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ABSTRACT

This study aimed to review the current agribusiness education and training curricula in Sudan and make sound recommendations and actions required to align the curriculum in the context of a dynamic agriculture/agribusiness sector. The study used variety of methods and tools to assess the supply and demand sides of agribusiness education and training in Sudan as follows: Analysis of existing documents, review of Agricultural Economics Departments of 17 Sudanese universities, field study which covered five States namely (Khartoum, River Nile, Gazira, Kassala, and Gadaref) where agribusiness incubations are located. The study sample included; 9 key informants from 9 universities, 10 key informants from agricultural extension departments, 5 key informants from agricultural research centers, 10 Agribusiness Incubation centres of five States and 160 youths (drawn from incubators in four States). The data collected was analyzed using descriptive statistics and presented in the forms of charts and tables. The finding revealed that majority of the youths in Sudan that engaged in Agribusiness activities lacked the necessary knowledge and skills to make their agribusiness profitable and sustainable. This paper concluded that huge informational and skills gap contributes to lack of participation of the youth in agribusiness projects. Majority of the Sub-Saharan African countries have no formal and well-structured means of training and equip youths with necessary knowledge and skills to make them succeed in agribusinesses. This paper recommended provision of qualified vocational trainers for a long term sustainability of agricultural education program. The curriculum itself has to incorporate subjects that will help students develop their hard and soft skills, as well as improve their knowledge and competencies. To achieve this, it need not be rigid, and it has to be developed according to existing and foreseen social economic needs in order to fulfill industry requirement.

Keywords: *Agribusiness, Education, Youth Agribusiness, Sudan*

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INTRODUCTION

Entrepreneurship plays a critical role in job creation and improving the overall economy of a nation. Moreover, Park (2017) observes that with modernization firm competencies such as agility, creativity and innovation are a requirement for startup businesses. As such, many organizations offer training programs on entrepreneurship with the expectation that the role of knowledge, skills and entrepreneurship required by new entrepreneurs will facilitate change. Byrne, Fayolle and Toutain (2014) found that there is an increased emphasis on entrepreneurship education from elementary school to higher levels of education. Entrepreneurship education is perceived as a vital element in providing skills to students on how to be successful while operating in a dynamic environment.

Education in entrepreneurship pays attention to skills and attribute development that maximize on opportunities; it involves managerial education that is focused on the best hierarchical operations. Saraiva and Gabriel (2016) stated that the early years in school are considered crucial to equip students with entrepreneurship education. Moreover, the researcher observed that providing entrepreneurship education to students improves their interest in entrepreneurial initiatives. The intentionality of entrepreneurship is perceived as an indicator of education programs in entrepreneurship, where scholars pay attention on analyzing the impact of education programs in entrepreneurship on the intentions of students to become entrepreneurs and the perception of the society towards entrepreneurship by using the planned behavior theory

According to Souitaris and Zerbinati (2014) there is an informational gap on the impact of education programs in entrepreneurship and the intentions of students to be entrepreneurs, however, such programs in entrepreneurship increased the interests and intentions of students to start businesses. Maresch, et al (2016) carried out a survey on programs in entrepreneurship for engineering and science students and observed that the programs enhanced the student's intentions on entrepreneurship. Majority of the students experienced moments that motivated and inspired them to consider entrepreneurship as a career path. The survey posits that students who pick to take entrepreneurship courses are likely to venture into entrepreneurship than their counterparts who do not take entrepreneurship programs.

A number of international, regional, national, and local actors are taking part in the global experiment of entrepreneurship education and training. Today, entrepreneurship education and training is recognized as an established field of study, growing in parallel with the interest of policymakers and students (Valerio, Parton & Robb, 2014). Taken as a whole, entrepreneurship education represents both academic education and formal training interventions 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 (Reimers, Dyer and Ortega, 2012). Entrepreneurship education and training encompasses a heterogeneous array of interventions, including formal academic education programs as well as stand-alone training programs. Both of these may aim to stimulate entrepreneurship as well as support individuals and enterprises already engaged (Morselli, 2015).

If agribusiness capacity building and training is to make meaningful contributions and remain relevant, the major forces shaping development of this sector must be identified and assessed. Examining the forces that influence agribusiness helps to provide insight into the policies and innovative strategies needed to ensure that this sector better contributes to economic growth and poverty reduction goals (Mabaya, Christy & Banama, 2014). Unlike other traditional fields of Agribusiness Education and Training AET, the responsibility of building skills and expertise in agribusiness does not lie exclusively in the public domain. Academic institutions are no longer the

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"sole guardians of knowledge." In addition to traditional institutions such as universities, colleges, technical colleges, vocational schools and extension agencies, new models are emerging out of entrepreneurship and executive training programmes by Non-governmental organisations. Both academic institutions and NGOs are presented with the opportunity to go beyond just window-dressing existing programmes to design and implement more effective, successful agribusiness programmes that are relevant not only today but will remain so in the future. The envisaged effect is that institutions produce the kind of graduate that meets agribusiness needs of today and is prepared to tackle challenges in the future (Mabaya, Christy & Banama, 2014).

