

**A business incubator approach to the teaching of livestock production at the University of Buea:
Evolution, conception and implementation hurdles**

Ewane, D¹., Monah, N.L¹., Mvondo, A.J¹., Esunge, E.E.E²., Thaddeus, E.E³., Nkemzi, A.B¹., Itoe, M.S¹., Ngonjuyi, N.W¹, Lytia, M.L¹. & Oben, P.M.¹

¹Faculty of Agriculture and Veterinary Medicine, University of Buea, P.O. Box 563, Buea, Cameroon

²Faculty of Arts, University of Buea, P.O. Box 563, Buea, Cameroon

³Centre for Entrepreneurship, Research and Innovation, Catholic University Institute of Buea,
P.O. Box 563, Buea, Cameroon

Corresponding Author: ewane.divine@ubuea.cm

Abstract

As the internet becomes a global equalizer for knowledge and remote access to tangible things, education that is based on fact acquisition, becomes outdated. Faced with this reality, policymakers require evidence that will justify changes. It is in this context that an innovative approach has been developed in the curriculum of Master of Science in Animal Science (Livestock Production) at the University of Buea, with the aim of contributing to enhancing the competitiveness of Cameroon's Livestock Production sector. It is a business incubator approach, in which delivery of the Livestock Production curriculum is based on principles, processes, applications and research enhancement skills. The application of a business incubator within the program ensures that, in addition to a dissertation, each enrolled student has an opportunity to implement a short duration business plan (maximum six months), in animal production at the University campus, guided by coaches and mentors. In this process, the students take real time risks, to produce a pre-defined animal product, with the aim of making a profit. The students are therefore trained as graduate family farmers. This category of youth is frontline in the digital and policy milieu. These graduate family farmers leave the university, with a feasibility study and business plan, detailing national or global community insertion as Agripreneurs. The evolution, conception, and implementation of this innovation, and hurdles encountered are highlighted in this paper. This programme, is still at the initiation phase and has so far produced two batches of graduates who are all less than 35 years old. Their implemented business plans were on broiler chicken production. Average profit after loan and interest repayment is 44,737 FCFA (USD 76.05) for the first batch and 41,563.9FCFA (USD 70.66) for the second batch of students. They have been impacted with an agripreneurial mindset, attitudes, and skills, from an experiential learning. Revenue has been generated by these graduate family farmers, and the university. To mitigate the effects of hurdles encountered, a programme entitled 'Support Programme for the University of Buea Livestock Production and Agripreneurship Students Business Incubator (SP UB LPA SBI)' has been conceived in the university, to accompany the innovation. The small-yet-determined stride undertaken to integrate a business incubator approach to the teaching of Livestock Production curriculum at the University of Buea, is a proof of concept, indicating that experiential learning, with the aim of improving entrepreneurial intension among graduates, is achievable in a state university in Cameroon.

Key words: Agripreneurial- mindset, Cameroon, experiential learning, Livestock production incubator, University of Buea

