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

Abstract

The Agripreneur Movement of the International Institute of Tropical Agriculture 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

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

6

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23 Agriculture (IITA), rural development, youth crisis

24

1 **Introduction**

2 The economic marginalization of African youth is profound, and its consequences are
3 dire. By youth, we refer to a prolonged limbo-like state of pre-adulthood where the means of
4 adult independence are not readily available, and too often, the only means of support is
5 through engagement with the informal economy and as extended wards of their parents,
6 usually as menial workers or part-time farmers (Honwana 2019). A state of “living in
7 waitthood” creates a condition that reinforces defeatist mindsets, results in enforced idleness,
8 and drives rural youth toward dangerous lifestyles. This crisis is caused by the lack of jobs
9 (Fox et al. 2020) and insufficient opportunities to acquire and manage lands (Djurfeldta et al.
10 2019; LaRue et al. 2021), but also by the policies that underlie economic and rural stagnation
11 (Sumberg 2021). Politicians often seek to manage youth as components of larger socio-
12 political equations rather than directly address their marginalization (Ile and Boadu 2018;
13 Honwana 2019). It is not a crisis of education because even the most educated and
14 experienced youth find it difficult to navigate the jobs market without the influences of
15 patronage and nepotism. It is not an information crisis because electronic devices and digital
16 tools have infused their societies and are often a youth’s most prized possession (Lohento and
17 Ajilore 2015). It is partly an innovation crisis because youth with these defeatist mindsets
18 seldom find required solutions (Sumberg and Hunt 2019). This marginalization persists and
19 worsens despite years of scholarly study and speculation (see Fan et al. 2016; Soucat et al.
20 2013; Ripoll et al. 2017; von Kaufmann and Ariho 2019; White 2015; Yeboah et al. 2020). It
21 drives illegal migration from Africa, youth’s attraction to extreme ideologies, and
22 participation in civil unrest and crime (Honwana 2019). In these ways, this marginalization
23 becomes a pressing societal and global issue, and solutions must be found and amplified.

24 **Conceptual and Operational Framework**

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

7 Ariho (2019) reviewed the importance of agribusiness incubators as youth empowerment
8 mechanisms in Africa. These incubators assume different forms based on technical, business,
9 community and public project purposes, but they all stimulate innovation and
10 entrepreneurship (Sumberg and Hunt 2019). Technology incubators provide opportunities for
11 technology access, transfer, and commercialization, often through subsidized infrastructure
12 (Ariho 2019). Market-led incubators generate profits as their means of support; often
13 expecting co-investment by participants. Social enterprise incubators operate as non-profit
14 entities providing less technical clients access to practical solutions and market exposure
15 (Ariho 2019). Public sector incubators are government-owned and support start-ups as part of
16 domestic private-sector development. In practice, some of these incubators may not meet the
17 conditions described for empowerment as described by Jennings et al. (2006), resembling
18 more conventional vocational education. Sanginga (2015) proposed an “Agripreneur”
19 approach that flexibly incorporates all these incubation approaches, allowing a single youth
20 empowerment movement to adjust to a wide range of socio-economic conditions and
21 opportunities while still maintaining the inspirational elements required for mindset change
22 and growing self-confidence.

23 The International Institute of Tropical Agriculture (IITA) quickly recognized the
24 emergent issue of economic marginalization of African youth; and how a proactive response
25 can contribute to the transformation of the continent’s agriculture (Sanginga 2015). For this

1 reason, it launched the Agripreneur (an amalgamation of Agricultural Entrepreneur)
2 Movement. IITA does much more than research this issue but rather focuses on establishing
3 pilot activities that empower youth, which may then be widely replicated by others with
4 similar interests (Ssendiwala et al. 2015). The IITA Youth Agripreneurs began in 2012 as a
5 pioneering group formed in Nigeria and led to the establishment of guiding principles
6 (Woomer et al. 2015b) and the identification of solid business models attractive to youth
7 (Owoeye et al. 2016). It evolved to provide multiple pathways to African youth for
8 meaningful participation and careers in agriculture, and as a model and mechanism, it invites
9 participation with like-minded partners.

10 **Purpose and Objectives**

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

21 **Methods**

22 IITA established youth-led agribusiness incubations in 10 African countries through
23 various mechanisms, approaches, partnerships, and sponsors. Initially, youth were selected
24 from recent university graduates who considered themselves unemployed or under-employed.
25 These youth were encouraged to organize themselves, interact with the local agribusiness

1 community, and provided workspace, on-demand mentorship, and modest resources
2 (Woomer et al. 2015b). Experiential learning occurred through participation within a variety
3 of pilot enterprises, and many participants assisted in preparing business plans before their
4 scheduled departures (Owoeye et al. 2016). Over time, the target youth and the forms of their
5 learning activities varied as the original incubation model interfaced with others' youth
6 empowerment interests (Ohanwusi et al. 2018). The initial focus was on entrepreneurship but
7 with time a parallel employment track emerged as a major outcome, based upon the growing
8 recognition that not all skilled youth are suited to self-employment. Various means captured
9 these different characteristics, including site visits, informal interviews, periodic workshops,
10 and formalized monitoring and evaluation.

