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Date received: 13 October, 2016

Date Accepted: 18 November, 2016

The student enterprise scheme for agribusiness innovation: A University-based training model for nurturing entrepreneurial mind-sets amongst African youths

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ABSTRACT

Paradigm shifts in higher education have necessitated embracing and mainstreaming entrepreneurship education in training curricula. This is because entrepreneurial capacity building amongst the youth is considered the best approach for addressing unemployment, rural poverty and creation of responsible citizenry in Sub Saharan Africa. Reportedly, entrepreneurship education increases the chances for young people to start new businesses or even expand existing ones, gain confidence and so enhance their employability. However, one of the criticism of entrepreneurship education in Africa is that it is largely theoretical, and barely provides the much needed hands-on practice. This calls for training models of entrepreneurship that exhibit practical orientations. In light of this view, Gulu University in Uganda, introduced a practical approach of agri-entrepreneurship training branded as the Student Enterprise Scheme, in which students develop, defend, implement and evaluate agribusiness plans. The students are guided and supported with funds on credit to actualize economically viable and commercially sound business plans. Insights from the implementation of the scheme so far show that it is a useful practical approach for students to integrate theory and practice. This paper illustrates that although the linkage between student entrepreneurial activities and other stakeholders for Roundtable engagements requires further testing and refinement, the scheme is a good opportunity for young people to develop positive entrepreneurial mindsets and capabilities, start own businesses and enhance their employability. The study recommends strengthening linkages between university students and those in technical and vocational institutions to develop a higher educational value chain on entrepreneurship training. Furthermore, entrepreneurship programmes for young people should be connected to credit and micro-finance initiatives to enhance their entrepreneurial success.

Key word: Entrepreneurial action, job creation, Gulu University, personal development competences

RESUME

Les changements de paradigme dans l'enseignement supérieur ont nécessité l'adoption et l'intégration de l'éducation à l'entrepreneuriat dans les programmes de formation. Ceci du fait que le renforcement des capacités entrepreneuriales chez les jeunes est considéré comme la meilleure approche pour lutter contre le chômage, la pauvreté rurale et la création de citoyens responsables en Afrique subsaharienne. Il est reconnu que l'éducation à l'entrepreneuriat accroît les chances des jeunes de créer de nouvelles entreprises ou même d'élargir celles existantes, de gagner en confiance et donc d'améliorer leur employabilité. Cependant, l'une des critiques à l'égard de l'éducation à l'entrepreneuriat en Afrique est qu'elle est plus théorique, et fournit à peine la pratique nécessaire. Cela nécessite des modèles de formation en entrepreneuriat qui prennent en compte des orientations pratiques. A la lumière de cette demande, l'Université de Gulu en Ouganda a introduit une approche pratique de la formation en entrepreneuriat agricole sous le nom de "Student Enterprise Scheme", dans lequel les étudiants élaborent, défendent, mettent en œuvre et évaluent des plans d'agro-business. Les étudiants sont guidés et soutenus avec des fonds à crédit pour actualiser des plans d'affaires économiquement viables et commercialement fondés. Les réalisations du système jusqu'à nos jours montrent que c'est une approche pratique utile pour les étudiants à intégrer la théorie et la pratique. Le présent document montre que, quand bien même le lien entre les activités entrepreneuriales des étudiants et les autres parties prenantes pour les engagements concertés, exige davantage de tests et de perfectionnement, ce programme est une bonne opportunité pour les jeunes de développer des mentalités et des capacités

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entrepreneuriales positives, démarrer leur propre entreprise et d'améliorer leur employabilité. L'étude recommande de renforcer les liens entre les étudiants universitaires et ceux des établissements techniques et professionnels afin de développer une chaîne de valeur de l'Enseignement supérieure sur la formation à l'entrepreneuriat. En outre, les programmes d'entrepreneuriat destinés aux jeunes devraient être reliés à des initiatives de crédit et de micro financement afin d'améliorer leur succès entrepreneurial.

Mot clé: Action entrepreneuriale, création d'emplois, Université de Gulu, compétences en développement personnel

