

# The Nature of Entrepreneurial Training in Selected Agricultural Training Institutions of the Ministry of Agriculture and Livestock in Zambia

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## ABSTRACT

This study explored the nature of entrepreneurial education in the selected Agriculture Training Institutions (ATIs) for the Ministry of Agriculture and Live stocks in Zambia. To do this, the study explored Entrepreneurial Education challenges and opportunities in ATIs, widely acknowledged as a transformative tool for job creation in the country. The argument is that if entrepreneurship education is properly enhanced can provide self-reliance in the Zambia's agriculture sector to attain sustainable socio-economic growth. The aim of the study was to explore the nature of entrepreneurial education in ATIs curricula; identify challenges, opportunities and ways to promote innovation and job creation through the provision of entrepreneurial education in the selected ATIs in Zambia. The study employed a mixed data collection process through purposive sampling procedures. Qualitative data were analyzed thematically while Quantitative data were analyzed using descriptive statistics such as frequencies, percentages, graphs and tables. The findings show that the current ATI curricula and the National Agricultural Policy (NAP) did not adequately address entrepreneurial education in the agriculture sector because they were loosely developed and were production oriented. The study recommended inter alia that ATIs should create curricula that prioritize creativity, and innovation, utilizing blended interactive and reflective teaching methods to support entrepreneurial education.

**Keywords:** Entrepreneurial education, Agriculture Training Institutions (ATIs), Ministry of Corruption, National agriculture policy.

## INTRODUCTION

Agriculture remains a priority sector in Zambia for attaining sustainable economic growth and employment creation. This is attributed to the country's vast natural resources such as huge tracks of arable land, water and a youthful population to support all forms of agricultural activities. Currently, the Zambian population entirely depend on agricultural related activities for their livelihoods. Thus, this sector needs a lot of technical and professional support for its growth through training and human resource development. The past investment by government in Agricultural Training Institutions after independence was a strategic intervention towards human resource development to meet the shortfall of human capital at that time. However, the implication of this strategy now is that the public sector cannot absorb all graduates from Agricultural Training Institutions hence the need to foster entrepreneurial education for graduates to grow the informal sector. The lack of technically trained human resources, in the agricultural sector, at the time of independence in 1964, was among the major constraints to the rapid growth of the Zambian economy. To ameliorate the situation, a number of Agricultural Training Institutions were created. Agricultural Training Institutions are a very critical component of the Ministry of Agriculture and Livestock (MAL) in that they are mandated to provide technical and professional support through training and human resource

development in agriculture and other related programmes. The Ministry of Agriculture and Livestock has ten major Agricultural Training Institutions outlined in Table 1 below in terms of hierarchy from the highest level to the lowest level in ranking.

The Ministry of Agriculture and Livestock records that establishment of agricultural training institutions came after independence. The emergence of these institutions and their focal areas illustrate the developments that were taking place in the economy. Previously, these institutions supplied graduates to government, as it was the main employer. However, this changed with the liberalization of the economy in 1991, when the government stopped being the sole employer of graduates from the training institutions. The liberalisation of education and recent economic development has heightened the need for job creation in Zambia. Therefore, with the job market dwindling for graduates in Agricultural Training Institutions, especially the certificate holders, a number of these institutions embarked on self-assessment and ‘renewal’ strategies through “introduction of ‘attractive’ relevant subjects, updating old courses to incorporate new and emerging issues such as sustainable agriculture”. Most of the institutions have embarked on development paths towards offering diploma level certification, but without necessarily abandoning the certificate training.

## STATEMENT OF THE PROBLEM

One of the problems faced by Zambia as a result of poor economic performance is a mass of educated youths who cannot be absorbed by the job market. It is certain that meeting the challenge of creating and increasing numbers of jobs in Zambia will not be achieved through relying on solely government and foreign investments (Phiri, Mbozi & Kalimaposo, 2019; World Bank, 2009). There is need for holistic curricula review in Agricultural Training Institutions in order to take into account the need to create entrepreneurs instead of job seekers. Entrepreneurial education is critical to sustaining job creation and economic development; Mwamba, Musonda, Daka and Mulenga (2021). Entrepreneurial education stimulates creativity in students, enables them to identify opportunities for innovation and motivate them to transform ideas into practical and targeted activities (Campbell, 1985). This leads to self-reliance. Mwamba, Musonda and Daka (2021) argue that entrepreneurial education gives students appropriate knowledge, values and skills to establish and run an enterprise. Further, increasing recognition of the role of entrepreneurial education in academic institutions integrate cultures and mindsets that promote new business creation among graduates (Phiri, Mbozi & Kalimaposo, 2018; Charney and Libecup, 2000). Records on the status of Agricultural Training Institutions point to absence of either systematic study reports or comprehensive periodic reports on entrepreneurial education. This confirms the limited knowledge in entrepreneurial education in agricultural training institutions giving a reason for this paper to be published. Anho, (2011), shows that entrepreneurial education has about 90% impact on all enterprises in the economy in developing countries and that entrepreneurs provide about 60% of jobs in such countries. Such a contribution is too enormous for any economy to disregard. Furthermore, the paucity of empirical research on entrepreneurial education in Agricultural Training Institutions of the Ministry of Agriculture and Livestock in Zambia prompted this study as most studies have tended to concentrate on issues of production. Therefore, this study sought to fill this knowledge gap by investigating the challenges and prospects of entrepreneurial education in selected training institutions of the Ministry of Agriculture and Livestock in Zambia.