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

17 Next, an electronic questionnaire was prepared and distributed among these contacts
18 requesting more detailed information about their respective experiences. This survey gathered
19 information about project funding; the number of training sites and trainers; the intake of
20 trainees through cohorts over time; the number of women participants; attrition rates among
21 trainees; the number and types of pilot enterprises; the role of digital tools during training;
22 and outcomes related to farm modernization, decent employment and agribusiness start-
23 up. Trainees, modern farmers, employees, and agribusiness persons constitute direct
24 beneficiaries. Project outreach and social media contacts quantified indirect beneficiaries.
25 The survey concluded with some open-ended queries related to training strengths and

1 weaknesses. Responses were received for all 40 projects but not all requested fields. These
2 responses expanded the earlier database resulting in a matrix of 40 cases (rows) and 59
3 descriptors (columns) constructed using a commercially-available worksheet. Many of these
4 descriptors appear in Table 1. The database was inspected for completeness and accuracy;
5 and in many cases, submitters asked for further clarification.

6 Open-ended responses were codified, and some derived variables were calculated (Table
7 1). This database was analyzed using commercially available software. At first, overall
8 summary statistics were derived (sum, mean, counts, standard errors), later different cases
9 were grouped, and categories were compared. Other sources of information were also
10 considered. A second database was compiled based on the posted quarterly updates of the
11 ENABLE TAAT Project over three years. Some projects developed training materials
12 describing their empowerment approach (Owoeye et al. 2016; Woomer et al. 2015b). Others
13 offered unpublished Strength-Weakness-Opportunity-Threat analyses (see Namugenyia et al.
14 2019). Some survey respondents were contacted to provide additional information and
15 reports. Additional adjustments were made to the database to account for ongoing, compared
16 to completed, projects by assigning a time-determined “completeness factor” when
17 calculating costs and outputs.

18 A third database was constructed to determine the incomes from 391 youth-led
19 agribusinesses resulting from three ongoing projects (ENABLE-TAAT, IFAD-RYAP and
20 YEASA). The database maintained respondent anonymity. This information included
21 agribusinesses in seven countries (Benin, DR Congo, Kenya, Nigeria, Tanzania, Uganda and
22 Zambia) that were classified as proprietorships or partnerships (including the number of
23 partners), gender(s) of business operators, main business commodity (19 total), business
24 model (processing, production, or supply) and reported annual business income in US
25 Dollars. Summary statistics were calculated between stratified groups.

1 **Findings**

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

11 The Agripreneur Movement was advanced through the efforts of 31 champions, 58% of
12 them women. As of the end of 2021, about \$38.5 million was invested in youth
13 empowerment, most of it during the latter two Phases. This led to the establishment (or
14 reorientation) of 195 training sites requiring an average investment of $\$70,173 \pm \$15,893$ per
15 site per year (Table 3). Training engaged the services of 518 trainers, or about 2.7 trainers per
16 site, 49% of whom were female (Table 4). This led to 493 training cohorts averaging about
17 four cohorts per site per year (~ 90 -day training cycles), although the duration of training
18 varies greatly between projects (CV = 135%, data not presented). Each training cohort
19 averaged 42 ± 10 members resulting in the training of 25,616 youth (48% women). The
20 training was performed at an average cost of \$2,991 per youth. Only about 7% of these youth
21 failed to complete their training, with substantial differences between projects (from 0 to
22 28%).

23 The Agripreneur approach to experiential learning relies upon the establishment and
24 youth-led management of pilot agribusiness enterprises. This approach resulted in 263 such
25 prototypes across all projects (not including duplicate enterprises within a project), resulting

1 in about seven different enterprises per project (CV = 38%) and five enterprises per site
2 (Table 4). Enterprise types were well distributed across agribusiness opportunities regarding
3 crops, agro-processing, and animals (Table 5). Reliance upon digital platforms was noted (36
4 in use across all projects), but the survey approach did not attempt to categorize them.

5 Training outcomes were tracked (Table 6). Combined efforts led to the modernization of
6 1,661 farms, the establishment of 2,592 new agribusinesses, and the improved employment of
7 1,606 departing youth. The last outcome (decent employment) was not reliably tracked across
8 all projects as it emerged as a major objective of the Movement over time. Based upon
9 outreach activities, requests for information, and visits to project websites, indirect
10 beneficiaries are estimated as 139,747 but some projects did not track indirect impacts as they
11 were focused primarily on their trainees as direct beneficiaries.

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

1 **Discussion**

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

21 The geographic distribution and spread of the Agripreneur Movement across Africa is
22 depicted in Figure 3. Pioneering efforts occurred in Nigeria and continued through each
23 successive phase of the Agripreneur Movement's growth, resulting in the most diverse
24 assortment of in-country projects. The early country expansion included DR Congo, Kenya,
25 Tanzania, Uganda and Zambia, and in some cases, included multiple sites per country.

1 ENABLE Youth projects allowed for further expansion but in some cases, did not directly
2 involve IITA Agripreneurs but rather relied upon their model, often as Youth Agribusiness
3 Incubation Centers (YABICs). The key to more profound impacts within a country is to
4 merge the Agripreneur model with national programs, as is the case with AfDB ENABLE
5 Youth Program and STEP-Nigeria.

