Beyond Professionalising the Agricultural Curriculum for Poverty Alleviation and Prosperity. Case Study: The School of Agriculture and Natural Resources of the Catholic University Institute of Buea, South West Region, Cameroon

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Abstract
Education, and University/higher education in particular has been recognized as crucial for poverty alleviation through the harnessing of human formation and creativity. However, very limited success has been achieved under traditional university approaches as evidenced by high unemployment rate among university graduates, lack of business ethics and values - professionalism. With these challenges in mind, the School of Agriculture and Natural Resources (SANR) Training Model draws inspiration from concepts and theories put forward by: Sheryl Nussbaum- Beach, Entrepreneurship, the EARTH University Model and the Economy of Communion (EoC) to develop a curriculum that will be relevant to the needs of the community. Its emphasis on value chain systems focuses on the formation of agripreneurs with a new mind set, as well as attracts more youth participation in Agriculture in Cameroon. The SANR-Model has three phases: the Entry, Development and Stakeholder phases. In these phases, the SANR Model is tailored to effectively harness youth creativity in agriculture and to promote a shift in mind-set in their approach to career options and job creation. It highlights the role of the lecturer as an agent of change, a mentor and support for students as the student’s formation is the means for development and not development itself. This implies that not just the professionalism of the faculty and students are influenced but also the level of literacy as well as the rate of productive education.

Key words: Value Chain System, Curriculum, Formation, Agripreneur, University Education

1. Introduction
1.1 Overview
Education, still remains one of the primary channels by which harnessing human talent unlocks the poverty trap. Today, these talents otherwise known as innovation, serve as the bedrock for rapid economic growth and development. Globally, universities (higher education) are recognized as sources of knowledge creation, research, innovation and technological advances.

More recently, cognisant of the role of entrepreneurs in creating jobs, wealth and in promoting economic growth, colleges, polytechnics and universities have intensified the teaching of entrepreneurship education\(^1\). These schools of learning are no different in developing countries, as is evident in the proliferation of various education and training projects at all levels. These efforts have however not translated into a reduction of graduate and youth unemployment in the communities. A number of reasons could be attributed to this failure of which include inadequate content and content delivery, poor or limited attendance,
lack of or insufficient resources, poor career orientation, insecurity from political unrest, just to name a few.

The Millennium Development Goals Report of 2014\(^2\) points out that while school enrolment rate in primary education in developed regions increased from 83 to 90 per cent between 2000 and 2012, those in developing regions reported stagnation after the gains that were achieved by 2007. In 2012, 58 million children were reported out of school. High drop-out rates remain a major impediment to universal primary education, with an estimated 50 per cent of out-of-school children of primary school age living in conflict-affected areas.

Corresponding unemployment data from the International Labor Organization (ILO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO)\(^3\) reported that in 25 out of 27 developed countries, the highest unemployment rate was among people with primary education or less. Yet, higher education in its present form does not guarantee a decent job:

- In Tunisia, 40% of university graduates are unemployed against 24% of non-graduates. This affects highly educated young females in particular\(^4\).
- “In Turkey, the unemployment rate among university educated women is more than 3 times higher than that of university educated men; similarly in Iran and the United Arab Emirates, it is nearly 3 times; and in Saudi Arabia, it is 8 times”
- Statistics in a World Bank report (2009) on Cameroon’s economy put the unemployment rate at 30 percent with 48 percent of the total population living below the poverty line - a situation which has a severe effect on development, particularly in the areas of education, health, and professional training\(^5\).

Along with the causes listed above there are other multiple and complex causes behind youth unemployment. Topping that list are: the quality and relevance of education, inflexible labour market and regulations which in turn create the famous situation of assistance and dependency.

In July 1999, Ambassador Paolo Fulci\(^6\), the then president of the United Nations Economic and Social Council (ECOSOC) when outlining ten priorities to eradicate poverty, listed education among them. He stated that “Education is the key to development. Quality basic education, as well as secondary and higher education, vocational training, and skill acquisition throughout life are indispensable tools to eradicate poverty”. This premise is however incomplete without the consideration of the complete development of the human being in all its dimensions. Cardinal Peter Turkson, the president of the Pontifical Council of Justice and Peace, in his address to the Deans of the Catholic Schools of Business in Houston Texas in April 2014, highlighted this fact as he stated that “Faith is incomplete without a vision of the world and our place within it – our works”. He went on to say “the undivided life where faith and work connect needs to be modelled and encouraged throughout the student’s experience. Less than that might be education, but not formation\(^7\)”.