On one end we have the traditional agricultural training and education offered in African universities and colleges. Some of these academic institutions have added agribusiness management either as special elective courses under the traditional disciplines of the faculties of agriculture (animal science, crop science, agricultural economics, soil science or agricultural engineering courses) or as a separate field. On the other end are entrepreneurship development initiatives, mostly offered by donor-supported NGOs or government initiatives. Several of these initiatives have segmented their business development services by sectors that are popular for SMEs, such as tourism, retailing, catering and agribusiness.

A study by Elfadil Timan and Yagoub Ali Gangi (2015) on Entrepreneurship education in Sudanese universities revealed that there was only one program of entrepreneurship education in Sudanese public universities. Moreover, entrepreneurship courses were very rare and were not commonly offered by those universities. However, many colleges teach Entrepreneurship related topics within different courses. Further, it was found that the public universities suffered from a shortage of qualified staff in entrepreneurship education as well as a lack of a conducive environment for its development. Some private universities and educational institutions in Sudan have recently introduced Entrepreneurship module as a compulsory course within their curriculum for example, Ahfad University. There are currently no universities that have teaching staff of entrepreneurship education. Therefore, the faculties currently teach most of the courses from other specialties of business administration or economics. Moreover, there is a little hope for qualifying staff in the near future given the scarcity of financial resources and limited opportunities to get the scholarship for Doctorate students in entrepreneurship, (Khattab, Ahmed and Mohmed Ahmed 2017).s

LITERATURE REVIEW

Knowledge Based Theory

The developer of the knowledge based theory was Grant (1996). This theory perceives knowledge to be the most significant resource in a business. The proponents of the theory state that since knowledge based resources are complex, heterogeneous, and difficult to imitate, they are the determinants of sustainability and improved performance. According to Nicolini (2016), to be efficient in the dynamic business environment a firm must be knowledge based. However, few businesses fully comprehend the concept of knowledge based resources and how it can be used successfully. Maybe a common misconception made by firms is that if they have a high knowledge awareness of their services and products the closer they are to being knowledge-based. However, the services and products are the tangible resources presented to customers.

Knowledge is instilled in different entities including the policies, culture, systems, employees, and routines. The view of this theory corresponds that of culture in organizations (Balogun, 2013). Conceptualizing firms as culture means that they learn from cultural artifacts. Nicolini (2016) stated that organizational learning equips, changes, and preserves the capabilities in a firm. The theory is relevant to this study since it emphasizes the need

for knowledge to attain superior performance and gain a competitive advantage which applies to students establishing businesses. A higher knowledge base is associated with faster response to changes in the environment and flexibility, hence knowledge is perceived as an asset in gaining sustainable competitive advantage of a firm (Mueller, 2015). Using dynamic capabilities organizations can integrate develop and reconfigure their external and internal capabilities in a dynamic business environment.

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) predicts that planned behaviors are determined by behavioral intentions which are largely influenced by an individual's attitude toward a behavior, the subjective norms encasing the execution of the behavior, and the individual's perception of their control over the behavior (Fishbein, 1981). The Ajzen's theory has been used to predict an array of behaviors (Ajzen, 2012). According to the theory, human behavior is guided by three kinds of considerations: beliefs about the likely outcomes of the behavior and the evaluations of these outcomes (behavioral beliefs), beliefs about the normative expectations of others and motivation to comply with these expectations (normative beliefs), and beliefs about the presence of factors that may facilitate or impede the performance of the behavior and the perceived power of these factors (control beliefs).

Any planned behavior is best predicted by observing intentions toward that behavior, not by attitudes, beliefs, personality or demographics (Ariff, et al 2010). Thus, according to social psychology literature, intentions are the single best predictor of planned behavior, especially when the target behavior is rare, hard to observe or when it involves unpredictable time lags. When the target behavior affords a person complete control over behavioral performance, intentions alone should be sufficient to predict behavior, as explained in the theory of planned behavior. Intentions have been found to be an unbiased predictor of action, even where time lags exist, for example, in career choices. Hence, intentions predict behavior, while in turn certain specific attitudes predict intention. Attitudes, again, derive from exogenous influences. Thus, intentions are indirectly affected by exogenous influences: Either they drive attitudes or they moderate the relationship between intentions and behavior (i.e. facilitate or inhibit the realization of intentions). And intentions serve as a mediator or catalyst for action: intention-based models describe how exogenous influences change intentions and, in the end, actual behavior. Based on this theory, agribusiness education and training can significantly impact on attitudes, intention and ultimately behaviours that can lead to the growth of agribusiness sector. Therefore, education can be used as catalyst to the growth of a vibrant agribusiness sector.