6 **Growth and differentiation of the Agripreneur Movement: Early piloting.**

7 Despite its modest origins, the IITA Agripreneur Movement grew into a powerful force for
8 youth empowerment toward agricultural transformation across Africa in a relatively short
9 period. This occurred through four phases (Table 2). First, the general strategy and guiding
10 principles for youth-led agribusiness incubation were established within pioneering
11 Agripreneur groups at IITA Headquarters and later across Nigeria (Woomer et al. 2015b).
12 The inaugural group that became known as the IITA Youth Agripreneurs (IYA) started as an
13 exploratory activity through the initiation of the IITA Director General. IITA typically hosts
14 many interns from the Nigerian National Youth Service Corps (NYSC) attached to different
15 administrative and research units within the institute (Onyishi and Ezeibe 2014; TamBari and
16 Taylor 2020). They are university graduates whose part-time, yearlong participation in NYSC
17 was mandatory. Upon completion of service, several youths from diverse disciplinary
18 backgrounds were provided an opportunity to form an agribusiness incubation. The 37
19 members of this group were gender balanced and co-led by a young woman and a man. Over
20 two years, they developed learning enterprises on commercialized crop and seed production,
21 a network of fish ponds, and established a bakery and a line of healthy snacks (Owoeye et al.
22 2016). All departing members were expected to produce a winning agribusiness plan. These
23 first youth established eight commercial businesses and 12 modernized farms, with the
24 remainder finding employment within both the private sector and the growing Agripreneur
25 Movement itself. Two more subsequent groups were formed (Table 2), Green Wealth (2015)

1 and Green Magic (2016), consisting of 38 members that went on to establish five businesses
2 and two more farms, with 13 finding decent employment. Training materials were formalized
3 around an Agripreneur orientation course useful to future expansion (Woomer et al. 2015a).
4 A landmark event was a visit in 2015 by the President of the International Fund for
5 Agricultural Development (IFAD), who quickly recognized the advantages of the budding
6 Agripreneur approach and pledged support to it.

7 **International expansion.** Given the promise of the pioneering efforts, the Agripreneur
8 Movement expanded to additional countries, including DR Congo (2014), Tanzania (2014),
9 Kenya (2015), Uganda (2015) and Zambia (2015). This growth occurred through two
10 mechanisms: grants from IFAD and the establishment of a youth component within existing
11 IITA projects. Seven more agribusiness incubations were formed across five countries (Table
12 2). These groups consisted of 180 youth (54% female) as founding members that established
13 55 learning enterprises devoted to crops (50%), processing and marketing (27%), and animal
14 rearing (23%). The training was provided to an additional 734 youth (43% female) and led to
15 the formation of 23 businesses and 66 modernized farms, as well as 91 of the founding
16 members finding decent employment. Groups were formed quickly based upon open calls for
17 participation compared to more deliberate recruitment approaches in Nigeria, resulting in
18 attrition rates of 20% ($\pm 7\%$). Some of these groups, particularly those founded as part of
19 larger IITA projects, operated closely with IITA country offices and research stations, but
20 others managing their own funds and grounds tended to diversify and achieve increasingly
21 greater self-sufficiency through revenues generated by pilot enterprises. One constraint felt
22 by project-affiliated groups was their confinement to narrower sets of commodities. The
23 major constraint to forming new businesses was the need for startup capital, necessitating
24 stronger partnerships with the financial sector and a greater focus on building
25 creditworthiness among youth.

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

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

1 **Nigerian expansion.** Between 2014 and 2017, six more groups formed across Nigeria
2 (Table 2) through efforts in Abuja (2014), Borno (2014), Warri (2015), Kano (2016), Onne
3 (2016) and Imo (2017). These groups consisted of 57 youth (46% female) as founding
4 members that established 58 learning enterprises devoted to crops (52%), processing and
5 marketing (26%), and animal rearing (22%). These groups were more committed to expanded
6 training of other youth (rather than only preparing themselves as businesspersons), reaching
7 an additional 1,712 youth (43% female) and leading to the formation of 335 businesses and
8 101 modernized farms as well as 65 finding decent employment. Much of this training was
9 achieved through outreach to existing grassroots youth groups, allowing for larger numbers
10 of indirect beneficiaries. This extension across Nigeria included economically depressed and
11 conflict areas, and required that the Movement collaborate with local governments and
12 vocational training interests in new ways (Ohanwusi et al. 2018). Additional sponsors were
13 found as well, including Chevron Nigeria Ltd. acting through Corporate Social Responsibility
14 and the Bill and Melinda Gates Foundation providing supplemental funds to a larger project
15 devoted to grain legumes. Greater attention was paid to skill set development in line with
16 labor markets. Borno State is better known for its insurgency and kidnapping of schoolgirls,
17 but the Agripreneur group there demonstrated the economic advantages of commercialized
18 aggregation, transportation, processing and trading of cowpea, groundnut and soybean, as
19 well as the fattening of undernourished goats and sheep. Groups in southeast Nigeria
20 demonstrated the feasibility of commercial fish farming and poultry rearing. A group
21 operating near the nation's capital (Abuja) focused on cash cropping and seed production,
22 and their influence spread to nearby Kaduna State.

23 During this stage of rapid expansion across Nigeria, the flexibility of the Movement
24 emerged as its mission was extended beyond agribusiness start-ups among university-
25 educated youth. In some cases, the Movement assumed control over dilapidated or abandoned

1 training facilities and revitalized them, including their transformation into youth agribusiness
2 parks (Ohanwusi et al. 2018). It also established the feasibility of youth assuming
3 management of underperforming or abandoned farms and linking them to better markets and
4 value addition.

