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The IITA Agripreneur Movement: A Dynamic Approach to Youth Empowerment across Africa

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Abstract

The Agripreneur Movement of the International Institute of Tropical Agriculture (IITA) allows youth to assume their rightful place in African agricultural transformation. It started as a single exploratory agribusiness incubation at IITA Headquarters in 2012, involving 37 youths. It has since grown to 10 countries through nine sponsoring organizations. We compiled the characteristics and outcomes of 40 Agripreneur projects between 2012 and 2021 to describe the movement's growth. With time, the movement operated across 195 locations engaging 518 trainers within 493 training cohorts and 263 different learning enterprises. These efforts led to the training of 25,616 youth in modern agriculture and agribusiness, resulting in 1,661 modernized farms and 2,592 business start-ups. Of the learning enterprises, 38% involved crops, 32% involved agro-processing, and 30% involved animal husbandry, suggesting a sound balance in promoting agribusiness opportunities. About \$38.5 million was directed toward the training and support of Agripreneurs between 2012 and 2021. We trace the origins of the Agripreneur Movement as isolated agribusiness incubations in Nigeria through its expansion to other countries and its adoption within the youth empowerment agendas of other development organizations, including the African Development Bank, the International Fund for Agricultural Development, and the Mastercard Foundation. In this way, the legion of youth working with and inspired by the IITA Agripreneur Movement makes major contributions to and secures their rightful place within a complex array of rural development opportunities. What must occur next is its mainstreaming across the vocational agriculture systems and developmental sovereign loans of African countries.

Keywords

agribusiness incubation, experiential learning, International Institute of Tropical Agriculture (IITA), rural development, youth crisis

Funding Source

Several project officers and youth group leaders served as important key informants for this study including Cargele Masso (Cameroon); Prince Bobo, Esperance Balezi and Josanna Sanginga (DR Congo); Elizabeth Muema, Welissa Mulei and Lorraine Mutinda (Kenya); Cheick Diarra (Madagascar and Sudan); Rodrigue Obognon (Benin), Adedayo Adefioye, Silver Ahanonu, Bankole Akinyele, Ibironke Ifedayo, Sini Luwa and Dorcas Ogunwole (Nigeria); Veronica Kebwe (Tanzania); Becky Nakabugo (Uganda) and Consent Sibeso (Zambia). Eniola Olanrewaju of the IITA Youth in Agribusiness Unit assisted in data compilation. The cooperation of these individuals is greatly appreciated. Authors are grateful to the African Development Bank, the Bill and Melinda Gates Foundation and the Mastercard Foundation for staff support to IITA allowing for preparation of this publication. Moreover, we acknowledge the legion of youth working with and inspired by the IITA Agripreneur Movement for their contributions to African agricultural transformation.

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Abstract

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Introduction

The economic marginalization of African youth is profound, and its consequences are dire. By youth, we refer to a prolonged limbo-like state of pre-adulthood where the means of adult independence are not readily available, and too often, the only means of support is through engagement with the informal economy and as extended wards of their parents, usually as menial workers or part-time farmers (Honwana 2019). This state of “living in waithood” creates a condition that reinforces defeatist mindsets, results in enforced idleness, and drives rural youth toward dangerous lifestyles. This crisis is caused by the lack of jobs (Fox et al. 2020) and insufficient opportunities to acquire and manage lands (Djurfeldt et al. 2019; LaRue et al. 2021), but also by the policies that underlie Africa’s economic and rural stagnation (Sumberg 2021).

Politicians often seek to manage youth as components of larger socio-political agendas rather than directly address their marginalization (Ile & Boadu 2018; Honwana 2019). This marginalization is not a crisis of education because even the most educated and experienced youth find it difficult to navigate the jobs market without the influences of patronage and nepotism. It is not an information crisis because electronic devices and digital tools have infused their societies and are often a youth’s most prized possession (Lohento & Ajilore 2015). It is partly an innovation crisis because youth with defeatist mindsets too seldom find required solutions (Sumberg & Hunt 2019).

This marginalization persists and worsens despite years of scholarly study and speculation (see Fan et al. 2016; Soucat et al. 2013; Ripoll et al. 2017; von Kaufmann & Ariho 2019; White 2015; Yeboah et al. 2020). It drives illegal migration from Africa, youth’s dangerous attraction to extreme ideologies, and participation in civil unrest and crime (Honwana 2019). In these ways, this marginalization becomes a pressing societal and global issue, and solutions must be found and amplified.

Conceptual and Operational Framework

Part of re-attracting youth to career paths in African agriculture relies upon the understanding and application of empowerment theory. Jennings et al. (2006) maintain that an empowerment process requires offering youth a welcoming environment and equitable interaction with mentors. These conditions permit critical reflection on personal growth and skill sets. This process was initially applied to socio-political empowerment and Martinez et al. (2017) demonstrated that it applies equally to economic advancement.

Ariho (2019) reviewed the importance of agribusiness incubators as youth empowerment mechanisms in Africa. These incubators assume different forms based on technical, business, community and public project purposes, but they all stimulate innovation and entrepreneurship (Sumberg & Hunt 2019). Technical incubators provide opportunities for technology access, transfer, and commercialization, often through subsidized infrastructure (Ariho 2019). Market-led incubators generate profits as their means of support; often expecting co-investment by participants. Social enterprise incubators operate as non-profit entities providing less technical clients access to practical solutions and market exposure

(Ariho 2019). Public sector incubators are government-owned and support start-ups as part of domestic private-sector development. In practice, some of these incubators may not meet the conditions described for empowerment as described by Jennings et al. (2006), resembling more conventional vocational education. Sanginga (2015) proposed an “Agripreneur” approach that flexibly incorporates all these incubation approaches, allowing a single youth empowerment movement to adjust to a wide range of socio-economic conditions and opportunities while still maintaining the inspirational elements required for mindset change and growing self-confidence.

The International Institute of Tropical Agriculture (IITA) quickly recognized the emergent issue of economic marginalization of African youth; and how a proactive response can contribute to the transformation of the continent’s agriculture (Sanginga 2015). For this reason, it launched the Agripreneur (an amalgamation of Agricultural Entrepreneur) Movement. IITA does much more than research this issue but rather focuses on establishing pilot activities that empower youth, which may then be widely replicated by others with similar interests (Ssendiwalwa et al. 2015). The IITA Youth Agripreneurs began in 2012 as a pioneering group formed in Nigeria and led to the establishment of guiding principles (Woomer et al. 2015b) and the identification of solid business models attractive to youth (Owoeye et al. 2016). It evolved to provide multiple pathways to African youth for meaningful participation and careers in agriculture, and as a model and mechanism, it invites participation with a growing number of like-minded partners.

Purpose and Objectives

This paper provides an overview of the IITA Youth Agripreneur Movement (IYA) over the past ten years and places it into the larger context of youth empowerment in African agricultural transformation (AfDB 2016). These efforts span several countries and agricultural opportunities but rely upon agribusiness incubation and experiential learning as a common entry point (Ariho 2019). This paper responds to the speculation by others that international agricultural research institutes are poorly positioned to stimulate progressively greater youth empowerment (Ripoll et al. 2017, Sumberg & Hunt 2019). It provides a quantitative basis for the growth of the Agripreneur Movement over time and the magnitude of investment into IYA approaches by development agencies. It also provides insight into which agricultural commodities and agribusiness opportunities appeal most to African youth and why.

Methods

IITA established youth-led agribusiness incubations in 10 African countries through various mechanisms, approaches, partnerships and sponsors. Initially, youth were selected from recent university graduates who considered themselves unemployed or under-employed. These youth were encouraged to organize themselves, interact with the local agribusiness community, and provided workspace, on-demand mentorship, and modest resources (Woomer et al. 2015b). Experiential learning occurred through participation within a variety

of pilot enterprises, and many participants assisted in preparing business plans before their scheduled departures (Owoeye et al. 2016). Over time, the target youth and the forms of their learning activities varied as the original incubation model interfaced with others' youth empowerment interests (Ohanwusi et al. 2018). The initial focus was on entrepreneurship but with time a parallel employment track emerged as a major outcome, based upon the growing recognition that not all skilled youth are suited to self-employment. Various means captured these different characteristics, including site visits, informal interviews, periodic workshops, and formalized monitoring and evaluation.

Information was assembled on youth empowerment projects operating between 2012 and 2021. This information included the name of the projects and youth groups; their country, location, host, sponsor and duration; and project leaders and their contact details. This information was compiled within a spreadsheet database containing 40 cases (project interventions) and 12 descriptors (columns) summarizing youth empowerment history. This effort resulted in the "front end" of a larger, more quantitative database to follow.

Next, an electronic questionnaire was prepared and distributed among these contacts requesting more detailed information about their respective experiences. This survey gathered information about project funding; the number of training sites and trainers; the intake of trainees through cohorts over time; the number of women participants; attrition rates among trainees; the number and types of pilot enterprises; the role of digital tools during training; and outcomes related to farm modernization, decent employment and agribusiness start-up. Trainees, modern farmers, employees, and agribusiness persons constitute direct beneficiaries. Project outreach and social media contacts quantified indirect beneficiaries. In this way, the youth empowerment projects and their various participants were characterized. The survey concluded with some open-ended queries related to training strengths and weaknesses. Responses were received for all 40 projects but not all requested fields. These responses expanded the earlier database resulting in a matrix of 40 cases (rows) and 59 descriptors (columns) constructed using a commercially-available worksheet. Many of these descriptors appear in Table 1. The database was inspected for completeness and accuracy; and in many cases, submitters asked for further clarification, recognizing that in some cases former coordinators were being asked to characterize expired projects.