Created in 2008, The Catholic University Institute of Buea (CUIB) in the South West (SW) Region of Cameroon went operational in 2010. This very young entrepreneurial university is situated in Buea, a town that has earned the pride of place for being one of the fastest growing towns in the country, with a flurry of higher education institutions springing up everywhere. Every year in the SW Region, the principal government university - the University of Buea (UB) receives thousands of applications for admission into undergraduate courses of which only a fraction gain admission, leaving the remaining applicants searching for other opportunities. While a handful of the students who do not gain admission to UB are
admitted to the new local private institutions of higher learning and even fewer gain places abroad, a large majority find themselves out of school and unemployed. This motivated the Bishop of the Diocese of Buea, Bishop Immanuel Bushu to create CUIB. His aim was to provide youths with skills and opportunities that will prepare them for life. Evidence shows that despite the training from the traditional curricular systems, graduates still found it difficult to transition from school into profitable work lives. Upon graduation, the majority of students are confronted with an already super saturated civil service, with non-transferable skills or skills that are not relevant to the needs of industry, the private sector and of the society to an extent.

In the Cameroon educational system, agriculture is not one of the subjects offered at secondary and high school levels. In addition, the grading system focuses mainly on academics, without identification, consideration and promotion of creativity, talents and passion in students. In some cases there is a disconnect between training for knowledge/skills and morality. Further, a large number of the students are from rural areas where educational facilities (qualified teachers, methods, structures and learning materials) are inadequate.

We have also observed that the lacunae faced by potential students seeking admission is not resulting from low intelligence quotients but more from poor educational grounding, compounded by inappropriate career guidance on the various options in the field of agriculture. The program found this limiting as some of the students who are of agrarian backgrounds and had a passion for agriculture would not otherwise get into any university program. On the other hand, there is a large number of students and parents who see agriculture as dirty and non-prestigious, while others who may qualify have a language problem – giving the fact that their first language of expression may be French while the language of lecture delivery is English. It was therefore imperative that any new university that was created had to be designed to address these issues.

This led to the birth of the first entrepreneurial university in the country – one which is built on the tripartite cycle of learning, which includes the Soul of the person, the virtue of the skills which is excellence (knowledge), and purpose of living which is serving humanity (entrepreneurship or agripreneurship – in the case of SANR – and volunteerism). These form the core of the vision and mission statements of the Catholic University Institute of Buea.

The vision is to bring hope to the students and awaken in them a sense of purpose and direction so that they may achieve social, economic, spiritual, cultural and environmental wellbeing in their communities in particular and the nation at large.

The mission is to prepare professional servant leaders with moral and spiritual values who will contribute to the sustainable development of their communities.

The concepts behind this vision and mission also reflects those expressed by Cardinal Peter Turkson. Contemporary professional theories emphasize exceptional skill development which places more emphasis on human development with less on formation. Placing emphasis on human development alone is incomplete as man is made up of three elements: body, soul and spirit. These three elements (pillars of formation) make up the driving force of the Catholic social thought and higher education. That is, where people are trained to have dignity for the human person by two key elements: believing in themselves and believing in serving the society with their skills. With this, people are not just trained by theories and the concept of wealth accumulation but are called to the consciousness that strength, wealth, time, skills and talents are gifts for human development – The Economy of Communion (EoC).
To achieve its mission and vision, CUIB currently has four schools offering four year Bachelor of Science degrees of which the School of Agriculture and Natural Resources (SANR) is one. Other schools include the Schools of Business, Information Technology and Engineering. Alongside these is the College of Business which offers three year B-Tech programs.