## OBJECTIVES

1. To assess the nature of entrepreneurial education in Agricultural Training Institutions curricula;
2. To establish challenges in the provision of entrepreneurial education in selected Agricultural Training Institutions of the Ministry of Agriculture and Livestock;
3. To explore ways in which entrepreneurial education in Agricultural Training Institutions can be

enhanced in order to promote innovation and job creation.

## **REVIEWED LITERATURE**

### **Training Programmes in Agricultural Training Institutions (ATIs)**

Training programmes at Agricultural Training Institutions were mostly historical in nature in that they conformed to the original objective for which the institutions were established, for instance Kasaka Fisheries Training Institute had programmes on fisheries and aquaculture while Zambia Institute of Animal Health focused on animal health, Zambia Horticulture Training Centre in Kalulushi offers training in horticulture and Katete Agricultural Marketing runs marketing training whereas Palabana focusses on dairy. Each training institution had 'branding' programme(s) linked to their original mandate. The ever increasing number of graduates from agricultural training institutions and other learning institutions seeking formal employment is creating challenges for the Zambian government. Education and training systems have to change in order to create a culture of entrepreneurship as well as equip students with knowledge and skills that would enable them venture into business as an alternative to formal employment.

Changwe, Mwanza, Daka and Ng'onomo (2023) mention that there is need for holistic curricula review in training institutions to take into account the need to create entrepreneurs instead of job seekers. Entrepreneurial education is critical in sustaining job creation and economic development. It stimulates creativity in students, enables them to identify opportunities for innovation and motivate them to transform ideas into practical and targeted activities. It also gives students appropriate knowledge, values and skills to establish and run an enterprise (Swartland, 2008).

### **The Concept of Entrepreneurial Education**

Entrepreneurial education is not a new concept in Zambia. It is increasingly recognised as an important driver of economic growth, productivity, innovation and job creation (ILO, 2003). It also takes into account desired skills, knowledge and competencies necessary at various stages of the entrepreneurial continuum as well as effective pedagogies to address varying learning styles and modes of delivery to sharp learner for him or her to be self-reliant. Entrepreneurial learning methods are very significant to students. Schramm, (2006) and Daka (2023) assert that entrepreneurial learning enables people absorb new knowledge from direct experience or from observation of other people's behaviour, actions and consequences. Agi and Yellowe (2013) and Daka, Minjale, Kakupa, Kaani, Tembo, Mulenga and Musonda (2023) opine that it is a base for constructive alignment of individuals' potential reactions to entrepreneurial activities. It inspires them to add value to their products or services for the benefit of society.

### **The Past Studies on entrepreneurial education in Zambia**

A considerable amount of literature has been published on entrepreneurial education. These studies focused mainly on self-reliance and poverty reduction. The value of entrepreneurial education has been measured through entrepreneurial attitude, knowledge and skills, which are regarded as subjective norms. A systematic review of entrepreneurial education in training institutions shows that there are a number of benefits for students. The generalisability of much published research on this issue is problematic. It does not inform the readers what parameters are used to measure benefits for students. On the other hand, a few studies have indicated that entrepreneurial education could also achieve negative outcomes. Furthermore, most of the entrepreneurial education studies have established neither the comparative studies nor longitudinal, thus little knowledge exist regarding how challenges and prospects of entrepreneurial education in Agricultural Training Institutions contribute to lifelong learning and job creation.

## Employment and Entrepreneurial Education

Employment creation in Zambia has featured extensively on the government’s agenda. The Seventh National Development Plan lists employment creation as one of four major goals of the plan along with reviving and sustaining economic growth, reducing inequalities in income distribution and eradicating poverty. With an economic growth rate of three per cent per annum, it does not seem that this problem will be solved in the near future. Unemployment brings displeasure, hopelessness, and despair. These conditions are more likely to result in people engaging in risky and disparaging activities which might be fruitless such as drug and alcohol addiction, delinquency, and other criminal activities (World Bank, 2009). The study by Pinto and Mrope (1995) also confirms that the problem of unemployed for school leavers and graduates has reached unprecedented levels. This questions whether the academic focus of the education system is relevant for the needs of the current economy.

## METHODOLOGY

The epistemological position adopted in this study was the post positivism paradigm. The post-positivist stance asserts that research requires an ability to see the whole picture. In this study, a descriptive survey design was used to carry out the research. Descriptive research does not fit neatly into the definition of either quantitative or qualitative research methodologies, but instead it can utilize elements of both, often within the same study. The term descriptive research refers to the type of research question, design, and data analysis that will be applied to a given topic. Descriptive research studies are concerned with describing the characteristics of a particular individual, or of a group (Kalimaposo, 2010). The study employed mainly qualitative approaches although descriptive statistics were also used in order to collect detailed information about entrepreneurial education in Agricultural Training Institutions of the Ministry of Agriculture and Livestock in Zambia. This design involved the use of questionnaires, interview schedules and analysis of documents. This enabled the researcher to gather data from a cross section of respondents from different parts of the country. The study was undertaken in all the ten Agricultural Training Institutions of the Ministry of Agriculture and Livestock in Zambia. There are 10 Agricultural Training Institutions at which training is offered under the auspices of the Ministry of Agriculture and Livestock, and these are presented below:

Table 1: Study Sites

Institution	Course Level	Category	Location
Natural Resources Development College (NRDC)	Diploma	1	Lusaka
Zambia College of Agriculture (ZCA) – Monze	Certificate Diploma	2	Monze
Zambia College of Agriculture (ZCA) – Mpika	Certificate Diploma	2	Mpika
Cooperative College	Certificate Diploma	2	Lusaka
Palabana Dairy Training Institute	Certificate	2	Chongwe
Zambia Institute of Animal Health (ZIAH)	Certificate	2	Mazabuka
Kasaka Fisheries Training Institute	Certificate	2	Kafue
Katete College of Agricultural Marketing	Certificate	3	Katete
Zambia Centre for Horticultural Training (ZCHT)-Chapula,	Certificate	3	Lufwanyama
Popota Tobacco Training Institute	Certificate	3	Choma

Source: Field Survey, 2016.

