

# innovATE

Innovation for Agricultural Training and Education



## Engaging Rural Youth in Entrepreneurship through Extracurricular and Co-curricular Systems

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The Innovation in Agricultural Training and Education project—InnovATE—is tasked with compiling the best ideas on how to build the capacity of Agricultural Education and Training (AET) institutions and programs and disseminating them to AET practitioners around the world. As part of this effort, InnovATE issued a Call for Concept Notes to accept applications for discussion papers that address *Contemporary Challenges in Agricultural Education and Training*. These concept papers define the state of the art in the theory and practice of AET, in selected focus domains and explore promising strategies and practices for strengthening AET systems and institutions.

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## Introduction

Entrepreneurship and the development of entrepreneurs has received increased attention recently. "Entrepreneurship has emerged over the last three decades as arguably the most potent economic force the world has ever experienced" (Morris, Kuratko, & Cornwall, 2013, p. 1). The economic progress of any region has been markedly changed through the entrepreneur. Valerio, Parton and Robb (2014) argued:

There is a growing interest in the role that entrepreneurship can play as a catalyst to achieve economic and social development objectives, including growth, innovation, employment and equity. Entrepreneurship can manifest within an economy in a number of ways, and it includes both formal and informal economic activities for the purposes of creating wealth. In turn, entrepreneurship can contribute to economic development through high –growth enterprises or, as in the case of necessity-driven entrepreneurship, through enterprises that can serve as an important source of income and employment for vulnerable populations. (p. 1)

Entrepreneurs are able to develop opportunities in ways others cannot. "Entrepreneurs perceive new opportunities and create and grow ventures around such opportunities" (Markley, Mackey, & Luther, 2005). Additionally, entrepreneurs add to the economy in markedly different ways than traditional workers might. There is a strong, positive relationship between the economic growth of a country and a strong level of entrepreneurial activity (Markley et al., 2005). "Greater emphasis on entrepreneurship will also help to encourage graduates to become "job-creators" rather than "job-seekers" (Muir-Leresche, 2013, p. 8). With all of these advantages, it is little wonder that entrepreneurship education programs designed to teach entrepreneurial mindsets and skills were developed to engage rural youth in agriculture.

Youth, aged 15-24, represent a significant and growing portion of the population in rural areas around the globe (Bennell, 2010). Globally, youth account for about 1.3 billion people and are expected to peak at 1.5 billion in 2035 (Bennell, 2007). Today, youth account for around one-fifth of the population in many developing nations (Proctor & Lucchesi, 2012). By the year 2050, youth are expected to account for 14% of the total global population (FAO, 2014). Africa now has the youngest population in the world with nearly 200 million youth (African Development Bank, 2012).

Rural areas are home to nearly three-fourths of the world's poor today, but mass outmigration to urban areas is happening across the globe (Bennell, 2010; Cohen, 2006). Rural lands provide much of the world's food (FAO, 2014). But, "by 2030, demographers predict that around 61% of the world's population will be living in urban areas" (Cohen, 2006, p. 69). As outmigration

trends have persisted and youth have flocked to urban areas, an increased strain has been put on many countries already scarce economic and food resources (Cohen, 2006; FAO, 2014).

Agriculture has been the mainstay of many living in rural areas worldwide and investment in the agricultural sector has been demonstrated to be an effective means to lift groups out of poverty (Bennell, 2010; Diao, Hazell, & Thurlow, 2010). Additionally, agriculture has accounted for 32% of total global employment (ILO, 2014). Unfortunately, the average age of farmers in many nations has risen and, possibly as a result, in some areas farming innovations have decreased. Youth who might otherwise have been employed in agriculture and helped to maintain vibrant rural communities have continued to bypass this vocation and location in lieu of seemingly more lucrative prospects in urban areas (Bennell, 2010).

Youth engagement and interest in agriculture the world over has been low recently and potential entry into agriculture has carried a host of challenges (FAO, 2014). Generally, youth worldwide have lacked motivation to enter and persist in the agricultural industry (FAO, 2014; Sharma, 2007). “Agriculture is not seen as a viable income source and often the youth view agriculture as employment only of last resort and may consider becoming a farmer as condemning oneself to subsistence and poverty” (Muir-Leresche, 2013, p. 8). Even willing youth face barriers to entering agriculture such as insufficient access to knowledge, information and education and limited access to land, financial services, green jobs, markets and engagement in policy dialogue (FAO, 2014). Agriculture seems to carry with it an image of drudgery and the option of last choice; it is often not even considered by youth in the same vein as an actual career (White, 2012).

Entrepreneurship education has risen as a viable platform to reengage rural youth in agriculture and slow rural outmigration. Students of these programs gain entrepreneurial thinking, identify business opportunities, and learn the skills to start a business, helping them see agriculture as a viable livelihood option (Morris et al., 2013). Entrepreneurship education programs focused on secondary education students, often offered through co-curricular and extracurricular platforms, can develop entrepreneurial thinking and skills (Daniel & Kent, 2005; Morris et al., 2013; Valerio et al., 2014). Yet, the characteristics of exemplary entrepreneurship programs are unknown. This worldwide review of innovative programs fills part of the knowledge gap on the phenomenon of rural youth agricultural entrepreneurship programs. This review synthesized primary and secondary historical data, gathered through internet and library searches, to summarize the state of the art in agricultural entrepreneurship education programs for rural youth around the world.

## Definitions

While many definitions exist for terms like entrepreneur and entrepreneurship, a few key terms have been defined for the purpose of this review and are summarized below:

- *Entrepreneur*—a person who starts a business and assumes the risk of that business in order to make money



- *Entrepreneurship*—the craft or skill of starting, developing, organizing and managing a business and assuming the associated risk in order to make a profit
- *Entrepreneurship education*—academic education or formal training intervention that share the broad objective of providing individuals with the entrepreneurial mindsets and skills to support participation and performance in a range of entrepreneurial activities (Valerio et al., 2014, p. 21)
- *Entrepreneurial mindsets and skills*—include socio-emotional skills such as self-confidence, leadership, creativity, risk propensity, motivation, resilience and self-efficacy, overall awareness and perceptions of entrepreneurship, and the general business knowledge and skills needed for opening and managing a business like accounting, marketing, risk assessment and resource mobilization (Valerio et al., 2014, p. 22).
- *Co-curricular activities*—learning experiences that supplement what students are learning in school
- *Extracurricular activities*—learning experiences that are conducted outside of the scope of what students are learning in school

## Conceptual Framework

The conceptual framework for this review was inspired by the framework proposed by Valerio et al. (2014). Their work evaluated hundreds of entrepreneurship education and training programs from around the world. First, a brief description of the typology they developed and used is described. Then, a brief description of their conceptual model and modifications which were made is offered.

The typology offered by Valerio et al. (2014, p.2) first divided programs into two general categories: entrepreneurship education and entrepreneurship training (Figure 1).

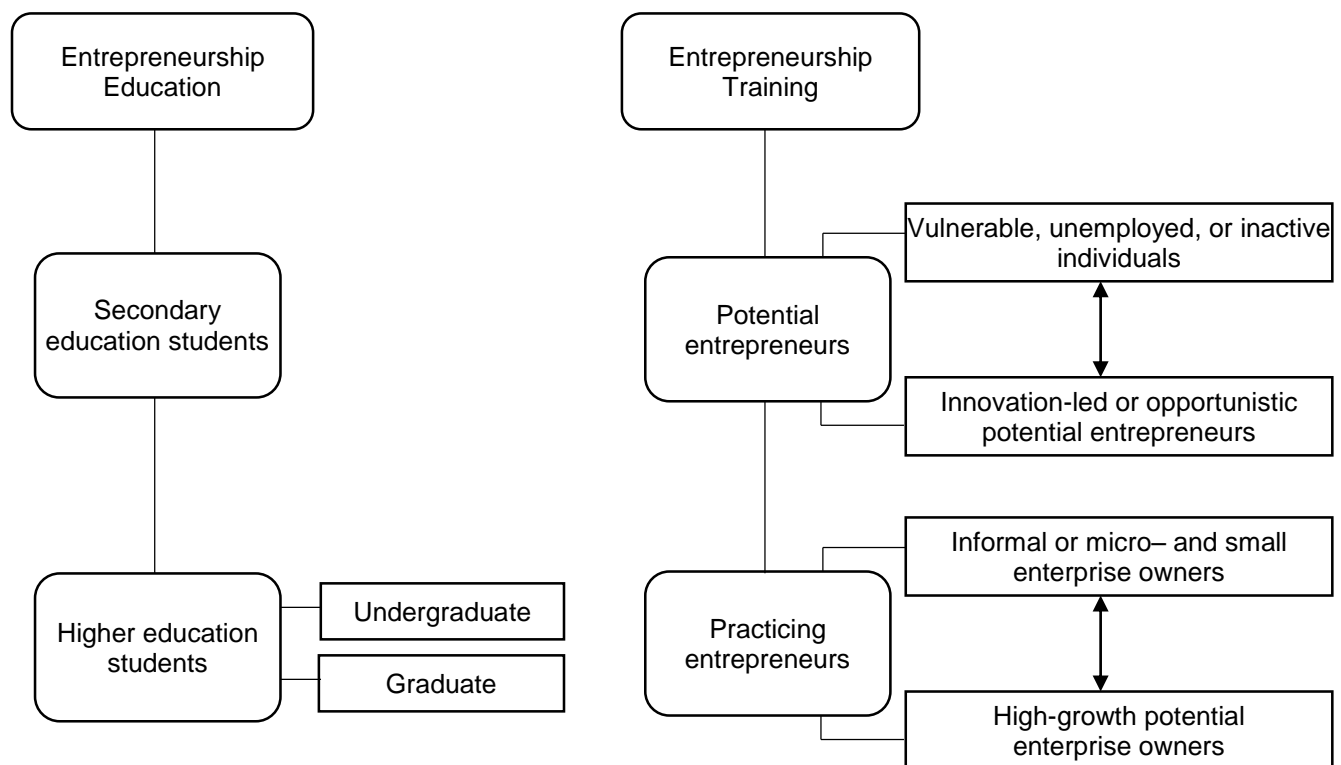
- *Entrepreneurship education programs* tend to focus on building knowledge and skills about or for the purpose of entrepreneurship.
- *Entrepreneurship training programs* tend to focus on building knowledge and skills, explicitly in preparation for starting or operating an enterprise (.

