation in agriculture.

Several literatures on youth involvement in agricultural value chain give similar narratives of the interplay and potency of these enablers and drivers. Based on project experience in Senegal, IYF (2014) identifies best practices for promoting youth agricultural entrepreneurship. They include holistic approach to training (life skills together with agricultural skills and entrepreneurial skills), networking, linkages, innovation labs and mentorship, value chain approach to interventions that elicit both farm and off-farm business opportunities, access to financing and capital, access to market and an integrated package of support that fits youth populations and local contexts. Foodtank (2014) observes that greater policy attention to economic, social and institutional factors that deter youths from agriculture is critical to reversing the trend. Ogunsanmi (2014) reports the experiential insights and lessons from youth-focused agricultural programming by 2SCALE in Benin, Ethiopia, Ghana, Ivory Coast, Kenya, Mali, Mozambique, Nigeria and Uganda. The key lessons include (i) the fundamental need to tackle structural constraints - infrastructural, institutional and technological (ii) the significance of modernizing, professionalizing and dignifying agricultural and agribusiness activities and (iii) deploying youth agricultural entrepreneurship for service delivery and gap-filling along the value chain.

Based on insights and perceptions from a qualitative survey about what works best for supporting youth entrepreneurship, CAD (2018) underscores the importance of programme elements including beneficiary profiling for proper selection and targeting, training modules that incorporate life skills, entrepreneurship and business skills and access to financial and investment support. Others are access to markets, networking and links to the local business environment, service delivery feedback for organizational learning and continuous programme adaptation as well as monitoring, mentoring and aftercare services. Fox and Filmer (2014) criticizes the “myth” that agriculture offers no hope for youth, stressing that despite current low levels of productivity and earnings, Africa agriculture offers economic and business opportunities for young people. With the right policies and measures that guarantee access to land, inputs, know-how, markets and finance, youth entrepreneurship can bring about agriculture renaissance.

From a case study of the nexus of youth, information & communication technology (ICT) and agriculture, Brand and Galdava (2019) deduces that youth populations possess the entrepreneurial drive, innovative energies and greater disposition to master and apply new technologies to agriculture to increase productivity, profitability and viability. ICTs, such as mobile phones, internet and communications platforms like television and radio, can be deployed for reducing traditional drudgery of agriculture activities, instructing the right choice of enterprises and production



practices, tracking and responding to weather conditions, giving timely and beneficial access to markets, enhancing productivity and profitability - all of which contribute to making agriculture more attractive and desirable to youths.

An analysis of current literature (for example, Cassinath and Mercer, 2016; Weidinger, Mwaura and Quaye, 2015; Ssendiwala and Nzioki, 2015) on public policy intervention models for promoting youth involvement along the agricultural value chains reveals that governments often use one or a combination of three programme approaches or designs. 1. Deliberate mainstreaming of youth in general agricultural programmes, meaning setting minimum levels of consideration, for example, quota for youth participation to practically embed youth as a crosscutting element in programme design 2. Agricultural programmes that are neutral or blind to youth participation, that is, youth involvement is not specifically distinguished or embedded in the programme design, rather all conditions, benefits and services generally apply regardless of the demographics of participant. 3. Youth-targeted or youth-centric agricultural programme models which are consciously and strategically structured, adapted and responsive to the participation preferences, needs, peculiarities, constraints and opportunities of youth.

In a case study of the opportunities for youth in agriculture value chain activities based on programme experiences in four countries – Liberia, Uganda, Nepal and Guatemala (Cassinath and Mercer, 2016), several success factors, desirable pathways, empirical challenges and mitigatory measures were identified. One key message is the necessity for a multi-layer strategy or mixed portfolio that synergistically combines elements of youth-mainstreaming and youth-targeted policy/programme models. While youth-focused agricultural programming may be desirable, its impact would be negligible unless it is situated within the broader context of a competitive agricultural economy. Hence, the development of more competitive, inclusive and resilient market systems that can sustain demand, support more actors and absorb the youth bulge, and catalyse economic activity in a variety of interconnected systems that offer a range of opportunities for youth.