INTRODUCTION

Rural poverty, youth unemployment and entrepreneurship building are hotly debated subjects on the African development agenda and the three challenges are difficult to delink from each other. First, nearly 60% of the unemployed African young people are aged 15 – 24 years and many of whom are university graduates (Mohamedbhai, 2013). Incidentally, majority of the unemployed youth population reside and derive a living from rural areas. For instance, Koira (2014) pointed out that over 70% of African youths live in rural areas, which are the most affected with high poverty levels. Even more worrying is the fact that the population of unemployed youths in rural areas is most likely to accentuate in future. It has been predicted that by the year 2040, rural Africa will be home to one in every five of the world's young population (World Bank, 2009). Of the African youth population, Sub Saharan Africa (SSA) is the worst hit with high poverty incidences. Indeed, the Koira study highlighted that the prevalence of poverty among young people in Nigeria, Ethiopia, Uganda, Zambia and Burundi was over 80%. The concern with these alarming statistics is that without meaningful employment to such youths, they are more likely to be engaged in many societal vices and crimes including rioting. In an attempt to reverse this bad situation, policy makers, scholars and development workers have suggested that the panacea lie in developing youth entrepreneurial capabilities. In Uganda, for example, a youth fund was created to enable provision of start-up capital for small-scale youth businesses and other entrepreneurial activities (Ministry of Finance Planning and Economic Development, MFPED, 2012). However, without proper preparation, implicitly, the desired youth entrepreneurial potential may not easily be harnessed. This therefore, positions Higher Education Institutions (HEIs) with an unquestionable role to play through provision of entrepreneurship education to young people both in formal and non-formal educational systems.

An entrepreneurial mind-set is central to wider graduate employability in general. In a broad

sense, the entrepreneurial and enterprise concept extends beyond the establishment of new ventures in business. In addition, it also entails embracing opportunity-seeking and realisation, and the pursuit of entrepreneurial behaviour, in any context, along with capacity to design and grow entrepreneurial organisations of all kinds (Drucker, 1985; Timmons, 1989; Gibb and Price, 2014). This has been termed as entrepreneurship in everyday practice, and forms the core competences in entrepreneurial education (Blenker *et al.*, 2011). Accordingly, the changing pedagogy in higher educational institutions is increasingly focusing on developing an 'Enterprising Person/Entrepreneurial mind-set'. Such a person should be able to display a number of behavioural and attitudinal attributes commonly associated with the entrepreneurial individual in a wide range of contexts including business, social or personal contexts (Blenker *et al.*, 2011; Gibb and Price, 2014).

In a more restricted sense, entrepreneurship education is concerned with instilling the culture of designing, setting up, operating and managing an enterprise or company to the trainees or students (Guojin, 2011). In this entrepreneurship education, the target is business development and employment. It can be categorized into three main approaches: 1) theoretical classroom-based training that is mainly offered to secondary school and university students; 2) structured and practical oriented but non-formal training to mainly school drop-outs and other youths; and 3) the student-entrepreneurial projects approach, always organized as a practicum complimenting and building on lectures, largely executed in HEIs. These approaches are more suited to the youths whether educated or un-educated. Incidentally, youths are easily adaptable to new situations, and thus nurturing them for business action sounds feasible for employment creation, besides providing them space to express creativity and innovation. Although some scholars have argued that entrepreneurial ability is a matter of talents, asserting that entrepreneurs are born rather than created, many others disagree and contend that entrepreneurship education enhances the creativity and innovation abilities of individuals

with a business mentality (Gibb, 2005; Henry *et al.*, 2005).

Entrepreneurial training is believed to increase chances for starting successful businesses by developing critical business skills and behaviors (Honig, 2004). As an example in East Africa, Ladzani and Van Vuuren (2002) reported that entrepreneurial training reduced rates of business failure and increased profits, savings and growth of small and medium-sized businesses. Furthermore, programs supporting entrepreneurs have been associated with increased incomes and a greater likelihood to contribute to the initiation and operating small businesses (Betcherman *et al.*, 2007). This kind of evidence seems to strengthen the claim that entrepreneurship education, irrespective of the educational system orientation improves creativity, business development and ultimately employment. For example, in universities, entrepreneurial training has been associated with shaping behavioural skills, and enhancing graduate innovation, job creation, productivity growth, business skills, social networking as well as other economic spillover effects that improve employment growth (Van Praag and Versloot, 2007; Premand *et al.*, 2012). Therefore, owing to growing calls for HEIs to review training curricula and integrate entrepreneurial training, this paper dwells more on practical approaches of building entrepreneurial skills for business development and championing university graduates self-employment.

Although entrepreneurship education has been credited for increasing both the quality and the quantity of graduate entrepreneurs entering the industry and private sector (Matlay, 2006) it is not as smooth a process as it may be perceived. Segal *et al.* (2005) stressed that the intention to become an entrepreneur is a function of three variables, i.e., self-efficacy (the self-perceived feasibility of self-employment); the perceived net desirability of self-employment, and the tolerance for risk. The inculcation of these traits in an individual demands a lot of time on the part of instructors and the students themselves. It is also costly because the resources invested in such students may never be recovered in a short run. However, practical approaches of entrepreneurship education present policy analyses that are of relevance. This is because the possibility of financial loss in student projects makes investment in student entrepreneurial activities only appropriate as a public good and thus, most suited for government intervention. In any case, developing

the culture of doing business among young people is long term and accordingly, its benefits outweigh its costs in the long-run. Unfortunately, in the African higher education sector, public funding for these kinds of novel practical approaches is always inadequate which compromises their sound implementation (see Tefera, 2013; Muriisa, 2015). Never the less, at Gulu University (GU), a unique agri-entrepreneurship practical approach, branded as the Student Enterprise Scheme (SES), an approach that transcends the traditional view of entrepreneurship, was introduced for enhancing entrepreneurial capabilities of both undergraduate and graduate students. The overarching goal for the SES is to nurture an entrepreneurial spirit and mind-sets amongst young and mid-career professionals.