Open-ended responses were codified, and some derived variables were calculated (Table 1). This database was analyzed using commercially available software. At first, overall summary statistics were derived (sum, mean, counts, standard errors), later different cases were grouped, and categories were compared. A second database was compiled based on the posted quarterly updates of the ENABLE TAAT Project over three years. Some projects developed training materials describing their empowerment approach (Owoeye et al. 2016; Woomer et al. 2015b). Others offered unpublished Strength-Weakness-Opportunity-Threat analyses (see Namugenyia et al. 2019). Some survey respondents were contacted to provide additional information and reports. Additional adjustments were made to the database to account for ongoing, compared to completed, projects by assigning a time-determined "completeness factor" when calculating costs and outputs.

A third database was constructed to determine the incomes from 391 youth-led agribusinesses resulting from three ongoing projects (ENABLE-TAAT, IFAD-RYAP, and YEASA). The database maintained respondent anonymity. This information included

agribusinesses in seven countries (Benin, DR Congo, Kenya, Nigeria, Tanzania, Uganda, and Zambia) that were classified as proprietorships or partnerships (including the number of partners), gender(s) of business operators, main business commodity (19 total), business model (processing, production, or supply) and reported annual business income in US Dollars. This approach allowed for the youth-led agribusiness to be grouped into 12 generalized categories (business type x gender x business model) across these commodities and to examine their viability in terms of annual revenues. Summary statistics were calculated between stratified groups.

Findings

Our compilation and characterization of youth-led activities by the IITA Agripreneur Movement resulted in the documentation of 40 empowerment projects initiated between 2012 and 2020 (Table 2). These projects operated in 10 African countries with durations between one to five years (mean 3.3 ± 0.2 years) and were sponsored by nine different organizations (Table 3). Using information from the larger database, the different projects were assigned to four phases as the Movement progressed: 1) piloting across Nigeria, 2) expansion to several other countries, 3) applications of the Movement through African Development Bank (AfDB) Programs, and 4) wider integration of Agripreneur approaches into others' youth empowerment agendas (Table 2).

The Agripreneur Movement was advanced through the efforts of 31 champions, 58% of them women. As of the end of 2021, about \$38.5 million was invested in youth empowerment, most of it during the latter two Phases. This led to the establishment (or reorientation) of 195 training sites requiring an average investment of $\$70,173 \pm \$15,893$ per site per year (Table 3). Training engaged the services of 518 trainers, or about 2.7 trainers per site, 49% of whom were female (Table 4). This led to 493 training cohorts averaging about four cohorts per site per year (~ 90 -day training cycles), although the duration of training varies greatly between projects (CV = 135%, data not presented). Each training cohort averaged 42 ± 10 members resulting in the training of 25,616 youth (48% women). The training was performed at an average cost of \$2,991 per youth. Only about 7% of these youth failed to complete their training, with substantial differences between projects (from 0 to 28% attrition).

The Agripreneur approach to experiential learning relies upon the establishment and youth-led management of pilot agribusiness enterprises. This approach resulted in 263 such prototypes across all projects (not including duplicate enterprises within a project), resulting in about seven different enterprises per project (CV = 38%) and five enterprises per site (Table 4). Enterprise types were well distributed across agribusiness opportunities regarding crops, agro-processing, and animals (Table 5). Reliance upon digital platforms was noted (36 in use across all projects), but the survey approach did not attempt to categorize them.

Training outcomes were tracked (Table 6). Combined efforts led to the modernization of 1,661 farms, the establishment of 2,592 new agribusinesses, and the improved employment of 1,606 departing youth. The last outcome (decent employment) was not reliably tracked across all projects as it emerged as a major objective of the Movement over time. Based upon

outreach activities, requests for information, and visits to project websites, indirect beneficiaries are estimated as 139,747 but some projects did not track indirect impacts as they were focused primarily on their own trainees as direct beneficiaries.

The overall annual income among 391 youth-led agribusinesses was US \$1,944 ± 67 (Table 7). There were few differences between female and male-operated businesses, but sole proprietorships were generally more profitable per capita than partnerships. Agricultural production and agro-processing businesses performed similarly, but the few businesses focused on agricultural supply earned less profit. Profits from crop-based enterprises were slightly higher than those from animal or mixed enterprises. Trends were observed in the profits obtained from different commodities, but the Standard Errors presented in Figure 1 suggest these differences are not significant. Incomes from beans, swine, vegetables, bananas and sweet potatoes are the most lucrative. Incomes from field crops, fish, and small animals are less so. The relatively low incomes suggest that many of these enterprises are operated as a sideline, but the data collection process could not distinguish them. The high cost of animal feed, lack of land opportunities, and low unit value of conventional field crops such as cassava and maize likely contribute to these trends. Note that commodities appearing within fewer than five youth-led agribusinesses were not considered in Figure 1.

Discussion

The description of the different Agripreneur agribusiness incubations allows for a characteristic one to be described (Figure 2). The Agripreneur Movement operates as part of the IITA P4D Directorate Youth in Agribusiness Unit, providing it guidance and administrative and logistic support. Every incubation has both a sponsor and a local host. To date, 493 training cohorts have been conducted, each having an average of three trainers relying upon an assortment of training tools. In many cases, these trainers are elected officers within the youth cohort that oversee experiential learning across a variety of pilot enterprises; in others, they are training officers appointed through a sponsoring project or host. These enterprises operate through business models developed by the Agripreneurs in the past and by mentors drawn to the local host. An average of 42 ± 10 youth belong to each cohort, including some from earlier cohorts that carry over as leaders and trainers. Pilot enterprises explore various possible cropping, animal husbandry, and agro-processing options. Average outcomes include new agribusiness startups (5), modernized farms (4), decent employment (3), and in the case of those projects with outreach objectives, numerous secondary beneficiaries, many belonging to collaborating youth groups or electronic information seekers. In some cases, more than one youth initiated a new business or modernized farm through partnership. Initially, employment was not well-tracked, but over time, it became a stated objective of many projects. In some cases, ratios of entrepreneurial-track and employment-track youth were established as a project objective (e.g., I-Youth and IFAD-Agrihub) (Table 2).

The geographic distribution and spread of the Agripreneur Movement across Africa are depicted in Figure 3. Pioneering efforts occurred in Nigeria and continued through each successive phase of the Agripreneur Movement's growth, resulting in the most diverse

assortment of in-country projects. Early country expansion included DR Congo, Kenya, Tanzania, Uganda, and Zambia, and in some cases, included multiple sites per country. ENABLE Youth projects allowed for further expansion. In some cases, these projects did not directly involve IITA Agripreneurs but rather relied upon their model, often as so-called Youth Agribusiness Incubation Centers (YABICs). The key to more profound impacts within a country is to merge the Agripreneur model with national programs, as is the case with AfDB ENABLE Youth Program and STEP-Nigeria.

Growth and differentiation of the Agripreneur Movement: Early piloting.

Despite its modest origins, the IITA Agripreneur Movement grew into a powerful force for youth empowerment in a relatively short period. This occurred through four phases (Table 2). First, the general strategy and guiding principles for youth-led agribusiness incubation were established within pioneering Agripreneur groups at IITA Headquarters and later across Nigeria (Woomer et al. 2015b). The inaugural group that became known as the IITA Youth Agripreneurs (IYA) started as an exploratory activity through the initiation of the IITA Director General. IITA typically hosts many interns from the Nigerian National Youth Service Corps (NYSC) attached to different administrative and research units within the institute (Onyishi & Ezeibe 2014; TamBari & Taylor 2020). They are university graduates whose part-time, yearlong participation in NYSC was mandatory. Upon completion of service, several youths from diverse disciplinary backgrounds were provided an opportunity to form an agribusiness incubation. The 37 members of this group were gender balanced and co-led by a young woman and a man. Over two years, they developed learning enterprises on commercialized crop and seed production, a network of fish ponds, and established a bakery and a line of healthy snacks (Owoeye et al. 2016). All departing members were expected to produce a winning agribusiness plan. These first youth established eight commercial businesses and 12 modernized farms, with the remainder finding employment within both the private sector and the growing Agripreneur Movement itself. Two more subsequent groups were formed (Table 2), Green Wealth (2015) and Green Magic (2016), consisting of 38 members that went on to establish five businesses and two more farms, with 13 finding decent employment. In the process, training materials were formalized around an Agripreneur orientation course useful for future expansion (Woomer et al. 2015a). A landmark event was a visit in 2015 by the President of the International Fund for Agricultural Development (IFAD), who quickly recognized the advantages of the budding Agripreneur approach and pledged support to it.

International expansion

Given the promise of the pioneering efforts, the Agripreneur Movement expanded to additional countries, including DR Congo (2014), Tanzania (2014), Kenya (2015), Uganda (2015), and Zambia (2015). This growth occurred through two mechanisms: grants from IFAD and the establishment of a youth component within existing IITA projects. Seven more agribusiness incubations were formed across five countries (Table 2). These groups consisted of 180 youth (54% female) as founding members that established 55 learning enterprises

devoted to crops (50%), processing and marketing (27%), and animal rearing (23%). Training was provided to an additional 734 youth (43% female) and led to the formation of 23 businesses and 66 modernized farms, as well as 91 of the founding members finding decent employment. Groups were formed quickly based upon open calls for participation compared to earlier and more deliberate recruitment approaches in Nigeria, resulting in attrition rates of 20% ($\pm 7\%$). Some of these groups, particularly those founded as part of larger IITA projects, operated closely with IITA country offices and research stations; but others managing their own funds and grounds tended to diversify and achieve increasingly greater self-sufficiency through revenues generated by pilot enterprises. One constraint felt by project-affiliated groups was their confinement to narrower sets of commodities. The major constraint to forming new businesses was the need for startup capital, necessitating stronger partnerships with the financial sector and a greater focus on building creditworthiness among youth.