Likewise, notwithstanding the higher-level sector wide efforts, it remains important to undertake youth-targeted approaches/measures that facilitate market linkages, identify and harness mid-chain or off-farm opportunities for youth, create real pathways to profitable agricultural enterprise, promote economies of scale for youth in agriculture and engender climate-smart agriculture among youth. Another major lesson is the need for youth-focused programmes to clearly identify, practically demonstrate and operationalize value chain entry points for youth, such as on-farm services, farm tools production, construction of agricultural structures and sheds, post-harvest handling (aggregation), agro-processing, agro-dealership, extension and information services, transport, storage, market brokerage and retail services.

Underscoring this perspective, Weidinger, Youdewei, Mwaura and Quaye, (2015) alludes to business opportunity spaces along the agricultural value chain including input supply, production, processing, storage, wholesale and retail, as well as consumption, as well as support services such as transport, brokering, and service processing. In this regard, agribusiness opportunities for youth entrepreneurship along the agricultural value chain is distinguishable into three aspects. One, upgrading value chains, which involves moving value chains in a different direction, such as towards new customers, adding operations, using better technologies, increasing efficiency. Two, deepening the value chains by addressing unmet market demands or seeking opportunities for vertical and horizontal integration, greater specialization and expansion of services. Three, expanding the value chains, which involve the growth of national and regional trade in agrifood products for the urban retail and supermarket chains, establishing joint ventures that share risk and investing in commodity exchanges. Regardless of the entry point along the value chain, the underlying factor that for entrepreneurship to bring about economic independence and sustainable youth employment, it must generate sufficient income in the present and show progression of income growth into the future (Brooks, Zorya, Gautam and Goyal, 2013).

Country case studies reported in Cassinath and Mercer (2016) also commonly instruct that it pays for programme models to adopt deliberate approaches and measures that make business enterprises and employment along agricultural value chain profitable, appealing and attractive to youth, thereby changing the cynical mindsets of youth towards agriculture. Such youth-friendly factors include tailored agricultural skills training and experiential learning, better technologies, better and more efficient inputs and tools, appropriate mechanization, management of agricultural risks, enterprise mixes and modern agricultural practices which together combine to enhance enterprise productivity, income stability, economic security and sustainability of business growth. These outcomes will collectively erode the negative social image, unpleasant technological anecdote and adverse occupational stereotypes traditionally associated with youth involvement in agriculture.

In addition to anecdotal literature and qualitative research which substantiate the thesis of ‘enablers-cum-drivers’ of youth participation and entrepreneurship in agricultural value chains, several quantitative research and agricultural



surveys have reached similar conclusions. In particular, empirical research give quantitative estimates of the joint and relative effects of social, institutional, economic and technological factors on youth participation in agriculture. The factors that influence youth participation in agricultural value chains are many, interrelated and interspersed in multiple agricultural research and surveys across developing countries. The more significant factors are the nature and adequacy of training, knowledge, technology, market access and agricultural extension (Thomas and Eforuoku, 2014; Sakiluzzaman, Sarker, Rahman, Hasan, Lei and Mukta, 2018; Adeyanju, Mburu and Mignouna, 2020) and access to land, inputs and finance (Kimaro, Towo and Moshi, 2015). Others are education, personality traits, perception about and attitude towards agricultural occupation (Okochi, Age and Alegwu, 2012; Kimaro, Towo and Moshi, 2015; Sakiluzzaman, Sarker, Rahman, Hasan, Lei and Mukta, 2018; Twumasi, Jiang and Acheampong, 2019) as well as costs, risks, profit and drudgery (Suhana, Sivapalan, Mohd, Nur and Nur, 2016).