Further delineating the typology, programs can be grouped based on their target audience. Entrepreneurship education is divided between programs focused on secondary education students and those focused on higher education students. Higher education is then further divided between undergraduate and graduate students who are enrolled in degree-granting programs. Entrepreneurship training programs, on the other hand, are divided between those programs that serve potential entrepreneurs and those serving practicing entrepreneurs. A full spectrum of programs for potential entrepreneurs can be found ranging from vulnerable, unemployed, or inactive individuals to innovation-led or opportunistic potential entrepreneurs. Practicing entrepreneur programs are perceived along a similar continuum, ranging from



informal or micro-credit and small enterprise owners to high-growth potential enterprise owners.

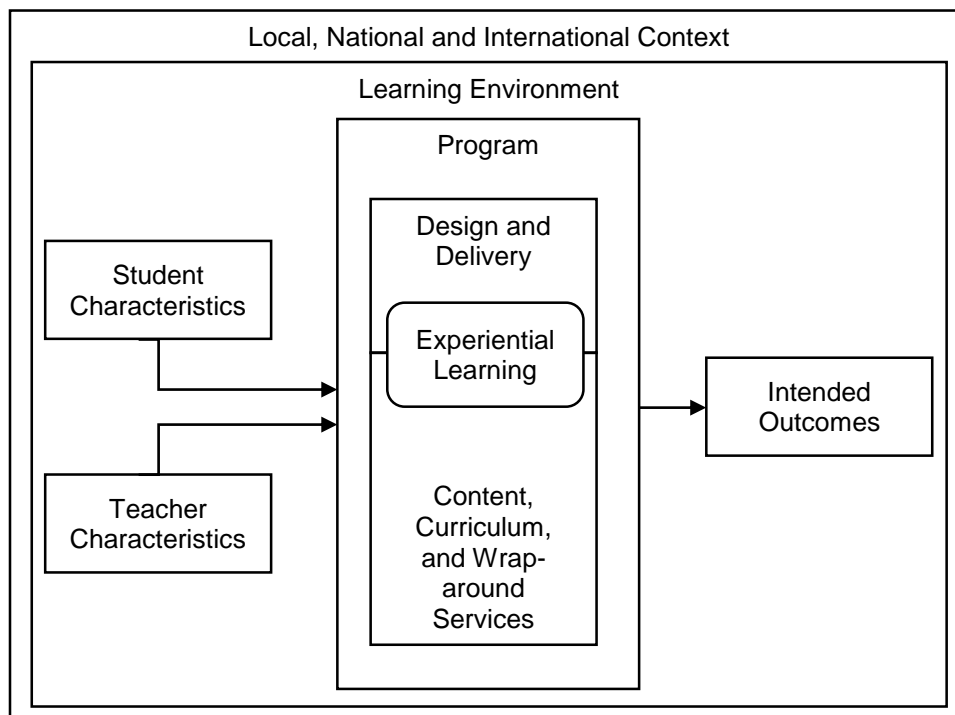
Using this typology, this review fit within the entrepreneurship education vein and focused on secondary education students. While a plethora of writing exists for higher education students and entrepreneurship training of all types, this study focused on secondary education students for several reasons. First, formal agricultural education curricula has historically been taught to this audience, so it seemed reasonable that entrepreneurship education linked to agricultural education would happen in this setting. Second, students who graduate from a secondary school have the capacity to be change agents in their communities (Markley et al., 2005). Finally, future collaborative efforts that link students, such as study abroad, may be enhanced with a common educational platform, such as may be found in a formal secondary education setting.



**Figure 1** Classifying entrepreneurial education and training programs (Valerio, Parton, & Robb, 2014, p. 3)

The conceptual framework for this review (Figure 2) is an adaptation of the one developed by Valerio et al. (2014) “in order to analyze a global sample of entrepreneurship education and training programs based on available evaluations” (p. 5). As this conceptual model served to describe the entrepreneurship education landscape and characteristics of specific programs, it served as a good basis from which to base the conceptual model for this review. The conceptual framework for this review has been modified from the Valerio et al. (2014) framework in several ways. First, specific emphasis is placed on teacher characteristics. As this study is

intended to describe the case of rural entrepreneurship programs, a key component to that is the teacher. Second, the configuration of the figure is much different. International, national, and local context envelop the main constructs. Third, youth are described as students as it is assumed that all youth in question for this review are students. Fourth, all elements are displayed in a linear fashion with directional arrows added, in an effort to show a hypothesized relationship. Finally, several variables of interest have been added. Finally, only the mindset and capabilities domains for outcomes are proposed as these were the only two domains which secondary education programs addressed (Valerio et al., 2014). Based on this framework, a synthesis of relevant literature for each of the variables of interest is provided in the following section.



**Figure 2** Conceptual Framework for the Study

For each of the variables in the conceptual framework, the study included a review of the following elements:

- *Student characteristics* included literature related to rural youth demographic profile, education, experiences, interests and intentions, and behaviors.
- *Teacher characteristics* included literature related to teacher demographic and professional profiles, entrepreneurial attitudes and any general teaching practices that were deemed relevant such as professional development activities.
- *Program design and delivery* included literature related to program design, finance, and delivery.
- *Content, curriculum and wrap around services* included literature on content for rural youth that may enhance entrepreneurial mindsets through financial literacy,

accounting, leadership, etc.; descriptions of evaluations or exams, and wrap around services such as mentoring, networking, job counseling, access to finance or technical assistance.

- *Experiential learning* was imbedded within all parts of the program and a special section of literature was included focused on unique ways programs utilized this learning approach.
- *Intended outcomes* included literature on mindsets such as socio-emotional skills and entrepreneurial awareness and capabilities such as management and vocational skills resulting from entrepreneurial programs.
- *The learning environment* included literature describing a socio-emotional learning environment.
- *The local, national, and international context* focused on relevant literature that described the entrepreneurial environment surrounding entrepreneurship education programs. The intent of this section was not to be an exhaustive description of all entrepreneurial contexts for all regions of the world; but rather to provide the reader with a few relevant tools to help analyze the local, national, and international context surrounding a program in question.

## Synthesis of Literature

### National and International Context

Several major reports point to national and international trends (or the entrepreneurial ecosystem) that affect the ability of businesses to start and persist. Regele and Neck (2012) described the entrepreneurship ecosystem as “the interaction of people, roles, infrastructure, organizations and events that create an environment for heightened levels of entrepreneurial activity” (p. 27). Government programs, physical infrastructure, access to education and training, and culture all impact this ecosystem and consequently the context of a program. The context of a program, such as one that has a positive entrepreneurial ecosystem, may directly influence the intended results with students. Conversely, a program embedded within a negative entrepreneurial context, such as one that lacks any physical infrastructure or capacity development for would-be entrepreneurs, may find it difficult to have any impact on students.

### Reports Describing the Global Entrepreneurial Ecosystem

Several studies and annual reports provide insight to the varying landscape provided to budding entrepreneurs. The *Global Entrepreneurship Index* (GEDI) report is issued by the Global Entrepreneurship and Development Institute (2015), a policy development organization based in Washington D.C. This group scored 130 countries on 14 pillars relevant to the business health of the country which gave an overall index ranking. The *Global Competitiveness Index* is a report issued by the Global Economic Forum (2015) that ranked 144 countries on their competitiveness based on a series of factors that affect the productivity of a country. The *Ease*

*of Doing Business* Report from the World Bank (2015) catalogued 189 economies on ten areas which affect the life of a business. Each of these rank scores was then combined to give an overall score which they call the ease of doing business. Collectively, these reports help to summarize the entrepreneurial landscape for budding entrepreneurs.

One of the foremost leaders in research on entrepreneurship is the Global Entrepreneurship Monitor (GEM) and the annual report they publish. The GEM (2014) report captures data that covers 90% of the world's GDP. Collectively the report addresses several entrepreneurial conditions around the world, indicating the conditions necessary for business startup. With regard to youth entrepreneurship, several criteria are of importance from this report. Specifically, insight from the individual attributes and social values towards entrepreneurship, motivation driven or improvement driven opportunity, internationalization, demographics, and the collective entrepreneurial ecosystem of a country are captured here.

Individual attributes and social values towards entrepreneurship point to differences between factor driven (e.g., those that have low-cost labor and unprocessed natural resources), efficiency driven (e.g., those that produce more advanced products and services efficiently), and innovative driven economies (e.g., those that create the most cutting edge products and services with the most advanced methods). Factor driven economies, many of which are in sub-Saharan Africa, for example, had more positive outlooks on entrepreneurship opportunities than efficiency or innovation driven economies (GEM, 2014). Innovation driven economies had the highest fear of failure (GEM, 2014). Finally, the lowest level of entrepreneurial intentions can be found in European and North American economies and the highest in African economies (GEM, 2014). Generally, factor and efficiency driven economies tended to start entrepreneurial activity out of necessity whereas innovation driven economies tended to start them out of improvement driven opportunities (GEM, 2014).

Internationalization and key demographic information all help paint a picture of the overall entrepreneurial ecosystem of countries. African countries had the least internationalized customer base; nearly 70% of early stage entrepreneurs had no customers outside of their countries (GEM, 2014). European Union countries had the highest rate of internationalized customer base (GEM, 2014). Further, globally, persons in the range between 25 to 35 were the most likely to be engaged in early stage entrepreneurial activity with North American economies having the most balanced distribution of ages (GEM, 2014). Men had the most early stage entrepreneurial activity whereas women tended to start more out of necessity and had a higher fear of failure (GEM, 2014). Finally, African economies had the lowest score across nearly all indicators of an overall entrepreneurial ecosystem, such as access to credit and physical infrastructure, while North American economies had the highest scores (GEM, 2014).