Résumé

Alors qu'Internet devient un égaliseur mondial pour la connaissance et l'accès à distance aux choses tangibles, l'éducation basée sur l'acquisition de faits devient obsolète. Face à cette réalité, les décideurs ont besoin de preuves pour justifier les changements. C'est dans ce contexte qu'une approche innovante a été développée dans le programme de Master of Science en Sciences Animales (Production Animale) à l'Université de Buea, dans le but de contribuer à améliorer la compétitivité du secteur de la production animale au Cameroun. Il s'agit d'une approche d'incubateur d'entreprises, dans laquelle la livraison du programme de Production Animale est basée sur des principes, des processus, des applications et des compétences en amélioration de la recherche. L'application d'un incubateur d'entreprises au sein du programme garantit qu'en plus d'une dissertation, chaque étudiant inscrit a la possibilité de mettre en œuvre un plan d'affaires de courte durée (maximum six mois) en production animale sur le campus universitaire, guidé par des entraîneurs et des mentors. Dans ce processus, les étudiants prennent des risques en temps réel pour produire un produit animal prédéfini, dans le but de réaliser un profit. Les étudiants sont donc formés en tant qu'agriculteurs familiaux diplômés. Cette catégorie de jeunes est en première ligne dans le milieu numérique et politique. Ces agriculteurs familiaux diplômés quittent l'université avec une étude de faisabilité et un plan d'affaires détaillant leur insertion dans la communauté nationale ou mondiale en tant qu'agripreneurs. L'évolution, la conception et la mise en œuvre de cette innovation, ainsi que les obstacles rencontrés, sont mis en évidence dans cet article. Ce programme, encore au stade de l'initiation, a jusqu'à présent produit deux promotions de diplômés, tous âgés de moins de 35 ans. Leurs plans d'affaires mis en œuvre portaient sur la production de poulets de chair. Le profit moyen après remboursement du prêt et des intérêts est de 44,737 FCFA (76,05 USD) pour la première promotion et de 41,563,9 FCFA (70,66 USD) pour la deuxième promotion d'étudiants. Ils ont été impactés par une mentalité, des attitudes et des compétences agripreneuriales, grâce à un apprentissage expérientiel. Des revenus ont été générés par ces agriculteurs familiaux diplômés et l'université. Pour atténuer les effets des obstacles rencontrés, un programme intitulé « Programme de soutien aux étudiants en production animale et agripreneuriat de l'Université de Buea (SP UB LPA SBI) » a été conçu à l'université pour accompagner l'innovation. Le petit mais déterminé effort entrepris pour intégrer une approche d'incubateur d'entreprises à l'enseignement du programme de Production Animale à l'Université de Buea est une preuve de concept indiquant que l'apprentissage expérientiel, avec pour objectif d'améliorer l'intention entrepreneuriale chez les diplômés, est réalisable dans une université publique au Cameroun.

Mots-clés: Mentalité agripreneuriale, Cameroun, apprentissage expérientiel, incubateur de production animale, Université de Buea

Introduction

According to the United States Department of Agriculture (USDA) Animal Production is “the production of animal goods; such as meat, dairy, eggs, wool, and leather which is a multi-billion-dollar-per-year industry and accounts for over half of the value of U.S. agricultural products.” (<https://nifa.usda.gov/topic/animal-production> Accessed 2/7/2020). Students of Animal Production study the principles and processes of nutrition, reproduction, genetics, behavior, live and carcass evaluation, and health and management of livestock, as well as accounting and farm business. Animal Production therefore, is focused on products and profits.

In the implementation of Animal Production specialization programmes at the Postgraduate level, in most African and some countries of the south, skills in accounting and farm business are not emphasized. Also, in some universities, acquisition of business skills is considered optional and hidden in electives; most of which are often general in nature. In other universities even the elective options addressing such an important components do not exist, showing a strong emphasis on product and inadequate focus on profits. This is largely responsible for the low level of self-employability of graduates who specialized in Animal Production. This has contributed to the non-competitiveness of the production sector as a whole in Cameroon. (Cameroon Growth and employment strategy paper(GESP),2010/202 (<https:s3.amazonaws.comrgiocomments/997c33d0d45e9087acc5296d20e085f9d33d25a0.pdf> Accessed 15/08/2023)).

As has been the practice worldwide, other Animal Science specializations at the post graduate level such as: Animal Nutrition, Pasture and Range Management, Breeding and Genetics, Physiology and Reproduction, Animal Health, Ethiology, Meat Science, Dairy Science and Biotechnology, do not require an emphasis on skills in accounting and farm business at the postgraduate level. This is largely because, technically, each of them constitutes just a component of the Animal Production specialty. In Cameroon, specifically at the University of Buea, a specialized MSc programme in Animal Science (Livestock Production), which emphasizes skills in both animal products and profits, has been developed. This programme is currently running with students enrolled from various backgrounds, including Animal Science, Agriculture, Biochemistry, Zoology and Microbiology. This is in line with the policy of inclusion and diversity by training, promoted by the Ministry of Higher Education in Cameroon (MINESUP). The first semester of the programme emphasizes the Science of Livestock Production from the angle of principles, the second semester emphasizes Livestock Production from the angle of processes, and the third semester emphasizes Livestock Production from the angle of application and farm business. This third semester takes a business incubator approach; where the students run a Livestock Production business on Campus with specified product and profit objectives, within the constraints of the four semesters allocated for the programme. The fourth semester on its own, emphasizes a research project which leads to an MSc dissertation graded as a final examination, by internal and external examiners at the university.