The target population for the study were senior officers at the level of Director or Assistant Director from

Departments of the Ministry of Agriculture and Livestock (MAL) and other stakeholders. In this study, the researchers employed non-probability sampling procedures as the investigation intended to gather in-depth information on issues relating to the nature and adequacy of entrepreneurial education in Agricultural Training Institutions of the Ministry of Agriculture and Livestock in Zambia. The researchers chose the respondents who provided valuable information for the study. The sample comprised 58 respondents as shown in the table 2 below. The approach to data collection was designed to attract and gain participation from Agricultural Training Institutions and other stakeholder’s samples.

Table 2: Respondents

Director or Assistant Director	10
Agricultural Institution Coordinators	3
Principals/ Vice Principals	20
University of Zambia Lecturers (School of Agriculture)	15
Technical Education Vocational Entrepreneurship Training Authority officials	5
Zambia National Farmers Union	5
<b>Total</b>	<b>58</b>

Source: Field Survey, 2016

Semi structured interviews were used for Agricultural Training Institutions Training Officers and Agricultural Training Institutions Training Officers, Agricultural Training Institutions Coordinators, Officials of University of Zambia. In-depth interviews were used for Agricultural Training Institutions’ Administrators, Farm Managers, Librarians, Officials from Technical Education Vocational Entrepreneurship Training Authority and Zambia National Farmers Union. In addition, observation by researchers was used.

The researchers began the processing of data analysis during interviews by recording what was considered relevant research questions according to interview guide. The across-case approach was used in the analysis. Under that approach, the researcher put together answers from different people on common questions and consolidated the different perspectives on a given theme or issue. The views of all participants were taken and recorded under each theme. The process was repeated until all responses were exhausted. The across-case was used to analyze responses to the questionnaire. Each item in the questionnaire constitutes a theme under which all responses to the item were recorded and consolidated.

## FINDINGS AND DISCUSSION OF FINDINGS

Data analysis and discussion was done using the objectives of the study and according to how themes emerged.

### Entrepreneurial education in Agricultural Training Institutions curricula

The first objective of the study sought to assess the nature of entrepreneurial education in Agricultural Training Institutions curricula in Zambia. In discussing the findings of this research regarding curricula, the central question addressed was how adequate entrepreneurial education was in Agricultural Training Institutions curricula. The issues looked at were course contents, pedagogical methods in Agricultural Training Institutions and classroom facilities. In contrast literature has been suggesting that the most suitable indicator to appraise the results of entrepreneurial education in Agricultural Training Institutions is the rate of new business creation in a country. However, other studies that were undertaken by Yergin and



Stanislow (2012) show that the results are not immediate. Additionally, researchers like Cooper and Dunkelberg (1987) have tried to understand activities of entrepreneurial education, which are necessary to assess entrepreneurial education. They argue that entrepreneurial activity is an ingenious human accomplishment in a quest to generate profit through the creation or expansion of a business entity, by identifying and exploiting new products, making improvements on old ones, as well as identifying and exploiting processes or markets. Similarly, Venkataraman (1997) affirms that it is imperative for training Institutions to develop entrepreneurship among their students such that they will be exhibiting entrepreneurial qualities in whatever settings they find themselves. This is also consistent with Hisrich (2005) who stated that entrepreneurial education has potential to help students on how they can apply what they learn in practice to start their own enterprise.

Most of the training officers respondents indicated that although every effort are being made to inculcate and equip students with relevant skills and knowledge that will help them create sustainable jobs for them Agricultural Training Institutions are have a lot of difficulties inculcating critical entrepreneurial skills to students to enable them manage their own businesses efficiently hence the need to revisit programmes currently been offered. They said basic skills and knowledge in marketing, calculated risk and opportunity recognition should be given to students as a way of helping them develop business acumen to address grinding poverty and unemployment confronting Zambia today. The findings of the current study are consistent with those of Ronan (1995) study entitled 'Learning Styles and Academic Performance in an African University' who asserted that entrepreneurial competence in a school curricula was a critical component in lifelong learning and self-reliance. Similarly, this finding is in agreement with Vesper, (1997), findings which showed that most professional bodies have actually identified the need to incorporate functional literacy in the curriculum for self-employment because of the current situation where almost all graduates look forward to government for employment as soon as they complete their studies because of the huge investment their families are compelled to commit in their education. Yergin and Stanislow (2012) draws attention to the devastating phenomenon for graduates which has an effect on various parts of their personal lives, especially for graduates who could have taken study loans. Similarly unemployed graduates represents a huge cost to society in terms of lost potential for economic growth and this leads to increase in vices.