3.0 THE METHODOLOGY

3.1 *The Agro-Ecological and Socio-Economic Setting*

Delta State lies within longitudes 50 00'E and 60 45'E and latitudes 50 00'N and 60 30'N. This location is in the oil-rich Niger Delta region of Nigeria, which endows the state as contributing about 35-40% of Nigeria's oil and gas output. It has an estimated land area of 18,050 square kilometres with an Atlantic Ocean coastline of about 163 kilometres in the south. Corresponding to the estimated annual rainfall of 1,910 mm in the northern area to 2,670 mm in the southern area, the vegetation ranges from mainly mangrove swamp in the southern coastal area to mostly rain forest in the central part and a mix of secondary forest and derived savanna in the northern part (DS-MEP, 2010; DS-MEP, 2016).

Like other states in Nigeria, Delta State enjoys a demographic dividend of large youth population [persons aged 15-39 years total 2,599,200 which is 43% of the 2020 population estimated at 6,050,117. The estimated 2020 labour force [20-59 years] is 2,736,861 out of which youth population aged 20-39 years is 1,905,728, that is, 69% (DS-MEP, 2021). The Labour Force Survey - Unemployment and Underemployment Report Q 2020 - published by National Bureau of Statistics (NBS) in March 2021 gives the national unemployment and underemployment rates as 33.3% and 22.8% respectively (NBS, 2021). Specifically, the same survey reported that Delta State had unemployment and underemployment rates of 31.14% and 24.01% respectively.

While the state's oil and gas resources account for the bulk of statutory revenues, the employment and livelihoods of the people are derived mainly from agriculture and informal sector (trade and services). As at 2020, estimated Gross Domestic Product [GDP] of Delta State was estimated at ₦4.43 trillion [about USD 12.3 billion], making it the 3rd largest state economy in Nigeria, after Lagos and Rivers States. Furthermore, the GDP per capita was estimated at ₦731,396.09 (USD2,041.24) in 2020 (DS-MEP, 2020).

The state's economy is composed of oil sector 47.54% and non-oil sector 52.46%. Disaggregated 2019 GDP analysis also shows that, overall, natural minerals subsector (crude oil, natural gas, mining and quarrying) contributes 47.54%, followed by services 34.22%, agriculture 13.22% and manufacturing 5.02% (DS-MEP, 2020). In nominal value, the state's agricultural sector is estimated at ₦584.333 billion, comprising crop production 79%, livestock 10%, fish production 8% and forestry 3% (DS-MEP, 2020). The range of agroecological and natural resource conditions bestow comparative advantages in the production of crops including cassava, yam, rice, oil palm, tomato/vegetables, sweet potato and okra. Other major agricultural commodities include aquaculture and livestock (poultry and piggyery).

3.2 *The Study Approach*

The study approach involves analysis and interpretation of field evidence as factual basis to support the hypothesis about enablers and drivers of youth participation in agriculture, in other words, to refute the traditional notion that youth are not interested in or attracted to agriculture. The evidence consists of data and statistics from the ongoing implementation of Youth Agricultural Entrepreneurship Programme (YAGEP) in Delta State, Nigeria. YAGEP was established by the Delta State Government in June 2015 as an integral component of overall strategy to solve youth unemployment, modernize agriculture, diversify the economy and promote inclusive growth through youth agricultural entrepreneurship.

3.3 *Exploratory Survey of Youth Employment in Agriculture*

A background assessment was carried out to characterize the features and patterns of youth employment in the state. The aim was to find out the characteristics, preferences, circumstances and challenges of youth owners of agricultural enterprises, towards clear understanding of youth employment in agriculture. The assessment is based on a 2019 survey of youth agricultural entrepreneurs across the 25 local government areas, selected through gender-stratified



random sampling of registered youth agricultural entrepreneurs in each local government area. In all, one thousand three hundred and seven (1,307) youth agricultural entrepreneurs were interviewed. The survey instrument sought personal and agribusiness information including biodata, educational qualification, type of agricultural enterprise, location of agricultural enterprise, size of agricultural enterprise, age of agricultural enterprise, condition of agricultural enterprise. Other information elicited are problems and challenges facing the agricultural enterprise, critical intervention needs regarding training and enterprise support.