The design of such a programme was inspired out of a need to increase graduate self-employability in the Livestock Production sector in Cameroon and neighbouring countries, as agreed during the harmonization of agricultural curricular by six State universities of Agriculture organized by the Cameroon Ministry of Higher Education (MINESUP) in May 2016. This is expected to change the national livestock production dynamic which is on a downward trend and contributes to the non-competitiveness of the production sector in Cameroon (Cameroon Growth and employment strategy paper (GESP) 2010/2020. The need is critical because Cameroon grossly relies on traditional livestock production systems.

The most hazardous challenges facing the Livestock sector in Cameroon are feeding problems, diseases, animal stocks, financial management, access to clean water for the animals and inadequate extension services. These challenges prevent family farms from embracing the transition to agribusiness (Mbu and Tambi, 2019). Graduates equipped with technical and business skills in animal production, and who have life-long support from the university, are a huge potential driver of innovations in the national livestock sector.

They constitute a category of youth, at frontline of the digital and the policy milieu. Training and supporting them as graduate family farmers, via an on- campus business incubator is a national imperative. The involvement of the University of Buea and national and international actors to support the program is laudable. The gross enrollment ratio for tertiary education in Cameroon increased from 2.9% in 1990 to 14.3% in 2018, growing at an annual rate of 9.65% (World Bank, 2018), releasing thousands of graduates each year without the right mind-set to survive life after university. Halthiwanger *et al.* (2013) have clarified that, individuals with business start-up decisions are always seen to be economically, socially and psychologically independent and so they focus less on government, businesses, NGOs, families, friends and other institutions for livelihood. In supporting this, Oosterbeek *et al.* (2010) asserted that Entrepreneurial Education (EE), can increase self-confidence and motivation, making students to be proactive, creative and to learn how to work in a team. The influence of EE has therefore been considered as one of the important factors to foster entrepreneurial spirit and behavior among young generations. This paper shares experience on the evolution, conception and implementation hurdles encountered in integrating a business incubator approach to the teaching of livestock production at the University of Buea, in Cameroon.

Approach

The UB- LPA-SBI is designed to generate revenue; both to the student, and to the university. All the profit derived from student' business activity belong to the student; as reward for their efforts. It is expected that when the programme is fully functioning, a student should make about 500,000FCFA (USD 850.00) of profit which can co-finance the students' other academic activities. The average profit after interest and loan repayment for the first two batches of student is about 43,150FCFA (USD73.36). The university through the Faculty of Agriculture and Veterinary Medicine (FAVM), loans money to the student's enterprise on campus, and the student tops up the university's contribution with his/her own personal funds. The students personal funds, determine the scale of the business, within the limits of facilities available at the university, for each student. The student pays an interest of 5% to the university, for loans by the university, to the student's business project on campus. The student also pays school fees, to the university. When partners external to the university administration are enlisted to provide or manage loans to the students, a cooperation agreement clarifies issues of revenue generation and repartitioning consequent to the partnership.

Relationship between actors in the business incubator. The Support Programme for the University of Buea Livestock Production and Agripreneurship Students Business Incubator (SP-UB- LPA-SBI) works with the University of Buea hierarchy, including the Faculty of Agriculture and Veterinary Medicine (FAVM), and Department of Animal Science to establish partnerships with national and international donor agencies for the support of the UB- LPA-SBI. The support by the UB- LPA-SBI has been to further reinforce assistance to graduate family farmers in order to facilitate their immersion into national and global communities. Figure 1. illustrates this relationship.