### **Challenges in the provision of entrepreneurial education in ATIs in Zambia**

The second objective of the study sought to identify challenges in the provision of entrepreneurial education in selected Agricultural Training Institutions of the Ministry of Agriculture and Livestock. According to Mwamba, Musonda and Daka (2021) explain that understanding challenges of entrepreneurial education process is a valuable asset in the development of entrepreneurial education in agricultural training institutions. He argues that this is useful for policy makers and trainers. He further asserts that entrepreneurial education accordingly been a process of systematically acquiring job related knowledge, skill and attitude in order to perform with effectiveness and efficiency specific tasks in an entity is not desired for its own sake in the industry, but that its utility predisposes an entity to invest financial and material resources. A number of challenges in the provision of Entrepreneurial Education in Agricultural Training Institutions were identified namely

#### **Low staffing levels**

The first challenge faced by Agricultural Training Institutions in the provision of entrepreneurial education was low staffing levels provided by the establishment assessed from numbers and qualifications. It is an extended expectation that academic staffing levels (quantitatively and qualitatively) obtained at the institutes can deliver quality training. The staff complement at the Agricultural Training Institutions was inadequate in number and quality for effective delivery of Entrepreneurial Education at Diploma levels, and to some extent at Certificate level. Additionally, training officers in all ATIs pointed out that they faced the problem

of staff shortage in all areas of training for students. Consequently, the staff were overworked, became tired and, in some cases, demotivated. This is consistent with Kaplan and Warren (2010) who states that due to low staffing levels, people working in colleges and universities were not satisfied with their working conditions and reported that they suffered from physical and mental fatigue. In this study, Principals and Directors at MAL headquarters also highlighted the challenge of inadequate staff in Agricultural Training Institutions, which they said called for serious attention. The obtained picture was the most worrisome area of the Agricultural Training Institutions appropriateness to deliver quality entrepreneurial education. At almost all the Agricultural Training Institutions, the staff establishments were not filled. A substantial number of staff in positions was in acting status for administrative purposes only, due to absence of suitably qualified staff and lack of treasury authority from Ministry of Finance. Additionally, management and training officers pointed out that Agricultural Training Institutions were understaffed. Management also identified lack of formal training in entrepreneurial related courses as a challenge in the provision of entrepreneurial education in Agricultural Training Institutions in Zambia.

Additionally, the tremendous shortage of teaching staff in Agricultural Training Institutions provides an opportunity for colleges to revise their manpower development plan in order to suit the real needs of these learning institutions. One of the Principals said,

*“as training institutions we will continue lobbying the Ministry headquarters for recruitment of additional full time staff to fill vacant positions and increase funding so that we improve the skills of our lectures for them to deliver quality education. Additionally, study tours will be undertaken at the appropriate time whenever, resources allow.”*

When the Ministry employs more staff this will reduce numbers of part time staff. Conversely, this will ensure that savings from paying of the part time staff are used on teaching materials and study tours. Human resource development enables training officers to self-actualize through a systematic process of developing their existing potentialities and creating new ones. It is therefore a field of knowledge that deals with all those aspects of human beings which are concerned creative abilities.

One of the training officers indicated that:

*“Despite all the hardships the institute has faced in the past years, staff has been determined to train quality veterinary assistants’ year in year out”.*

### **Inadequate and erratic funding**

The second challenge was inadequate and erratic funding to these training institutions. Inadequate funding is indicted in the poor infrastructural support entrepreneurial education to drive quality delivery of entrepreneurship education. Most of the Principals officers indicated that funding for the Agricultural Training Institutions was mainly from government with donors’ contribution being nominal. While most of the funds were from government, the disbursement was erratic, untimely and always below the budgeted amounts. This has made colleges find means of generating additional funds through Income Generating Activities that are unfortunately stolen through corruption. This is confirmed by Phiri (2022) that corruption in the education sector takes various forms, some of which are not so obvious. It includes: the diversion of funds intended for school needs and infrastructure.

Overtime, there has been a decline of government funding to ATIs, which has led to the deteriorating state of the teaching infrastructure in terms of furniture and the poor state of training equipment. This has greatly compromised the quality of entrepreneurial education. It was observed that amounts from such ventures were small and variable, but in all cases, they were recognized as important resource in meeting college obligations such as paying for maintenance, complementing student feeding, investing in development

projects and paying staff allowances doing extra work. Institutions are well endowed with natural resources which can be turned into income generating ventures with proper business planning but as was noted most IGAs were done without any laid out business plans;

One of the farm managers said:

*‘the College generated some revenue from beef and milk sales from the dairy and beef units which kept the units afloat. However, the units were unable to pay the casual staff their monthly dues and Management had to pull resources from other income generating ventures to maintain the casual staff. This sentiment is reflected in one of the Principals comments that “Lack of financial resources is one of the most frequently stated problems with training institutions”. Students need to actively learn how to manage financial resources.*

### **Lack of Infrastructure**

The third challenge faced by Agricultural Training Institutions in the provision of entrepreneurial education was lack of good infrastructure and equipment. The components of educational infrastructure include both the software and the hardware. The software are curriculum frameworks a teaching force whose members succeeded in those curricula and exams as students. While the hardware are the physical facilitates of the training institution. Mwamba, Musonda and Daka (2021) provide that there is a linkage between infrastructure and economic growth. The scholars explain that good Infrastructure contributes to improved productivity of training and business. The time spent obtaining training materials, irrigation or traveling to markets to sell products is often significant. When training institutions connections are available with good transport and telecommunications services are accessible, staff can engage in more productive activities. The expansion in quantity and improvement of quality infrastructure also lowers costs and expand market opportunities for businesses.

One of the Registrars indicated that infrastructure was in a deplorable state. He said *“good support is a requirement to facilitate quality training”*. Expanding classroom accommodation and laboratory space was inevitable for increasing practical training facilities.