4.0 FINDINGS, EVIDENCE AND INSIGHTS

4.1 Background Assessment of Youth Agriculture in Delta State

The exploratory survey shows that youth entrepreneurship in agriculture is dominated by age 31-40 years (51%), followed by age 21-30 years (34.7%). Youth with educational level - West African School Certificate – constitute the largest single majority (46.0%), followed by Bachelor's Degree or HND (27.3%). Male youth agricultural entrepreneurs constitute 66.5% while female youth constitute 33.5%. The agricultural enterprises owned and operated by the youths include fish farming 29.9%, followed by poultry 22.7%, cassava farming 16.1%, plantain cultivation 5.5% and piggery 5.2%. Moreover, other youths own and operate different combinations of separate or co-located crop-crop, crop-livestock and livestock-livestock enterprises such as cassava/yam/maize, cassava/vegetables, oil palm/cassava, fish farming/fish processing, fish farming/snailery, fish farming/vegetables and poultry/cassava.

The challenges expressed by youth agricultural entrepreneurs include high and rising cost of farm inputs particularly fertilizer, poultry and fish feeds coupled with unreliable quality of purchased farm inputs including fertilizer, poultry and fish feeds. Other major challenges identified include weak links to the market, lack of access to suitable land for crop farming, poor information-cum-training on better production techniques and practices, lack of post-harvest processing and storage infrastructure (e.g., poultry and fish processing/preservation stations), natural events, particularly flooding of fish and rice farms coupled with lack of insurance cover against production risks. On the other hand, youth agricultural entrepreneurs were found as very weak in farm business planning and in keeping farm records and accounts coupled with generally low farm business discipline.

4.2 Programme Design and Implementation

4.2.1 Design Elements

The design of Youth Agricultural Entrepreneurs Programme (YAGEP) is instructed by the preceding situation assessment (SWOT Analysis) and clear understanding of youth participation in agriculture in Delta State. The programme aims to reduce youth unemployment through youth agricultural training and entrepreneurship. The strategy involves developing a critical mass of skilled and business-minded youth entrepreneurs actively generating economic goods and services to reap profits along the agricultural value chain on a sustainable basis. The YAGEP approach is to mobilize, reorientate, train, equip, start-up, mentor and support youths in their choice agricultural enterprises.

Under YAGEP, unemployed youths aged 18-35 years are trained and started up in their chosen agricultural enterprises, including poultry, piggery, fishery, crop production, agro-processing and agribusiness. There are two categories of YAGEP participants: Green YAGEP and Brown YAGEP. Green YAGEP include YAGEP candidates who are freshers/newcomers to agricultural skills and need to be trained from afresh and thereafter provided with starter packs to set up and run own enterprises. Brown-support YAGEP include YAGEP candidates who already own and operate their agricultural enterprises but need support packages to become viable, survive and scale up.

After rigorous planning and design, YAGEP was started in August 2015. The design can be simplified into three main sequential components, namely, all-round training, enterprise start-up support and post start-up support. The process flow of the programme is illustrated as follows:



Figure 1. YAGEP Process Flow

Life skills and personal effectiveness training: This is the beginning phase of the training cycle. The objects of the training are mindset reorientation, character-building and self-actualization. The training involves on-boarding orientation and impartation of the right mindset from job-seeking towards self-employment. The training lasts one week and covers topics such as personal management, critical success drivers, interpersonal relations, personal visioning and self-planning, leadership virtues, self-discipline, motivation and confidence, self-discovery and actualization. Other topics are effective management of time, effort and resources, teamwork and partnering, problem solving, peer networking, personal attitudes to risks and uncertainties, identifying opportunities, managing successes and coping with failures.