Empirical Studies

A number of empirical studies have been conducted to determine the relationship between entrepreneurial education and growth of education. For instance, Njoroge and Gathungu, (2013) sought to determine the effect of entrepreneurial education and training on development of small and medium size enterprises (SMEs) in Kenya. The study concluded that even though entrepreneurs may be reporting an increase in sales and profits, and may seem to be registering growth, lack of training on financial, strategic management and marketing will mean that the SMEs will not grow beyond the first stage of enterprise development to other stages and will hence eventually fail within its first five years of existence.

Timan and Gangi (2015) focused on entrepreneurship education in Sudan. The study revealed that there was only one programme of entrepreneurship education in Sudanese public universities. Moreover, entrepreneurship courses were very rare and were not commonly offered by those universities. However, the study acknowledged that many colleges teach entrepreneurship within different courses. Further, the study found that the public universities suffered

from a shortage of qualified staff in entrepreneurship education as well as a lack of an environment that is conducive for its development.

Ahmed, Gangi and Timan (2013) carried out an empirical investigation of entrepreneurial environment in Sudan. The study revealed that the entrepreneurs perceived economic, education and infrastructure conditions as fair. Another study conducted in Nigeria by Ogundele, et al (2012) focused on entrepreneurship training and education as strategic tools for poverty alleviation in Nigeria. The study concluded that through well-planned and executed entrepreneurship education, the Nigerian youths will learn to be happy and fulfilled, as they will be more productive and committed as employees or employers of labour; thereby allowing their unique capabilities to be utilized for the development of the national and global goals rather than abandoning their country for greener pastures overseas.

Heinert and Roberts (2016) study focused on engaging rural youth in entrepreneurship through extracurricular and co-curricular systems. The author concluded that all across the world many nations are placing emphasis on results driven entrepreneurship education that is part of an ecosystem that supports entrepreneurs. Several studies indicated that youth form opinions about careers at an early age, so making positive impressions about entrepreneurship in agriculture should happen when they are relatively young.

A study by Elfadil Timan and Yagoub Ali Gangi (2015) on Entrepreneurship education in Sudanese universities revealed that there was only one program of entrepreneurship education in Sudanese public universities. Moreover, entrepreneurship courses were very rare and were not commonly offered by those universities. However, many colleges teach Entrepreneurship related topics within different courses. Further, it was found that the public universities suffered from a shortage of qualified staff in entrepreneurship education as well as lack of an environment conducive for its development. Some private universities and educational institutions in Sudan have recently introduced Entrepreneurship module as a compulsory course within their curriculum. According to Garzón (2010) individual's entrepreneurial competence plays a determinant role in the early stage of starting a business.

Elmuti, Khoury and Omran (2012) indicate that adults' entrepreneurial intentions can be predicted by the entrepreneurial competence in their childhood. Peng, Lu and Kang (2013) finding established that social environmental factors, both supporting policies and entrepreneurial environment of society exerted a significant positive impact on student's entrepreneurial attitude, subjective norm, and entrepreneurial self-efficacy. A World Bank (2014) report highlights the great potential of the agribusiness sector in Africa by drawing on experience in Africa as well as other regions. This evidence demonstrates that good policies, a conducive business environment, and strategic support from governments can help agribusiness reach its potential. Lachaud, et al (2018) carried out a study on the impact of agri-business skills training in Zimbabwe. The study finding showed that information improves farmer's knowledge, particularly regarding existing technologies, and, by extension, boosts agricultural productivity and managerial skills.

METHODOLOGY

The study aimed to review the current agribusiness education and training curricula in Sudan and made sound recommendations and actions required to align the curriculum in the context of a dynamic agriculture/agribusiness sector. The study used a variety of methods and tools to assess the supply and demand sides of agribusiness education and training in Sudan as follows: Analysis of existing documents, review of Agricultural Economics Departments of 17 Sudanese universities, field study which covered five States namely (Khartoum, River Nile, Gazira, Kassala, and Gadaref) where agribusiness incubators were located. The study sample included; 9 key informants from 9 universities, 10 key informants from agricultural

extension departments, 5 key informants from agricultural research centers, 10 Agribusiness Incubations centres in five States and 160 youths incubatees (drawn from four States). The data collected was analysed using descriptive statistics and presented in the forms of charts and tables.