*“The biggest challenge was to rehabilitate structures which are almost a century old when money is availed to the college. This we feel is a drain of the little resources allocated to us but construction of new modern buildings will help train more students not only for Zambia but for the region as well. Our production units are at capacity and can only suffice for training but once bigger units are constructed the college can feed the yawning Mazabuka market with the much needed protein to reduce on malnutrition. This will in turn create job opportunities for the locals and lead to poverty reduction in line with government policies”*, bemoaned one of the Principals.

Further the researcher observed that Classroom space was not enough given the increased number of enrolment over time. Originally, colleges like the Natural Resources Development College (NRDC) would accommodate 350 students; now it was accommodating as many as 2000 students with the same infrastructure and training facilities. The scenario put pressure on the ATI’s infrastructure and equipment meant for a limited number of students now catering for a larger group of students. ATIs’ management had a challenge of balancing the demand for training and capacity to register more students.

One of the registrars stated that:

*“College infrastructure is still in a bad state and restoration works were planned for but were not executed due to delays in approval of tender procedures. During the period under review the road was re-surfaced*



*by the Road Development Agency (RDA) and this has added a new outlook to the institution.’’*

### **Inadequate Library facilities**

It was observed that most of the colleges visited had places dubbed libraries but of varying quality. What was at Cooperative College and Zambia College of Agriculture-Mpika gave some semblance of functional libraries while at Katete, Kasaka and Zambia Institute of Animal Health and indeed other level three colleges pointed to the absence of this important facility: In these colleges, books were just piled up on shelves with no cataloguing or indexing. Education and training is dependent on providing facilities where students can learn and libraries are an essential input. The furnishing of the ‘libraries’ was very poor with inadequate and inappropriate desks and tables. It was observed that the libraries were run by unqualified people rendering the collection to be prone to losses and more frustrating to students as this made it difficult for them to find desired books as they were not always Catalogued. If libraries, as reservoirs of information, should serve their purpose then proper management must be put in place, even before new and current collections can be acquired. No mention of an e-library possibility at any of the institutes visited was made implying the serious gap in Information Communication Technology use. The emerging advantages through advances in Information Communication Technology seem to be eluding these training institutes! This calls for an urgent intervention addressing availability of computers and improvement of connectivity

The librarian said

*“Two computer labs were set up under the ZICTA Universal Access programme. Each of the two labs has twenty (20) thin client student computers and one (01) trainer’s computer, making a total of forty-two (42) computers. Two (02) computers and one (01) printer were also donated for College administration”*

A number of books were ordered for most of the libraries. However, some of the books had not been delivered due to difficulties in sourcing them. This had been a major challenge to most of the Colleges. One of the librarians said

*“Two computer laboratories were set up under the ZICTA Universal Access programme. Each of the two labs has twenty (20) thin client student computers and one (01) trainer’s computer, making a total of forty-two (42) computers. Two (02) computers and one (01) printer were also donated for College administration”*

Most of the colleges have entered into partnership with a non-governmental organisation called Crescent Future Kids which has supplied computers to all training institutions and have connected those computers to internet. This organisation has also provided training institutions with computer experts to teach students computer lessons and they provide separate certification at the end of their programmes. This has in did strengthened their college curriculum because students are able to access reading materials from the internet. In addition to this colleges are now restocking their libraries and this will help the students to research and read from the library said one of the Librarians. The colleges will also continue buying books for the library as funds are made available. They will also Internet connectivity to be worked on to increase number of computers connected.

### **Inadequate Laboratories**

It was observed that the state of laboratories at colleges visited was poor in all aspects expect at Zambia College of Agriculture-Monze that had some semblance of a functional laboratory. A laboratory has two key components, structure – room or building, equipment and consumables (chemicals). The building should be of appropriate size to cater for the specified number of students, it should be properly furnished to create a

safe learning environment. The equipment for the laboratory must support learning objectives hence it should be current, functional and adequate in quantity. This finding corroborates the ideas of Mwamba, Musonda, Daka and Mulenga (2021) who suggested that Consumables such as chemicals must always be available for agriculture is a science-based profession). The state of laboratories, with regards to these basic features, was very poor across board. The initiative at Popota in developing a functional laboratory was impressive but the laboratory needed proper and adequate sitting stools with appropriate benches. The laboratory had no equipment at all! Consumables such as chemicals were hard to come by due to budgetary constraints. An exception was noted at Zambia College of Agriculture-Monze where equipment was satisfactory and consumables were always catered for. The equipment in the laboratories was old and inadequate. A proper and deliberate exercise to equip laboratories is a must. Agriculture is a science-based profession, therefore, use of laboratories in the training is cardinal.

### **Lack of Practical facilities**

It was observed that Most of these facilities were old and of little value for practical purposes mainly because this was one aspect of training that was not duly supported due to funding. The poorly equipped workshop at Zambia College of Agriculture Monze was a true reflection at all institutes. The inventory of machinery and equipment in the Training Workshops and Laboratories was poor as no major financing had been carried out to stock new equipment. The college only had old microscopes and other equipment that were not operating well. Therefore, new equipment had to be procured to equip the laboratories to offer consultancy and advisory services. The farm had no disc harrow and bailing machine while the tractors and ploughs require replacing.

Without exception, all interviewed students (100%) pointed that the most important area mentioned that needed to be improved so as to enhance entrepreneurial education at Agricultural Training Institutions, was provision of functional practical facilities equipment and seed capital. This was reinforced by the statements from employers who said graduates ‘lacked’ practical skills on new technologies.