## Rural Lands

For many reasons rural areas are important to every nation. One very salient reason for retaining and building the capacity of a country's rural citizenry is the link to greater national food security (FAO, 2014). Agricultural output the world over most typically comes from lands

which are rural. Further, in many developing nations, most of the countries' populations are rural and their livelihoods are often made from agriculture (FAO, 2010). Rural areas offer cultural values with different community expectations than urban areas (Bajema, Miller, & Williams, 2002). In short, retaining members of rural communities is critical for food production, livelihoods, and cultural integrity.

Rural areas around the globe face many challenges. Globally, investment in rural areas has received mixed success. For example, education levels worldwide in rural areas are quite low. One report noted that on average rural adult males had four years of education and females had less than three in sub-Saharan Africa, South Asia, and the Middle East and North Africa (World Bank, 2012). There is a positive link between higher levels of education and greater farm output (FAO, 2010; Proctor & Lucchesi, 2012). Yet, investment in education, especially agricultural education and training, has received little or intermittent attention in many nations over the past several decades (FAO, 2010).

A significant number of rural youth migrate to urban areas which migration has been accompanied by a host of problems. Admittedly, migration may be a coping strategy for some living in poverty (Nganje, 2013). But, sustained outmigration ultimately leads to loss of human capital and a so called brain drain as talented and educated young people exit rural areas for urban centers where they have better access to high wage careers (Nganje, 2013). The numbers of people classified as poor living in urban areas are growing at a faster rate than overall urban growth in many of the world's poorest countries (Cohen, 2006). "Rapid urban growth throughout the developing world has seriously outstripped the capacity of most cities to provide adequate basic services for their citizens" (Cohen, 2006, p. 64). "... the population of Africa is growing rapidly- almost twice as fast as any other major region of the world... [by 2030], Africa's urban population will be larger than that in North America, Europe, Or Latin America" (Cohen, 2006, p. 77). Despite efforts by many stakeholders, youth worldwide persistently migrate to cities, exiting the agriculture industry and rural areas (FAO, 2014). As outmigration trends persist and youth flock to urban areas, an increased strain has been put on many country's already scarce economic and food resources (Cohen, 2006; FAO, 2014).

## Box 1

### **Self-Funded Schools that Teach Entrepreneurship through Agriculture**

Fundación Paraguaya

Paraguay, South America and Tanzania, Africa

#### *The San Francisco Agriculture School – Paraguay*

Situated in rural Paraguay, the San Francisco Agriculture School has become a flagship program for a growing movement of self-funded schools. In addition to receiving a high quality education, students are *learning by doing* entrepreneurship through several student-run enterprises. Students may be involved in raising goats, hens and broilers, swine, bees, trees, producing dairy and milk products, or extensive cropping. In addition to students learning skills and developing an entrepreneurial mindset that makes them more likely to be employed, the school's projects have made it completely self-funded since 2006.

#### *The SEGA Girls School - Tanzania*

Following the success of the self-funded model in Paraguay that teaches students agricultural entrepreneurship mindsets and skills, the SEGA Girls School near Morogoro, Tanzania is adopting a similar approach as their sister school from half a world away. Funded by the Fundación Paraguaya and Mastercard Foundation, the SEGA Girls School will incorporate hands on entrepreneurship training to their traditional secondary school curricula through raising chickens, operating a bakery, and other income generating enterprises. Students are equipped with practical skills in production and entrepreneurship that also help make the school financially self-sufficient.

[www.fundacionparaguaya.org.py/?lang=en](http://www.fundacionparaguaya.org.py/?lang=en)

[www.nurturingmindsinafrica.org/sega-girls-school/](http://www.nurturingmindsinafrica.org/sega-girls-school/)

[www.mastercardfdn.org/building-financial-self-sufficiency-with-fundacion-paraguaya](http://www.mastercardfdn.org/building-financial-self-sufficiency-with-fundacion-paraguaya)

## Youth in Agriculture

Studies also showcase the context surrounding youth worldwide who may wish to enter agriculture as a livelihood. IFAD stated in a (2014) report that youth are not necessarily opposed to agriculture or rural areas per se, but want activities that can give them a satisfactory livelihood. They leave rural areas due to lack of opportunities (IFAD, 2014). Worldwide, other challenges persist for youth. For example, in Mali, there has been a recent development of the tea drinking unemployed men who have had some formal schooling but now cannot find non-manual work. In Egypt, and other parts of the Middle East, young people are said to be in *waithood*, waiting for the pieces of their lives to fall together. In India, youth are said to be in *timepass*, taking other courses rather than going back to their villages. Youth are discouraged from entering agriculture as it is downplayed in society and few opportunities exist to develop skills which make them employable. Also, the physical infrastructure in rural areas limits the possibility. White (2012) concluded that youths' aversion to farming may be

more of a function of not wanting to wait to receive land, more than actual aversion to agriculture as a livelihood – they may not want to realize this “timepass.”

Box 2

**Reversing Rural Exodus and Poverty through Food and Agriculture and Social Entrepreneurship**

Green Shoots Foundation  
India and Southeast Asia

Through their Food & Agriculture and Social Entrepreneurship (FASE) Initiative, the Green Shoots Foundation is working to promote rural entrepreneurship. Working with local NGOs in the area, Green Shoots focuses primarily on underprivileged students and young professionals by funding school based food and agriculture experiments, vocational training, technical assistance and otherwise generally investing in food and agriculture or rural social enterprises. Using a strong microfinance base, they are able to leverage local partners to work in new or underserved areas of Southeast Asia, encouraging youth to see rural areas as places of opportunity.

[www.greenshootsfoundation.org](http://www.greenshootsfoundation.org)

Even youth who are interested and willing to pursue a livelihood in agriculture face many barriers. First education, especially in developing nations has been a problem. Both the stigma around agriculture and lack of resources is compounded by, in many cases, an extreme lack of general education in agriculture and associated technical skills at every possible level of entry (Zinnah, Steele, Carson, & Frempong, 2011). Often, a country’s capacity for equipping youth with education is extremely limited due to myriad factors which may include a poor infrastructure, shortage of teachers and extension workers, and the fact that youth, especially females, have limited availability to attend formal education due to family obligations or no money to pay school fees (Acker & Gasperini, 2009; FAO, 2009). Also, youth who may otherwise be willing to be engaged in agriculture lack the necessary resources such as land and capital (FAO, 2014; Kibwika & Semana, 2001). In the United States, youth have faced similar challenges. High land prices and limited access to capital has impeded many would-be young farmers (Shute, 2014). When considering all of these possible contributing factors, it is little wonder youth have had limited motivation to engage in agriculture.



### Box 3

#### **Adopting Home Entrepreneurship Projects**

AgriCorps

Ghana, Africa

Through establishing, or enhancing 4-H programs as a co-curricular part of lower and upper secondary schools, AgriCorps is an NGO working to promote youth agricultural entrepreneurship. AgriCorps members, who must be former 4-H or FFA members, serve a minimum one year term as a teacher, advisor and extension agent in the community in which they are placed. The components of home-based entrepreneurship projects are taught to students using school facilities. AgriCorps members help to facilitate linkages between students, local markets and input providers. Through home entrepreneurship projects, students are able to establish an income-generating enterprise and learn business skills while they are still in school.

[www.agricorps.org](http://www.agricorps.org)

## Learning Environment

Instruction in an agricultural entrepreneurship education program appears to take place in a socially mediated, experiential environment as described by Social Cognitive Theory (Bandura, 1986; 1997). According to Social Cognitive Theory, learning is the result of observation and the reciprocal interaction between people, behavior and one's environment (Bandura, 1977). Social Cognitive Theory asserts that humans are products of learning; they recognize symbols and are influenced by the person, behavior and environment, called reciprocal determinism or triadic reciprocity (Bandura, 1986). The interaction between each of the three factors is dynamic. Personal factors, such as a student's perceived self-efficacy interact with the external environment, such as an encounter with a fellow student that elicits a particular behavior from the student. The social interactions and vicarious learning of human learners is key to social cognitive theory and is central to the interplay between these three factors (Bandura, 1986). As agricultural entrepreneurship education happens in a social environment, this theory appropriately captured the interplay between the personal factors of agricultural entrepreneurship students, their external environment such as the classroom or land lab, and a particular behavior they may demonstrate, such as entrepreneurial skills or abilities. Any future investigation or programmatic design should account for this socially mediated learning environment and frame efforts accordingly.

#### Box 4

##### **Empowering Girls through a Unique School-Based Innovation**

Uganda Rural Development & Training Program

Uganda, Africa

The Uganda Rural Development & Training Program (URDT) was established to implement a functional education that teaches students skills, consciousness and serves as an intervention for rural development. URDT has several programs such as the URDT Institute, African Rural University, Rural Livelihood Program, Community Cooperation Program, and the Rural Communication Program. However, it is the URDT Girls Secondary School that is coupling agricultural entrepreneurship training with the national curriculum to create change agents for rural areas of Uganda. Established in 2000, this boarding school, situated in the Kibaale district, offers practical skills in production agriculture, as well as programming designed to develop students as change agents. Students disseminate their knowledge to their family members through home-based agriculture projects, parent workshops, theater, and radio programming.

[www.urdt.net](http://www.urdt.net)

## Program Characteristics

### Experiential Learning

Entrepreneurship education programs have experiential learning embedded as a common framework of instruction. One of the most salient theories on experiential learning came from Kolb (1984). According to Kolb (1984), learning is a process grounded in experience, not an outcome. Experiential Learning Theory is “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience” (Kolb, 1984, p. 41). Kolb (1984) proposed a four-stage learning cycle: concrete experiences, reflection, thinking/conceptualization and taking action. Knowledge is therefore thought to be constructed through this iterative process (Kolb, 1984).