RESULTS AND DISCUSSIONS

Sudan has a young population. As much as 41% of the population is under 15 years of age while 20% is between 15-35 years. Unemployment in the country amounts to 21%, with the highest levels (over 20%) found among youth in the 15-24 years age bracket. The capacity for involvement of young people in agriculture is quite limited. This is partially attributed to issues of access to, and control over, productive resources (land and capital), as well as limited knowledge and skills in modern farming techniques.

The result of the review of the agribusiness education in Sudanese universities indicated, agribusiness education was offered only by university of Bahri as a program leading to a degree. Though some courses of agribusiness nature, (farm management, agricultural marketing and agricultural trade, in addition to agricultural policy, agricultural finance) were taught at both undergraduates and graduate levels by agricultural economics and rural development departments of 17 agriculture faculties and colleges as shown in Table 1.

Table 1: The Current Status of Agribusiness Education in Sudanese universities

	Universities	Agricultural college / agricultural studies	Department of agricultural economic	Agribusiness specializations	Agribusiness related subjects
1	Bahri	College of Agriculture	Agricultural Economics and Agri-business	Yes	Yes
2	Sudan university for Science and Technology	College of agricultural studies	Agricultural Economics	No	
3	Khartoum university	Faculty of Agriculture	Department of Agricultural Economics	No	Yes
4	El Neelen University	Faculty of Agricultural Technology & Fish sciences	Department of Agricultural Economic and Rural Development	No	Yes
5	Gazira university		Agricultural Economics		Yes
	Omdurman Islamic university	College of agriculture	Agricultural Economic and Rural Development	No	Yes
6	Kordfan university	Faculty of Natural Resources & Environmental Studies	Department of Agricultural Economics & Rural Development	No	Yes
7	Nile Valley University	College of agriculture	Department of Agricultural Economics & Rural Development	No	Yes
	University of Bakhtalruda	Agricultural college / agricultural studies	Department of Agricultural Economics & Rural Development	No	Yes
8	University of	Faculty of agriculture	Department of	No	Yes

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	Kassala	and natural sciences (new Halfa)	Agricultural Economics		
9	University of Gadarif	Faculty of agriculture and environmental studies	Department of Agricultural Economics & Rural Development	No	Yes
10	University of Sinnar	Faculty of agriculture	Department of Agricultural Economics & Rural Development	No	Yes
		Abunaema			
11	Red Sea University	Faculty of agriculture Taokar	No	No	No
12	Nyala University	No	No	No	No
13	Dalang University	Faculty of Agriculture	No	No	No
14	Alzaiem Alazhari University	Faculty of Agriculture	Agricultural Economics	No	Yes
15	Zalangi university	Faculty of Agriculture	Agricultural Economics	No	Yes
16	University of Dongola	Faculty of agricultural studies	Department of Agricultural Economics	No	Yes
17	Alsalam university	Faculty of agriculture and natural sciences (Afula)	Department of Agricultural Economics & Rural Development	No	Yes

Level of intake of agricultural economics specialization

The student's intake of agricultural economics discipline varied across various institutions some decreased and other increased as shown in figure 1.