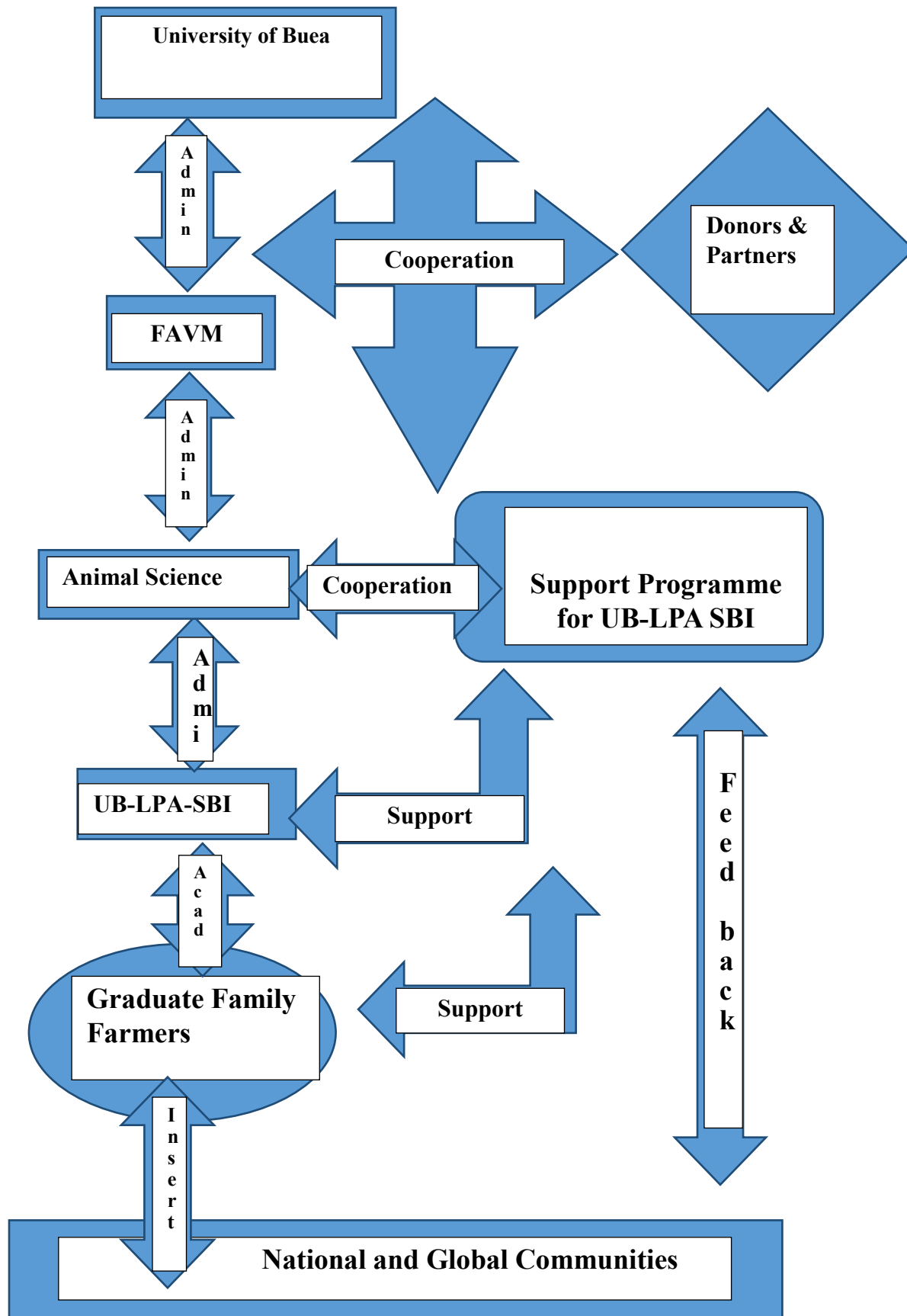


Figure 1. Relationship between Various Actors in the Business Incubator Programme (UB LPA SBI)

Results and Discussion

Evolution of the University of Buea Livestock Production and Agripreneurship Students Business Incubator (UB- LPA-SBI). Some of the business activities of the first two badges of graduate students trained in the University of Buea Livestock Production and Agripreneurship Students Business Incubator (UB- LPA-SBI) are indicated in Table 1. The pioneer batch of students received 32 day old chicks each as starting capital and as the university's contribution which amounted to about 20% of the variable cost. The remaining 80% of the starting capital was self-financed by the students. Some students produced more than one cycle of finished broiler chickens. Also, while some students dressed their birds before selling, others sold live birds. All these factors caused disparities in variable costs and profit after interest and loan repayment per student. Profit in the context used here actually included the labor and entrepreneurial costs invested by the students in the business. Hence what we see as profit is actually a reward for the student's efforts. The reward to university in terms of day old chicks supplied to the students is valued and paid as interest on the loan.