### **Implication**

Overall, there were two categories of challenges established; namely staff and funding related. Training officers lacked knowledge about Entrepreneurial Education and establishment of business units to be imparted to students who wish to start a business. The students were not very familiar with the business world; hence the need to link them to industry for hands on practical experience. It was necessary to change the mind set of students to embrace self-employment rather looking to government for employment which is difficult to come by. There was also need to ensure that those with innovative ideas were provided with the seed capital for them to translate such ideas into reality. It was essential to seriously review all Agricultural Training Institutions dictates starting from policy level. A legal framework to back up tactical intervention had to be put in place. A provision that should allow these institutions to have commercial orientation component in their structure must be worked out.

Entrepreneurial education could help to reduce the high rate of unemployment in both urban and rural areas of Zambia, by equipping students with the knowledge and skills for setting up and running small businesses effectively. This leads to the conclusion that even though the entrepreneur 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 SME 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. The implication is that the positive impact of entrepreneurship education puts a double challenge on governments now and in the future: the increased need of financial funds to support entrepreneurship education and the choice of the correct educational programme. Similarly It is worth noting that an in the number inadequate human resource both in terms of number of staff teaching entrepreneurial related courses and in term of their

specialization also affect the quality of entrepreneurial education Few lecturers were trained in entrepreneurial related programmes. The prevailing situation has a negative impression on the application of entrepreneurship for job creation and poverty alleviation. The shortage of specialized lecturers could be alleviated to a considerable degree through carefully targeted recruitment campaigns on qualified staff in entrepreneurship, but these must be accompanied by matching financial resources, which has been a major constraint on government. Further, inadequate agricultural policy to address issues of entrepreneurial education in agricultural training institutions lacked supporting framework provision of entrepreneurial education, which discourages rote learning and bookish knowledge and prefers hands-on experience for learning.

### **Prospects on entrepreneurial education in ATIs in Zambia.**

The third objective of the study sought to identify prospects in the provision of entrepreneurial education in selected Agricultural Training Institutions of the Ministry of Agriculture and Livestock. This study has revealed a number of prospects on the delivery of entrepreneurial education in selected Agricultural Training Institutions of the Ministry of Agriculture and Livestock in Zambia namely: Lifelong education, Research and development, Infrastructure Development, Income Generating Activities, Agricultural Land, Networking, and Market Development.

#### **Lifelong Education**

One of the prospects of entrepreneurial education in ATIs for students is to detect new market niches and figure out how to uphold markets efficiently and effectively in order to make a profit. Profit brings change in form of growth and development to business. Students are able to make business plans with well-designed budgets and cash flows which enables them know how feasible and viable their enterprise is. Most of the training officers' respondents said the knowledge and skills obtained in Agricultural Training Institutions can be an important useful tool for life. These innovations and creative skills can be matched to employment opportunities and self-reliance. The acquisition of ideas, competences and managerial skills in Agricultural Training Institutions will enable students to create jobs for themselves and thus become self-reliant upon graduation.

One of the Principals said

*“Since we graduate numerous numbers of students from our colleges who cannot find employment; entrepreneurial education is the only way to go”*

Therefore, entrepreneurial education is important in assisting students to develop entrepreneurial skills, attributes and behaviours as well as to develop enterprise awareness lifelong. One of the Heads of Department mentioned that their college was working toward improving training delivery by involving a number of stakeholders:

*“The College maintains quality assurance of the Diploma programs through internal and external monitoring and evaluation. Checks and balances of the course packages are achieved through rigorous monitoring and evaluation by various professional bodies such as the Health Professions Council of Zambia (HPACZ) and the UNZA-NRDC Professional Committee”*

The professional bodies have already identified the need to incorporate entrepreneurship in the curriculum for self-employment. However, they are waiting for further guidance from the Ministry of Agriculture and Livestock. Entrepreneurial education does not only promote self-employment, but equips students with the attitudes and skills, necessary to handle risks in society.

## Research Support and Linkages

The Chief Coordinator said that the Ministry of Agriculture and Livestock has now introduce a programme called “Research and Development” in the National Budget ‘yellow book’ for all Agricultural Training Institutions. This budget line is to encourage students and lecturers do research and community outreach. One of the Principals said:

*“as a matter of policy all Colleges have embarked on outreach programme so that the community benefit from the programmes being offered by colleges. “This will also assist colleges gauge the relevance of training deliver to the communities”, said one of the heads of department.*

The gap between training institutions, society and industry can be bridged up through research and development. Therefore, encouraging research and development in training institutions can improve training delivery. It can also help address stakeholder needs which results in upgrading the quality of their lives

## Income Generating Activities

It was observed that most of the colleges have huge tracks of arable land which they can utilise for crop, livestock and fish farming in order to generate income. This land has remained idle over a long period of time and have been encroached in by squatters for residential purposes.

One of the Registrars said:

*“We will continue the restocking and expansion of the farm production units so as to ease on the students practical learning, provision for the students’ feeding and increase revenue from the farm”.*

Therefore, in order to protect these assets and to make them grow, managers of income generating activities often have to decide how to use their enterprise’s resources in a coordinated and cost-effective way. Careful planning must be done before any decision is taken, especially that this is a vital tool to supplement merger funding training institutions receive.

One of the Principals said revenues raised from in generating activities are becoming gradually important source of income for training institutions. These sources are steadily accounting for a larger proportion of the total income. Mwamba, Musonda, Daka and Mulenga (2021) refer to the generation of this income, along with certain other activities as ‘academic entrepreneurship. Land is one of the most valuable asset that all colleges have. Unfortunately, the use of this asset is limited by resources to develop it for the benefit of the institutions. Poor equipment renders the use of the land for practical purposes null and void. One of the Farm Managers said: The College grew 6.0 hectares of maize, 8.5 hectares of soya beans and field 1.2 hectares of field beans during the rainy season. All College students and staff participated in planting and application of fertilizers. First year students took part in weeding the fields during farm routine sessions. The College Farm is headed by a Farm Manager who is responsible for the smooth running of business enterprises at the Farm and facilitation of student field practical work conducted at the Farm in liaison with Heads of Academic Departments.