One group in Kenya, the Kibwezi Hortipreneur Youth Group (KHYG), assumed control of an abandoned greenhouse complex, produced a wide range of vegetables, and established a sales office in a nearby town (Woomer & Mulindi 2016). This group serves as an example of how youth group members can manage revenues from pilot learning enterprises (Figure 4), noting that monthly revenues nearly match enterprise production costs despite covering the stipends of the group's 15 members. KHYG trained youth from nearby schools and farmers interested in diversifying their operations, often in conjunction with the University of Nairobi and Makueni County Agricultural Extension Service. It provided pest control services to others in response to the biological invasion of Fall Armyworm (TAAT Clearinghouse 2019). Its operations were featured during local youth-empowerment events including those affiliated with International Youth Day. Another new group forming in western Kenya that operated on rented farmland replicated its approaches. The group in Uganda developed an online delivery service to market its horticultural produce. The group in Kalambo (DR Congo) marketed its produce and processed goods through a supermarket chain in nearby Bukavu (South Kivu). Its cassava and maize flour products found markets in neighboring Rwanda. The group in Zambia split between members interested in horticultural operations and more extensive field crops.

While the groups forming in these additional countries were guided by the principles established by IYA in Ibadan a few years previously, they also operated more opportunistically, better adjusting to local farming and marketing conditions and relying upon a wider array of agricultural technologies. Moreover, they placed the Agripreneur Movement on the African map (see Figure 3), making it more recognizable to other development interests. These first two Phases of the Agripreneur Movement also established a large cadre of experienced youth prepared to assist in empowering youth as greater attention was focused on Africa's youth crisis (Sanginga 2015; Ssendiwala et al. 2015).

Nigerian expansion

Between 2014 and 2017, six more groups formed across Nigeria (Table 2) through efforts in Abuja (2014), Borno (2014), Warri (2015), Kano (2016), Onne (2016), and Imo (2017). These groups consisted of 57 youth (46% female) as founding members that

established 58 learning enterprises devoted to crops (52%), processing and marketing (26%), and animal rearing (22%). These groups were more committed to expanded training of other youth (rather than only preparing themselves as businesspersons), reaching an additional 1,712 youth (43% female) and leading to the formation of 335 businesses and 101 modernized farms as well as 65 departing members finding decent employment. Much of this training was achieved through outreach to existing grassroots youth groups, allowing for larger numbers of indirect beneficiaries. This extension across Nigeria included economically depressed and conflict areas and required that the Movement collaborate with local governments and vocational training interests in new ways (Ohanwusi et al. 2018). Additional sponsors were found as well, including Chevron Nigeria Ltd. acting through Corporate Social Responsibility and the Bill and Melinda Gates Foundation providing supplemental funds to a larger project devoted to grain legumes. Greater attention was paid to skill set development in line with labor markets. Borno State is better known for its insurgency and kidnapping of schoolgirls (Omeni 2017), but the Agripreneur group there demonstrated the economic advantages of commercialized aggregation, transportation, processing, and trading of cowpea, groundnut, and soybean, as well as the fattening of goats and sheep. Groups in southeast Nigeria demonstrated the feasibility of commercial fish farming and poultry rearing. A group operating near the nation's capital (Abuja) focused on cash cropping and seed production, and their influence spread to nearby Kaduna State.

During this stage of rapid expansion across Nigeria, the flexibility of the Movement emerged as its mission was extended beyond agribusiness start-ups among university-educated youth. In some cases, the Movement assumed control over dilapidated or abandoned training facilities and revitalized them, including their transformation into youth agribusiness parks (Ohanwusi et al. 2018). It also established the feasibility of youth assuming management of underperforming or abandoned farms and linking them to better markets and value addition.

Partnership with the African Development Bank

The next major development organization to buy into the Agripreneur Movement was the African Development Bank (AfDB) through the operations of its ENABLE Youth Program (AfDB no date). ENABLE is an acronym for Empowering Novel AgriBusiness Led Employment, a program that provides sovereign country loans that advance the interests of youth. IITA assisted in the design of this program based upon the experiences and successes of the Agripreneur Movement. But as an International Financial Institution, AfDB is bound by a myriad of requirements, among them that lending conditions must be acceptable to and in accordance with the policies of its Regional Member Countries. This left those countries free to either adopt or reject Agripreneur-style experiential learning and agribusiness incubation as an element of their country loan, with some opting instead to reinforce existing vocational structures. As a result, IITA found itself as an optional partner in a program that it helped create.

Nonetheless, ENABLE Youth country loans to Cameroon, Sudan, and Madagascar scaled our youth empowerment brand to new levels. Cameroon received \$17.4 million over five years (starting in 2018) to offer entrepreneurship training to over 500 youth (45%

female) at 14 Youth Agribusiness Incubation Centers (YABICs), an effort supervised by IITA. These YABICs operate as agribusiness incubations and rely upon training tools and methods developed by the Agripreneurs. Despite a strong initial start, this project was affected by management difficulties and the COVID pandemic, and its operations were suspended during 2020 and 2021, but later extended through 2024. Over five years, Sudan received \$23.7 million to train about 1,900 youth (43% female) at 10 locations; promoting five pre-selected pilot enterprises (irrigated field cropping, horticulture, aquaculture, poultry-rearing, and small livestock). The advantage of affiliation with ENABLE Youth in Cameroon and Sudan is that loan funds are available to trained youth upon approval of a solid business plan through the project itself. Madagascar received \$1.3 million to train 260 youth (48% female) at three sites, a pilot program assisted by an IITA full-time adviser. Agribusiness start-ups in Madagascar rely upon access to commercial loans, a condition met with mixed success.

Other AfDB Regional Member Countries receiving ENABLE Youth sovereign loans but opting not to work closely with the IITA Agripreneurs include DR Congo, Eritrea, Ghana, Kenya, Malawi, Uganda, and Zambia. Those countries sometimes elect to support existing national vocational systems and pathways. Backstopping services were awarded through established tender systems, and IITA applied but was not selected. Assuming that ENABLE Youth projects are evaluated in a standardized manner, time will tell how those projects fare, particularly those relying upon more conventional vocational training and partners. These projects are also confounded by the COVID-19 pandemic that delayed project start-up and activities. The greatest setback in the advancement of the Agripreneur Movement was the failure of Nigerian authorities to approve the \$360 million loan offered by ENABLE Youth despite nearly two years spent by IITA in program design missions and multi-party negotiations. This project would have extended the Agripreneur Movement to all 36 Nigerian states and the Federal Capital Territory. After a one-year delay by Nigerian authorities in signing the offered loan agreement, the offer was withdrawn by AfDB. Much unresolved discussion focused on the comparative advantage of support to “brownfields” (existing startups with expansion opportunities) versus “greenfields” (combined experiential learning and new start-ups). In the process, IITA learned much about the intricacies of the AfDB project design process and that much occurs behind the scenes, particularly when large amounts of “open-ended” finance as loans to entrepreneurial youth are at stake. Perhaps most important is that the ENABLE Youth Program continues to operate on behalf of African youth and that Agripreneur approaches continue to be entertained as empowerment models within it.

Success was also achieved through the Youth Compact of the Technologies for African Agricultural Technologies Program (TAAT), funded by AfDB and led by IITA (Woomer et al. 2021). This activity promoted youth-led activities in Benin, DR Congo, Kenya, Nigeria, Tanzania, Uganda, and Zambia to better provide an enabling environment for youth empowerment, equip youth with innovative technologies related to TAAT’s priority commodities, sharpen entrepreneurship skills through agribusiness incubation, and mobilize financing for approved youth-led agribusiness plans (TAAT 2018). The Compact established 16 training locations and 66 pilot learning enterprises involving 42 trainers (60% female), reaching 4,548 trainees (51% female). It led to 394 youth-led agribusiness start-ups and 651

youth found meaningful employment. In addition, the Compact reached 111,202 youth through its “food basket” outreach and public information campaigns. This action clearly identified which of the technologies promoted by TAAT had the greatest attraction to youth, particularly appealing were those that reduce drudgery through mechanization and automation, rely more upon digital agriculture, and involve higher-value crops and further value addition (Ohanwusi & Woomer 2018). One setback, however, involved initial confusion over whether Compact funds could be used to provide incentives for business start-ups, forcing many youths with solid business plans to look beyond the project for finance.

This development phase involving AfDB propelled IITA Agripreneurs to better partner with financial institutions and government agencies. Youth who secure loans from financial institutions and use them to establish or expand their agribusiness enterprises are in positions to contribute better to their wider rural communities. This benefit includes youth receiving awards from government agencies, but in some cases, this support may be only in-kind as production inputs and equipment. This latter “solution” appears less effective because beneficiary youth remain disadvantaged by a lack of early operating capital.

Broader mainstreaming

By now, the Agripreneur Movement was recognized within Africa’s developmental mainstream. An angel investor established an activity within the Africa Project Development Center devoted to urban agriculture, relying upon youth departing from IYA-Abuja (Ojukwu 2019). IFAD involved Agripreneurs within its Youth Employment in Agribusiness and Sustainable Agriculture (YEASA) projects in Benin and Nigeria, with 75% of the trained youth receiving grants for agribusiness start-ups. The principles of the Agripreneur Movement were incorporated into IFAD’s Rural Youth Action Program (IFAD 2018) as Integrated Agribusiness Hubs (IFAD-Agrihub) that included parallel entrepreneurial- and employment-track training and career backstopping. IITA received a grant from the Mastercard Foundation (2021) to provide training in three Nigerian States; Lagos, Kaduna, and Kano, as part of its Young Africa Works Program. A radical adjustment to the Agripreneur model involved application within secondary schools through the Start Them Early Program (STEP) in DR Congo, Kenya, and Nigeria (Mulei et al. 2020). It involved training in digital agriculture, established pilot enterprises within practical learning sessions, and reintroduced young farmer clubs as extra-curricular activities. It also advanced remote learning and home practicals with the advent of the COVID-19 pandemic and its resultant school closures (Woomer et al. 2021). These modifications received rapid approval among educators and led one state in Nigeria (Oyo) to contract IITA to expand STEP across its larger school system, signifying an important buy-in to the Movement’s reach to “younger youth”. School systems within DR Congo express similar interest. Each of these developments reaffirmed the vitality and flexibility of the Agripreneur approach.