1.2 Purpose of Paper

The purpose of this paper is to demonstrate how the curriculum of an entrepreneurial program is designed as a catalyst for change (formation) in agriculture. Coming from a background where training in agriculture followed a classical approach and was viewed by some as a program for under-achievers, SANR curriculum is now designed as a model for “formation” in a new backdrop of academia, soul training, research, creativity and innovation, agripreneurship and servant leadership. This paper also explores and shares ways that the lecturer/educator is portrayed as a Change Agent, going the extra mile (active teaching and learning) to encourage students towards innovation, creative thinking, hands-on learning, the adoption of a change in mind set and an entrepreneurial spirit.

2. Analytical Method

2.1 Curriculum Design

The School of Agriculture and Natural Resources (SANR) adopts the definition of a curriculum to be a comprehensive plan for an educational training program/course to offer new/improved manpower to fulfill the rising needs of a dynamic society - a existing contract between society, the State and educational professionals with regard to the educational experiences that learners should undergo during a certain phase of their lives. Curriculum design is a very critical step in developing a curriculum if excellence is to be achieved and agriculture made attractive to youths by giving them tools and skills that will not only lead to a creative mindset but making students create decent jobs themselves. This implies a curriculum and program that breaks from the traditional training of specializing at a very early stage in either agronomy, animal production, food processing or agribusiness and extension to taking on an integrated program built on the value chain system i.e. from production through storage, transformation, processing and marketing to consumption.

This curriculum option is indicative of the quest for high quality education that will not only push Cameroonian youths to secure good jobs at the end of their training, but also have a major shift in mind set in their approach to identifying self-employment opportunities and spiritual and moral values. SANR-CUIB is therefore by these shared values and principles bringing hope to a population which has been considered a failure, awakening in them a sense of purpose and direction for social, economic, spiritual, cultural and environmental well-being.

In developing the curriculum, SANR faculty drew their inspiration from a number of sources namely: Sheryl Nussbaum-Beach’s model of the Educator as Change Agent, which holds that the educator/change agent or agent of change should intentionally or indirectly cause or accelerate social, cultural, or behavioural change. SANR saw this as a perfect fit for what it is trying to accomplish. Just as its faculty has to embrace a total change in mind set, so also do the students, if they have to receive and apply the necessary skills, tools and knowledge given them to impact their lives and the society. In this model, it is expected that the faculty and eventually the students adopt the following: Entrepreneurship – innovative and resilience; Active Learner – self-awareness, flexible thinking, developing others;
**Socially Responsible** – stakeholders focus, commitment to results; and **Culturally Sensitive** - inclusiveness, awareness of others.

Next is **Entrepreneurship education**\(^1\), an innovative process of vision, change and creation which requires an application of energy and passion towards the creation and implementation of new ideas and creative solutions. It involves grasping an opportunity, through alertness and noticing, to reveal unvalued resources or unsuspected value. At this point, the opportunity exists, and simultaneously a framework of goals, values and expectations is created\(^2\). The message the youth will be receiving from the school is to become job creators rather than job-seekers, which encourages them to become entrepreneurs. **Agripreneurship**\(^3\) as a concept specific to agriculture and drawn from wider entrepreneurship is very critical and urgent. “Agriculture Business Management is emerging as an important area in the agricultural sector with the liberalization of World Trade in order to achieve objectives so as to orient the extension functionaries on entrepreneurship development among the farmers to improve the economy, to examine the issues / processes involved related to entrepreneurship development among farmers, to analyze different experiences of agripreneurs and to understand the issues related to sustainability of agricultural enterprise”\(^4\).

The peculiarities of Cameroon’s agriculture sector provide further compulsion to the dire need for agripreneurship. It is necessary for the socio-economic upliftment of the greater population through creation of new agribusinesses, agricultural commodities value chains and overall economic growth. The program emphasizes three key aspects – opportunity recognition, resource acquisition and innovation.

**Thirdly, the EARTH University Model**\(^5\): After surveying several curricula, the Earth University Curriculum was selected for several reasons: it was designed to address the needs of the poor South American communities that were rural and lacked skills to develop decent jobs (communities not very different from several communities in Cameroon). It also has a philosophy to challenge the mind set of these poor youths to see business opportunities in the problem and build markets. These two elements coincided with the philosophy of the Catholic University Institute of Buea to be entrepreneurial by training job creators and assisting them build on a passion for whatever they do. Also, the quest was to become lifelong learners by continuously doing and trying new things in their area of learning.