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

17 Nonetheless, ENABLE Youth country loans to Cameroon, Sudan and Madagascar scaled
18 our youth empowerment brand to new levels. Cameroon received \$17.4 million over five
19 years (starting in 2018) to offer entrepreneurship training to over 500 youth (45% female) at
20 14 Youth Agribusiness Incubation Centers (YABICs), an effort supervised by IITA. These
21 YABICs operate as agribusiness incubations and rely upon training tools and methods
22 developed by the Agripreneurs. Despite a strong initial start, this project was affected by
23 management difficulties and the COVID pandemic, and its operations were suspended during
24 2020 and 2021, but later extended through 2024. Over five years, Sudan received \$23.7
25 million to train about 1,900 youth (43% female) at 10 locations; promoting five pre-selected

1 pilot enterprises (irrigated field cropping, horticulture, aquaculture, poultry-rearing, and small
2 livestock). The advantage of affiliation with ENABLE Youth in Cameroon and Sudan is that
3 loan funds are available to trained youth upon approval of a solid business plan through the
4 project itself. Madagascar received \$1.3 million to train 260 youth (48% female) at three
5 sites, a pilot program assisted by an IITA full-time adviser. Agribusiness start-ups in
6 Madagascar rely upon access to commercial loans, a condition met with mixed success.

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

1 the ENABLE Youth Program continues to operate on behalf of African youth and that
2 Agripreneur approaches continue to be entertained as empowerment models within it.

3 Success was also achieved through the Youth Compact of the Technologies for African
4 Agricultural Technologies Program (TAAT), funded by AfDB and led by IITA (Woomer et
5 al. 2021). This activity promoted youth-led activities in Benin, DR Congo, Kenya, Nigeria,
6 Tanzania, Uganda, and Zambia to better provide an enabling environment for youth
7 empowerment, equip youth with innovative technologies related to TAAT's priority
8 commodities, sharpen entrepreneurship skills through agribusiness incubation, and mobilize
9 financing for approved youth-led agribusiness plans (TAAT no date). The Compact
10 established 16 training locations and 66 pilot learning enterprises involving 42 trainers (60%
11 female), reaching 4,548 trainees (51% female). It led to 394 youth-led agribusiness start-ups
12 and 651 youth found meaningful employment. In addition, the Compact reached 111,202
13 youth through its "food basket" outreach and public information campaigns. This action
14 clearly identified which of the technologies promoted by TAAT had the greatest attraction to
15 youth, particularly attractive were those that reduce drudgery through mechanization and
16 automation, rely more upon digital agriculture, and involve higher-value crops and further
17 value addition (Ohanwusi and Woomer 2018). One setback, however, involved initial
18 confusion over whether Compact funds could be used to provide incentives for business start-
19 ups, forcing many youths with solid business plans to look beyond the project for finance.

20 This development phase propelled IITA Agripreneurs to better partner with financial
21 institutions and government agencies. Youth who secure loans from financial institutions and
22 use them to establish or expand their agribusiness enterprises are in positions to contribute
23 better to their wider rural communities. This benefit includes youth receiving awards from
24 government agencies, but in some cases, this support may be only in-kind as production

1 inputs and equipment. This latter “solution” appears less effective because beneficiary youth
2 remain disadvantaged by a lack of early operating capital.

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

24 **Refinement of the Movement.** Different stages of the Agripreneur Movement are
25 presented in Tables 8 and 9, allowing insight into its changes with time. Over the past

1 decade, the Movement spread to 10 countries through 40 funded interventions (Table 9). The
2 duration of its projects remains roughly the same (about three years), but their funding
3 increases with time. The strength of ENABLE Youth as an empowerment mechanism is
4 reflected in the size of its awards and its longer project duration, and note that its trainees
5 develop viable business plans funded through the project itself. The number of founding
6 youth, in many cases serving as trainers, remains constant with time, but the number of youth
7 they train greatly increases as sponsoring organizations shift their focus from relatively few
8 previously under-engaged university graduates toward reaching increasingly larger numbers
9 of youth beneficiaries.

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

24 The influence of the Agripreneur Movement is also reflected in the youth empowerment
25 events it organized and contributed to (Table 10). IITA unveiled its Agripreneurs to major

1 development organizations starting in 2014 and has continued to pave new ground. These
2 gains resulted in the acceptance of its model by national programs and international
3 development organizations. Over time, the role of the Agripreneurs increased to include
4 business pitches and access to more innovative finance. In one case, the Agripreneurs failed
5 to convince the CGIAR System to establish a distinct research platform devoted to youth
6 empowerment. Still, youth engagement became a crosscutting requirement in all its adaptive
7 research. The award to IITA by FAO is one of several accolades recognizing the importance
8 of the IITA's Movement and the importance of youth mainstreaming. These events and the
9 due recognition of Agripreneurs forge key partnerships, allowing for the Movement's rapid
10 growth.

11 The Agripreneurs pursue a diversified approach toward youth empowerment. In the case
12 of the agribusiness incubations operated through the ENABLE TAAT Compact in seven
13 countries (Table 1), rural youth were registered based on their interests in agricultural
14 transformation, many of them were trained and offered access to technologies through
15 outreach, and finally, an elite few started new agribusinesses (Figure 5). Registration
16 popularized access to digital agriculture and social media. The training involved in-house
17 access to pilot enterprises and short courses. Technology adoption involved participation in
18 "food basket" outreach, often through distributing TAAT's improved crop varieties and
19 accompanying technologies (Ohanwusi and Woomer 2018). Start-ups required the
20 formulation of agribusiness plans and sourcing of credit and sponsors. While this process
21 may have started relatively few new businesses, it raised awareness of numerous modernizing
22 farm technologies and deployed them within the family and youth-led farms.