Refinement of the Movement

Different stages of the Agripreneur Movement are presented in Tables 8 and 9, allowing insight into its changes with time. Over the past decade, the Movement spread to 10

countries through 40 funded interventions (Table 9). The duration of its projects remains roughly the same (about three years), but their funding increases with time. The strength of the ENABLE Youth Program as an empowerment mechanism is reflected in the size of its awards and its longer project duration, and note that its trainees develop viable business plans funded through the project itself. The number of founding youth, in many cases serving as trainers, remains constant with time, but the number of youth they train greatly increases as sponsoring organizations shift their focus from relatively few previously under-engaged university graduates toward reaching increasingly larger numbers of less-educated youth beneficiaries.

As more emphasis is placed on formal training over time, the efficiency of that training improved (Table 9). At first, the Agripreneurs trained themselves through experiential learning as reflected in the training ratio of 1:1, but over time, this steadily increased to the point where projects are seen primarily as vocational education mechanisms through the establishment and operations of widely-visited learning enterprises and model farms. Through this transition, the number of new businesses, modernized farms, and improved employment steadily increased. However, the latter two beneficiary classes are not necessarily reflected in the priorities of some sponsors. So too, the number of indirect beneficiaries are inconsistent, as some projects prioritize outreach as a component strategy and others focus almost exclusively upon their own trainees as direct beneficiaries. In contrast, the projects that establish a strong presence on social media found a ready audience of indirect beneficiaries. One can argue that the number of new businesses, modernized farms, and better jobs is relatively small (5,859) compared to those trained (25,616), but this reduced success rate also reveals the levels of rural stagnation and youth marginalization that the Movement seeks to overcome.

The influence of the Agripreneur Movement is also reflected in the youth empowerment events it organized and contributed to (Table 10). IITA unveiled its Agripreneurs to major development organizations starting in 2014 and has continued to pave new ground. These gains resulted in the acceptance of its model by national programs and international development organizations. Over time, the role of the Agripreneurs increased to include business pitches and access to more innovative finance. In one case, the Agripreneurs failed to convince the CGIAR System to establish a distinct research platform devoted to youth empowerment. Instead, youth engagement became a crosscutting requirement in all its adaptive research. The award to IITA by FAO is one of several accolades recognizing the importance of the IITA's Movement and the importance of youth mainstreaming. These events and the due recognition of Agripreneurs forge key partnerships, contributing to the Movement's rapid growth.

The Agripreneurs pursue a diversified approach toward youth empowerment. In the case of the agribusiness incubations operated through the ENABLE TAAT Compact in seven countries (Table 1), rural youth were registered based on their interests in agricultural transformation, many of them were trained and offered access to technologies through outreach, and finally, an elite few started new agribusinesses (Figure 5). Registration popularized access to digital agriculture and social media. The training involved in-house access to pilot enterprises and short courses. Technology adoption involved participation in "food basket" outreach, often through distributing TAAT's improved crop varieties and

accompanying technologies (Ohanwusi & Woomer 2018). Start-ups required the formulation of agribusiness plans and sourcing of credit and sponsors. While this process may have started relatively few new businesses, it raised awareness of key modernizing farm technologies and deployed them within numerous family and youth-led farms.

The 391 youth-led businesses from Table 7 may be grouped into different categories of success: failing, struggling, viable, and successful (Table 11). Twenty-four of the businesses provided incomes of more than \$10 per day, the best performing providing more than \$34 per day. The worst-performing businesses provided less than the extreme poverty threshold of \$1.90 per day. A key to backstopping youth-led businesses is to assist the struggling ones in becoming viable and the viable ones to become successful. These incomes appear to be relatively modest, but at the same time, most Agripreneur youths are attracted to the Movement because they are unable to find decent employment in the first place, so the 64% earning a living wage of >\$4 per day have arguably improved their lives.

Ripoll et al. (2017) contend that international research centers such as IITA are not sufficiently positioned to advance the interests of youth constrained by larger societal conditions rather than mere access to technologies. Abioye & Ogunniyi (2018) identified these larger issues as insufficient access to land, financial services, and information. The Agripreneur Movement is overcoming these constraints through its partnership with AfDB, IFAD, other financial institutions, and charitable donors. Access to land is facilitated by identifying poorly performing farmlands and vocational agricultural facilities, and modernizing them, including establishing youth agricultural parks. This approach is central to the support for Integrated Agri-Business Hubs by IFAD. Commercial credit remains a hindrance as long as youth are considered less creditworthy and lack required collateral, but start-up capital is increasingly becoming a component of sovereign country loans. The issue of poor information has solved itself through the digital revolution and access to mobile devices; if anything, youth have access to too much information, some of it conflicting or false. It is important that Agripreneurs continue their positive presence on social media, particularly through the promotion of its proven agribusiness models and technologies most attractive to youth. In this way, youth empowerment becomes less an issue of physical and financial constraint and more one of policies and political will (Sumberg 2021).

Agripreneurs demonstrate resilience by succeeding under difficult circumstances. A group advanced modern agriculture and established many new businesses in Borno State, Nigeria amid the Boko Haram insurgency (Omeni 2017). Youth in DR Congo calmly went about their business while the M23 militia and other rebel groups created instability in Eastern DRC (Koko 2014). Their example contributed to the design of the United Nations Organization Stabilization Mission in the Democratic Republic of Congo related to the socio-economic reintegration of ex-combatants, vulnerable women, and youth. Several youth groups succeeded in southern Nigeria, an area where gangs and pirates operate with impunity (Nwalozie 2020). ENABLE Youth operations continued through the coup in Sudan (Nte 2020). Indeed, providing youth with opportunities offers a counterbalance to recruitment into extremist and violent ideologies, and some of the Agripreneur projects were specifically funded for this purpose. That the Agripreneurs operate effectively within conflict and post-conflict settings is important but must not overshadow the widespread need for vocational

agricultural reform and improved credit systems under more stable but chronically impoverished situations.

Agripreneurs continued to operate through the COVID-19 pandemic. These youth were quick to practice handwashing, masking, and social distancing and explain their importance to cooperators. They abided by the reactions of their hosts, such as precautionary closures and restrictions on physical gatherings, but at the same time, found ways to continue profitable pilot enterprises in ways that reduced negative impacts on food supply. Agripreneurs identified several technologies as COVID-safe and promoted them. The STEP Project prepared and distributed small technology packages for use in home learning. At the same time, the pandemic interfered with youth-led outreach campaigns in terms of their beneficiaries and delayed the initiation of several training cohorts. Figure 6 illustrates the lag in total beneficiaries of the ENABLE TAAT project (see Table 1) resulting from the first year of the COVID-19 pandemic and how “build back better” solutions reached youth once the lockdown ended. Despite this lag, the project reached its intended number of beneficiaries. This success in the face of a global pandemic is another example of the resilience of the Agripreneur Movement, but one that will hopefully not be repeated.

Conclusion, Implications and Recommendations.

Jennings et al. (2006) assert that youth empowerment includes a political dimension. Honwana (2019) cites several examples where youth operate at the core of political change in Africa and elsewhere. Youth must not merely endure and work around their economic marginalization, but actively advocate for its end. Where voting matters, a coalition of marginalized youth and women would win every election, placing those who value and advance their interests into power. The ability to overcome ethnic, tribal, and religious differences among youth is one of the hallmarks of the Agripreneurs, as is its spirit of gender equality. Unfortunately, many autocratic states and autocratic leadership continue in Africa, and in some cases, youth must likely assume the forefront as advocates for change. Within the larger picture, the Agripreneur model reveals weaknesses in past vocational programs that operate within classrooms in top-down fashions and a struggle is underway to confront the mindsets of educators, reflecting an important leadership dimension of the Movement.

Through its Agripreneurs, IITA set a powerful movement for youth empowerment and social change into motion. Allowing youth the opportunity to develop skill sets through the establishment and operations of pilot agribusiness enterprises rests at the core of this success, but this method of experiential learning can take many forms, as evidenced by the variety of sponsored projects that adopt this model. However, this training cannot be compressed beyond a certain timeframe without compromising the mindset change and self-confidence built around skillsets promoting modernized agriculture and competent enterprise management. Not accepting this level of commitment risks returning to vocational paradigms that are already proven less successful. Opportunity exists around developmental acceptance that agriculture is the main economic driver within Africa’s near future, and youth have an important role in that process (AfDB 2016). Threats arise from outdated policies and credit arrangements (Sumberg 2021), and continued “waithood” will demoralize too many

(Honwana 2019), leaving increasingly more “older youth” up to age 35 as less than independent adults. Yet the exuberance of youth holds the strength to confront and overcome many diverse difficulties, largely because they recognize that their economic futures and self-respect are at stake, and that they must rely upon themselves and their peers to succeed. The Agripreneur Movement builds upon these strengths; and through its larger partnership seeks to overcome these societal, economic and technical difficulties, leading to a more complete and equitable transformation of African agriculture.