The central focus of SES model is for the students to connect the theoretical knowledge in agriculture, entrepreneurship and agribusiness with practical realities of opportunity identification, conceptualizing, initiating, managing and sustaining small and medium enterprises. The design and institutionalization of SES at GU is premised on the assumption that future professionals must learn to cope with the growing competition in the job market by thinking innovatively, and exhibiting creativity and dynamism in the ever-changing economic environment. Students are particularly guided to explore opportunities within the agricultural domain to develop, defend, implement and evaluate their own ideas and they are supported to actualize such ideas into businesses. The students are provided with credit at modest interest rates to implement their business plans. One major challenging debate in the implementation of the SES however, is on the counter arguments of whether the scheme should collect or not collect interest on funds advanced to students. Many proponents of scrapping interest from the SES argue that the funds are received as grants and without any cost and thus, it is illogical to charge interest. However, the opposing views suggest that such money always depreciates in value overtime, and it makes sense to collect interest from such student entrepreneurial projects to take care of inflation and ensure continuity of the scheme. An even more valid academic argument is that the training prepares graduates to work in a money market where capital for business acquired from commercial banks attracts interest rate. Hence, the SES at GU has continued to enforce modest interest rates on funds advanced to student enterprise projects to enable them as future entrepreneurs to practically

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Student training aside, the SES inherently presents a good opportunity for innovation if business/social enterprises models generated from student projects become part of the wider community and refined further in a market environment. Some student entrepreneurial projects need to be nurtured as strategic niches (incubation), which in their infancy cannot favorably compete in the market place. They tend to require time before maturing for market-based forces. These strategic niches, defined as protected spaces for the development and use of promising technologies and products by means of experimentation (Morone and Lopolito, 2010), are potential sources of innovation. For example, if a student team chooses to commercialize cassava gari¹, enriched with protein and micro-nutrients for school feeding programme, at the start, cassava gari is more of a business incubate that cannot compete in the market environment. The cassava gari only becomes of value when it interacts with market actors, as illustrated in Dalohoun *et al.* (2009), which interaction contributes to further refinement of the business incubate, and thus agribusiness innovation. In all, little information is available on the structural outlook, organization and operation of the SES. Therefore, this paper sought to shed light on the design and operation of SES at Gulu University as a practical approach of entrepreneurship training of agricultural students.

METHODOLOGICAL ORIENTATION

A qualitative research approach was preferred for gathering, interpreting and analyzing information regarding the Student Enterprise Scheme at GU. Qualitative research methods are credited for generating rich information from social phenomena. They have become widely used, accepted and legitimate methods for gaining knowledge and understanding practice-based issues (Lambert *et al.*, 2010). As a procedural orientation, qualitative methods suit a detailed exploration of little-known practical approaches of the nature of SES at GU. Data for this study were collected using two methods namely: observation and document review. Observation was undertaken at the following points: 1) students' defenses of business plans before the Faculty Committee; 2) interface of students with faculty instructors while refining their business ideas; and 3) implementation of business plans. Other

points of data collection included: 1) experience sharing sessions between students implementing enterprise projects and their peers; and 2) students' presentations to visiting stakeholders to GU and at workshops through power point presentations and posters. The focus of observation was on the students' fields of interest, generation of ideas, screening of business ideas and subsequent refinement, business plan preparation and defense, student attitudes and reactions during implementation, and team working. This information was enriched with document review. Documents consulted included: submitted business plans from student teams, implementation guidelines for SES and student reports. The multi-method strategy of data collection, reportedly enhances the internal validity of studies that rely on qualitative approaches (Meijer *et al.*, 2007), similar to the current one. An important limitation of this study, though, was that most of the information collected was on graduate students' activities and very little from undergraduates because most of the completed enterprise project activities have been at graduate level. The lack of cross fertilization from undergraduate enterprises experiences notwithstanding, the study went ahead because the information gathered was considered to provide a fair representation of the SES.