23 The 391 youth-led businesses from Table 7 may be grouped into different categories of
24 success: failing, struggling, viable and successful (Table 11). Twenty-four of the businesses
25 provided incomes of more than \$10 per day, the best performing providing more than \$34 per

1 day. The worst-performing businesses provided less than the extreme poverty threshold of
2 \$1.90 per day. A key to backstopping youth-led businesses is to assist the struggling ones in
3 becoming viable and the viable ones to become successful. These incomes appear to be
4 relatively modest, but at the same time, most Agripreneur youth are attracted to the
5 Movement because they are unable to find decent employment in the first place, so the 64%
6 earning a living wage of >\$4 per day have arguably improved their lives.

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

24 Agripreneurs demonstrate resilience by succeeding under difficult circumstances. A
25 group advanced modern agriculture and established many new businesses in Borno State,

1 Nigeria amid Boko Haram insurgency. Youth in DR Congo calmly went about their business
2 while the M23 militia and other rebel groups created instability in Eastern DRC. Their
3 example contributed to the design of the United Nations Organization Stabilization Mission
4 in the Democratic Republic of Congo related to socio-economic reintegration of ex-
5 combatants, vulnerable women and youth. Several youth groups succeeded in southern
6 Nigeria, an area where gangs and pirates operate with impunity. ENABLE Youth operations
7 continued through the coup in Sudan. Indeed, providing youth with opportunities provides a
8 counterbalance to recruitment into extremist and violent ideologies, and some of the
9 Agripreneur projects were specifically funded for this purpose. That the Agripreneurs
10 operate effectively within conflict and post-conflict settings is important but must not
11 overshadow the pressing need for vocational agricultural reform and improved credit systems
12 under more stable situations.

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

1 **Conclusion, Implications and Recommendations.**

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

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

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

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23

1 Table 1. Database parameters compiled for analysis of the 40 Agripreneur Movement
2 Projects.

3

4 **Country:** Country where youth empowerment activity occurred (1 of 10 countries).

5 **Location:** Project location within country, usually the nearest city or large town.

6 **Host:** The organization serving as local host of the agribusiness incubation project.

7 **Name:** Name of the youth group; often self-assigned or based upon sponsoring project.

8 **Timeframe:** The years the incubation started and ended, and the duration allowing for standardization
9 across projects by year.

10 **Completion Stage:** Quantifies a project's completion stage, adjusting for incubations that are not yet
11 completed by end of 2021 (scale 1.0 or less).

12 **Sponsor:** Organization funding the incubation one of nine different donors.

13 **Funding:** Amount of US Dollars directed toward the incubation through the end of 2021, used to
14 calculate funds per year when comparing different projects.

15 **Sites:** the number of sites where incubations are conducted within a project, used to calculate funds
16 per site per year when comparing projects.

17 **Youth Founders:** Number of youth initiating an agribusiness incubation and serving as its trainers,
18 identified by gender.

19 **Youth Trainees:** The number of youth receiving training within the agribusiness incubation, identified
20 by gender, used to quantify funds allocated per trainee and trainers per trainee.

21 **Number of Training Cohorts:** Number of successive training activities regardless of duration used to
22 calculate funds per cohort, trainees per cohort and cohorts per year.

23 **Trainee Attrition:** the proportion of trainees that entered agribusiness incubation that did not complete
24 their training.

25 **Pilot Enterprises:** the number of pilot enterprises within a given project used to calculate enterprises
26 per site.

27 **Crop Enterprises:** the number and frequency of pilot enterprises based upon crops; separated among
28 cereals, legumes, root crops, vegetables, fruits and others, used to ascribe enterprise attraction.

29 **Animal Enterprises:** the number and frequency of pilot enterprises based upon animal production;
30 separated among fish, poultry, sheep and goats, cattle, swine and others, used to ascribe enterprise
31 attraction.

32 **Processing Enterprises:** the number and frequency of pilot enterprises based upon value addition;
33 separated among the processing of soybeans, grain and starch, snacks and other products, used to
34 ascribe enterprise attraction.

35 **Digital Tools:** the number and frequency of reliance upon digital agriculture tools and applications
36 within the different projects.

37 **Farmer Outcomes:** the number of trainees returning to their home farms or communities as
38 modernized farmers practicing target enterprises and technologies.

39 **Employee Outcomes:** the number of trainees finding decent employment following their training that
40 would otherwise be beyond their pre-training skillsets.

41 **Entrepreneurial Outcomes:** the number of youth starting agribusinesses following their training,
42 often through assistance from project sponsors.

43 **Indirect Beneficiaries:** the number of additional youth reached through additional project outreach
44 activities (other than on-site incubation).

45

Table 2. IITA Youth Agripreneur projects considered in this review.

Name	Country	Project			Movement
		Sponsor	Startup	Duration (years)	Phase
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 (PICAGL)

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

1 Table 7. Income generated by 391 youth-led businesses initiated through the Agripreneur
 2 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

3 ¹ Combined data from ENABLE-TAAT, IFAD-Agrihub and YEASA Projects (see Table 2).
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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 -----	----- no -----	----- year -----	----- 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	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.

⁴ Founding youth serve as trainers for other youth.

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Table 9. Outcomes of the Agripreneur Movement through different stages of its operations.

Stage	Youth training ratio	New agro-businesses	Modernized farms	Better employed	Indirect beneficiaries
	ratio	----- no -----	----- no -----	----- no -----	----- 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.