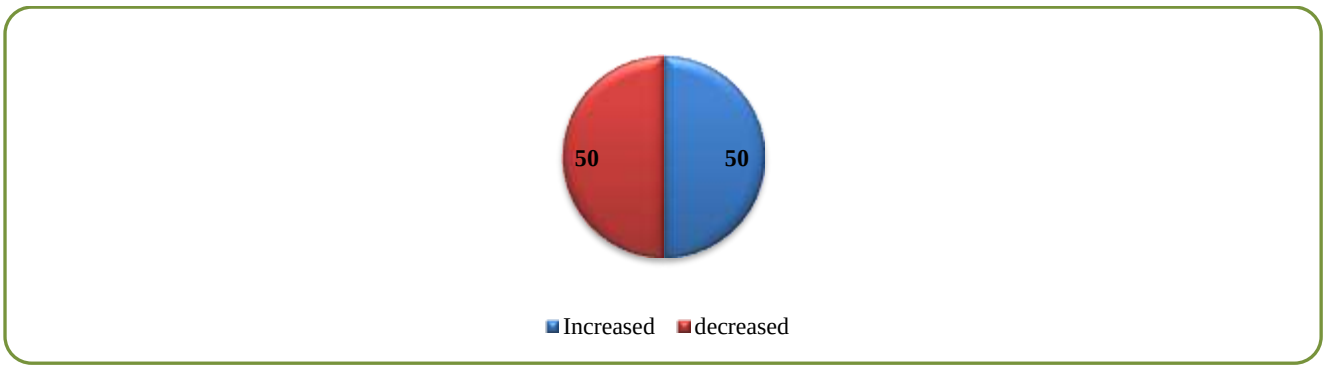

Figure 1: Students' Intake in agricultural economics specialization

Agribusiness Education in Agricultural Economics Departments

Departments reviewed offered a number of courses related to agribusiness, such as farm management, agricultural and farm book keeping, local and international trade, marketing, appropriate technology transfer, extension, Value chain studies, economics of production and marketing, studies in in efficiency of technology, pricing and economy of production (Figure 2). 60% of representatives of departments interviewed considered courses taught were not comprehensive to provide under

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graduates students with knowledge and skills on agribusiness (Figure 2).

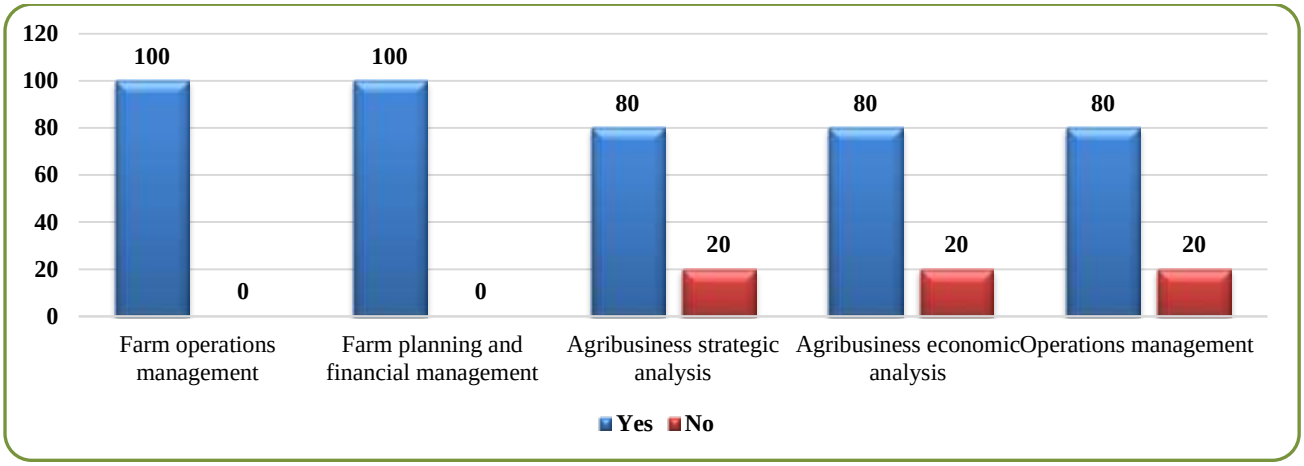

Figure 2: Agribusiness Knowledge and skills provided by the agricultural economic departments

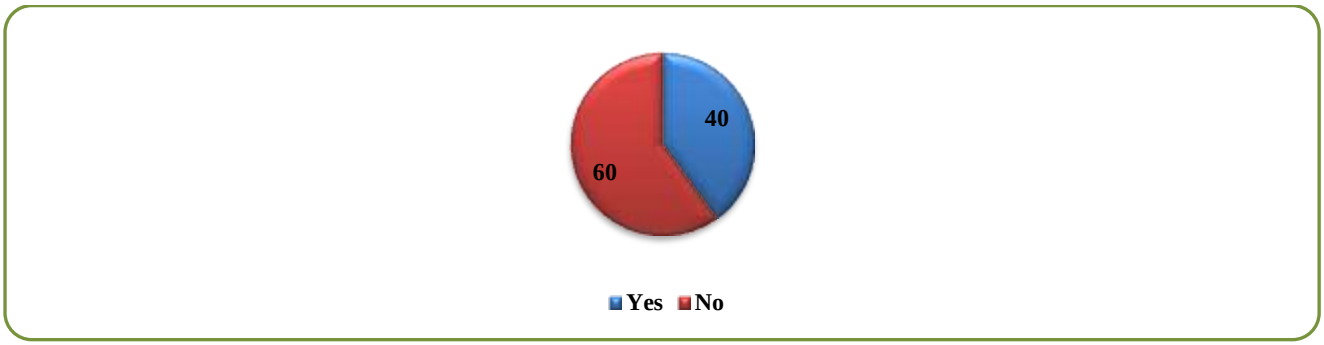

Figure 3: Adequacy of the curricula of agricultural economics in supporting agribusiness