This study significantly relied on the Interpretative Phenomenological Approach (IPA) to deeply analyze contexts, intentions and social interactions of the actors (students, instructors and faculty administrators) in the SES. As Callary *et al.* (2015) explained, IPA has strengths in making sense of participants' lived experiences by developing an interpretative analysis of their behaviours in relation to social, cultural, and theoretical contexts. Accordingly, the analyst is able to generate an interpretative account of what it means for the participants to react to particular contexts being studied (Larkin *et al.*, 2008). However, a key criticism of such qualitative studies is that always the researcher is deeply immersed in the research process and the actions of the study participants. Never the less, Morrow (2006) reasoned that reflexivity as a strategy can be used for the purpose of understanding the phenomenon under exploration, and accurately portraying the meaning derived from the actions of the participants. These research approaches allow for continuous reflective process of one's own values, perceptions and behaviours, alongside those of their respondents and as such, enhance the validity of the study (Parahoo,

¹ Cassava gari is a creamy-white, granular flour with a slightly fermented flavor and a slightly sour taste made from fermented, gelatinized fresh cassava tubers. Gari is widely known in Nigeria and other West African countries. It is commonly consumed either by being soaked in cold water with sugar, coconut, roasted groundnuts, dry fish, or boiled cowpea as complements or as a paste made with hot water and eaten with vegetable sauce. When properly stored, it has a shelf-life of six months or more (Retrieved on November 16, 2016 from www.cassavabiz.org/postharvest/gari01).

2006). Therefore, this study examined the SES with IPA together with observation and document review methods as a strategy of minimizing biases.

The Framework for the Student Enterprise Scheme.

Structural Analysis of the Training Approach.

The SES is philosophically anchored on four cornerstones (see Fig. I) that form the foundation block onto which the structure of this practical approach rests. The cornerstones for the scheme are: 1) taking up course work; 2) Value Chain Analysis/ Cluster Assessment (VCA/CA); 3) business plan development and execution; and 4) sharing and dissemination of results and lessons. At the center of all actions, in the four building blocks, are the students at both undergraduate and graduate levels. At either level of study undertaking, students are meant to identify, develop, defend and implement business plans and share learnt lessons and results.

In practice a few variations are visible between the bachelors' and masters' student enterprise projects, an observation that can be attributed to differences in expected academic rigor and maturity at either level of study undertaking. For instance, whereas the scheme emphasizes sharing results and lessons with non-university actors, it is largely the graduate students that have always fulfilled this. On the other hand, there are many similarities in either student categories. Positive similarities include: the profit-orientation of the business plans, demonstration of innovativeness, and community appeal of the student project activities as well as team-working.

The negatives in either student category that also limit the success of these enterprise projects are: risk averseness of students, free-rider behaviour, enterprise projects' failures, student conflicts (difficulty in managing group dynamics) within the teams and implementation delays.

The SES as a practical tool targets to develop the core entrepreneurial competences of agricultural students which include: entrepreneurial knowledge, skills, creativity, critical thinking, innovativeness, self-confidence and entrepreneurial mind-sets among others. Like in many other university practical approaches, the SES is preceded by theoretical coverage through course work which exposes the student to technical, managerial, accounting and business knowledge as well as business practices. Key courses at both undergraduate and graduate levels for entrepreneurial capacity building are: 1) agri-entrepreneurship development; 2) financial management and accounting; and 3) agri-enterprises value chain analysis and development. However, at undergraduate levels there are also many other courses drawn from agricultural production disciplines, i.e., livestock production, crop production, food science and postharvest management and bio-systems engineering. This combination of courses from diverse disciplines ensures that students gain the right mix of knowledge, skills, attitudes and tools which are pre-conditions for innovation generation and development. This training approach is in line with the thinking of Cope and Pittaway (2007) who observed that classic methods (i.e., lectures and readings), action learning, new venture simulations,