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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

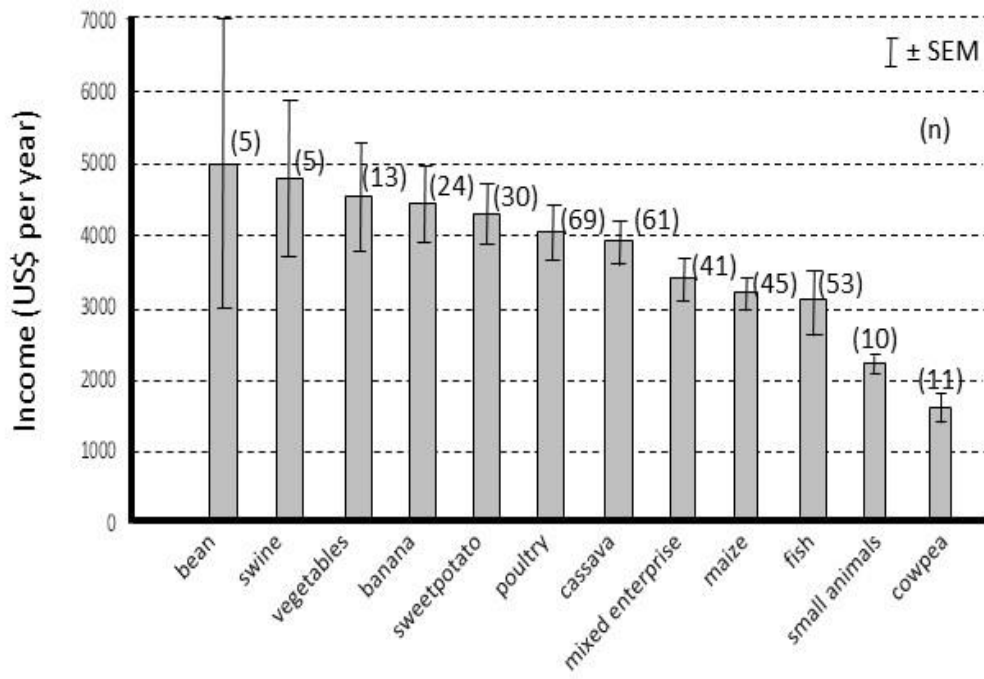


Figure 1. Incomes associated with different agricultural commodities (US\$ per year ± SEM).

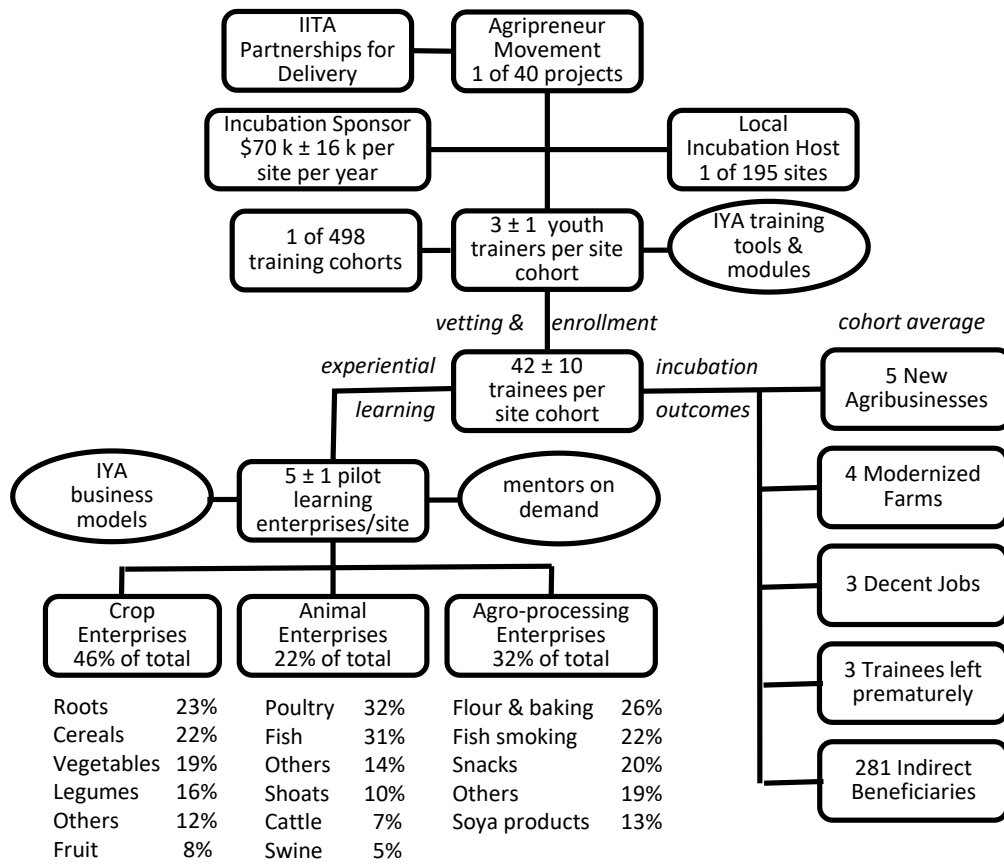


Figure 2. A schematic representation of an agribusiness incubation based upon an analysis of 40 Agripreneur projects.