Agricultural skills training (instruction and field-based): This training phase involves the deployment of participants to class instruction in preferred agricultural skills (including crops, livestock and aquaculture, agro-processing). The class instruction is followed with practical skills transmission and field-based training in accredited live agricultural enterprises. The practical field-based training lasts 3-6 months, depending on the agricultural enterprise. During this period, participants are impacted real-life crop, livestock and fishery production skills and agricultural enterprise management knowledge.

Farm business management and entrepreneurship training: This final phase of training aims to inculcate farm business management and entrepreneurship skills and competencies to complement the agricultural skills. The training module covers a host of “how to” topics including how to translate acquired agricultural skills to a farm business enterprise, how to start an agricultural enterprise, how to prepare and use a business plan, how to finance the enterprise, how to grow the enterprise, how to market the product/service, how to communicate the product, how to cooperate/partner with business peers, how to manage the enterprise, how to cope with risks and business competition and how to keep, analyze and use farm records and financial accounts.

Provision of start-up support (facilities and inputs): Participants who successfully complete the three phases of training are provided start-up support to own and run an agricultural enterprise. Green YAGEP starter packs comprise critical start-up items, production inputs and farm management advisory, according to agricultural enterprise. Candidates for Green YAGEP must show proof of own or secured location for the agricultural enterprise. Trainees are wholly responsible for finding and securing suitable locations for their enterprise as well as have own supplies of water and energy. The location must be physically verified as suitable prior to providing the starter pack items. Brown YAGEP support packs comprise the critical production inputs and farm management advisory, according to agricultural enterprise. Candidates for Brown YAGEP must own and show the live farm enterprise for which support is needed. The live farm enterprise must be physically verified as owned by the candidate, prior to giving the support pack items.

Upon completion of training, participants are given critical support necessary and sufficient to enable successful take-off and growth of the agricultural enterprise. The support is entirely grant to the participant, in addition, income from the agricultural enterprise is owned and appropriated by the participant. Moreover, the participants are exposed and facilitated to access complementary resource augmentation opportunities. They include Central Bank of Nigeria (CBN)’s Agribusiness, Small and Medium Enterprises Investment Scheme (AGSMEIS), Anchor Borrowers’ Programme (ABP) and Accelerated Agricultural Development Scheme (AADS) as well as Bank of Industry (BOI)’s Youth Entrepreneurship Support (YES) Programme and Graduate Entrepreneurship Fund (GEF).

4.2.2 YAGEP Crop and Livestock Outputs

YAGEP agricultural outputs are estimated based on farm enterprise data generated through a combination of data collection methods, namely physical measurement of farm enterprise outputs and sample survey of programme beneficiaries.

Estimates show that, from 2015-2021, YAGEP beneficiaries have produced 2,298.47 Metric Tonnes (MT) of poultry, 72,280,767 eggs and 6,682.91MT of fish. In addition, the outputs include 2,342.24MT of pig, 3,084.40MT of cassava roots, 1,572.79MT of grains, 862.16MT of plantain and 2,235.66MT of vegetables namely tomatoes, watermelon and cucumber.

The breakdown of agricultural outputs under YAGEP is given as follows:

Table 1. Summary of agricultural outputs of YAGEP beneficiaries 2015-2021

PROGRAMME:	POULTRY ENTERPRISE		FISH PRODUCTION ENTERPRISE	PIG PRODUCTION ENTERPRISE	CROP PRODUCTION ENTERPRISE (MT)			
	Meat (MT)	Egg (Nos.)	(MT)	(PORK)	Staples		Fruit	
CYCLE					Cassava	Grains	(Plantain)	Vegetable
2015/2016	322.32	13,708,800	295.20	296.88	20.00	-	60.00	66.00
2016/2017	283.64	12,063,744	1,094.98	273.13	16.00	444.00	48.00	382.80
2017/2018	249.60	10,616,095	1,388.38	251.28	12.80	487.20	38.40	478.80
2018/2019	335.57	11,458,963	1,376.57	275.71	170.24	206.88	75.72	419.04
2019/2020	438.91	12,188,592	1,274.67	609.91	890.19	201.50	255.58	407.23
2020/2021	668.42	12,244,573	1,253.11	635.34	1,975.17	233.20	384.46	481.79
TOTAL	2,298.47	72,280,767.05	6,682.91	2,342.24	3,084.40	1,572.79	862.16	2,235.66