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Literature Cited

- Abioye O. & Ogunniyi A. (2018). Coldspots and hotspots of agriculture in Nigeria; Any hope for youth and women? *Advanced Journal of Social Science* 2(1), 1-11.
<https://doi.org/10.21467/ajss.2.1.1-11>
- African Development Bank (AfDB). (No date). *ENABLE Youth Programme: Agro-Millionaires in the Making*. African Development Bank, Abidjan, Cote d'Ivoire. 4 pp.
https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Enable_Youth_brochure.pdf
- African Development Bank (AfDB) (2016). *Feed Africa Strategy for agricultural transformation in Africa 2016–2025*. African Development Bank, Abidjan, Cote d'Ivoire. 74 pp. <https://agoa.info/images/documents/15382/afdb-feed-africa-strategy-for-agricultural-transformation-in-africa-2016-2025.pdf>
- Ariho, A. (2019). The why and how of African agribusiness incubation. *Agriculture for Development* 38, 11-16.
- Djurfeldta, A.A., Kalindib, A., Lindsjöa, K. & Wamulume, M. (2019). Yearning to farm – Youth, agricultural intensification and land in Mkushi, Zambia. *Journal of Rural Studies* 71, 85–93.
- Fan, F.A., Agu, P.A. & Tsav, S.A. (2016). Youth empowerment as a necessary condition for nation-building: Nigerian experience. *International Journal of Education, Learning and Development* 4(6), 9-18
- Fox, L., Mader, P., Sumberg, J., Flynn, J. & Oosterom, M. (2020). Africa's 'youth employment' crisis is actually a 'missing jobs' crisis. *Brooke Shearer Series*, Number 9, September 2020. 22 pp.
- Honwana, A.M. (2019). *Youth Struggles: From the Arab Spring to Black Lives Matter and beyond*. African Studies Association. 22 pp. <https://doi.org/10.1017/asr.2018.144>
- Koko, S. 2014. The Mouvement du 23 Mars and the dynamics of a failed insurgency in the Democratic Republic of Congo. *South African Journal of International Affairs* 21(2), 261–278, <http://dx.doi.org/10.1080/10220461.2014.942207> © 2014 The South African Institute of International Affairs
- Ile, I. & Boadu, E.S. (2018). The paradox of youth empowerment: Exploring youth intervention programme in Ghana. *Cogent Social Sciences* 4(1), 1528709, 15 pp.
<https://doi.org/10.1080/23311886.2018.1528709>
- International Fund for Agricultural Development (IFAD). (2018). *IFAD Rural Youth Action Plan 2019-2021*. International Fund for Agricultural Development, Rome. 52 pp.
<https://webapps.ifad.org/members/eb/125/docs/EB-2018-125-R-11.pdf>
- Jennings, L.B., Parra-Medina, D.M., Hilfinger Messias, D.K. & McLoughlin, K. (2006). Toward a critical social theory of youth empowerment. *Journal of Community Practice* 14, 31-55
- LaRue, K., Daum, T., Mausch, L. & Harris, D. (2021). Who wants to farm? Answers depend on how you ask: A case study on youth aspirations in Kenya. *The European Journal of Development Research*. <https://doi.org/10.1057/s41287-020-00352-2>
- Lohento, K. & Ajilore, O.D. (2015). Chapter 5: ICT and Youth in Agriculture. In: *Africa Agriculture Status Report: Youth in Agriculture in Sub-Saharan Africa*, Issue No. 3 pp. 118-143. Alliance for a Green Revolution in Africa (AGRA), Nairobi, Kenya.

- Martínez, X.U., Jiménez-Morales, M., Masó, P.S. & Bernet, J.T. (2017). Exploring the conceptualization and research of empowerment in the field of youth. *International Journal of Adolescence and Youth* 22(4), 405-418, <https://doi.org/10.1080/02673843.2016.1209120>
- Mastercard Foundation. (2021). *Young Africa Works: The Mastercard Foundation Strategy to Promote and Expand Employment Opportunities for Young People in Africa*. Mastercard Foundation, Toronto. 4 pp. <https://mastercardfdn.org/wp-content/uploads/2021/06/Young-Africa-Works-Strategy.pdf>
- Mulei, W. M., Larinde, B., Adefioye, A., Bobo, P. & Woomer, P. L. (2020). Understanding the perceptions of secondary school youth toward agricultural careers in DR Congo, Kenya and Nigeria. *Journal of International Agricultural and Extension Education* 27(4), 62-78. <https://doi.org/10.5191/jiaee.2020.27462>
- Namugenyia, C., Nimmagaddab, C.L. & Reinert, T. (2019). Design of a SWOT analysis model and its evaluation in diverse digital business ecosystem contexts. *Procedia Computer Science* 159, 1145–1154. <http://dx.doi.org/10.17719/jisr.2017.183>
- Nwalozie, C.J. (2020). Exploring contemporary sea piracy in Nigeria, the Niger Delta and the Gulf of Guinea. *Journal of Transportation Security* 13, 159–178. <https://doi.org/10.1007/s12198-020-00218-y>
- Nte, T. (2020). The 2019 Sudan coup and conflict resolution by the African Union. *International Journal of Comparative Studies in International Relations and Development*. 6, 1-13. <https://doi.org/10.48028/iiprds/ijcsird.v6.i1.01>.
- Ohanwusi, E. & Woomer, P.L. (2018). *The ENABLE TAAT Project Implementation Plan for 2018*. IITA Youth in Agribusiness Unit, Partnership for Delivery Directorate, IITA, Ibadan, Nigeria. 33 pp.
- Ohanwusi, E., Woomer, P.L. & Adenmosun, A. (2018). *IITA Youth Agripreneurs in 2017: Improved approaches and broader activities*. International Institute of Tropical Agriculture, Ibadan, Nigeria. 18 pp.
- Ojukwu, C. (2019). Agribusiness opportunities for the youth in Africa: the role of the Africa Projects Development Centre (APDC). *Agriculture for Development* 38, 60-63.
- Omeni, A. (2017). The Chibok kidnappings in North-East Nigeria: A military analysis of before and after. *Small Wars Journal* 14(4). <https://smallwarsjournal.com/jrnl/art/the-chibok-kidnappings-in-north-east-nigeria-a-military-analysis-of-before-and-after>
- Onyishi, A. & Ezeibe, C. (2014). Asian Research Consortium National Youth Service Corps Scheme and national development in Nigeria. *Asian Journal of Research in Social Sciences and Humanities* 4(4), 455-465. https://www.researchgate.net/publication/325371140_National_Youth_Service_Corps_Scheme_and_National_Development_in_Nigeria
- Owoeye, M., Ohanwusi, E., Adenmosun, A., Ezechi, M.N. & Woomer, P.L. (2016). *Agribusiness Planning by IITA Youth Agripreneurs*. Synthesis of a workshop organized by the IITA Youth Agripreneurs. IITA Ibadan, Nigeria, 17 to 21 October 2016. International Institute of Tropical Agriculture. 37 pp.

- Ripoll, S., Andersson, J., Badstue, L., Buttner, M., Chamberlin, J., Erenstein, O. & Sumberg, J. (2017). Rural transformation, cereals and youth in Africa: What role for international agricultural research? *Outlook on Agriculture* 46(3), 168–177.
<https://doi.org/10.1177/0030727017724669>
- Sanginga, N. (2015). Youth in agribusiness within an African agricultural transformation agenda. *Feeding Africa: An Action Plan for African Agricultural Transformation*. African Development Bank Group, Abidjan, Cote d'Ivoire. 24 pp.
https://www.afdb.org/fileadmin/uploads/afdb/Documents/Events/DakAgri2015/Youth_in_Agribusiness_within_an_African_Agricultural_Transformation_Agenda.pdf
- Soucat, A., Nzau, G.M., Elaheebocus, N. & Cunha-Duarte, J. (2013). Accelerating the AfDB's response to the youth unemployment crisis in Africa. *Africa Economic Brief* 4(1). 14 pp.
- Ssendiwa E., Nzioki A., Adenmosun A., Adefioye A., Ohanwusi E., Irungu P., Liversage H., Jonckheere S. & Steinmayr E. (2015). Youth and agricultural productivity in Sub-Saharan Africa. *Africa Agriculture Status Report: Youth in Agriculture in Sub-Saharan Africa*. Alliance for Green Revolution in Africa Nairobi, Kenya. Issue No. 3, pp. 36-61.
- Sumberg, J. (2021). Youth and agriculture in Sub-Saharan Africa: Time to reset policy. *IDS Policy Briefing* Number 177, Brighton: Institute of Development Studies,
<https://doi.org/10.19088/IDS.2021.038>
- Sumberg, J. & Hunt, S. (2019). Are African rural youth innovative? Claims, evidence and implications. *Journal of Rural Studies* 69, 130-136.
- TAAT. (2018). *ENABLE-TAAT in Brief*. Technologies for African Agricultural Transformation Program (TAAT), International Institute of Tropical Agriculture, Ibadan, Nigeria. 12 pp. <https://taat-africa.org/wp-content/uploads/2020/05/ENABLE-TAAT-pamphlet-new.pdf>
- TAAT Clearinghouse (2019). *Deployment of Combined Technologies to Smallholder Farmers in Kenya*. Clearinghouse Technical Report Series 002, Technologies for African Agricultural Transformation, TAAT Clearinghouse Office, Cotonou, Benin. 11 pp.
- TamBari, D.M. & Taylor, D.I. (2020). The influence of National Youth Service Corps entrepreneurship skill acquisition programmes on youth empowerment in Rivers State. *International Journal of Humanities Social Sciences and Education* 7(6), 146-155.
<http://dx.doi.org/10.20431/2349-0381.0706016>
- Von Kaufmann, R. & Ariho, A. (eds.) (2019). Special Issue on Agribusiness Incubation in Africa. *Agriculture for Development* 39. 88 pp.
- White, B. (2015) Generational dynamics in agriculture: reflections on rural youth and farming futures. *Cahiers Agricultures* 24, 330–334.
- Woomer, P. L. Mulei, W. M., & Maina, S.K. (2021). An ICT strategy based upon E-Teaching and E-Learning in response to the COVID-19 crisis in Africa. *Journal of International Agricultural and Extension Education*. 28(2), 51- 67.
<https://doi.org/10.5191/jiaee.2021.28205>
- Woomer, P.L. & Mulindi, L.L. (2016). *The Kibwezi Hortipreneur Youth Group and their Agribusiness Opportunities in Kenya*. International Institute for Tropical Agriculture. Nairobi, Kenya. 21 pages.