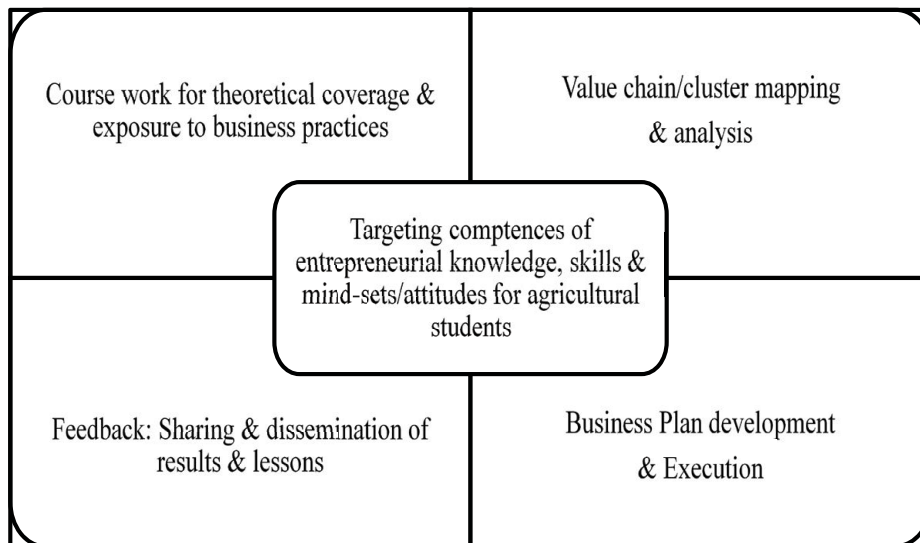


Fig. I: Structural set-up of the Student Enterprise Scheme at Gulu University

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the development of actual ventures, skills-based courses, and mentoring among other approaches are crucial for entrepreneurship training. The course component also inform the remaining three building blocks of VCA, business plans and sharing and dissemination.

The value chain analysis and cluster mapping (also commonly referred to as Value Chain Assessment) is designed as a practicum and builds on the classroom-based course titled Agri-Enterprises Value Chain Analysis and Development. It is a field-based practicum that enables the students to identify constraints and/ or opportunities at specific value chain nodes which ultimately feeds into the business plan development process. Students are guided in the process of business planning to enable them think methodologically about all aspects of building new businesses². Critical elements of focus in this process are: determining the professional compatibility of farming/agribusiness with personal values, personal goals, and analysis of personal resources (e.g., skills, funding, and support network). Other important elements are market analysis and market planning; financial analysis; production planning that matches known market and marketing plan; and time management planning. Lastly, the SES emphasizes sharing and dissemination of results and lessons learnt and this encompasses reporting, summative projects' evaluation, sharing of lessons and experiences, and dissemination of results and business models to the wider community. The integration of the sharing and dissemination at the inception of the scheme sought to promote cross-learning between student enterprise projects and the community. The idea is that the best practices, results and business models would be shared with the community and at the same time students would learn opportunities for business development including social entrepreneurship from the community, which they would refine through their entrepreneurial activities.

Process Analysis of the Student Enterprise Scheme. As a process, when a student enrolls for a study program in which the SES is embedded, s/he starts by taking up course work (See Fig. II). The course work stage lasts for a period of 2 -3 years for undergraduate students before they embark on business plan development and implementation process. At graduate level, the period of course is only one year. The course work stage exposes the students to a diverse knowledge coverage coming

from different disciplines as explained above. A key assumption of exposing the students to this diversity of courses, is that they gain a deeper understanding of theories and practices that underlie thoughtful business plan preparations and their subsequent implementation.

In process-tracing, the SES model at GU meets the key ingredients of entrepreneurship education. This also brings the thinking of entrepreneurship education of Rae (2004) into context. This author argued that teaching entrepreneurship involves both "arts" (e.g. creative and innovative thinking) and "sciences" (e.g. business, management or technical competences). Young and up-coming entrepreneurs need both knowledge (science) to exploit the business opportunities amidst their surrounding environment, new ways of creative thinking, and new kinds of skills/competences as well as new modes of behaviour (art) to create and discover their entrepreneurial potential. The SES model therefore enables students, in their youthful nature, to learn risk-taking and turning their mental energies and ideas into businesses. This is well illustrated in the case of the undergraduate student who actualized a poultry business plan upon graduation from Gulu University (Kalule *et al.*, 2016). This particular student had developed the business plan as part of the requirements for completion of Bachelor of Agriculture degree at Gulu University in the year 2012.

Returning to the question of skills development, one would interrogate the kind of skills gained by the students and how they are achieved. Essentially, these entail soft-skills and org-ware related skills. The combination of these category of skills are attained through students' hands-on practice, and they include: writing, communication, personal development and leadership, group formation, relating and team working. While completing the course work individually, students are required to search for information, apply knowledge learnt, prepare business plans and present before peers and responsible instructors. These processes permit students to learn how to write or prepare drafts (writing skills), how to present before audiences (communication skills) and how to critique peers and give constructive feedback (relating and personal development skills). These insights on learning outcomes of SES agree with suggestions of Guojin (2011) on personal development and abilities that

²A business plan represents the roadmap for successfully developing or expanding a business. A complete business plan includes short-term and intermediate goals, time tables for achieving these goals, and estimated start-up costs and serves as a feasibility plan, a marketing plan, and an operating plan. A business plan is also a tool for attracting potential investors and can be used to successfully negotiate start-up loans with lending institutions. (Iowa State University, 2007).

ought to be realized from entrepreneurial practical training. Guojin’s study highlights such abilities as: theoretical research ability, scientific reasoning ability, expression skills, writing ability, social organization, and practical competences.