4.2.3 Further Evidence of YAGEP Impacts on the Agricultural Economy

Accelerated Growth of the Agricultural Sector: The Youth Agricultural Entrepreneurs Programme (YAGEP) and other agricultural sector interventions of the state government have had significant impact on the state economy. Data generated by National Bureau of Statistics (NBS) and published in August 2018 show that the state's agricultural sector grew at an accelerated rate from 2015-2017, compared to the period before 2015. It grew by annual average of 8.6% from 2013-2015 but accelerated to annual average of 13.3% from 2015-2017. This is clear evidence of incremental impacts of YAGEP, PPSP and other agricultural sector interventions of Governor Okowa, since 2015.

Transformation of the Agricultural Landscape: Specifically, the development of farm enterprise clusters, owned and managed by the youths, is transforming the state's agricultural landscape and having a demonstration effect on agricultural modernization. Currently, there are twenty (20) YAGEP farm enterprise clusters with varying combinations of enterprises including poultry, piggery, fishery, rice and tomato production. The cluster model of youth agricultural employment has restored previously idle agricultural resources to economic use and boosted agricultural productivity and wealth generation in the state.

Development of the Rice Value Chain: One distinctive landmark of YAGEP is the development of the rice value chain through youth agricultural entrepreneurship. The rice value chain initiative involves instructional and field-based training, farm enterprise incubation and establishment of youths through the entire process of rice production, processing, packaging, branding and marketing.

The YAGEP rice initiative started in 2017 with the cultivation of 74 hectares at Ugili-Amari, Ndokwa West Local Government Area. Subsequently in 2018, the initiative involved the cultivation of 42 hectares of rice at Deghele, Sapele Local Government Area and 54 hectares at Mbiri, IkaNorth East Local Government Area. During the 2018 production year, the process involved 48 youth trainees working under close tutorials, facilitation and guidance of the Office of the Chief Job Creation Officer through knowledgeable and experienced resource persons from within and outside the state.

The programme activities include soil tests and site selection, land preparation (clearing, ploughing and harrowing), seed treatment and planting, soil treatment, weeds prevention and control, fertilizer application, prevention and control of pests and diseases and birds scaring. Other operations include harvesting (cutting and packing), threshing, drying, winnowing, washing/parboiling, milling, destoning and packaging/bagging. The cultivation, harvesting, threshing, drying, parboiling, milling, destoning and bagging operations were carried out together with hands-on training and participation of the YAGEPpreneurs. All the inputs, technologies and materials used in the rice



production and processing and packaging operations were provided by the Office of the Chief Job Creation Officer. The YAGEP project on rice resulted in paddy production and processing into YAGEP milled rice (10kg pack).

4.3 Success Rates among YAGEP Beneficiaries: Results of Tracer Studies

The performance and impact of STEP & YAGEP have been assessed through tracer studies of beneficiaries. Tracer study is an Outcome Assessment Methodology which tracks programme beneficiaries in order to ascertain if they bear the results and outcomes anticipated by the programme.

Since inception in 2015, two consecutive tracer surveys have been carried out. The first was conducted by Office of the Chief Job Creation Officer with professional facilitation by experts at Lagos Business School/Pan Atlantic University, from 9-31 August 2018. The field verification covered a total of 2,242 beneficiaries from 2015/16-2016/17 plus Brown STEP 2017/18. The second tracer survey was conducted by Directorate of Youth Monitoring and Mentoring (DYMM) in conjunction with Office of the Chief Job Creation Officer, from 11-21 February 2020. It covered a total of beneficiaries from 2015/16 to 2018/19.