- Woomer, P.L., Owoeye, M. & Ibironke I. (2015a). *Youth Agribusiness Incubation Training Manual*. International Institute of Tropical Agriculture. Ibadan, Nigeria. 39 pages.
- Woomer, P.L., Owoeye, M., Ibironke I., Roing de Nowina, K. & Mulei, W. (2015b). *Guidelines for IITA Youth Agripreneur Business Incubation*. International Institute of Tropical Agriculture. Ibadan, Nigeria. 32 pp.
- Yeboah, T., Chigumira, E., Innocensia J., Akua Anyidoho, N., Manyong, V., Flynn, J. & Sumberg, J. (2020). Hard work and hazard: Young people and agricultural commercialisation in Africa. *Journal of Rural Studies* 76, 142-151.
<https://doi.org/10.1016/j.jrurstud.2020.04.027>.

Table 1

Database parameters compiled for analysis of the 40 Agripreneur Movement Projects.

Country:	Country where youth empowerment activity occurred; 1 of 10 countries.
Location:	Project location within country, usually the nearest city or large town.
Host:	The organization serving as local host of the agribusiness incubation project.
Name:	Name of the youth group; often self-assigned or based upon sponsoring project.
Timeframe:	The years that the incubation started and ended, and the duration; allowing for standardization across projects over time.
Completion Stage:	Quantifies a project's completion stage, adjusting for incubations that are not yet completed by end of 2021 (scale 1.0 or less).
Sponsor:	Organization funding the incubation, one of nine different donors.
Funding:	Amount of US Dollars directed toward the incubation through the end of 2021, used to calculate funds per year when comparing different projects.
Sites:	the number of sites where incubations are conducted within a project, used to calculate funds per site per year when comparing projects.
Youth Founders:	Number of youth initiating an agribusiness incubation and serving as its trainers, identified by gender.
Youth Trainees:	The number of youth receiving training within the agribusiness incubation, identified by gender, used to quantify funds allocated per trainee and trainers per trainee.
Number of Training Cohorts:	Number of successive training activities regardless of duration; used to calculate funds per cohort, trainees per cohort and cohorts per year.
Trainee Attrition:	the proportion of trainees that entered agribusiness incubation that did not complete their training.
Pilot Enterprises:	the number of pilot enterprises within a given project; used to calculate enterprises per site.
Crop Enterprises:	the number and frequency of pilot enterprises based upon crops; separated among cereals, legumes, root crops, vegetables, fruits and others; used to ascribe enterprise attraction.
Animal Enterprises:	the number and frequency of pilot enterprises based upon animal production, separated among fish, poultry, sheep and goats, cattle, swine and others; used to ascribe enterprise attraction.
Processing Enterprises:	the number and frequency of pilot enterprises based upon value addition, separated among the processing of soybeans, grain and starch, snacks and other products; used to ascribe enterprise attraction.
Digital Tools:	the number and frequency of reliance upon digital agriculture tools and applications within the different projects.
Farmer Outcomes:	the number of trainees returning to their home farms or communities as modernized farmers practicing target enterprises and technologies.
Employee Outcomes:	the number of trainees finding decent employment following their training that would otherwise be beyond their pre-training skillsets.
Entrepreneurial Outcomes:	the number of youth starting agribusinesses following their training, often through assistance from project sponsors.
Indirect Beneficiaries:	the number of additional youth reached through project outreach activities (other than on-site agribusiness incubation).

Table 2

IITA Youth Agripreneur projects considered in this review.

Name	Country	Project			Movement Phase
		Sponsor	Startup	Duration (years)	
IITA Youth Agripreneurs	Nigeria	DG Special ^a	2012	5	Piloting
Green Wealth YG ¹	Nigeria	IFAD ^b	2015	2	Piloting
Green Magic YG	Nigeria	IFAD	2016	1	Piloting
IYA ² -Abuja	Nigeria	IFAD	2014	3	Piloting
IYA-Kano	Nigeria	AfDB ^c	2016	1	Piloting
IYA-Imo	Nigeria	DG Special	2017	2	Piloting
IYA-Onne	Nigeria	AfDB	2016	6	Piloting
CYAG ³	Nigeria	Chevron ^d	2015	5	Piloting
IYA-Borno	Nigeria	BMGF ^e	2014	4	Piloting
IYA-Kalambo	DRC	IFAD	2014	3	Expansion
IYA-Kinshasa	DRC	SARDC-SC ^f	2015	2	Expansion
Kibwezi Hortipreneur YG	Kenya	IFAD	2015	2	Expansion
West Kenya YG	Kenya	AfDB	2018	3	Expansion
IYA-Tanzania	Tanzania	SARDC-SC	2014	3	Expansion
IYA-Uganda	Uganda	SARDC-SC	2015	2	Expansion
IYA-Zambia	Zambia	SARDC-SC	2015	2	Expansion
ENABLE ⁴ Youth-Cameroon	Cameroon	AfDB	2017	5	AfDB Application
ENABLE Youth-Madagascar	Madagascar	AfDB	2018	4	AfDB Application
ENABLE Youth-Sudan	Sudan	AfDB	2017	5	AfDB Application
ENABLE TAAT ⁵ -Benin	Benin	AfDB	2021	1	AfDB Application
ENABLE TAAT-DR Congo	DR Congo	AfDB	2018	3	AfDB Application
ENABLE TAAT-Kenya	Kenya	AfDB	2018	3	AfDB Application
ENABLE TAAT-Nigeria	Nigeria	AfDB	2018	3	AfDB Application
ENABLE TAAT-Tanzania	Tanzania	AfDB	2018	3	AfDB Application
ENABLE TAAT-Uganda	Uganda	AfDB	2018	3	AfDB Application
ENABLE TAAT-Zambia	Zambia	AfDB	2018	3	AfDB Application
APDC ⁶ Youth	Nigeria	APDC ^g	2018	4	Wider integration
YEASA ⁷ -Nigeria	Nigeria	IFAD	2018	2	Wider integration
YEASA-Benin	Benin	IFAD	2018	2	Wider integration
IFAD-Agrihub ⁸ -Oyo	Nigeria	IFAD	2020	5	Wider integration
IFAD-Agrihub-Imo	Nigeria	IFAD	2020	5	Wider integration
IFAD Agrihub-Abuja	Nigeria	IFAD	2020	4	Wider integration
I-Youth ⁹ -Kaduna	Nigeria	Mastercard ^h	2020	5	Wider integration
I-Youth-Kano	Nigeria	Mastercard	2020	5	Wider integration
I-Youth-Lagos	Nigeria	Mastercard	2020	5	Wider integration
STEP ¹⁰ -DR Congo	DR Congo	IDRC ⁱ	2019	2	Wider integration
STEP-Kenya	Kenya	IDRC	2019	2	Wider integration
STEP-Nigeria	Nigeria	IDRC	2019	2	Wider integration
STEP-Oyo	Nigeria	Oyo SG ^j	2020	3	Wider integration
PICAGL ¹¹	DR Congo	World Bank	2020	4	Wider integration

Project Name Codes: ¹ YG = Youth Group. ² IYA = IITA Youth Agripreneurs. ³ CYAG = Community Youth in Agribusiness Group. ⁴ ENABLE = Empowering Novel AgriBusiness-Led Employment. ⁵ TAAT = Technologies for African Agricultural Transformation. ⁶ APDC = Africa Project Development Center. ⁷ YEASA = Youth Employment in Agribusiness and Sustainable Agriculture. ⁸ IFAD-Agrihub = IFAD Agribusiness Hub project. ⁹ I-Youth = Innovative Youth in Agriculture Project ¹⁰ STEP = Start Them Early Program. ¹¹ PICAGL = Great Lakes Integrated Agriculture Development Project for Africa.

Sponsor Codes: ^a DG Special = Director General Special Fund. ^b IFAD = International Fund for Agricultural Development. ^c AfDB = African Development Bank. ^d Chevron = Chevron Nigeria Limited Corporate Social Responsibility ^e BMGF = Bill and Melinda Gates Foundation. ^f SARDC-SC = Support to Agricultural Research for Development of Strategic Crops in Africa. ^g APDC = Africa Projects Development Center. ^h Mastercard = Mastercard Foundation Young Africa Works. ⁱ IDRC = International Development Research Centre-Canada. ^j Oyo SG = Oyo State Government (Nigeria). ^k The World Bank Group.

Table 3

Drivers of the Agripreneur Movement between 2012 and 2021.

Parameter	Amount ($\pm$ SEM)
Movement champions	31
Women champions	58%
Movement projects	40
Sponsors	9 organizations
Project duration (average)	3.25 ± 0.22 years
Funds mobilized through 2021	\$38,497,093
Training sites	195
Funds per site per year	$\$70,173 \pm \$15,893$

Table 4

Training facilities and activities of the Agripreneur Movement between 2012 and 2021.

Parameter	Amount ($\pm$ SEM)
Trainers mobilized	518
Trainers per site (average)	2.7
Women trainers	49%
Training cohorts (total)	493
Cohorts per site per year	4.4 ± 0.9
Trainees per cohort (average)	42 ± 10
Trained youth (total)	25,616
Trained women	48%
Cost per trainee (average)	$\$2,991 \pm 944$
Training attrition	$6.6 \pm 2.0\%$

Table 5

Learning enterprises established by the Agripreneur Movement between 2012 and 2021.

Parameter	Amount ($\pm$ SEM)
Learning enterprises established	263
Enterprises per training site	5.1 ± 0.7
Enterprises per project	6.6 ± 0.4
... involve cropping	38%
... involve processing	32%
... involve animals and fish	30%
Digital platforms applied	36

Table 6.