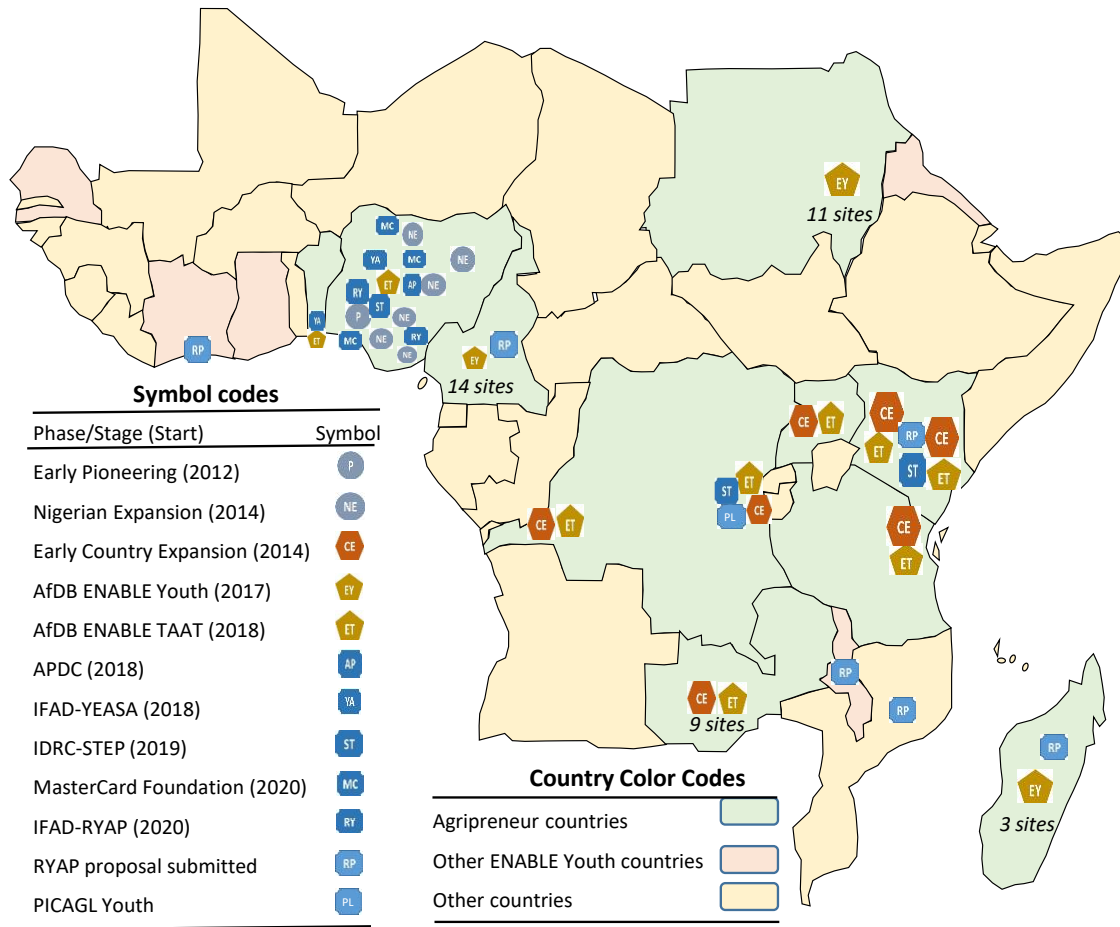


Figure 3. Geographic expansion of the IITA Youth Agripreneur Movement between 2012 and 2021.

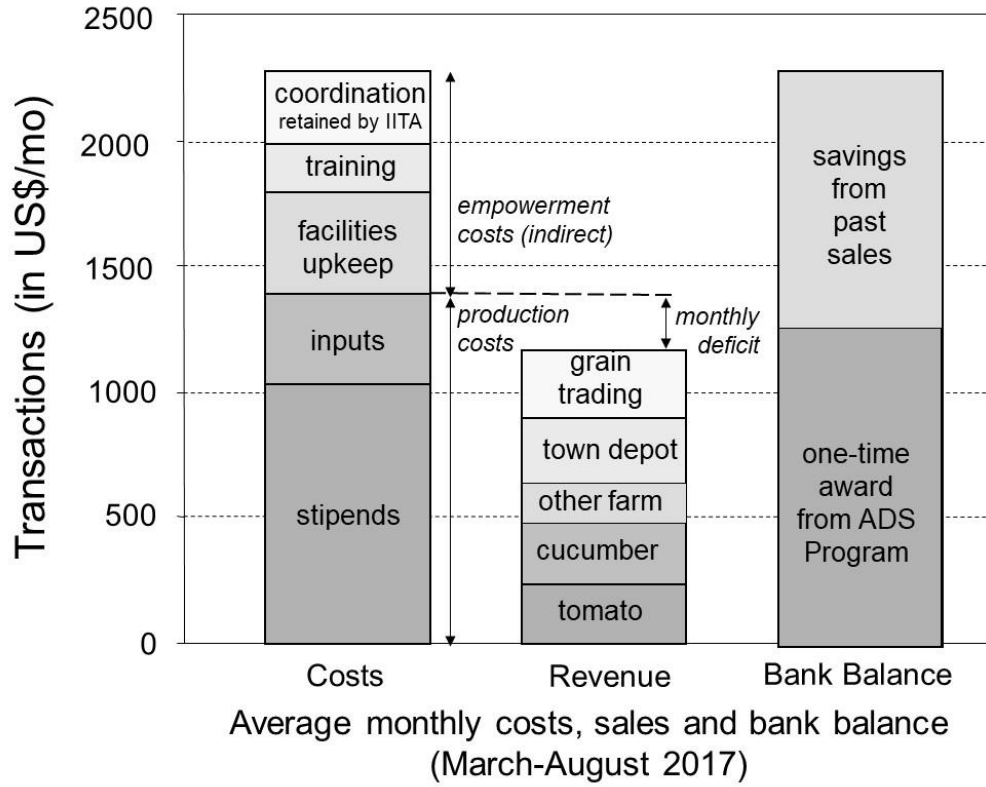


Figure 4. Monthly finances of the Kibwezi Hortipreneur Youth Group illustrate that the pilot enterprises of a youth group generate profits that can considerably reduce the operating costs of the agribusiness incubation and lead to modest financial surpluses.