Experiential learning theories have been used in a variety of disciplines and in a variety of applications. It has been used in researching agricultural education (e.g. Baker et al., 2014; Baker, Robinson, & Kolb, 2012; Bobbitt & Goertz, 1993; Conner & Roberts, 2015; Pennington et al, 2015; Shoulders & Myers, 2013;) as well as entrepreneurship education (e.g. Cooper, Bottomley, & Gordon, 2004; Dhilwayo, 2008; Morris et al., 2013; van der Sijde et al., 2008). Students must be motivated to be entrepreneurs through practice and experience of the entrepreneurship process through hands-on activities (Muir-Leresche, 2013). Morris et al. (2013) described the connection between entrepreneurship education and experiential learning as follows:

The discipline of entrepreneurship finds itself at the leading edge in terms of introducing new experiential learning methodologies and techniques in higher

education. As the curriculum has expanded and degree programs have taken root in many schools, there has been an accelerated rate of experimentation with novel experiences. These are occurring both in the classroom and as co-curricular activities. (p. 92)

#### Box 5

##### **Fostering Life and Entrepreneurship Skills through Experiential Field-based Programs**

Junior Farmer Field and Life Schools

Global

The International Labor Organization (ILO) and Food and Agriculture Organization of the United Nations (FAO) worked together to develop a unique methodology and curriculum that combines agriculture, life and entrepreneurship skills called Junior Farmer Field and Life Schools (JFFLS). This program is taught using an experiential and participatory learning approach that is well designed for its intended rural audiences. JFFLS is intended to be inclusive of in and out of school youth and primarily for those youth living in rural areas who have been orphaned or are highly vulnerable due to HIV and AIDS. The program is implemented and run by a small group of local facilitators. Students work with adults to develop a student-run farm that is also a training field for entrepreneurship and life skills. Special attention is given to promoting gender equal attitudes.

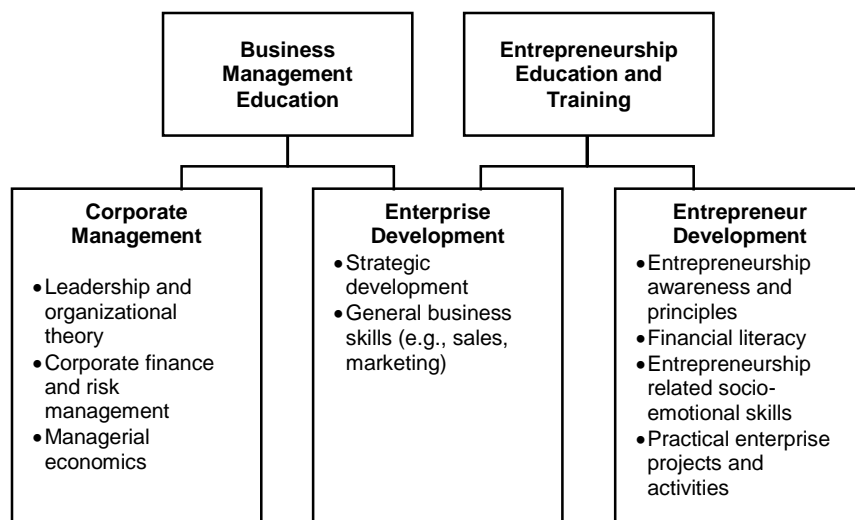
[www.fao-ilo.org/?id=20904](http://www.fao-ilo.org/?id=20904)

<ftp://ftp.fao.org/docrep/fao/010/a1111e/a1111e01.pdf>

#### Entrepreneurship Education

Entrepreneurship education programs are generally designed to stimulate entrepreneurship and are focused on building knowledge and skills about entrepreneurship (Valerio et al., 2014). They differ from entrepreneurship training programs in that programs focus more on explicitly developing knowledge and skills in preparation for starting and operating a business (Valerio et al., 2014). Despite some question to the matter, many have demonstrated that entrepreneurship skills and mindsets can be taught (Markley et al., 2005; Morris et al., 2013; Valerio et al., 2014).

Entrepreneurship education and training also differs from business management education in a number of ways, as shown in Figure 3. Corporate management focuses on leadership, finance, risk management and economics. Enterprise development, which has characteristics of both management and entrepreneurship education focuses on strategic development and more general business skills. Pure entrepreneurship education focuses on awareness and principles of entrepreneurship, financial literacy, socio-emotional skills necessary for the successful entrepreneur, and practical enterprise and project activities.



**Figure 3** Division of business management education and entrepreneurship education (Valerio et al. 2014; European Commission Enterprise and Industry, 2009)

Secondary or high school level students have been an important target audience for entrepreneurship education programs (Valerio et al., 2014). By definition, these programs are focused on students enrolled in formal education at the secondary level, as opposed to programs focused on out of school youth the same age. Enrollment in secondary education around the world is increasing, bringing with it positive changes (Muir-Leresche, 2013). While a proliferation of programs exist for out of school youth, special attention must be given to those youth who are enrolled in formal education and receiving entrepreneurship training as they are likely to be agents of change in their communities (Markley et al., 2005).

Entrepreneurship education has been delivered through co-curricular and extracurricular programs. “Co-curricular” refers to activities done in tandem with formal curricula, but outside of the scope of normal course hours. Co-curricular programs have been used successfully in higher education entrepreneurship programs (Morris et al., 2013) as well as in the secondary level setting. Daniel and Kent (2005) reported several prominent national co-curricular and extracurricular organizations within the U.S. that were focused on youth entrepreneurship education. Specifically mentioned were the Kauffman Center for Entrepreneurial Leadership; Kids Way/ EDGE; BizWorld; Education, Training & Enterprise Center; National Foundation for Teaching Entrepreneurship; Program for Acquiring Competency in Entrepreneurship (PACE); and Rural Entrepreneurship through Action Learning (REAL) (Daniel & Kent, 2005). Also, several prominent youth and educational organizations with youth entrepreneurship programs were described: Boy Scouts of America; Business Professionals of America; DECA; National FFA Organization, 4-H; and Junior Achievement (Daniel & Kent, 2005). Few programs, except the Kauffman Foundation, were found to have scales to measure impact (Daniel & Kent, 2005). A more complete list of entrepreneurship education and training programs and services which may not be contextualized within agriculture can be found in Appendix 1.

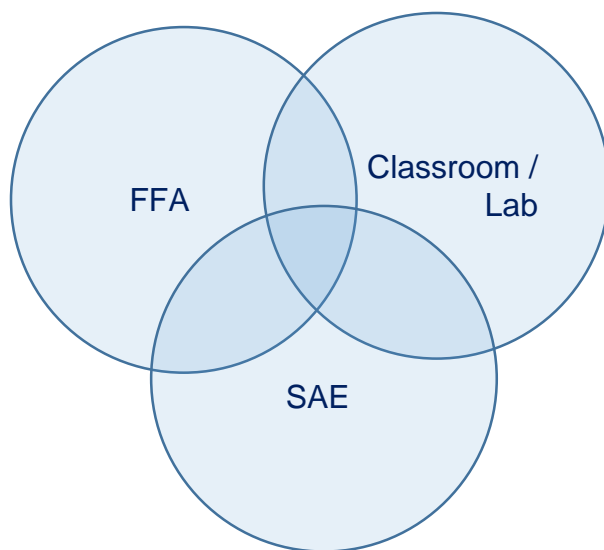
## Agricultural Entrepreneurship Programs around the World

Agricultural entrepreneurship opportunities exist in rural areas. Whether it be selling lavender plants in rural Washington state (Markely et al., 2005) or raising poultry in Paraguay (Acker & Gasperini, 2009), entrepreneurship opportunities have abounded in rural areas all across the globe. Today, entrepreneurship is being promoted in agriculture by the American Farm Bureau (2015), USDA (n.d.), and the United Nations (n.d.). Globally, Cho (2015) reported that vocational and technical training for youth is often coupled with entrepreneurial programming. These programs, especially when coupled with financing or counseling tend to have the most positive outcomes for youth (Cho, 2015). After analyzing several entrepreneurship programs aimed toward the poor in developing countries, Cho (2015) recommended combining training with financing of participant entrepreneurial ventures, engaging the private sector for program delivery, and focusing programming specifically on youth. Despite the seeming endless business venture opportunities, few youth have entered agriculture as entrepreneurs. Engaging youth is critical, especially in key industries such as agriculture, as they represent a growing segment of society worldwide and are, quite literally, the future decision makers.

Students will only be highly motivated and interested in agriculture when they can clearly see the benefits. Exposure to entrepreneurship, the application of what they learn to the real world and close links with primary producers, communities and all the stakeholders in agriculture, will help to encourage the youth to invest in agriculture. (Muir-Leresche, 2013, p.11)

Today, there are a proliferation of entrepreneurship education and training programs around the world, many of which are teaching entrepreneurship through agriculture (Valerio et al., 2014). Government and non-governmental organizations across the globe have begun offering funding and programming for entrepreneurship and training (Morris et al., 2013). While co-curricular and extracurricular programs for secondary education programs in rural areas of the world are relatively rare, programs such as 4-H, FFA, in the U.S. and others around the globe do exist and are having an impact on student participants.

The United States has had a long history of engaging youth in agriculture and entrepreneurship ventures through educational platforms such as school-based agricultural education and youth programs such as FFA and 4-H (Phipps, Osborne, Dyer, & Ball, 2008). In a unique tripartite teaching platform, agricultural education has been taught through the classroom and laboratory setting, supervised agricultural experience programs (SAE) and leadership development and competition within the FFA (Phipps et al., 2008). This model is often expressed in three concentric circles (Figure 4). A balanced agricultural education program has all three components and is represented by the central portion of the overlapping circles.



**Figure 4** The prototypical model of agricultural education

The FFA and 4-H organizations in the U.S. have had a global presence, shaping agricultural education around the globe. The National FFA Organization, formerly Future Farmers of America, began in 1928 in the United States, but quickly spread their model of learning by doing around the globe (Connors, 2013). Based on the U.S. model, there have been the Future Farmers of Greece, Japan, Canada, Southeast Asia and the Pacific, Australia, and several nations in Africa, the Middle East, Central and South America (Connors, 2013). While the focus of the programs is to engage youth in agriculture, the name often changes. For example, in Kenya, young farmers clubs (KYFC) have been implemented (Njoroge, Mwangi, & Udoto, 2014). Additionally, the 4-H has had a presence in many countries around the world with a recent emphasis on Africa (National 4-H Council, 2015). 4-H in Ghana, for example, has taken a specific focus on home-based entrepreneurship programs for middle and high school students (T. McKnight, August, 2015, personal communication). These programs have had a profound shaping effect on agricultural education around the globe and with the influence, the prospect of entrepreneurship to be taught through an agricultural context.