Results of the two consecutive tracer surveys, summarized in the table above, show that the success rates have generally improved over time. From 2015 to 2019, the beneficiary success rates have improved from 66% to 77% for YAGEP. The improvement in success rate is the outcome of cumulative programme reforms including beneficiary targeting, quality control in training content and methodologies and realignment of enterprise combinations.

Latest field verification of YAGEP farm enterprises, carried in from 2021-2022, using geographic positioning system (GPS)-based survey and digital mapping methodology show beneficiary retention rate of 70%. The decrease of retention rate from 77% in 2019 to 70% in 2021 is attributable to the economic shocks associated with the COVID-19 pandemic and related production challenges.

5.0 CRITICAL SUCCESS FACTORS: LESSONS AND INSIGHTS FROM YAGEP

The design, implementation and performance of YAGEP have revealed the critical success factors for effective and sustainable programming of youth agricultural entrepreneurship. Around the achievements, experiences and challenges in the implementation of YAGEP are interwoven enablers and drivers (must do's) that are fundamental to the sustainable participation of youths in agricultural entrepreneurship. They are as follows:

- i. Admission of beneficiaries must be rigorously conducted to avoid wrongful selection leading to moral hazards. The selection process must be able to separate those genuinely interested from those who are pretending to be interested.
- ii. Admitted youths must be trained and established in their preferred agricultural enterprises, not the enterprises pre-determined for them.
- iii. There must be agricultural technologies and production systems to curtail drudgery and physical effort of agricultural operations so that agriculture can be more attractive to youths.
- iv. Youth agriculturists must be subjected to adequate good-quality instructional training and hands-on practical exposure.
- v. The establishment start-up support must incorporate unfettered secure access to suitable land coupled with appropriate land development and provision of crucial production infrastructure.
- vi. The startup support must also incorporate access to adequate amounts of high-quality efficient production inputs in a timely manner.
- vii. Cluster approach to establishment of youth agricultural enterprises, that is, co-location of youth agricultural entrepreneurs, can only be effective and sustainable if the enabling conditions are in place.
- viii. Agricultural enterprises must be sufficiently profitable and viable in order to attract and retain youths in agriculture relative to other competing sectors.
- ix. Youth participants must be subjected to high standards of programme discipline through admission-point signing on to applicable codes of conduct for participants and personal guarantees of individual participants by respective community and social leaders.
- x. There must be continuous and sustained follow-through and mentoring of newly established youths in agriculture.



- xi. Youth agriculturists must be branded and promoted as entrepreneurs and business owners, in such a manner that is professionally dignifying and appealing.
- xii. Youth agricultural enterprises should have adequate insurance cover in order to mitigate peculiar agricultural risks and inspire confidence in enterprise owners and agricultural lenders.
- xiii. The design and implementation of youth agricultural entrepreneurship programmes must be underpinned by strong and unwavering political will to succeed. Real evidence of political will is to allow programme managers run the programmes in a professional manner.

6.0 CONCLUSION

This paper has argued, based on theoretical postulates and live empirical evidence, that entrepreneurial opportunities along the agricultural value chain can be attractive, dignifying, profitable and viable to youth if the conditions are both enabling and instrumental.

The conventional view that youth are not interested in agriculture or that agriculture is not attractive (dignifying) to youths is overtaken by insights from anecdotal experiences and research findings which together expound programme models, approaches and practices that work for youth employment along the agricultural value chains. The example provided by the success story of the YAGEP experiment, clearly demonstrates that, with the right mix of conditions, factors and processes, youth entrepreneurship along the agricultural value chains, is decisive in alleviating high and rising rates of youth unemployment in the country.

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