For the first two batches of students the interest on loan was calculated at 3%. However, in subsequent batches the interest shall be raised to 5%. This change in interest rate has come about because the university has disbursed a specific revolving fund for the program and the jury awarding the grant, felt handicapped that the 3% interest on loan is too small. In the second batch of students, the initial capital increased to 55 day old chicks, but the average profit per student dropped from 44,737.1 FCFA (USD76.05) in the pioneer batch to 41,563.9FCFA (USD70.66). This second batch of students faced security challenges as the farm was raided by gun- men, who carted away some of their dressed chickens. This reduced their revenue from the business activity. To curb this, the University authorities are presently constructing a security post near the house of the business incubator to stop such unfortunate occurrences.

Some conception hurdles in the business incubator approach to the teaching of Livestock Production the University of Buea

Inclusiveness and diversity. The MSc. program was designed to target students with academic backgrounds out of Agriculture, who take an interest in Animal Agriculture. This is in line with the policy of inclusion and diversity by training promoted by the Ministry of Higher Education in Cameroon (MINESUP). Agriculture is a Science of its own, as it influences its own subject matter. Therefore innovation can be stimulated by the inclusion of diverse scientific backgrounds. Overcoming the hurdle of inclusiveness and diversity at the conception of the program, requires that knowledge and skills on principles, processes, applications and research, be arranged sequentially, and also given a real world dimension to facilitate uptake.

Entrepreneurship Education Vs Entrepreneurial Intension. The University of Buea had already been running a compulsory Entrepreneurial Education course at the time of conception of this program. Therefore one of the hurdles at conception was whether entrepreneurial education could actually lead to entrepreneurial intentions for the graduates. Entrepreneurial Education (EE) is believed to play an important role in shaping

Table 1. Some of the business activities of the first two badges of graduate students trained in the University of Buea Livestock Production and Agripreneurship Students Business Incubator (UB- LPA-SBI)

S/N	NAME	MAT.NO	NUMBER OF CHICKS	UNIT PRICE	LOAN AMOUNT	INTEREST ON LOAN (3%)	LOAN REPAYMENT	Variable Cost (FCFA)	Profit (FCFA)	Profit (USD)
1	NAIHIBU MUSA NDEMSAH	AV19P011	32	500	16000	480	16840	76000	56000	95.20
2	NSOYEH SANDRINE KOYKA	AV19P013	32	500	16000	480	16840	88,100	46695	79.38
3	ATABONGAWUNG EVIRA ASONGACHA	AV19P015	32	500	16000	480	16840	98000	55293	94.00
4	ESAM ADENINE ATIME	AV19P012	32	500	16000	480	16840	220650	50000	85.00
5	FEHGANG DESMOND BONGJAM	AV19P014	32	500	16000	480	16840	176200	39344	66.88
6	EMMANUEL BONGMINI NGUMNLOH	AV19P017	32	500	16000	480	16840	220650	50000	85.00
7	SOH YASHMIR NGOH	AV19P021	32	500	16000	480	16840	200000	32000	54.40
8	AJAMAH JULIUS TAMOZE	AV19P023	32	500	16000	480	16840	88,100	46695	79.38
9	SHU RAISA LUM	AV19P024	32	500	16000	480	16840	176200	39344	66.88
10	SARAH ETOMBI EKEMA	AV19P010	32	500	16000	480	16840	200000	32000	54.40
	Mean for 2019/2020 Batch		32	500	16000	480	16840	154390	44737.1	76.05
11	NDUM GORRETI TUFOIN	AV20P062	50	650	32,500	975	33,473	220650	21765	37.00
12	NGHOMBUOCHE HESEN BORIS	AV20P067	50	650	32,500	975	33,473	103500	44025	74.84
13	KEUBIWOU BRANDOM RAHIM	AV20P068	50	650	32,500	975	33,473	176200	90000	153.00
14	MA-TABE BISONG	AV20P069	50	650	32,500	975	33,473	103500	44025	74.84
15	NGUMDO MBUSOP TIZIANO	AV20P070	100	650	65,000	1950	66,950	207000	88050	149.69
16	NDIFOR GODFRED MBAH NCHOLE	AV20P072	50	650	32,500	975	33,473	176200	39344	66.88
17	NGOCK NGOCK AIME GAEL	AV20P077	50	650	32,500	975	33,473	220650	21765	37.00
18	TCHIEGNOU FREDERIC	AV20P080	50	650	32,500	975	33,473	220650	21765	37.00
19	JOHN ATEMNKENG	AV20P081	50	650	32,500	975	33,473	178740	24900	42.33
20	JAM JUDE JUA	AV20P111	50	650	32,500	975	33,473	176200	20000	34.00
	Mean for 2020/2021 Batch		55	650	35750	1072.5	36820.7	178329	41563.9	70.66