Other components of the school-based agricultural education model can be found around the world. For example, in Egypt, Barrick, Roberts, Samy, Thoron, and Easterly (2011) reported implementing a placement type SAE which was used as the platform to establish internships. Okiror, Matsiko, and Oonyu (2011) compared the learning achievement of pupils taught using supervised home-gardens and those taught using school gardens. While they found no statistical difference between the two groups on knowledge of agriculture or parent's attitudes towards school agriculture, they did find that home gardening showed benefits such as personal income and purchase of productive assets from proceeds, provision of additional food to the household, and generally independent learning (Okiror et al., 2011). Home-based programs, such as gardening, modeled after the school-based agricultural education model, have had an impact on youth around the world.

Box 6

**Connecting Home Based Entrepreneurship Programs to the Classroom and Competition**

National FFA Organization

United States, North America

Agricultural education in the United States is offered to high school students through a unique three part teaching platform: classroom and laboratory setting, supervised agricultural experience programs (SAE) and leadership development and competition through involvement with the National FFA Organization (Phipps, Osborne, Dyer, & Ball, 2008). School-based agricultural education has a long history of teaching entrepreneurship in an agricultural context through this unique platform. Through their SAE, students in most states have been required to have a personalized program which can mean starting and running their own business, called an entrepreneurship / ownership SAE (Phipps et al., 2008). Students would take the necessary steps to invest their time and money to starting the enterprise, keep records on the operation, and be able to apply for awards for increased levels of efficiency through the FFA awards structure. Students also learn skills and knowledge relevant to their operation through classroom and laboratory instruction which helped further improve their entrepreneurship endeavors.

[www.ffa.org](http://www.ffa.org)

[www.ffa.org/about/supervised-agricultural-experiences](http://www.ffa.org/about/supervised-agricultural-experiences)

European secondary schools have a strong focus on entrepreneurship. In fact, nearly 90% of Norwegian high schools offer entrepreneurship education (Johansen & Schanke, 2013). European education focuses on agricultural entrepreneurship primarily through vocational education and training. “Entrepreneurship is included in the national curricula for vocational education in a majority of European countries, at least to some extent. Moreover, some countries report that between 90% and 100% of vocational education students participate in entrepreneurship programmes at some point during their vocational education path” (European Commission on Enterprise and Industry, 2009, p. 7).

In a report issued by the European Commission on Enterprise and Industry (2009), a group represented by 25 European countries, a list of good practice indicators for entrepreneurship education in vocational schools was given that includes:

- 1) The program or activity:
  - a. has well-defined objectives and appropriate measures of success and is regularly evaluated.
  - b. is adapted to the students’ learning environment and to their specific fields of study.
  - c. stimulates the students and teachers to look beyond the borders of their school environment to exchange ideas or experiences



- d. is part of a wider scheme: students are followed after participation in the program, and are referred to the right support mechanisms if they want to start up a business.
  - 2) There is a good balance between theory and practice. The program or activity is action oriented, based on experience and project work. It aims to improve the students' abilities to work in a team, develop and use networks, solve problems, and spot opportunities.
  - 3) Students are actively involved in the learning process, and responsible for their own education.
  - 4) The institution has external links with enterprises, experienced business people and young entrepreneurs, and with the local community. Entrepreneurs are involved in the learning process.
  - 5) Students are exposed to real-life work situations and encouraged to take part in extracurricular activities. External events, activities and contests are organized.
  - 6) Teachers have an appropriate qualification in entrepreneurship through experience in business and/or participation in training. They use up-to-date study materials and up-to date knowledge.
- (European Commission on Enterprise and Industry, 2009, p. 30).

#### Box 7

##### **Fostering Entrepreneurial Mindsets and Skills through Curriculum**

National 4-H Council

United States, North America and globally through partnerships

4-H is an extracurricular program offered across the United States and world through clubs, camps, after school and school enrichment programs. While programming offered through 4-H is widely varied to fit the diverse needs of its membership, some curricula have been developed that expressly focus on entrepreneurship. The "Be the "E" curriculum is an entrepreneurship focused curriculum that helps students develop an entrepreneurial mindset and develop entrepreneurial skills. Another curriculum developed by the Nebraska Extension was titled "EntrepreneurShip Investigation" and focuses on middle and high school students. This curriculum helps students identify a business opportunity and draft a business plan. Many 4-H programs exist around the world, some of which have taken a focus on entrepreneurship, such as those established by AgriCorps.

[www.4-h.org](http://www.4-h.org)

[www.new.4-hcurriculum.org/projects/entrepreneur](http://www.new.4-hcurriculum.org/projects/entrepreneur)

[www.esi.unl.edu](http://www.esi.unl.edu)

The Bulgarian Ministry of Economy and Energy and Junior Achievement teamed up to develop Centers for Entrepreneurship in vocational schools around Bulgaria. As part of the initiative, students form and run a mini-company for one year. This annual activity is then coupled with

trade fairs, competitions, and joint projects between the schools, students, and businesses within the local community (European Commission on Enterprise and Industry, 2009).

The Malaysian government recently focused on women and youth in entrepreneurship through several initiatives aimed at developing skills and entrepreneurial thinking (Nor, 2015). Through tactics such as micro-credit, agricultural entrepreneurship training and business incubators, the government hopes to develop Malaysia into an entrepreneurial nation by fostering 1,000 new entrepreneurs by 2020 (Nor, 2015).

### Wrap Around Services

Wrap around services are support services that may be provided to beginning entrepreneurs to help boost their success. Examples of wrap around services are providing access to funding, information communication technology, and mentors among many others.

*Student Funding*--Recent insight has been found concerning best practices for funding schemes for rural youth which may include providing access to them while they are in school. The International Fund for Agricultural Development, IFAD issued several reports that focused on financing rural youth in the developing world (2015a; 2015b). One report (IFAD, 2015a) concluded that rural people did not have the same access to financial services as those living in urban areas, physical distance to financial service providers was a significant barrier, and financial products did not match the realities of rural needs or economies based on agriculture. Additionally, the report concluded young people face legal and regulatory restrictions and have limited knowledge of financial services and they face a pervading perception that youth are not good banking clients (IFAD, 2015a). Another report concluded that youth do practice savings, but in unsafe places and do so erratically (IFAD, 2015b). Groups were frequently used with youth lending schemes and schools were an effective point of entry for youth (IFAD, 2015b). Some financial services were being offered through teachers or other trusted adults which was also coupled with non-financial services such as financial education (IFAD, 2015b). Owualah (1999) evaluated the Nigerian youth loan scheme, which had been developed by the Nigerian government, to determine if the use of a loan scheme developed self-employment by Nigerian youth. Owualah (1999) concluded that the loan scheme appeared to help develop self-employment in agriculture and other jobs and in rural areas.

*Information Communication Technology*--High schools and the use of information communication technologies, ICT, have been a platform for providing financial services to youth. Ngurukie and Deshpande (2013) found efforts to reach out to school age students in developing countries at their schools was difficult due to legal restrictions and a lack of access to a trusted adult. Ramirez and Nelson (2014) found credit unions in Ecuador offered savings schemes and financial education to high school youth. These credit unions used text-messaging to promote individual savings accounts.

#### Box 8

##### **Connecting Youth in Agricultural Entrepreneurship through Information Communication Technology (ICT)**

Mkulima Young

Kenya, Africa

This web-based platform called Mkulima Young, is designed to encourage youth to engage in issues related to agriculture, help them market their products, find resources, get their questions answered, and network in a virtual space. Mkulima means farmer in Swahili. Using social media, Mkulima Young has engaged and equipped young farmers across Kenya.

[www.mkulimayoung.co.ke](http://www.mkulimayoung.co.ke)

*Mentors*--IFAD, (n.d.) recommended the following to develop young entrepreneurs: facilitate mentorship, enhance business development services for youth, link business development to youth groups, sensitize stakeholders to gender issues, develop communications channels for youth, and involve technology. Mentors may play a shaping role with youth entrepreneurs. The usefulness of mentoring in entrepreneurship education has also been described by Valerio et al. (2014) and Morris et al. (2013).

#### **Programs have Widespread Variability**

Unfortunately, there is widespread variability in entrepreneurship education and training programs with limited focus on evaluation (Cho, 2015). Cho and Honorati (2013) used existing data to perform a meta-regression analysis on entrepreneurship program impacts from developing countries. After analyzing thirty-seven impact evaluations on entrepreneurship programs in the developing world, they found wide variation of program effectiveness (Cho & Honorati, 2013). They also found that overall entrepreneurship programs had a large, positive impact for youth on entrepreneurial mindsets, such as business knowledge and practice), but had not yielded actual business setup (Cho & Honorati, 2013). The National Commission for Women and Children Thimphu, Bhutan (2013) pointed to the need for course accreditation in order to improve both the quality and relevancy of programs focused on entrepreneurship. They also advised such activities as developing business incubators, entrepreneurial parks, formation of self-help groups, and subsidized credit support in order to cultivate a culture of entrepreneurship (The National Commission for Women and Children Thimphu, Bhutan, 2013).

## Box 9

### **Integrating Entrepreneurship with School-Based Agriculture Curriculum**

The Orkeeswa School  
Tanzania, Africa

The Orkeeswa School is a comprehensive day school situated in rural northern Tanzania. As part of its holistic model, Orkeeswa offers students a six week entrepreneurship program prior to their Form Five year. Students receive a curriculum focused on business identification, marketing, financial literacy, and writing a business plan. The final project for participants is to pitch their idea to school staff and local business owners. The best idea is selected and receives startup funding. To date, students have established or enhanced businesses in buying and selling chickens and eggs as well as starting a shop. All of these projects are run while students are still enrolled in school. As a result, students are developing an entrepreneurial mindset, skills in running their own business, and earning an income that can be used for school fees or put toward college savings.