The last philosophy that influenced the development of the SANR model is the “**Economy of Communion**”\(^6\). Traditional entrepreneurial universities train entrepreneurs on the tenets of capitalism, whereas SANR curriculum Model trains agripreneurs on the philosophy of Economy of Communion (EoC). This Philosophy promotes development and economic gain that is human or society centered. This is peculiar in a world where workers are exploited with no motivation or markets, but are just treated as source for company revenue with no consideration for the sustainability of the market with tremendous health and environmental hazards and the wellbeing of the human person. The philosophy of Economy of Communion in the blend of business education driven by passion is the apt model chosen by SANR for her community and students. As such the key factors that were considered in designing or tailoring the SANR curriculum include the training of the complete human being to build confidence in themselves with dignity for humanity in the creation of decent jobs with a God-like culture –. This concept is further echoed by Platt's, as he demonstrates holistic education in what he called the three P’s\(^7\):

The **Process** grows the people who do it (faculty)
The **Product** grows the people who receive it (student)
The **Profit** grows the community (society and environment)

After examining the various models listed above, the next major consideration was the numerous opportunities that agriculture provides in Cameroon and the world over, yet its choice as a career option is relegated to the back because it is assumed not challenging enough to attract youth participation. Several government strategies and policies are currently being explored but with very limited linkages between these programs and the universities, as well as the universities and industries. Consequently, the SARN curriculum seeks to address this problem in the manner and quality of faculty and students' recruitment, methods of lecture and lesson delivery, evaluation and assessment as well as community and industrial partnership.

This background indicates the major factors that were considered when trying to construct a relevant curriculum, which could be jacketed in the design of a Developmental model—one whose content would be flexible enough but relevant to address issues of business sustainability, moral rectitude, poverty alleviation and prosperity. Like every business that designs her products, a curriculum has some outstanding needs that must be embedded. The Developmental Model has the central question of “How can I help the learners engage with content in ways that help them develop the abilities they need to be excellent performers?”

**SANR-CUIB Model**

Student learning is centered on developing skills through doing and not just theorizing – Hands-on particular as the human brain develops skills and retains better by revision, repetition and reuse. In this case several curricula of tertiary science were sampled to see how they responded to the needs of the community. Relevant aspects of various models sampled were selected and adapted to produce the resulting integrated SANR model, presented in Figure 1 characterized by an academic, development and moral curriculum. This innovative curriculum in the Cameroonian educational system requires a change in mind set that promotes mentoring of students to express and/or enhance the ir passion for agriculture as a profession. It also promotes the development of key skills that integrate them conveniently into relevant industries, markets and to cultivate a respect for human dignity as the greatest drive to excellence.

**Figure 1: The SANR Change Model**

![SANR Change Model Diagram](image-url)
Adapted from Sheryl Nussbaum-Beach: Educator as Change Agent

The successful implementation of this model requires a major paradigm shift. To address these issues, as well as issues related to how to best serve the community while maintaining a strong and competitive program, SANR curriculum has the following elements:

- General, Broad based
- Developed along the value chain
- Foundation and career courses
- Catholic studies
- Farm practice & Agripreneurial projects
- Internships/Industrial visits
- Volunteerism /Community services
- Mentorship
- Faculty development

To operationalize the SARN model are the following phases and activities:

**Phase 1: A pre-entry** program aimed at providing remedial courses to students deficient in the sciences such as mathematics and chemistry, as well as English language to enable them meet the entry requirements;

**Phase 2: Operationalizing the Curriculum**: The model allows for the possibility of tutorials and special mentorship by the faculty to address specific knowledge gaps in order to enhance students’ performances. Similarly continuous assessment that encourages innovation and research is put in place. This includes 50/50 practical and theory grading of students as opposed to the traditional system of 70% theory and 30% practicals (while in some places the practical aspect is almost negligible). Assessment also includes various types of hands-on and entrepreneurial activities. Senior year project and defense (with industry, the community and Mentor University in attendance) is a key to the program. In the Catholic studies programme, students earn a minor in catholic studies upon graduation after completing and defending a senior year project in Catholic studies. Finally, a minimum of 100 hours of volunteerism is required to qualify graduation.