individual behavior. In supporting this, Oosterbeek *et al.*, (2010) indicate that EE could increase self-confidence and motivation, to be proactive, creative and to learn how to work in a team. However, Mahendra *et al.*, (2017) found that there is no direct relationship between Entrepreneurship Education and Entrepreneurial Intention among students enrolled in the Department of Management, Faculty of Economics, State University of Malang. Entrepreneurial Intention (EI) is viewed by Gorgievski *et al.* (2018) as “the conscious state of mind that precedes action and directs attention toward entrepreneurial behaviours such as starting a new business and becoming an entrepreneur”. To overcome this hurdle, it is planned that an evaluation of graduates from this program will be conducted after the first five years to test if the program aided students to develop entrepreneurial intentions.

Animal Production Vs Livestock production. Some school of thought has considered Animal Production as the production of any animal within the kingdom animalia. This interjects distortions in the concept. Animal Production actually refers to production of agricultural and food animals. The term livestock production has therefore been used in this programme to refer to the production of agricultural and food animals. It may be insufficient but leaves behind any distortions in the meaning of animal production, which is unrelated to agriculture and food. Livestock production was therefore adopted as nomenclature of this program to overcome the hurdles of an out of context reference to animal production.

Some implementation hurdles in the business incubator approach to the teaching of Livestock Production the University of Buea

Use of partial school fees Vs University financing. Upon approval of the business incubator approach by the Academic Planning Committee (APC) of the University of Buea, the first implementation hurdle was the sourcing of finance to kick start the business incubator. Some options included the pre-financing of the university component of the capital with school fees. The paperwork leading to the approval of this option was judged to be too complicated to meet up with the timeline to kick start the programme. It was therefore resolved that the Faculty of Agriculture and Veterinary Medicine (FAVM) will make a kind contribution of day-old chicks, to be given to the students at existing market price. This contribution was therefore done by contracting the services of supplier as the procurement rules demand.

State University procurement system Vs Commercial agricultural production in the university. The state university procurement system relies on the use of intermediaries (suppliers) for procurement. These intermediaries supply goods at costs higher than market prices because they must derive profit from the services rendered. This hurdle renders the financing of commercial agriculture by the university unrealistic if not impossible. The day-old chicks supplied to the program by a contractor cost the university 1,500FCFA per chick, whereas the existing market price at the time was 500FCFA per chick. This procurement system was counterproductive for a mindset activity such as a business incubator.

The university as a social entrepreneur. The concept of a state university in Cameroon as a social entrepreneur is new and difficult for many to digest. This constitutes an implementation hurdle for the programme. It is the main reason why the interest rate paid by the students must be raised from 3% to 5%.

A low interest rate improves the likability of the programme by development actors who may be approached as partners or donors to the programme. Also, it further compensates the efforts of students who are more likely to be future job creators.

Scale of production (Hubby Vs Commerce). The present scale of production by the students is very small and can best be described as a hobby. At the present scale a postgraduate student may not adequately experience the commerce that can lead him or her to a comfortable self-employment. The programme targets profits of about 500,000FCFA (USD850.00) per student, so that students can finance to other academic expenses such as research for dissertation. This requires adequate infrastructure which for example can permit one student to manage 500broiler chickens per cycle.

External Vs Internal University cooperation agreements. Higher education in Cameroon was initially designed to respond to the manpower needs of immediate post-colonial Cameroon. However, at its current state, the number of graduates is outnumbering the manpower needs of this intension. Entrepreneurial Education is therefore an opportunity to increase graduate self-employment. However, promoting an effective entrepreneurial education agenda across higher education institutions in Cameroon and the need for staff engagement requires a strong legal framework to support and protect the innovation. In the current situation, most faculty in higher education institutions, prioritize their personal career development, over other forms of innovation such as student career development. Thus, there is every likelihood that a wrong combination of staff at any given point in time can destroy an innovation such as the subject of this paper, which is using a business incubator approach to the teaching of livestock production. Some school of thought believe that the university can only sign MOUs with external partners and they argue that signing an MOU with staff of the university is tantamount to the university signing an MOU with itself. However, there are other binding regulatory frameworks that protect the institutional personality of the university, vis a vis the personality of its individual staff. These include Vice- Chancellors decisions, senate resolutions, and council resolutions etc.