[www.ieftz.org](http://www.ieftz.org)

## Student Characteristics

### Youth as Stakeholders

Coupled with their growing numbers, youth worldwide have traditionally been ignored as stakeholders (FAO, 2014). Recently, U.N. Secretary General Ki-moon (2015) focused his sights on the youth challenge, calling for a more inclusive, participatory, and gender balanced set of policies for youth to help enfranchise the largest generation of youth ever to arrive. “Youth, especially in rural areas, do not usually constitute an organized and vocal constituency with the economic and social power to lobby on their own behalf” (Bennell, 2007, p. 5). Despite their global size, rural youth collectively have lacked political and social power. This has been in part due to traditions that have dictated that older members of the community, typically males, held the positions of power. Often these traditions have been coupled with policies that undergird the position that youth are “viewed as presenting ‘problems’, which need to be solved through the intervention of older people” (Bennell, 2007, p. 8).

## Box 10

### **A Network for Policy, Advocacy, and Business with Rural Youth**

Rural Youth Europe

Finland, Europe

Rural Youth Europe (RYEurope) is an organization that represents 21 member organizations from 18 European countries and annually has around 500,000 participants. Through a yearly seminary and rally, members meet to discuss and advocate topics of rural development and agricultural and environmental policy. Based in Finland, the NGO was originally formed in Germany in 1957. The three main activities are the Autumn and Spring Seminars and the European Rally. The organization promotes youth networking, intercultural dialogue, shaping rural youth policies, and establishing projects that involve young people in rural areas.

[www.ruralityoutheurope.com](http://www.ruralityoutheurope.com)

### Youth Employment

Entrepreneurship education may be a way to stem youth unemployment or underemployment. A growing number of youth worldwide have become or have been underemployed or unemployed, especially in rural areas, which has led to many problems. Globally, youth unemployment was at 13.1% in 2013, which was up from 12.9% in 2012 and 11.6% in 2007 (ILO, 2014). “The share of young people that are neither in employment, nor in education or training has risen in 30 out of the 40 countries for which data are available for 2007 and 2011-12” (ILO, 2014, p. 21). Youth have been three times more likely than adults to be unemployed (ILO, 2013). In 2013, global youth unemployment was estimated at just over 73 million which represented an increase of over three-quarter of a million youth unemployed since 2011 (ILO, 2013). “One in six youth in a developed nation were without a job and not in education or training” (ILO, 2013, p. 4).

Rural youth in developing nations have been forced to become adults quickly to help sustain families.

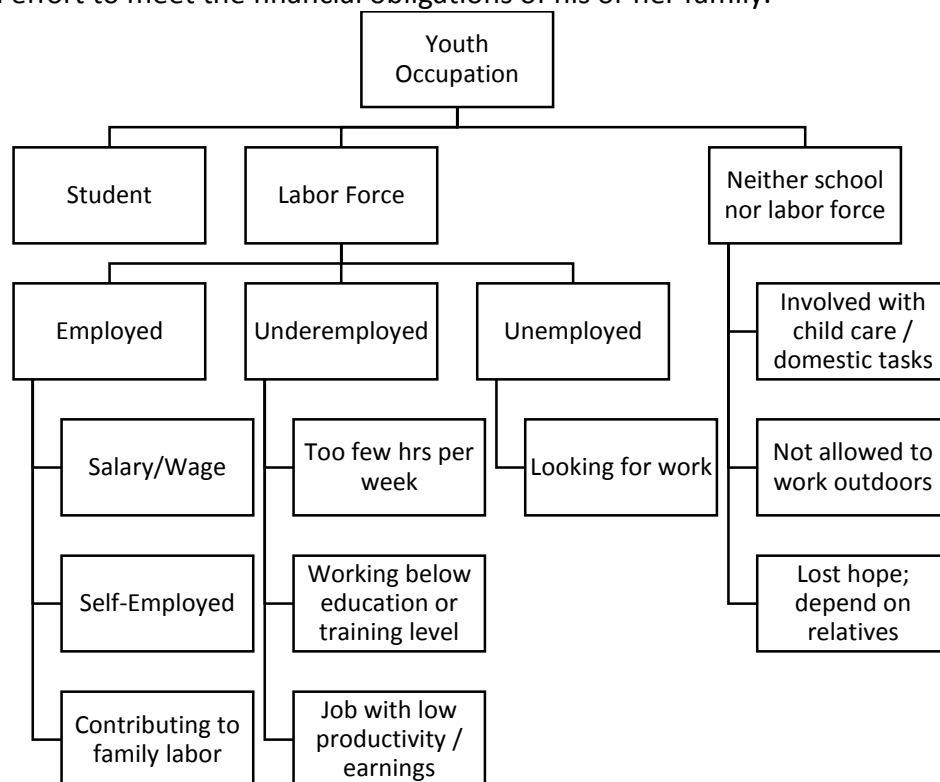
Rural survival strategies demand that young people fully contribute to meeting the livelihood needs of their households from an early age. Consequently, youth as a transitional stage barely exists for the large majority of rural youth, and the poor in particular. Many children aged 5-14 also work (for example, 80% in rural Ethiopia). (Bennell, 2007, p. 2)

Urban unemployed youth are primarily better educated than their rural counterparts and can afford to postpone employment, waiting on a well-remunerated job (Bennell, 2007). Nearly 90% of Africa’s rural youth are self-employed or employed on family farms and only 30% have completed primary school (International Youth Fund, 2014).

Serious underemployment is the main issue of youth where many seem to be trapped in predominantly household-based activities with low productivity (Bennell, 2007).

In countries and regions with high poverty levels and high shares of vulnerable employment, the youth employment challenge is as much a problem of poor employment quality as one of unemployment. For instance, south Asia and Sub-Saharan Africa present relatively low regional youth unemployment rates, but this is linked to high levels of poverty, which means that working is a necessity for many young people. In India, there is evidence that youth unemployment rates are higher for families with incomes over the US\$1.25 poverty rate than for those with incomes under this poverty line. (ILO, 2013, p. 4)

Nearly twenty-five percent of youth worldwide are from households earning less than one dollar per day (Bennell, 2007). Figure 5 shows potential occupations for youth. While the hierarchy implies that a youth may be in only one category at a time, the reality is that a youth may be engaged in more than one category at a time. For example, a student may also be self-employed, in an effort to meet the financial obligations of his or her family.



**Figure 5** Youth Occupation Options (van der Geest, 2010)

Perhaps most insidious to the youth conversation is that history has proven that youth who feel marginalized and unable to affect their situation, and are hungry, may turn to conflict as a means of affecting change. Ignoring youth that have been unemployed and landless is often a

precursor to conflict (UNESCO, 2009; World Bank, 2011). Rural youth have been involved in civil wars that seriously impede the long-term development of a country (Bennell, 2007). Ignoring the needs of youth, especially in developing and food insecure parts of the world, is simply not an option.

#### Box 11

##### **Establishing Youth Entrepreneurship and Agribusiness**

Global Youth Innovation Network (GYIN)

West and Central Africa

Established in 2011, the Global Youth Innovation Network (GYIN) is a platform for networking, mentorship, knowledge sharing and collaboration for urban and rural youth entrepreneurs. Their focus is on four main programs: Creating Opportunity for Rural Youth (CORY), the Global Youth Business Incubator (GYBI), I am a GYINer Campaign, and the Youth Agribusiness, Leadership, and Entrepreneurship Summit on Innovation (YALESI). GYIN works to develop the capacity of rural youth to create future employment opportunities through agribusiness, entrepreneurship, and leadership programs and policies that are designed to address the causes of youth unemployment.

[www.gyin.org](http://www.gyin.org)

#### Youth Aspirations

Generally, several studies underscore the notion that youth are uninterested in careers related to agriculture or persisting in rural areas but may have aspirations for becoming entrepreneurs (Alibaygi & Poya, 2011; Ball & Wiley, 2005). Further, rural youth may have different aspirations than their urban or non-agriculture counterparts (Apoostal & Bilden, 1991; Conroy, 2000). While their aspirations are malleable, students must be influenced at the right time (Hoover & Scanlon, 1991; Scanlon et al., 1989).

Alibaygi and Poya (2011) studied rural boys, aged 15-28, who were living in the western part of Iran to determine the entrepreneurial intention of this population. They took a stratified random sample of 351 rural youth in a survey and found one third had high or very high entrepreneurial intentions and most had a moderate inclination to becoming future entrepreneurs (Alibaygi & Poya, 2011). Also, they concluded six factors were significant determinants of entrepreneurial intent: relation with parents, attitude towards agriculture, work experience, intent to migrate, parents' level of income, and parents' educational level (Alibaygi & Poya, 2011).

Many studies have been done on the aspirations of rural youth in the United States, most of which found these rural youth do aspire to some form of post-secondary education, but often do not aspire to agricultural careers (Apoostal & Bilden, 1991;



Bajama, Miller, & Williams, 2002; Ball & Wiley, 2005; Conroy, 2000). In fact, when asked to describe someone involved in agriculture, Holtz-Clause and Jost (1995) found Iowa middle school students think of an old man, dressed in overalls, smelling dirty, chewing on straw. Additionally, agriculture was always equated to farming (Holtz-Clause & Jost, 1995). Youth's perceptions of agriculture, agricultural education, and the FFA are formed at or before junior high (Hoover & Scanlon, 1991; Scanlon, Yoder, & Hoover, 1989).

Rural youth aspiring to professional and managerial occupations were more likely to migrate away from rural areas by the time they were 35 than those aspiring to blue collar occupations (Brooks, Lee, Berry & Toney, 2010). Parents' educational expectations for their child was positively related to rural youths' educational aspirations (Byun, Meece, Irvin, & Hutchins, 2012). Also, discussions about college between parents and children were positively related to educational aspirations of their children (Byun et al., 2012). Teachers' educational expectations for their students were also positively related to the students' educational aspirations (Byun et al., 2012).