Plan to introduce agribusiness specialization

The result of the review of the agribusiness education in Sudanese universities indicated, agribusiness education was offered only by university of Bahri as a program leading to a degree. Though some courses of agribusiness nature, (farm management, agricultural marketing and agricultural trade, in addition to agricultural policy, agricultural finance) were taught at both undergraduates and graduate levels by agricultural economics and rural development departments of 17 agriculture faculties and colleges. The results also showed that only 10% of the departments had a plan to introduce agribusiness specializations University of Bahari already introduced the agribusiness as specialization 30 %of universities had facilities to introduce agribusiness specialization (Table 2). The findings revealed that agribusiness education and training was poorly developed in Sudan which limited the interested individuals from acquiring the necessary skill set and knowledge to venture and succeed in their agribusinesses ventures.

Table 2: Plan to introduce agribusiness at University Level

	YES (%)	NO (%)	Total (%)
A plan to introduce agribusiness disciple	10	90	100
Agricultural economics have shown great flexibility in including agribusiness in their Bachelor's and Master's teaching programs, Ph.D and research programs	30	70	100
Availability of facilities to establish agribusiness	30	70	100

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Knowledge and Skills among Youth Run Agribusiness Enterprises in Sudan

The study assessed whether the selected youths had six areas of knowledge and skills necessary to venture into agribusiness. The Results were presented in Figure 4 shown below.

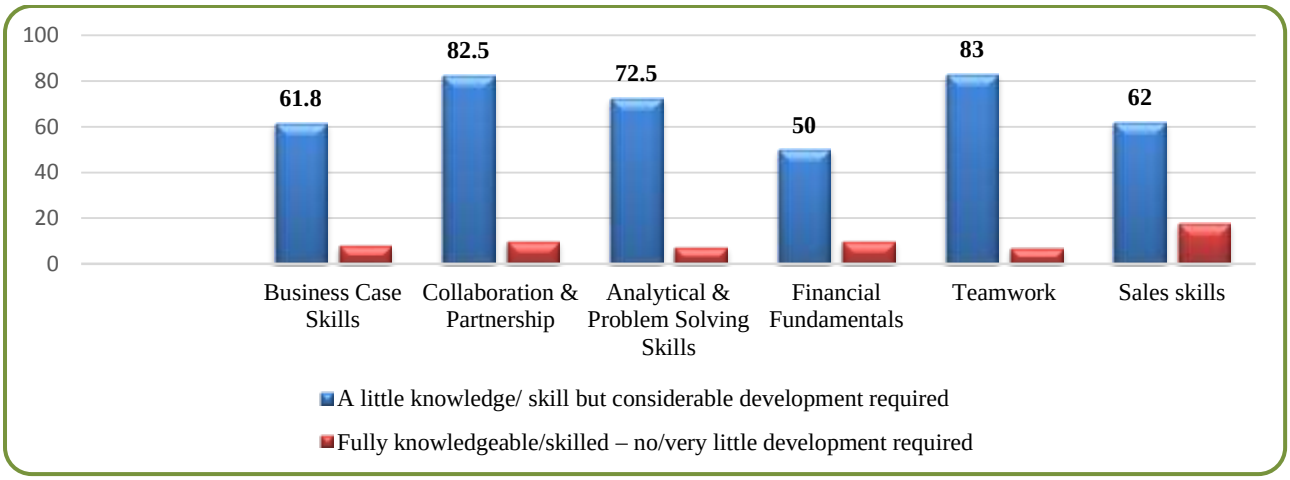

Figure 4: Knowledge and Skills among Youth Run Agribusiness Enterprises in Sudan

The findings indicted youths in Sudan had little background on the identified six areas of skills and knowledge. Specifically, they had little knowledge on financial fundamentals and business case skills. These finding implied that majority of the youths in Sudan that engaged in Agribusiness activities lacked the necessary knowledge and skills to make their agribusinesses profitable and sustainable. The study finding concurs with Timan and Gangi (2015) who revealed that entrepreneurship education in Sudan was not properly developed since there was only one programme of entrepreneurship education in Sudanese public universities.

According to Mabaya, Christy and Banama, (2014) agribusiness capacity building and training must be addressed for agribusiness to make meaningful contributions and remain relevant in shaping development of the sector. The Author further argued that examining the forces that influence agribusiness is necessary to provide insight into the policies and innovative strategies needed to ensure that this sector better contributes to economic growth and poverty reduction goals.

Assessment of Communication skills

Communication skills are critical in entrepreneurship especially in sales and marketing, pitching for financing and engaging with the stakeholders. The study conducted an assessment to establish whether the youths that engaged in Agribusiness had communication skills that would help them in growing their enterprises. The results were shown in Figure 5 shown below.