*There are many opportunities in the Agricultural sector and it is clear that it’s time for the new generation to take up farming seriously explained one of the Farm Manager*

*“There is urgent need to employ both skilled and unskilled staff for the various sections livestock, irrigation and horticulture units) of the College”. Said one of the Farm Managers.*

The farm depended on part time staff and casual workers to ensure smooth operations. This is in line with

Kaplan and Warren who said in the giving skills for young people *in Agribusiness to create employment* they need to set up their own business or to work as an employee in the agribusiness industry for them to gain experience. He argue that everyone can participate, whether or not they have gone to school and can read and write.

### **Social Networking**

The Principals respondents mentioned that ATIs collaborate with a number of stakeholders such as the Ministry of Agriculture and Livestock, Copperbelt University, University of Zambia, Provincial Administration, Mpika District Administration, Mpika Farmers Association, Other Agricultural Training Institutions (ATIs), Zambia Information, Communication & Technology Authority (ZICTA), Food suppliers, Campaign for Female Education (CAMFED), Catholic Youth Association (CAYA) in matters of training. Social networking is a critical element in economic development. Network theory views relationships in terms of nodes (individual actors) and ties (the relationships between actors). Farrington (1992) revealed that networks need to establish clear objectives, which will determine their direction, core activities and the types of individuals and organisations likely to be active members. This argument is also supported by Phiri (2022) who observes that there are many activities anchored on social networking. This shows that the objectives are formulated with wide cross-section members to prevent domination. Unfortunately, this is not reviewed periodically to assess progress made and their continued relevance.

### **Implication**

The implication of this finding is that opportunities of entrepreneurial education in development are great because Agricultural Training Institutions are practical oriented. It is easy for students to learn how to create business, generating new ideas needed to create and operate a new firm. The other implication is that there are prospects of Partnerships with investors which can improve training delivery, research and income generating ventures. This is consistent with Vesper (1996) who states that it is through entrepreneurship that new source of supply are discovered and creation of new business organisations that directly affect the economy. Creation of new business opportunities through entrepreneurship, productivity and innovation leads to economic growth. This will broaden the Country's tax base, increase export of agricultural produce and other related raw materials to other countries. It can also foster employment creation and self-reliance. Additionally, infrastructure needs recapitalization in all colleges to make it conducive for learning and hence increase education management efficiency. This shows that there are several Agricultural training skills which can contribute to agricultural development by strengthening innovative capabilities, or the ability to introduce new products and processes that are relevant to students and other actors in the agricultural sector.

### **CONCLUSION AND RECOMMENDATION**

This paper explored various aspects of entrepreneurial education in selected Agricultural Training Institutions and implications for training programmes and employment creation. Among the aspects discussed are factors that contributed the adequacy of entrepreneurial education in selected Agricultural Training Institutions curricula. It is clear from the findings that several factors contributed to the inadequacy of entrepreneurial education in the ATIs curricula. However, from the perspective of most teachers, Directors, Principals and Agricultural Institutions Coordinators and observations made by the researchers the entrepreneurial education were in both the curricula and National Agricultural Policy was generally inadequate. The major challenges in the provision of entrepreneurial education on the other hand, included inadequate and erratic funding, low staffing levels, lack of training opportunities for training officers' inadequate national policy on entrepreneurial education lack of ICT facilities and inadequate infrastructure for entrepreneurial education in agricultural training institutions. It has finally discussed the implications of entrepreneurial education namely, adequacy of ATI curricula, challenges and prospects in the provision of



entrepreneurial education, adequacy of agricultural policy in addressing entrepreneurial education and ways in which entrepreneurial education can be enhanced. The study has also discussed prospects in the provision of entrepreneurial education in Agricultural Training Institutions namely Lifelong education and capacity building, Research, Income Generating Activities, Networking and Market Development by inculcating an attitude of self-reliance using appropriate learning processes which is a real-life vehicle for developing academic skills and entrepreneurial education.

Based on the findings of the study, the following recommendations were made:

1. Agricultural Training Institutions should develop curricula which are premised on creativity and innovation. They should use blended interactive and reflective methodologies as a teaching tool.
2. Agricultural Training Institutions should have a cross-cutting strategy to enhance entrepreneurial education with sufficiently skilled training officers in entrepreneurial capability with appropriate entrepreneurial training materials and equipment.
3. Agricultural Training Institutions curriculum developers should incorporate alumni graduate's entrepreneurial dimension in the formulation of Agricultural Training Institutions curricula. This can be done by ensuring that the impact on graduate's entrepreneurial education is taken into account at the design stage and in the field.