#### Box 12

##### **Linking Young Farming Entrepreneurs through Training and Information Sharing**

Caribbean Farmers Network  
Caribbean

The Caribbean Farmers Network (CaFAN) was formed in 2004 to serve as a regional network for farmers' organizations and NGOs in the Caribbean. They offer training workshops, advocacy, tours, and information sharing. Further, they host regional planning sessions and produce a variety of publications as well as a radio talk show. Engaging young people in agricultural entrepreneurship is a key focus area of CaFAN. They work to build youths' capacity through regional workshops and networking events.

[www.caribbeanfarmers.org](http://www.caribbeanfarmers.org)

## Teacher Characteristics

Several studies about teacher characteristics have come out of Finland. Ruskovaara and Pihkala (2013) studied 521 high school teachers in Finland to determine classroom practices used in entrepreneurship education. They found practice varied based on teachers' perceptions of their own entrepreneurship competency (Ruskovaara & Pihkala, 2013). The most frequently used methods were "discussions about current financial news, the effects of different financial measures, and entrepreneurship related to the subject taught" (Ruskovaara & Pihkala, 2013, pp. 208-209). Many teachers used stories about entrepreneurs and entrepreneurship-related teaching materials, but few used visits to businesses (Ruskovaara & Pihkala, 2013). Teachers who had attended training on entrepreneurship education were more likely to take an active approach to implementing active learning strategies to their own entrepreneurship education

courses (Ruskovaara & Pihkala, 2013). “Teachers who took part in training were three to four times more advanced in their use of entrepreneurship education methods such as the use of stories, games, projects, discussions about the economy, and student-led development of entrepreneurial related materials such as presentations” (Ruskovaara & Pihkala, 2013, p. 212). Finally, they found that teachers who felt they had no entrepreneurship education skills used more abstract teaching methods such as discussion whereas teachers who perceived they had more advanced skills used more challenging methods such as projects, entrepreneurship games, and discussions based on the economy (Ruskovaara & Pihkala, 2013).

Seikkula-Leino, Ruskovaara, Ikavalko, Mattila, and Rytola (2010) focused on the reflection practices of high school teachers in Finland. Through analyzing teachers’ reflective writing about entrepreneurship education, they found teachers were seeking coordination between subjects for implementing entrepreneurship education (Seikkula-Leino et al., 2010). Teachers also were confused between the goals and methods of instruction and had a limited scope of what constituted entrepreneurship education (Seikkula-Leino et al., 2010).

One study focused on teacher attitudes and intentions toward entrepreneurship education. Ali, Topping, and Tariq (2009) surveyed prospective teachers at seven universities in Pakistan on their entrepreneurial inclinations. They found the majority of aspiring teachers to have positive intentions toward entrepreneurship (Ali et al., 2009).

While more studies are needed concerning teacher characteristics for entrepreneurship education, some trends persist for the studies that were available. Generally, teachers’ personal characteristics did have an impact on what was taught as well as the degree of effectiveness of instruction in the entrepreneurship education classroom (Ruskovaara & Pihkala, 2012; Seikkula-Leino et al., 2010). Further, teachers appeared to be open to the prospect of teaching entrepreneurship (Ali et al., 2009).

## Intended Outcomes

Several studies focused on the intended outcomes of entrepreneurship education. Studies ranged from the high school to university setting and school-based to extracurricular programming. Most studies found were conducted by and originated from European institutions. This may be due to the proliferation of entrepreneurship education programs in Europe. Collectively, these studies point to outcomes such as entrepreneurial mindsets and capabilities as well as business formation from entrepreneurship programs (Regele & Neck, 2012; Valerio et al., 2014).

Around the world, the Junior Achievement program is the most widespread entrepreneurship education organization for youth and university students (Elert, Andersson, & Wennberg, 2015; Oosterbeek, van Praag, & Ijsselstein, 2010). Elert et al. (2015) studied the long term, up to 16 years, impacts of entrepreneurship education on high school participants in Junior Achievement in Sweden. They found participation increased the long-term probability of starting a firm and

generating income from entrepreneurial activity (Elert et al., 2015). However, program participation had no effect on firm survival (Elert et al., 2015). One study found Junior Achievement may not have the intended effect on students. Oosterbeek et al. (2010) reviewed the impact of the Junior Achievement program in the Netherlands on the student mini-company project. They found the program resulted in lower students' self-assessments of their entrepreneurial skills and traits and in some instances the effect was even negative (Oosterbeek et al., 2010). One implication they suggested was that because of the program students were more aware and consequently more realistic with themselves on what it took to be an entrepreneur (Oosterbeek et al., 2010).

#### Box 13

##### **Connecting Youth with Creativity and Agriculture**

Art4Agriculture

Australia

This creative program promotes agriculture around Australia through events and activities focused on youth, career opportunities, the environment, community and the arts. Art4agriculture has school programs intended to engage youth in agriculture such as the Archibull Prize. The Young Farming Champions program pairs students with a young farmer to promote a positive perception of agriculture through real life agricultural experiences. The Confidence to Grow program is an economic, environmental and social initiative focused on increasing the adoption of sustainable farm management practices such as conserving and extending green corridors and improving food security. While not directly related to entrepreneurship, this program has been successful in engaging rural youth in agriculture and helping them see it as a viable career choice in Australia.

[www.art4agriculture.com.au](http://www.art4agriculture.com.au)

Some studies found that entrepreneurship education programs had a neutral or negative effect. Fayolle and Gailly (2015) found students with limited previous exposure to entrepreneurship showed greater gains from exposure to the entrepreneurship education program than students with significant prior entrepreneurial experience. Conversely, students with higher amounts of entrepreneurship exposure actually decreased their scores on attitudes and intentions toward entrepreneurship following the program (Fayolle & Gailly, 2015). Another study found participants felt fear of failure, had a broad sense of fatalism (e.g., luck) and lack of knowledge and realism of the role of small businesses in the economy (Testa & Frascheri, 2015). All of these factors contributed to students' failure to persist in business formation (Testa & Frascheri, 2015). Another study found programs had no effect. Marques, Ferreira, Gomes, and Rodrigues (2012) found that psychological, demographic, and behavioral factors influenced entrepreneurial intention (Marques et al., 2012). However, a student's entrepreneurial intention did not change based on exposure to entrepreneurship-related themes in school (Marques et al., 2012).

Despite these few studies showcasing negative reports, many studies have found that entrepreneurship education programs had positive effects. Some effects are increased intentions, self-efficacy, and outcome expectations (Shinnar, Hsu, & Powell, 2014; Vanevenhoven & Liguori, 2013), increased consideration of running a business (Cheung & Au, 2010), and increased competence and intention toward self-employment (Sanchez, 2013).

Globally, entrepreneurship education programs are having an impact on students' mindsets, capabilities, and their eventual formation of businesses. Programs measuring outcomes varied from the formal classroom setting to extracurricular programs such as Junior Achievement (Elert et al., 2015; Oosterbeek et al., 2010). Collectively, these studies underscore the emphasis many nations are placing on results driven entrepreneurship education that is part of an ecosystem that supports entrepreneurs (Regele & Neck, 2012).

#### Box 14

##### **A Long Term Commitment to Youth in Rural Areas of Developing Nations**

International Fund for Agricultural Development (IFAD)

Global

International Fund for Agricultural Development (IFAD) is a specialized agency of the UN whose aim is to eradicate poverty and hunger in rural areas of developing nations. Since 1974, IFAD has been a key player in rural areas, transforming agriculture and rural communities, addressing climate and environmental challenges, promoting rural finance, providing nutritional programs for women and focusing on youth who have traditionally been unserved due to their geographic constraints. IFAD has been a key player in addressing some of the critical issues preventing youth from entering agriculture as a livelihood such as access to land, financing, policy and cultural issues.

[www.ifad.org](http://www.ifad.org)

[www.ifad.org/english/youth/index.htm](http://www.ifad.org/english/youth/index.htm)

## Conclusions and Recommendations

### Conclusions

This review of the state of the art agricultural entrepreneurship programs for rural youth was organized on a conceptual framework based on Valerio et al. (2014) with specific emphasis on program, teacher, student, intended outcomes, and the national and international context. The context of a program influences the program either positively or negatively. Generally, rural youth have been uninterested in careers related to agriculture or persisting in rural areas, may have aspirations for becoming an entrepreneur, and may have different aspirations than their urban or non-agriculture counterparts (Alibaygi & Poya, 2011; Apoostal & Bilden, 1991; Ball & Wiley, 2005; Conroy, 2000). Several studies indicated youth form opinions about careers at an

early age, so making positive impressions about entrepreneurship in agriculture should happen when they are relatively young (Hoover & Scanlon, 1991; Scanlon et al., 1989). Teachers' abilities and willingness to teach entrepreneurship concepts is influenced by their personal backgrounds, and teachers seem to be open to the idea of teaching entrepreneurship content (Ali et al., 2009; Ruskovaara & Pihkala, 2012; Seikkula-Leino et al., 2010). All across the world many nations are placing emphasis on results driven entrepreneurship education that is part of an ecosystem that supports entrepreneurs (Regele & Neck, 2012).