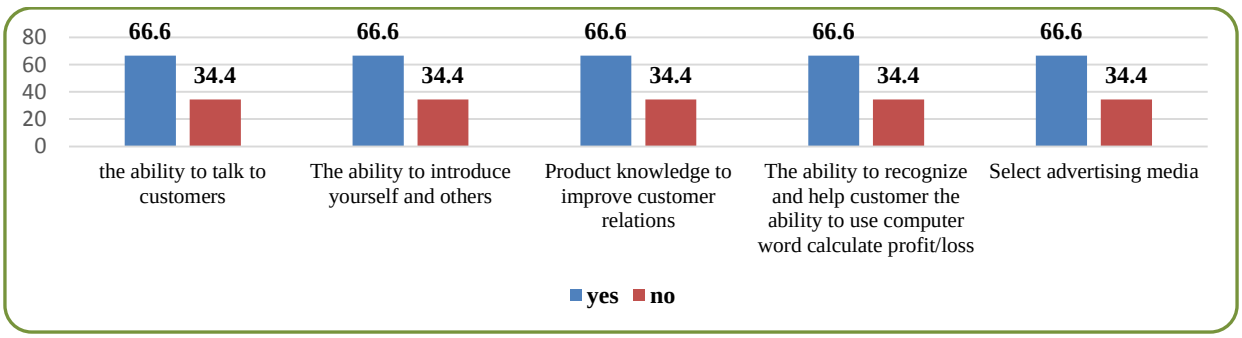

Figure 5: Assessment of communication skills required by youths to deal with consumers

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The results showed that two third of the respondent indicated they had ability to talk to customers, ability to introduce themselves to others, ability to communicate their product to customers and ability to select advertising media. However, 34.4% of youths lacked five communication skills to deal with consumers. The findings in this section shows that majority of Youths in Agribusiness in Sudan had adequate communication skills which was a major are strength in growing their enterprises.

Knowledge and Skills Needs Assessment among Youth Run Agribusiness Enterprises in Sudan

The study conducted an assessment of the knowledge and skills needs among the youths in Agribusiness in Sudan. The study asked the youths to mention areas they lacked knowledge and skills that they thought were critical to the future of their agribusinesses. The results were presented in Figure 6 shown below.

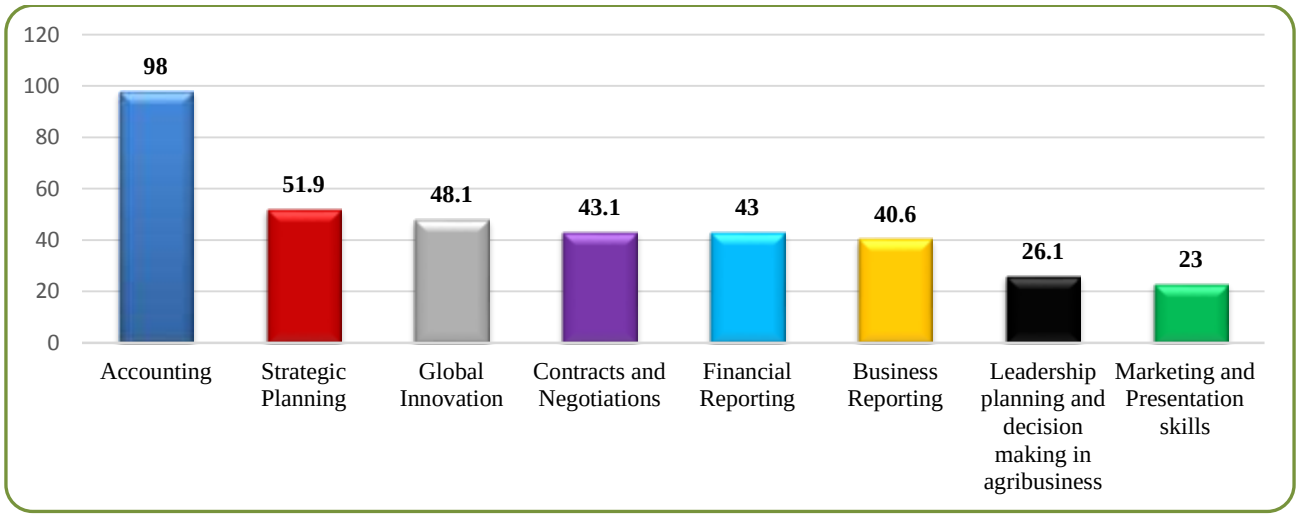

Figure 6: Knowledge and Skills Need Assessment among Youth Run Agribusiness Enterprises in Sudan