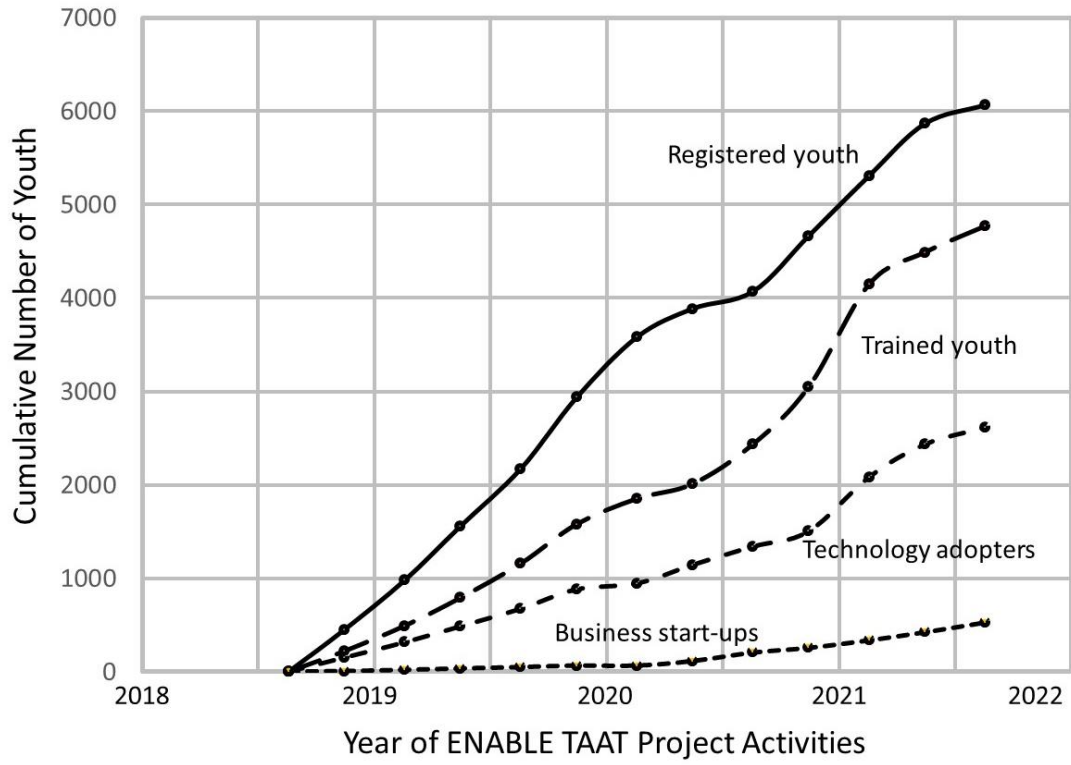


Figure 5. Cumulative effects of the ENABLE TAAT Project over time regarding the registration, training, technology adoption and entrepreneurship of participating youth.

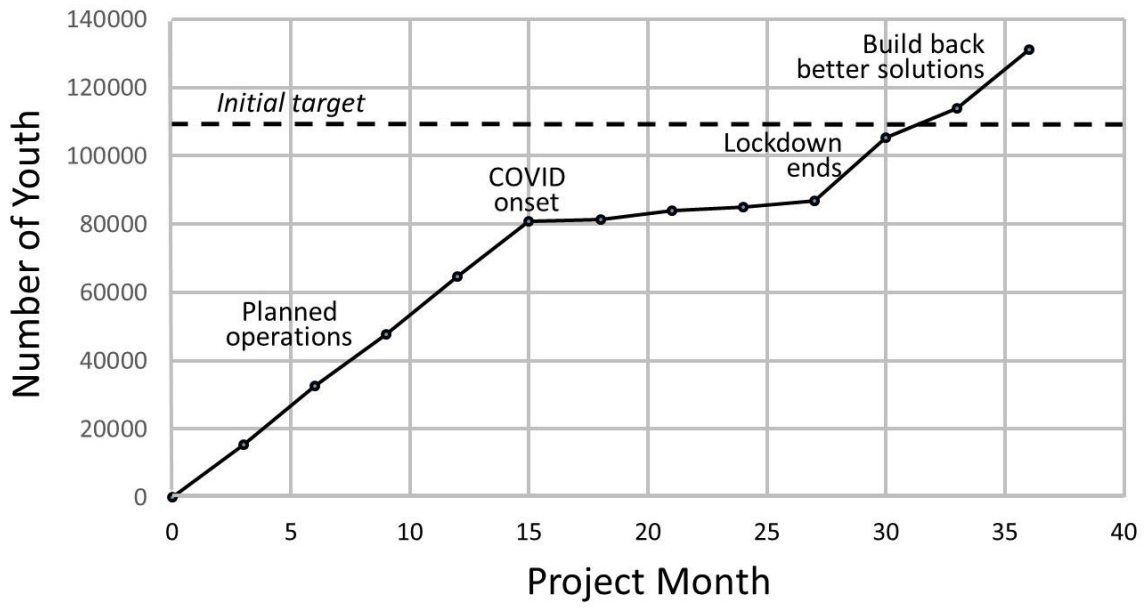


Figure 6. Total youth beneficiaries of the ENABLE TAAT project over its three-year cycle and the 12-month lag resulting from the COVID-19 pandemic.