Training outcomes of the Agripreneur Movement between 2012 and 2021.

Parameter	Amount
Modernized farms	1,661
New agribusinesses	2,592
Improved employment	1,606
Indirect beneficiaries	139,747

Table 7.Income generated by 391 youth-led businesses initiated through the Agripreneur Movement¹.

Business factor	<i>f</i>	per capita annual income (US\$ ± SEM)
<i>overall</i>	1.00	1,944 ± 67
female operated	0.34	1,948 ± 105
male operated	0.61	1,967 ± 111
jointly operated	0.05	1,620 ± 107
<i>by business structure</i>		
Sole proprietorship	0.91	1,975 ± 73
Partnership	0.09	1,647 ± 108
<i>by business operation</i>		
Agri-supply	0.03	1,727 ± 217
Agricultural production	0.77	1,942 ± 77
Agri-processing	0.20	1,933 ± 129
<i>by commodity type</i>		
Animal-based	0.40	1,823 ± 81
Crop-based	0.57	2,034 ± 103
Mixed enterprise	0.03	1,834 ± 141

¹ Combined data from ENABLE-TAAT, IFAD-Agrihub and YEASA Projects (see Table 2).

Table 8

The growth of the Agripreneur Movement between 2014 and 2019 through its different stages.

Stage	Projects	Countries	Start ¹	Duration ²	Budget ³	Youth (total)	
	-----	no -----	-----	year -----	(US\$ million)	Founding ⁴	Trained
Pioneering	3	1	2014	2.7 ± 1.2	0.611	75	75
Country Replication	7	5	2015	2.4 ± 0.2	0.600	180	734
Nigerian Expansion	6	1	2015	3.5 ± 0.8	1.217	57	1,712
ENABLE Youth	3	3	2017	5.0 ± 0.6	42.306	56	2,658
ENABLE TAAT	7	7	2018	2.7 ± 0.3	1.418	42	4,548
Wider Integration	14	4	2019	3.3 ± 0.4	18.690	108	15,889
Total (mean)	40	10		(3.3 ± 0.2)	64.841	518	25,616

¹ Mean startup year for projects belonging to that stage category. ² Duration in years ± Standard Error.

³ Total allocation in US\$ x million including periods beyond 2021 reporting timeframe for this paper.

Table 9

Outcomes of the Agripreneur Movement through different stages of its operations.

Stage	Youth	New agri-	Modernized	Better	Indirect
	training	businesses	farms	employed	beneficiaries
	ratio	-----	no -----	-----	-----
Pioneering	1:1	13	14	34	35
Country Replication	4:1	23	66	91	4,590
Nigerian Expansion	30:1	335	101	65	8,479
ENABLE Youth	47:1	956	10	650	1,029
ENABLE TAAT	108:1	394	148	651	111,202
Wider Integration	147:1	841	1322	115	14,412
Total	49:1	2,592	1,661	1,606	139,747

Table 10

Some key events contributing to the refinement and recognition to the Agripreneur Movement.

Event (Host)	Date and Venue	Outcome
Youth Agribusiness Development Initiative (IITA)	May 2014, IITA Headquarters, Nigeria	Agripreneur Model formalized. AfDB, IFAD, AGRA and IITA discuss options to better engage youth in agribusiness.
Youth Employment in Agriculture Programme (Federal Government of Nigeria)	December 2014, Presidential Banquet Hall, Abuja, Nigeria	The Government of Nigeria identified the Agripreneur Model as a viable and replicable approach that needs to be better linked to innovative finance mechanisms.
Mobilizing Youth within Phase 2 CGIAR Research Programs (CGIAR System)	September 2015 in Montpellier, France	Importance of youth in agribusiness recognized by CGIAR but proposal to establish a new youth platform was rejected, instead requiring that all CG Collaborative Research Projects have a youth as well as a women's component.
Young Africa Works Summit (Mastercard Foundation)	October 2015, Cape Town, South Africa	Agripreneurs organize a youth-led session "Agriculture is a Sector of Economic Opportunity for Youth in Sub-Saharan Africa", IITA begins strategic partnership with the Mastercard Foundation.
ENABLE Youth design Workshop (AfDB)	April 2016, Abuja, Nigeria	A major AfDB country loan program, Empowering Novel Agribusiness Led Employment (ENABLE) for youth in agribusiness discussed, the Agripreneur Model identified as an approach within that Program and risk-sharing finance introduced.
Africa Youth Agripreneur Forum and Agripitch Competition (AfDB and IITA)	April 2017, IITA Headquarters, Ibadan, Nigeria	Entrepreneurial youth pitch their business plans to potential investors. The event requires that Agripreneurs compete with youth trained by other organizations. This event has since become an annual activity within AfDB.
International Innovation Award for Sustainable Food and Agriculture (FAO)	June 2019, FAO, Rome, Italy	IITA receives an award from the Government of Switzerland in recognition of improving agribusiness opportunities and creditworthiness of African youth at the 41 st Conference of the Food and Agriculture Organisation.

Table 11

An interpretation of incomes derived from 391 youth-led agribusinesses established through the Agripreneur Movement.

Daily income class	<i>f</i>	condition
< US \$1.90 per day	5%	failing
between \$1.90 and \$4.00 per day	31%	struggling
between \$4.00 and \$10.00 per day	58%	viable
> \$10.00 per day	6%	successful

Figure 1

Incomes associated with different agricultural commodities (US\$ per year $\pm$ SEM).

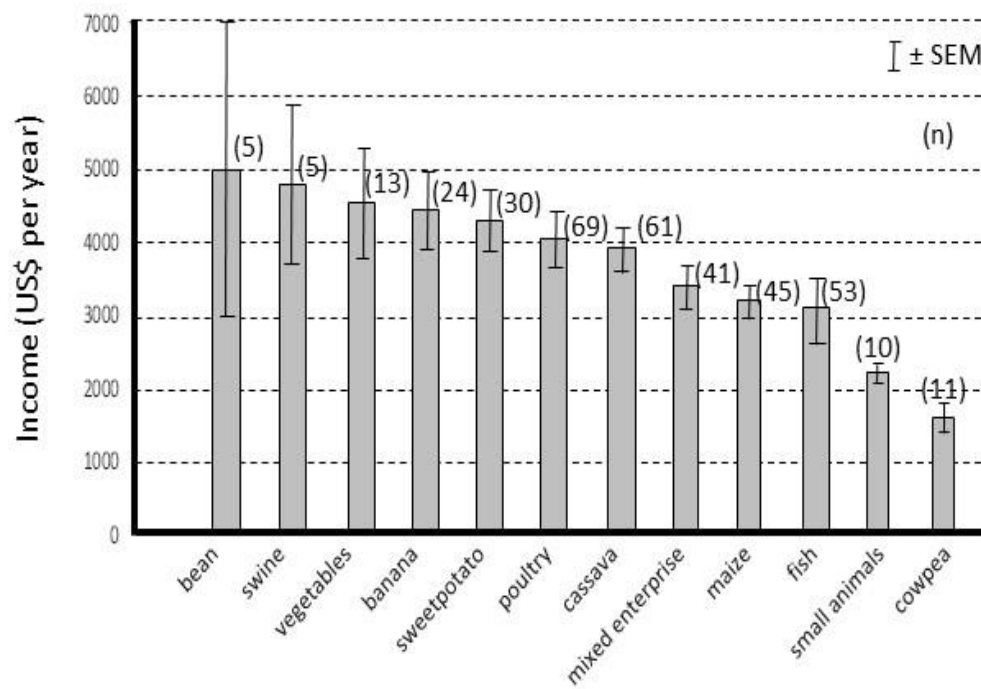


Figure 2

A schematic representation of an agribusiness incubation based upon an analysis of 40 Agripreneur projects.

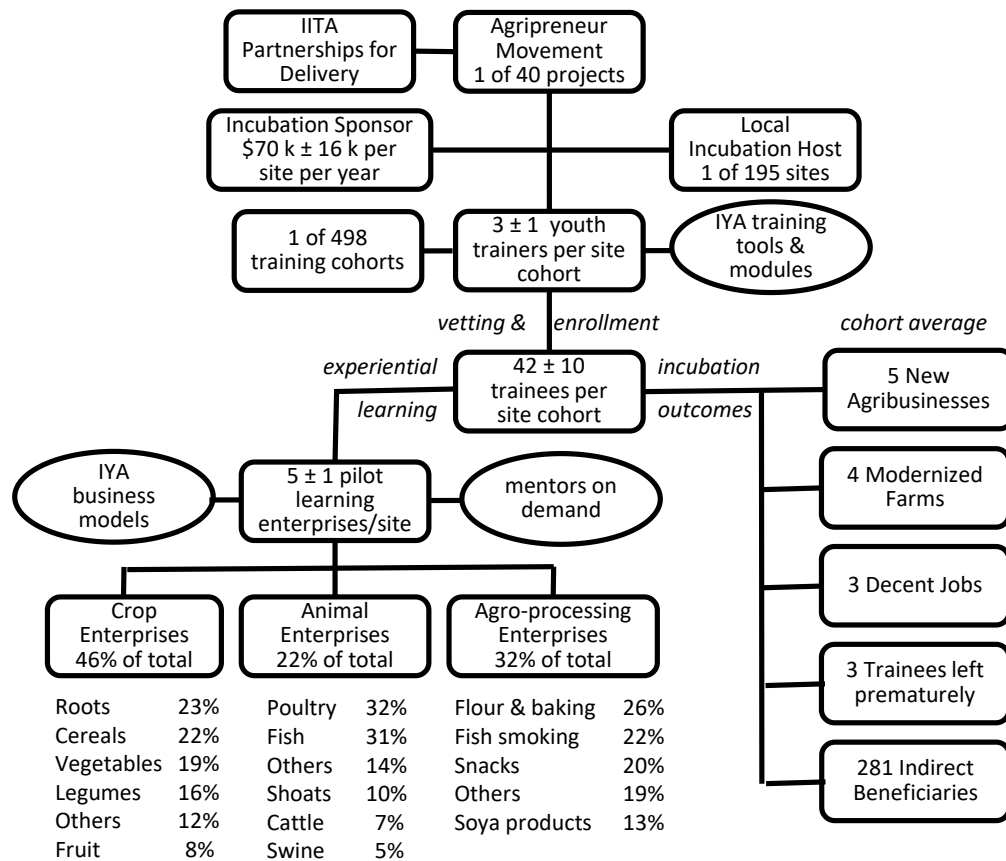


Figure 3

Geographic expansion of the IITA Youth Agripreneur Movement between 2012 and 2021.