The results showed that 98% of them expressed their urgent training needs on accounting, 51.9% indicated they lacked strategic planning skills, 48.1% indicated they lacked global innovation skills, 43.1% indicated they lacked contracts and negotiation skills while 40.6% indicated that lacked business reporting skills. These findings revealed that there was informational and skills gaps among the youths engaged in Agribusiness in Africa. This informational gap explains why the sector was not as vibrant and also the reason behind failure of the many youth owned agribusinesses. Park (2017) observes that with modernization firm competencies such as agility, creativity and innovation are a requirement for startup businesses. The study findings are further in agreement with Elfadil Timan and Yagoub Ali Gangi (2015) who argued that entrepreneurship education in Sudan is poor developed and majority of the public universities and colleges do not offer courses that equip the youths with the necessary skills and knowledge to succeed.

Challenges and Gaps of Agribusiness Training and Education

The gaps and challenges established in agribusiness education and training includes domination of supply forces over demand forces. TVET planning and provision is academia-driven (schools, colleges and training centres) rather than being market driven. This has resulted in a mismatch between labour market needs and skills offered by TVET institutions. Another outcome is the feeling in academia that they do not need to go beyond the walls of colleges and schools to plan TVET. Weak participation on the part of the social partners, Little responsiveness to skill needs for the

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agricultural sector and the informal economy (results of review of courses offered) vocational training in Sudan has paid little attention on Small Enterprises training needs, Self-employment & entrepreneurship: The current state of the national economy and the rate of population growth, have resulted in a widening gap between available jobs and young job seekers. self-employment is becoming a practical option for young people in Sudan So TVET have not provided skills and knowledge to support youth self-employment and Training Contents had been undertaken largely based on the training materials and lesson plans prepared by individual instructors

CONCLUSION

This paper concluded that huge informational and skills gap contributes to lack of participation of the youth in agribusiness projects. Majority of the Sub-Saharan African countries have no formal and well-structured means of training and equip youths with necessary knowledge and skills to make them succeed in agribusinesses. In Sudan for instance, there was only one program of entrepreneurship education in Sudanese public universities. The review of Sudanese education curricula indicated weak diffusion of entrepreneurship education specifically agribusiness at all the levels in Sudan.

Non-Governmental Organisations have stepped into the realm of agribusiness training by offering adapted training courses. Most of these training were donor supported and many target small, specialized client base. Departments of Agricultural Economics reviewed shown great flexibility in including agribusiness in their Masters, Ph.D. and research programs. Vocational training and education in Sudan has paid little attention on Small Enterprises training needs. Lack of comprehensive agribusiness education and training is one of the factors that hinder the sector from unlocking it huge potential and contributing significantly in job creation.

This leaves majority of the youth to use trial and error tactics which cannot be relied on to create a vibrant youth driven agribusiness sector. With limited access to employment opportunities in rural Sudan, large scale migration pushes migrant labor into the urban informal sector with inadequate social safety nets and poor living conditions in urban slums. A sustainable solution lies in enhancing their access to livelihoods back home. Local entrepreneurship in rural or semi-rural regions could enable growth locally and build local talent and capacity. This requires relevant and adequate training as well as building capacities to help create micro and small enterprises.

RECOMMENDATIONS

The following are the recommendations to promote the role of institutions responsible for productions and disseminations of agribusiness: To support the development of agribusiness, the following needs are to be addressed, a unified syllabus for all university levels (B.A. MSc., PhD.), exposure to other neighboring countries experience who have applied this system, finance, good marketing, and capability to diversify products in order to accommodate different tastes.

This paper recommended provision of qualified vocational trainers for long term sustainability of agricultural education program. The curriculum itself has to accommodate subjects that will help students develop their hard skill and soft skills, improve their knowledge and skill, since it is not rigid, it has to be develop according to social economic need in order to fulfill industry requirement. It has to be supported by dedicated departmental staff that continuously improves their teaching ability.

Entrepreneurship education should be included in the national curricula for vocational education. Regardless of the vocational training area, the most effective way to teach entrepreneurship is to have students participate in practical projects and activities, in which learning by doing is emphasized and real experience with entrepreneurship is gained. Problem-driven and experience-oriented education is essential to fostering entrepreneurial

mindsets and abilities. Agricultural Technical Vocational Education and Training should not aspire to be universities. The types of education delivered by each should be recognized as different, for different purposes, and incentivized accordingly. Establishing Vocational High School on Agro industry should be a government policy to support agriculture development, by producing qualified employees in agro industry. The curriculum should not rigid but rather it should be dynamic such that it evolves according to users' need.

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