## Recommendations

- *Incorporate youth as stakeholders.* Far too long youth have been ignored as stakeholders. Include them in policy, programmatic, and economic decisions that directly or indirectly affect them.
- *Recognize the unique context and needs of rural youth.* Rural youth continue to leave rural areas and exit agriculture. However, this may not be a sign of complete apathy toward agriculture and rural spaces. A better understanding and responsiveness is needed for the unique needs of youth in rural areas around the globe.
- *Design curricula using experiential learning that is planned for a social learning environment.* Many programs described in this review recognized the value of learning by doing. Any design of future agricultural entrepreneurship programs should take this into consideration.
- *Design programs using best practices such as:*
  - Student-established mini-corporations
  - Home-based entrepreneurship programs that are connected to the formal curricula
  - Connect student-led enterprises that fund school operations
  - Provide experiential field-based labs
- *Provide wrap-around services such as:*
  - Funding through self-help, micro-loans, savings, or other financial schemes designed specifically for rural youth
  - Mentors for student entrepreneurs such as successful agribusiness leaders invested in the success of youth
  - Information communication technology such as social media platforms, professional development outlets, information outlets, or relevant technologies that generally make agriculture more attractive to youth
  - Business incubators such as office or work space established in a supportive environment
  - Trade fairs that expose students to real-life experiences and opens them to a broader network

- Competitions for youth to grow and challenge themselves in entrepreneurial skills
- *Create a consistent and coherent set of programs* that decreases the overall program variability. Entrepreneurship education is, generally speaking, quite variable. Using frameworks provided by existing programs, such as Junior Achievement, National FFA or 4-H may better equip teachers and other decision makers with a consistent and coherent framework from which to design programs.
- *Provide teacher training on entrepreneurship education.* The teacher is a critical component to the effectiveness of the agricultural entrepreneurship program. If the teacher does not feel comfortable with entrepreneurship, he or she will likely not teach it. Teacher education and professional development worldwide must infuse entrepreneurship education.
- *Design monitoring and evaluation schemes for agricultural entrepreneurship education programs.* Limited evidence exists for the effectiveness of agriculturally focused entrepreneurship education programs, especially at the secondary education level. Monitoring and evaluation must be a significant focus of any program in order to improve that program and generally the discipline of agricultural entrepreneurship education.

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## Appendix 1

### Websites of Entrepreneurship Education and Training Programs and Services around the World

Name	Country / Region	URL
<b>Youth to Youth Fund</b>	Africa	<a href="http://www.ilo.org/public/english/employment/yen/whatwedo/projects/y2y/y2y.htm">www.ilo.org/public/english/employment/yen/whatwedo/projects/y2y/y2y.htm</a>
<b>Generation Entrepreneur</b>	Australia	<a href="http://www.generationentrepreneur.com.au">www.generationentrepreneur.com.au</a>
<b>The Entrepreneur's Skills Certificate</b>	Austria	<a href="http://www.wko.at/Content.Node/kampagne/ufs_en/index.en.html">www.wko.at/Content.Node/kampagne/ufs_en/index.en.html</a>
<b>The Knowledge Centre 'Competento'</b>	Belgium	<a href="http://www.competento.be">www.competento.be</a>
<b>Songhai Centre</b>	Benin	<a href="http://www.songhai.org">www.songhai.org</a>
<b>CAN - Brazilian Confederation of Agriculture and Livestock</b>	Brazil	<a href="http://www.canaldoprodutor.com.br/internacional/our-projects">www.canaldoprodutor.com.br/internacional/our-projects</a>
<b>Young Enterprise</b>	Denmark	<a href="http://www.young-enterprise.org.uk">www.young-enterprise.org.uk</a>
<b>Europen-Pen</b>	Europe	<a href="http://www.europen-pen.org">www.europen-pen.org</a>
<b>National Entrepreneurship Network</b>	India	<a href="http://www.nenglobal.org">www.nenglobal.org</a>
<b>National Level youth Entrepreneurship Development Program 2015</b>	India	<a href="http://www.ictact.in/NYEDI">www.ictact.in/NYEDI</a>
<b>The African Centre for Women, Information and Communications Technology</b>	Kenya	<a href="http://www.192.185.122.218/~acwict/index.php/what-we-do/youth-programme">www.192.185.122.218/~acwict/index.php/what-we-do/youth-programme</a>
<b>Agri Youth Nepal</b>	Nepal	<a href="http://www.agriyouthnepal.com">www.agriyouthnepal.com</a>
<b>BizWorld</b>	Netherlands	<a href="http://www.bizworld.org">www.bizworld.org</a>
<b>Future Farmers Foundation</b>	South Africa	<a href="http://www.futurefarmersfoundation.com">www.futurefarmersfoundation.com</a>
<b>South African Institute for Entrepreneurship / Business Venture Course</b>	South Africa	<a href="http://www.entrepreneurship.co.za">www.entrepreneurship.co.za</a>
<b>Know About Business</b>	Syrian Arab Republic	<a href="http://www.knowaboutbusiness.org">www.knowaboutbusiness.org</a>
<b>EDUCATE!</b>	Uganda	<a href="http://www.experienceeducate.org">www.experienceeducate.org</a>
<b>Make Your Mark</b>	UK	<a href="http://www.makeyourmark.org.uk">www.makeyourmark.org.uk</a>
<b>Abilities Fund</b>	United States	<a href="http://www.abilitiesfund.org/programs_and_services/increasing_options_for_entrepreneurs.php">www.abilitiesfund.org/programs_and_services/increasing_options_for_entrepreneurs.php</a>
<b>Boy Scouts</b>	United States	<a href="http://www.boy-scouts.org">www.boy-scouts.org</a>
<b>Business Professionals of America</b>	United States	<a href="http://www.bpa.org">www.bpa.org</a>
<b>Center for Rural Entrepreneurship</b>	United States	<a href="http://www.energizingentrepreneurs.org">www.energizingentrepreneurs.org</a>

<b>Coleman Foundation</b>	United States	<a href="http://www.colemanfoundation.org">www.colemanfoundation.org</a>
<b>Consortium for Entrepreneurship Education</b>	United States	<a href="http://www.entre-ed.org">www.entre-ed.org</a>
<b>DECA, Inc.</b>	United States	<a href="http://www.deca.org">www.deca.org</a>
<b>Education, Training &amp; Enterprise Center</b>	United States	<a href="http://www.edtecinc.com">www.edtecinc.com</a>
<b>Enactus</b>	United States	<a href="http://www.enactus.org">www.enactus.org</a>
<b>Ewing Marion Kauffman Foundation</b>	United States	<a href="http://www.kauffman.org">www.kauffman.org</a>
<b>Junior Achievement</b>	United States	<a href="http://www.ja.org">www.ja.org</a>
<b>Kauffman Center for Entrepreneurial Leadership</b>	United States	<a href="http://www.kauffman.org">www.kauffman.org</a>
<b>MicroSociety</b>	United States	<a href="http://www.microsociety.org">www.microsociety.org</a>
<b>Mind Youth Own Business</b>	United States	<a href="http://www.mindyourownbiz.org">www.mindyourownbiz.org</a>
<b>National Federation of Independent Business (NFIB) Young Entrepreneur Foundation</b>	United States	<a href="http://www.nfib.com/foundations/yef">www.nfib.com/foundations/yef</a>
<b>Network for Teaching Entrepreneurship</b>	United States	<a href="http://www.nfte.com">www.nfte.com</a>
<b>Partners for Youth with Disabilities- Young Entrepreneurs Program (YEP)</b>	United States	<a href="http://www.pyd.org">www.pyd.org</a>
<b>Program for Acquiring Competency in Entrepreneurship (PACE)</b>	United States	<a href="http://www.cete.osu.edu/products-services/pace">www.cete.osu.edu/products-services/pace</a>
<b>Rural Entrepreneurship Initiative</b>	United States	<a href="http://www.strongruralamerica.com/challenge/rural-entrepreneurship-challenge-overview">www.strongruralamerica.com/challenge/rural-entrepreneurship-challenge-overview</a>
<b>Rural Entrepreneurship through Action Learning (REAL)</b>	United States	<a href="http://www.entrekeys.com">www.entrekeys.com</a>
<b>Self-Employment Technical Assistance, Resources, &amp; Training (START-UP/USA)</b>	United States	<a href="http://www.start-up-usa.org">www.start-up-usa.org</a>
<b>Service Corps of Retired Executives (SCORE)</b>	United States	<a href="http://www.score.org/resources_young.html">www.score.org/resources_young.html</a>
<b>Social Security Administration (SSA)</b>	United States	<a href="http://www.socialsecurity.gov">www.socialsecurity.gov</a>
<b>United States Department of Agriculture (USDA)</b>	United States	<a href="http://www.usda.gov/wps/portal/usdahome">www.usda.gov/wps/portal/usdahome</a>
<b>United States Department of Commerce</b>	United States	<a href="http://www.mbda.gov/?section_id=5">www.mbda.gov/?section_id=5</a>
<b>United States Department of Labor</b>	United States	<a href="http://www.dol.gov">www.dol.gov</a>



<b>United States Small Business Administration</b>	United States	<a href="http://www.sba.gov">www.sba.gov</a>
<b>Young Entrepreneur Online Guide to Business</b>	United States	<a href="http://www.sba.gov/teens">www.sba.gov/teens</a>
<b>Creating Opportunities for Rural Youth</b>	Worldwide	<a href="http://www.coryproject.org">www.coryproject.org</a>
<b>G20 Young Entrepreneurs' Alliance</b>	Worldwide	<a href="http://www.g20yea.com/en">www.g20yea.com/en</a>
<b>International Fund for Agricultural Development</b>	Worldwide	<a href="http://www.ifad.org">www.ifad.org</a>
<b>Junior Achievement</b>	Worldwide	<a href="http://www.juniorachievement.org">www.juniorachievement.org</a>
<b>KIVA</b>	Worldwide	<a href="http://www.kiva.org">www.kiva.org</a>
<b>Mercy Corps - Youth Transformation Framework</b>	Worldwide	<a href="http://www.mercycorps.org/research-resources/youth-transformation-framework">www.mercycorps.org/research-resources/youth-transformation-framework</a>
<b>Teach a Man to Fish</b>	Worldwide	<a href="http://www.teachamantofish.org.uk">www.teachamantofish.org.uk</a>
<b>Youth Business International</b>	Worldwide	<a href="http://www.youthbusiness.org">www.youthbusiness.org</a>
<b>Youth Employment Network</b>	Worldwide	<a href="http://www.ilo.org/public/english/employment/yen">www.ilo.org/public/english/employment/yen</a>
<b>Youth Transformational Framework</b>	Worldwide	<a href="http://www.mercycorps.org/research-resources/youth-transformation-framework">www.mercycorps.org/research-resources/youth-transformation-framework</a>
<b>Youth Will</b>	Worldwide	<a href="http://www.pages.devex.com/youth-will.html">www.pages.devex.com/youth-will.html</a>