Throughout the program, the Afro-American training structure that tracks the stages of learning and helps teachers and students identify and evaluate their learning objectives at each stage is used. At this point students do not only think but can clearly communicate the business ideas in plans and manage them, thereby being able to compete for funds and employ others with a high sense of Team or Group Genius. Working in their EoC and Agripreneurial base groups, students experience a sense of cohesion with others, balancing their personal interests with a sense of responsibility to the greater good; feeling a part of
something larger than one’s self socially and spiritually\textsuperscript{20} - giving love in service\textsuperscript{21}. Students are made aware that agripreneurs are not always successful in their venture activities as evidence shows that a substantial part of promising start-ups fail and will never grow to flourishing ventures\textsuperscript{22}. They get exposed to each other’s approach to being resilient - a key trait for an agripreneur in a resource-challenged environment. Here resilience among other things could be characterized as the ability to overcome setbacks related to their life and career aspirations\textsuperscript{23} and their ability to recover easily and quickly from such setbacks\textsuperscript{24}. It is also hoped that the relationships developed in their EoC and Agripreneurial base groups during their entire programs, augment resilience by enhancing networking and forming a professional network of coaches and mentors, accepting that change is a part of life, and avoiding seeing crises as insurmountable\textsuperscript{25}.

The Spiritual aspect of this training is culminated in a Senior Year Project in Catholic Studies. This is not a study of Catholicism but training in the moral and religious beliefs in life with central themes being Marriage, Sexuality and the Pursuit for Happiness. This aspect combined with their professional training qualifies them as professional servant leaders.

\textbf{University – Industry linkage}

There is a growing perception that the knowledge and skills acquired by students at African universities do not meet the requirements of industry and the wider economy. SANR-CUIB recognizes the need to identify relevant schools of thought from various universities and industry to update and upgrade the curriculum to ensure that students graduate with appropriate skills for the market.

The goal of supporting university-industry linkages is to promote the relevance and contribution of universities to socio-economic development. This linkage can take various forms and involve different intensities of engagement. Industry is encouraged to be involved at various levels: every year during their 4 year program, students undertake a variety of internship programs at different industries that expose them to real life situations, providing opportunities to have hands-on training in their various fields of interests. An annual entrepreneurial and academic trade fair is organized at the university in which industry is encouraged to take part. During this trade fair, students and industry exhibit innovation, alongside talks and symposia. During the students’ final year project defense, industry and members of the community and mentoring university form part of the jury. It is hoped that as we move forward with the program, an increasing number of industry and the business community will take more interest and be able to commission research or sponsor students projects as well as play a role in defining students research projects that focus on issues and problems of direct interest to industry. However, while the importance of this linkage cannot be over emphasized Ssebuwufu\textsuperscript{26} cautioned against certain challenges:

> “Universities must balance competing interests, such as: industry secrecy stipulations and profit-seeking against the traditional university practice of open communication and publication (Clark, 2011); support for basic versus applied, and scientific versus social research (Gulbrandsen and Smeby, 2005); providing industry-specific versus general training; monitoring academic staff time spent on research versus teaching (Kruss, 2008). They must also ensure that research is conducted in an ethical, interest-free way (Hernes and Martin, 2001).”

\textbf{Faculty Development}

Finally, higher education and university teaching comes with special challenges – particularly in the quality of teachers. Unlike secondary and primary education where teachers have the opportunity to be trained in teacher education colleges, most lecturers in universities take up teaching straight from the university hence have little or no teaching and administration
experience. Despite these lacunae, they are expected to meet minimum standards for teachers. The question now becomes “how do we achieve and maintain excellence in a young program with young faculty like SANR’s.”