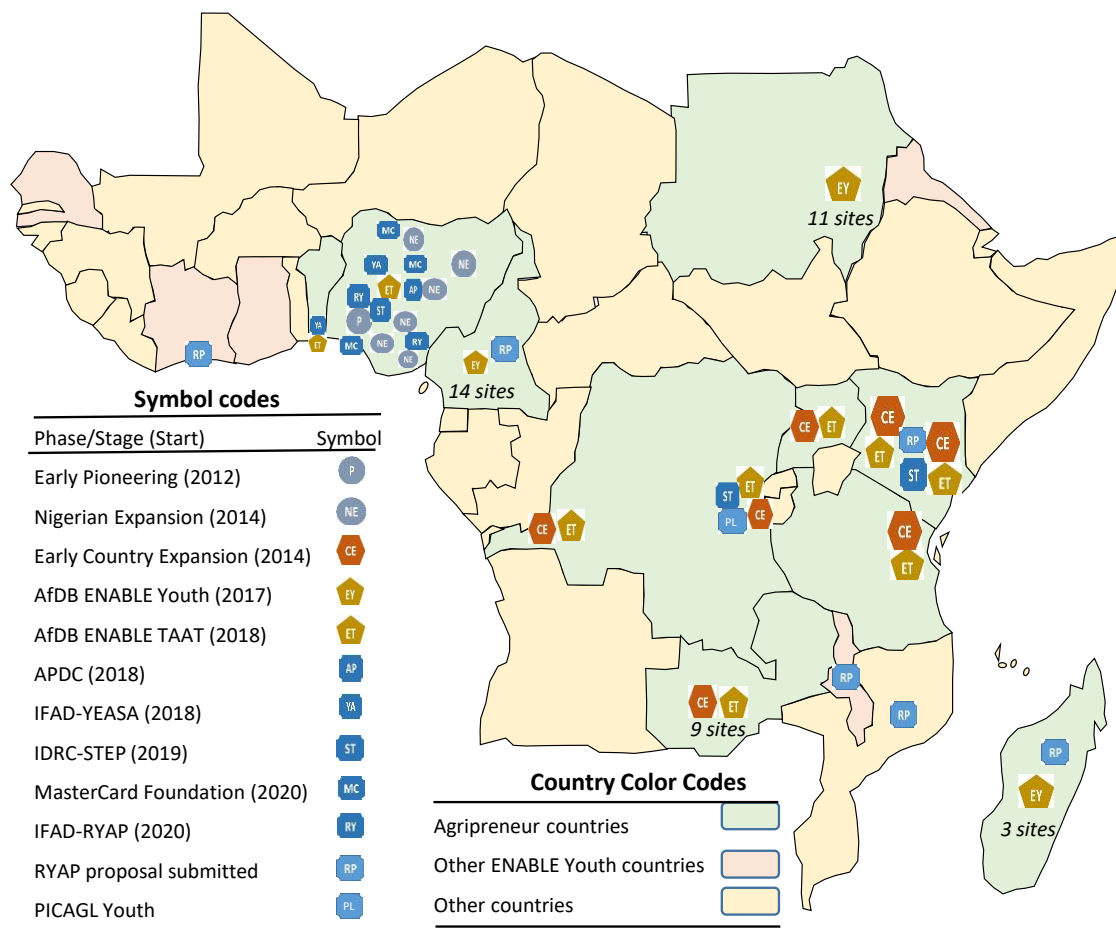


Figure 4

Monthly finances of the Kibwezi Hortipreneur Youth Group illustrate that the pilot enterprises of a youth group generate profits that can considerably reduce the operating costs of the agribusiness incubation and lead to modest financial surpluses.

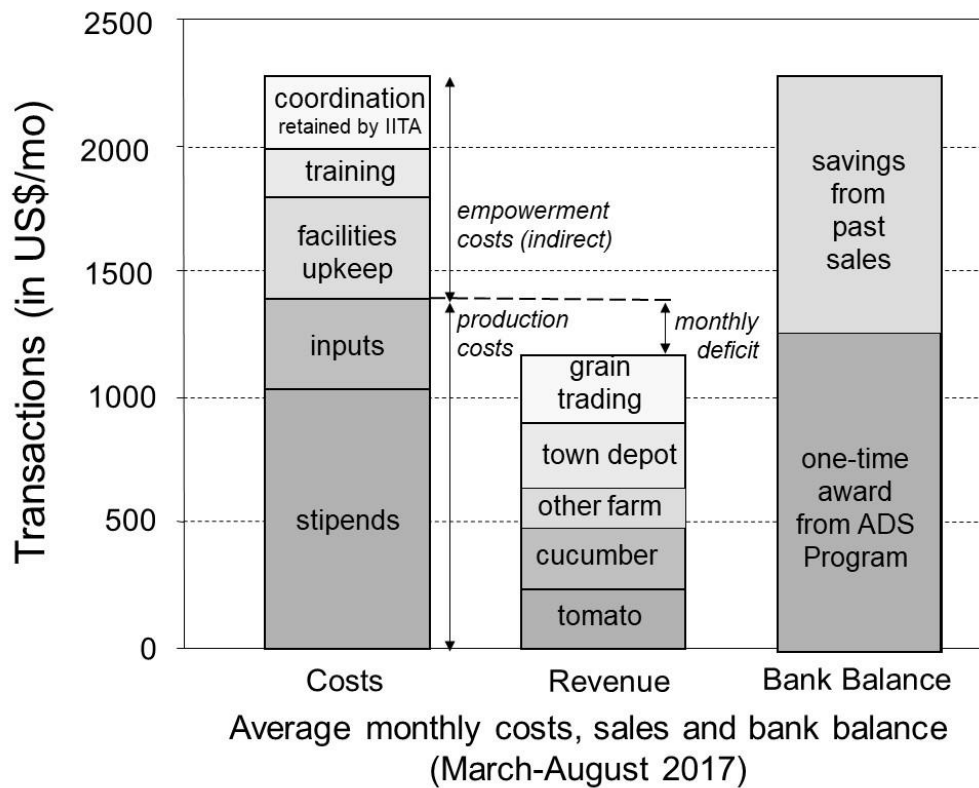


Figure 5

Cumulative effects of the ENABLE TAAT Project over time regarding the registration, training, technology adoption and entrepreneurship of participating youth.

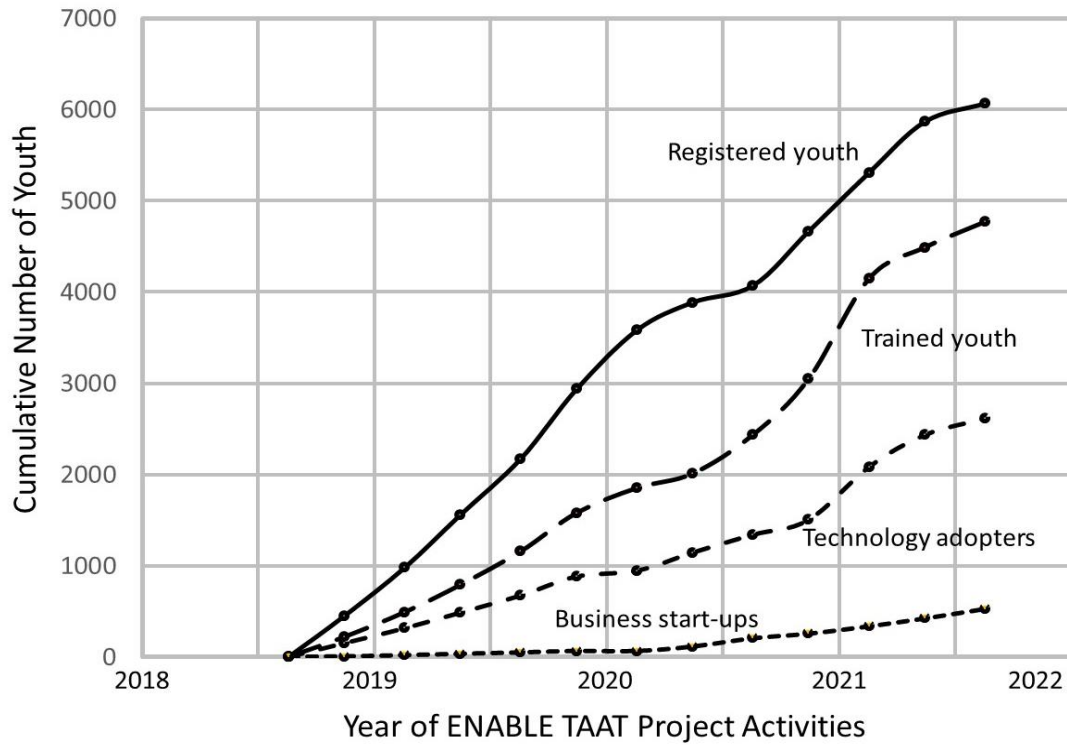


Figure 6. Total youth beneficiaries of the ENABLE TAAT project over its three-year cycle and the 12-month lag resulting from the COVID-19 pandemic.