Another useful component of the SES is the practicum on Value chain cluster mapping and analysis (VCA), which to large extent is a preserve of graduate students, who tend to work in small groups of 3-4 for assessing constraints and opportunities existing at various nodes of agri-value chains. Taking evidence from the M.Sc. program cohort of 2014, five student groups were formed and assessed five agri-value chains. The practicum at the time targeted some of the leading agri-value chains in Northern Uganda namely: rice, poultry, groundnuts, sesame and cassava. The rationale for inclusion of VCA in the training process was to enhance the abilities of students for generation of entrepreneurial ideas that are linked to community realities/ needs. However, previous experience has shown that the VCA practicum is not the only route for generation of entrepreneurial ideas for student enterprise projects. There are also other avenues that students

employ for business idea generation and the faculty has allowed the students to explore such alternative approaches. This in part is because the strategy allows space for students to explore and exploit various opportunities within their surrounding environment and it enhances young peoples’ creativity, innovation and independent-mindedness. It also rhymes well with the argument of Volkmann *et al.* (2009) who contended that the complex and insecure economic environment offers individual young people a need to be creative and capable of solving new problems through independent action so as to remain competitive. Therefore, on the basis of previous experience, there are three loci of generation of business ideas, i.e., 1) practicum on value chain cluster assessment; 2) pre-enrolment experiences of the students; and 3) community attachment of students for experiential learning.

In order to illustrate how the above three loci have been used in the generation of business ideas, this paper provides evidence of student enterprise projects in line with each of them. We start with the VCA approach. One student team used the VCA approach to develop a business plan on brooding

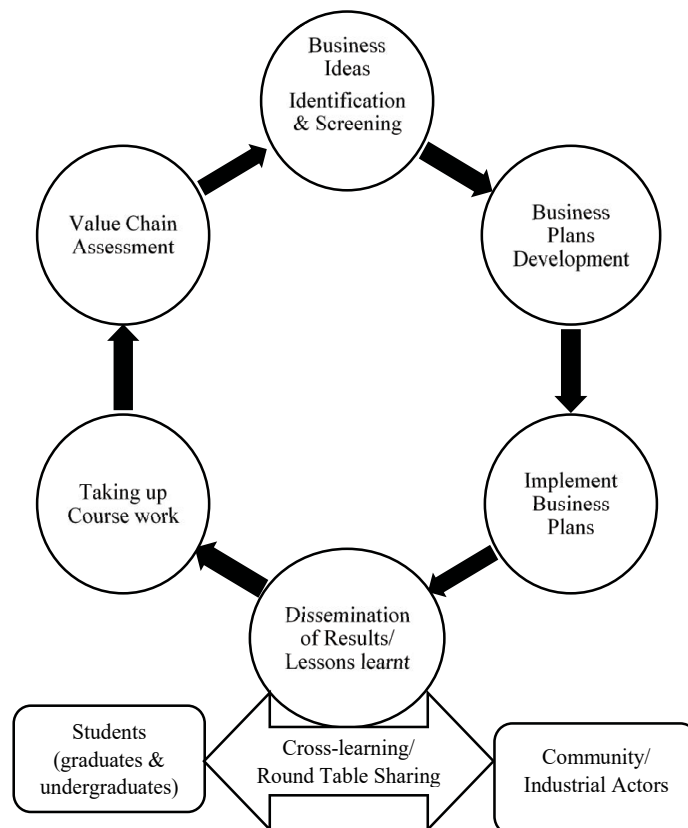


Fig. II: The Process of the Student Enterprise Scheme

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chicks for resale to farmers (see Kalule *et al.*, 2016). These students realized the opportunity of business after assessing that farmers were experiencing considerable farm losses arising from high mortality rates of chicks during the brooding stage. Consequently, these students took advantage of the SES to raise kuroiler chicks to the age of four weeks, utilizing the poultry structures at the university campus and then re-sold the brooded chicks to farmers. In the locus of pre-enrolment experience, one student had been involved in initiatives promoting the production of Orange Fleshed Sweet Potatoes (OFSP) in Northern Uganda, in which he had learnt how to extract flour from this sweet potato type. This student convinced other colleagues to join hands to prepare a business plan on using OFSP flour to produce and sell bakery products namely: crisps, cookies, daddies, and cakes. Lastly, in the locus of community attachment/ experiential learning, one female student (M.Sc. program 2015 in-take), was attached to a seeds company in Gulu that markets vegetable seeds through on-farm demonstrations. This student armed with lessons learnt from community attachment, mobilized other female students to develop a business plan to produce and add value to tomatoes through innovative packaging and selling to hotels and households in Gulu town.