Working in collaboration with the university administration and other CUIB programs, a series of faculty development programs have been instituted as part of staff development. These are meant to compliment external conferences and workshops that the faculty may undertake. Examples of these are lectures and seminars on topics like:

- Good practices in teaching and learning
- Instruction planning, delivery and the evaluation in higher education in Africa
- The pillars of Economy of Communion (EoC) Paradigm
- Enhancing “The students’ experience ”
- What is leadership, and why great leaders and entrepreneurs are crazy
- Fundamentals of project sustainability: Strategies, Processes and Plan
- Time Management
- Investing on one’s self first
- Managing up - working with your Line Managers
- Special sessions and discussions on managerial and governance issues.

Phase 3: Feedback

Alumni

Alumni play a central role in consolidating a school and university culture. This is because the Alumni is made up of former students who believe they are born of the school and do everything to keep the culture, mission and vision of the school alive by being ambassadors for the university. It is with this understanding that the SANR curriculum provides for the contribution of her alumni. The role of alumni is feedback which provides for assessment of the curriculum to ensure that while it keeps her mission and vision it stays relevant to the needs of humanity. Assessment of a curriculum is fundamental in justifying the relevance of the curriculum in addressing real life challenges and problems. Given that the curriculum intends to develop and maintain strong linkages with related government policy ministries and industries, SANR Curriculum position her products to be able to work in some of these agencies and serve as ambassadors and make others get to buy the values of the programs by using it as a reference. It is the quality of her products when graded as top quality by the community and the labour market that will make the SANR- Model elitist in the country and world at large.

Faculty Ambassadors (System Stakeholder)

Like the student alumni, former faculty members of SANR are treated as Faculty Ambassadors. This goes beyond the professional culture of belonging or believing in your employed institution only when you are there. Most professional institutions share stakes with employees only when they are currently in her system. That is why when most employers are firing they do not care about the workers contribution during their stay at the institution all because they want to justify why the employee must be fired. Severance pay has been instituted to moderating this problem by the labour laws. However, Professional elitism must be able to recognize employee’s contribution by virtue of their skills and not discrediting them on bases of their personality traits during separation. Over 60 percent of workers retrenched is never as a result of incompetence but compromise of institutional core values, working conditions, just to name a few. This implies that if employers can make their workers buy into their culture and values, they stand a better chance to retain top-class employees who will speed up the growth of the enterprise. Consequently, the SANR –Model
being integrated is aimed at making faculty to have a holistic picture of the school program at all times, share ideas on task and support one another. This helps to improve on the working condition, help faculty understand the shared values of the school and foster them in all they do. As such, former faculty could be consulted to improve the systems of SANR – Model implementation on the basis of the family-working relationship that was established and secondly they can serve as ambassadors of the program as they know they have a stake to protect in terms of idea contributed or faculty strength that they can attest to.
Bibliography


7 Cardinal Peter K.A. Turkson (2014) Give us this day our daily bread: Putting ethics to work in business Business Ethics Conference for Deans of Catholic Schools of Business Houston, 31 March – 2 April 2014

8 By Ernest s. Pierucci, esq. and Michael Naughton, (2000) The Integration of Catholic Social Thought Into Higher Education John f. Henning institute, saint Mary’s College of California a Director John a. Ryan Institute for Catholic Social Thought of the Centre for Catholic Studies University of St. Thomas


14 S. Srivastava, Sanjay Gupta and Dr. A. L. Kundu Agripreneurship education and development: An essential means for growth of a nation
15 Earth University Model: Plan of Study [Charles J. Maguire, Consultant EARTH University, Costa Rica: A New Kind of Agricultural University AGRICULTURAL INNOVATION SYSTEMS: AN INVESTMENT SOURCEBOOK]


18 Ricky Telg, Tracy Anne Iran (2010) Agricultural Communications in Action: A Hands-On Approach


21 Jim Platts, Kyounglim Lee, Jason Hardjosoekatmo 2014, Articulating the language of Love – Examining the case of IBEKA Paper developed for conference Poverty, Prosperity, and the Purpose of Business Rediscovering Integral Human Development in the Catholic Social Tradition

22 A Abouzeedan et al. 2011, Annals of Innovation & Entrepreneurship, 2: 7986 - DOI: 10.3402/aie.v2i1.7986


Economy of Communion, a business based on ethics. The Universe From the UK’s leading Catholic publisher http://www.thecatholicuniverse.com/blog/entry/economy-of-communion--a-business-based-on-ethics