## REFERENCES

1. Agi U.K. and Yellowe N.A. (2013). Management Strategies for Regenerating Secondary Education for National Development and Self-Reliance. *Journal of Teacher Perspective (JOTEP)* 7(2). Association of Nigerian Teachers (ASSONT) Calabar.
2. Anho, J.E. (2011). Impact of Entrepreneurship Education and Training on University Graduates for Sustainable Development in E.A. Arubayi, N.E. Akpotu and E.P. Oghuvbu (Eds.) *A Book of Reading: Education and Training for Entrepreneurship*.
3. Campbell, D. (1985). *Take the Road to Creativity and Get off Your Dead End*. Greensboro, NC: Center for Creative Leadership.
4. Changwe, R, Mwanza, C, **Daka, H** and Ng'onomo, M. (2023). Linking Theory to Practice: Perspectives on Practical Measures and Policies in Enhancing the Implementation of the Localised curriculum in Mwanabombwe District of Zambia, *International Journal of Research and Innovation in Social Science*, 7 (12), 297 – 304.
5. Charney, A. and Libecup, D.B. (2000). The impact of Entrepreneurship Education: An evaluation of the Berger Entrepreneurship Program at the University of Arizona, 1985-1999. Kansas City, MI. The Kauffman Centre for Entrepreneurial Leadership.
6. Cooper, C. A., and Dunkelberg, W. C. (1987). Entrepreneurial research: Old questions, new answers and methodological issues. *American Journal of Small Business*, 11(3): 11-23.
7. Daka, H. (2023). Course difficulty and a remedy to low progression rate among undergraduate medical students at the University of Zambia, *Mulungushi University Multidisciplinary Journal*, 4 (1), 26 – 39.
8. Daka, H., Minjale, L., Kakupa, P., Kaani, B., Tembo, P., Mulenga, L. M. and Musonda, A. (2023). Bridging the Gap: Addressing the Disparity between Higher Education Knowledge and Industry Needs. *International Journal of Social Science and Education Research Studies*, 3(8), 1589 – 1594.
9. Farrington, S. M., Venter, D. J. L. and Neethling, A. (2012). Entrepreneurial attributes and intentions: Perceptions of South African business science students. *Management dynamics*. Volume 21, 3, pp. 17 – 32.
10. Fundanga, Caleb and Mwaba, Andrew (2003) Economic paper on privatization of public enterprises in Zambia. An Evaluation of policies and procedures. African New York Development Bank.
11. Hisrich, R.D. (2005). *Entrepreneurship Education and Research*. Wiesbaden: Deutsche University Press.

12. ILO. (2003). *Zambian Women Entrepreneurs: Going for growth*. Geneva: International Labour Office.
13. Kalimaposo, K. (2010). 'The impact of curriculum innovations on pre-service primary teacher education in Zambia.' Unpublished *PhD Thesis, University of Zambia*.
14. Kaplan, J. M. and Warren, A.C. (2010). *Patterns of entrepreneurship management*. 3<sup>rd</sup> edition. New Jersey: John Wiley and sons.
15. Kelly, M. J. (1999). *The Origins and Development of Education in Zambia: from Pre-colonial Times of 1996: A Book of Notes and Readings* -Image Publishers Limited, Lusaka.
16. Mwamba, K. L., Musonda, A., Daka, H. and Mulenga, R. M. (2021). Strategies for Enhancing Mentorship in Entrepreneurship: A Case Study of Undergraduate Students of Kwame Nkrumah University, Kabwe-Zambia. *International Journal of Research and Innovation in Social Science*, 5 (9), 478 – 487.
17. Mwamba, L. K., Musonda, A. and **Daka, H.** (2021). Bridging the Gap in Teacher Education Curriculum in Promoting Entrepreneurship: A Case Study of Undergraduate Students of Kwame Nkrumah University, Kabwe-Zambia. *International Journal of Research and Scientific Innovation*, 8 (8), 160 – 168.
18. Phiri, C (2021). Internal strategies and mechanisms for combating corruption during the covid-19 pandemic in Zambia: A linguistic turn. *Journal of anti-corruption law*. Volume 5 Number 1 Pages 23-40.
19. Phiri, C (2022) Internal strategies and mechanisms of combating corruption: The *Nolle Prosequi* phenomenon in Zambia: *International Journal of Advanced Mechatronic Systems* 2(4):188-193.
20. Phiri, J., Mbozi, E.H. & Kalimaposo, K. (2019). 'Analysis of the adequacy of National Agriculture Policy in addressing entrepreneurial education of selected agricultural training institutions in Zambia.' *Texila International Journal of Management*, Special Edition. April 2019.ISSN:2520-310X: DOI:10.21522/TIJMG.2015.SE.1901.Art005.pp: 1-11
21. Phiri, J., Mbozi, E.H. & Kalimaposo, K. (2018). 'An Analysis of entrepreneurial education component of selected agricultural training institutions' curricular in Zambia. *UNESWA Journal of Education*. Vol. 1. Number 1. August 2018. Pp: 24-36. ISSN: 2616-3012. University of Swaziland Journal of Education.
22. Pinto, R, J and Mrope, A. J.(1995) *Assessing Sector Institutions. Lessons of Experience from Zambia's Education Sector*. World Bank Discussion Paper No. 297. Washington, D.C: The World Bank.
23. Ronan,N.J.(1995). *Adult Learning Styles and Academic Performance*. *International Journal of University Adult Education*, XXIV(1),27-36.
24. Schramm, C.J. (2006). *The Entrepreneurial Imperative*. New York: HarperCollins.
25. Swartland, Jacob R. (2008) *Challenges and Approaches to Expanding Learning Opportunities in Africa A Study of Entrepreneurship Education in Botswana and the Significance of Institutional Preparation* By
26. Yergin, D., and Stanislaw, A. (2002). *The commanding heights: The battle for the world economy*. New York: Simon & Schuster.
27. Vesper, K. (1996) *New Venture Experience*, revised edition. Seattle: Vector. Books.
28. World Bank. (2009). *World Development Report Reshaping Economic Geography*. Washington, DC: The World Bank.