As pointed out earlier, the business idea generation begins with an individual student. However, the activities of actual polishing, defending and implementation of the business plans are based on a student team. The rationale for encouraging team-work is for students to learn at an early stage how to: 1) relate with others; 2) exploit synergies of social networking (sharing responsibilities and tapping into social capital); and 3) practice business partnerships, which elements inform future prospects of cooperating in business. Indeed, Munir *et al.* (2015) explained that team-working widens the immediate networks onto which students can draw future co-operation and with the mix in the team, they can gain a synergy of vision, energy and expediting. However, all this raises an important question of which ideas are developed further, out of the many fronted by all team members. The practice at GU has been that the faculty leaves the process of idea screening to students through caucusing amongst themselves. The only input from the faculty is always the advice that any selected idea should adhere to the principal criteria of technical, economic and social feasibility within the available time frame for

completion of studies.

Preceding the implementation of the enterprise projects, student teams are required to defend business plans before the Appraisal Committee (AC). The design of the SES provides for constitution of the AC which includes representatives from the faculty (university), private sector and the bank (e.g. Centenary Bank where accounts of student enterprise projects are held). The inclusion of non-university stakeholders in the committee was to ensure that they provide inputs in improving student projects before implementation. To date, the appraisal process is still handled by the Faculty Committee (FC) exclusive of the non-university actors because of logistical limitations. This FC comprises of agricultural economics/agribusiness instructors and where necessary from the crops and livestock management disciplines. The FC evaluates the business plans using a pre-determined criteria of: 1) technical feasibility (ease of implementation); 2) economic and social viability (profitability and community appeal as well as relevance to societal needs); 3) creativity and innovation; 4) commercial soundness (availability of demand for suggested products); 5) explicit roles of team members; 6) clear marketing plan; and 7) sound financial plan. Any business plan is only authorized to proceed for implementation upon satisfying the committee on the above criteria. For those business plans that are found wanting, the student teams are always asked to improve and present again to the FC.

One striking observation during business proposals defense is that the attitudes and behaviours of students suggest that they are risk averse. Whereas, the faculty budgets for Uganda Shillings, UGX 3 – 5 million (US Dollars: 878 – 1,465) for one business plan, many of the student teams present project budgets that are less than UGX 2 million (USD 585). As an example, one student team presented a business plan on vegetable production stipulating a number of capital investments including irrigation equipment and others. In the view of the FC, the stated investment would require an amount not less than UGX 7 million (USD 2,047). However, the students had presented a budget of only UGX 1.7 million (USD 497). At the end, the student team and FC settled for budget of UGX 2.5 million (USD 731) following removal of high investment equipment. Overall, student enterprise projects have previously costed an average amount of UGX 3 million (USD

878). An interesting lesson learnt in the SES is that many students have demonstrated willingness to co-finance their enterprise projects. This is clearly evident in every project where students have shown in the financing plans of their business proposals how much they are mobilizing amongst themselves as part of co-investment. Student co-financing has previously ranged between 10 – 25% of the total project cost. Elsewhere, it has been shown that approaches that combine skills training with access to capital are very effective at combating youth unemployment in Africa (Filmer and Fox, 2014).

Like in the case of the business idea generation, students have the freedom to choose the location of their enterprise projects. Many student enterprise projects have been located off-campus. However, there are also others that have been implemented on-campus. For instance, the poultry business project was initially set up at the university campus utilizing the poultry housing structure that was under-utilized at the time. Subsequent stocks of chicks were relocated to an off-campus premise within Gulu town. At student level, the implementation process is not always smooth and in some instances, the challenges seriously threaten the overall success of the enterprise projects. Most prominent challenges are: 1) the free rider problem within the groups, where some team members may not be as active in executing their roles as their peers; 2) conflicts amongst team members, arising from resource mobilization, management and proportioning proceeds; 3) implementation delays; and 4) actual business failure most especially in the livestock based projects – particularly, disease outbreaks which cause significant stock losses. With the failure of student projects threatening the sustainability of the scheme, a key question that emerges is on how the faculty has prepared itself to regularly top-up for lost funds from the scheme. The faculty seems to be targeting two options to address the challenge. First, integrating the scheme into the normal organizational budgeting processes in which the university would advance funds into the scheme as part of contribution to practical training of students. Second, resource mobilization through bidding for grants from donors. Specifically, the faculty considers the SES as a key pillar of identity of its training approach and in effect, many project proposals from the FAE to donors incorporate a component on the SES.

A critical component of the SES is sharing and

dissemination of learnt lessons, results and unique business models. This further strengthens the communication and networking abilities of students. Internally, sharing and dissemination processes happen as follows: students that have completed implementation of enterprise projects present written reports to the faculty for final evaluation. These reports also become available for learning across the student body and the faculty staff. At times, students that have successfully implemented enterprise projects share experiences, results and learnt lessons with peers especially the groups that are in the process of developing new business plans. On the other hand, the SES has in-built mechanisms that allow for dissemination of artefacts, learnt lessons, practices, experiences, and business models to other external stakeholders. These are documented and disseminated in form of brochures, posters, pull-up banners, student story-lines and power point presentations. Commonly, such documents are positioned for viewing and learning for the wider community at seminars, workshops, stakeholders' meetings and conferences. For instance, one student enterprise project on poultry was exhibited at the annual review workshop of the project titled "Strengthening University Outreach and Agri-Entrepreneurship Training for Community Transformation in Northern Uganda". The workshop had attracted university and non-university stakeholders including those from the private sector. Lastly, students are encouraged to share their results as much as possible with the smallholder farming community with particular emphasis on engaging the youths for active participation and learning. In all, Roundtable engagements in the SES model require further testing and refining to ensure cross-learning between student enterprises and the community. Similarly, linkages with finance programs, youth empowerment programs and the youth funds that would guarantee sustainability and up-scaling the SES model of training have not been fully exploited. It is through bridging the disconnect between student enterprise projects, just like for other non-formal youth capacity building schemes, and the micro-finance programs that enhances entrepreneurial success especially for African youths (Betcherman *et al.*, 2007).

CONCLUSION AND RECOMMENDATIONS

The Student Enterprise Scheme as a practical approach of training has so far demonstrated positive results of enhancing entrepreneurial capacity of

young people while still at the university as students. It is particularly relevant for learning and adapting practical approaches that could be integrated in training curricula at HEIs for re-orienting mindsets of African Universities' graduates from job-seekers to job creators.

This paper has also illustrated the structural set-up of the SES comprising of course work, value chains cluster assessment, business plan development, and the actual implementation of student enterprise projects as well as sharing and dissemination of practices and outputs of the scheme. Principally, the scheme targets to develop the core entrepreneurial competences of agricultural students namely: entrepreneurial knowledge, skills, creativity, innovativeness, confidence and business-oriented mind-sets among others. As a process of building entrepreneurial capacities, the process of business idea generation is of paramount importance in the scheme. Three loci exist for the idea generation process namely: 1) practicum on value chain/ cluster assessment; 2) pre-enrolment experiences of the students; and 3) community attachment of students for experiential learning. These elements are not only critical for developing enterprise projects linked to community needs but also eliciting students' creativity, innovation and independent action. While ensuring successful implementation of student projects, the faculty guides and supports the business plans with funds provided to students with modest interest rate. This seems important for making young people get used to market conditions of acquiring capital for business activities. Successful student enterprise projects disseminate results, lessons learnt, and business models through written reports, posters, power point presentations and sharing with peers. Therefore, the SES is a very sound practical approach for youth entrepreneurial action, which with further testing and refinement would improve university training that integrates theory and practice to instil entrepreneurship in every day practice.

This study recommends adopting the SES approaches for enhancing and nurturing entrepreneurial mindsets among the African youths. To achieve more entrepreneurial success, it is recommended that SES and other entrepreneurial approaches be linked to appropriate micro-finance programs, and such programs should be integral to the roundtable engagement processes. Resultant business/social enterprise models from student enterprise schemes

should continuously be shared with non-university who include: the youths, private sector actors and policy makers to encourage cross-learning between the university-based and non-university actors. This is likely to lead to uptake and up-scaling business models and innovations generated at the university. It is also a good window of luring youths to agriculture where most of the SES activities are carried out. However, the integration of SES in training curricula should make effort to minimize challenges experienced at student level as enumerated in this paper. Minimized challenges in the scheme could enhance entrepreneurial skills development among students and other youths. Furthermore, the SES approaches should be used to promote the development of higher education value chain in which the entrepreneurial activities of university students are linked to those of students at Technical and Vocational Training Institutions. Lastly, the study recommends that future research should examine the impact of SES on the creativity, innovativeness and entrepreneurial spin-offs of graduates that have passed through the training model.

ACKNOWLEDGEMENT

The experiences and practices of SES and the evolution of ideas presented in this paper have benefited from numerous projects which include: 1) Strengthening university capacity to enhance competitiveness of agribusiness in East and West Africa sponsored by EU (FED/2013-320-100; and 2) Transforming Universities to Stimulate Pro-Poor Agri- Enterprise Development in Eastern Africa using Value Chain and the Round Table Approaches to Postgraduate Training, funded by the FORD Foundation. The authors also acknowledge the funding from the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) that enabled the synthesis of ideas for this paper. The funding was received through a project titled "Strengthening University Outreach and Agri-Entrepreneurship Training for Community Transformation in Northern Uganda", grant number: RU 2014 NG 15.

STATEMENT OF NO CONFLICT OF INTEREST

We the authors of this paper declare that there is no conflict of interest in this publication.

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