Integration of Technology. Digital technology is imperative for the success of the program. Presently the level of digitalization is very low and this constitutes an implementation hurdle. Work has begun with some project partners such as MTN Mobile Money Corporation to improve the digitalization of the transactions.

Some efforts at overcoming the hurdles in the business incubator approach to the teaching of Livestock Production the University of Buea

Competitive University Grant on Research Incubators. The principal investigator of this programme and his team are the pioneer winners of a grant from the Income-Generating Projects: Start-Up Research Incubators funding scheme at the University of Buea. This grant has increased the financial autonomy of the programme by providing a revolving fund which will be used to finance the university's component of students' businesses. The grant also provides an opportunity to improve on the functioning and further development of incubators. In this regards it supports the initiation and implementation of strategic partnerships with local and international organizations.

Information. Information on the business incubator approach is published at the university websites, on the social media pages of the Faculty of Agriculture and Veterinary Medicine and the University of Buea Newsletter (UBN). This will continue to improve the perception of the approach and overcome some of the hurdles currently being faced.

Partnerships. Other partners are currently being sourced to take the programme to the next level. The use of technology and development of infrastructure are top on the agenda. This will also contribute in overcoming some of the hurdles currently being faced.

Goodwill of the University Hierarchy. The programme enjoys a lot of good will from the Vice Chancellor, the Principal officers of the University and the Dean of the Faculty of Agriculture and Veterinary Medicine (FAVM). This goodwill is imperative in overcoming most of the hurdles currently being faced. We are convinced that with such support, hurdles will be transformed into opportunities.

Conclusion

The small, yet-determined stride, undertaken to integrate a business incubator approach to the teaching of Animal Science (Livestock Production) curriculum at the University of Buea, is a proof of concept, indicating that experiential learning, with the aim of improving entrepreneurial intension among graduates is achievable in a state university in Cameroon. Although the scale of operation and level of technology may still have much to be desired, the programme is on a good footing. The university has provided a revolving fund to improve the financial autonomy of the programme. The goodwill of the university administration has also been an important basis to hope for a better future.

Acknowledgements

Our thanks go to the University of Buea, The National Employment Fund, Cameroon; Empowerment NGO, Cameroon; Catholic University Institute, Buea, Cameroon; MTN Mobile Money Corporation, Cameroon; Alex Ekweme Federal University, Ndufu Aliko Ikwo, Nigeria; Golder Meir Mount Carmel Institute, Haifa, Israel; and Association of Overseas Technical Scholarships (AOTS) Tokyo Kenshu Centre, Japan. Corresponding Author's interactions with these various institutions at specific points in time, inspired this business incubator approach, which is currently evolving at the University of Buea. This paper is a contribution to the 19th RUFORUM Annual General Meeting and Conference held 28th October -2nd November 2023 in Yaoundé, Cameroon.

References

- Cameroon- Growth and employment strategy paper. (GESP) 2010/2020. <https://s3.amazonaws.com/rgi-documents/997c33d0d45e9087acc5296d20e085f9d33d25a0.pdf>. Accessed 15/08/2023
- Gorgievski, M. J., Stephan, U., Laguna, M. and Moriano, J. A. 2018. Predicting entrepreneurial career intentions: Values and the theory of planned behavior. *Journal of Career Assessment* 26 (3):457–475. <https://doi.org/10.1177/1069072717714541>

- Haltiwanger, J., Jarmin, R.S. and Miranda, J. 2013. Who Creates Jobs? Small versus Large versus Young. *The Review of Economics and Statistics* 95 (2):347–361. https://www.doi.org/10.1162/REST_a_00288
- Mahendra, A. M., Djatmika, E. T. and Hermawan, A. 2017. The Effect of Entrepreneurship Education on Entrepreneurial Intention Mediated by Motivation and Attitude among Management Students, State University of Malang Indonesia. *International Education Studies* 10 (9):61. <https://doi.org/10.5539/ies.v10n9p61>
- Mbu, D.T. and Tambi, F.J. 2019. Constraints and Challenges of Livestock Production in Cameroon, *South Asian Res J of Bus Manag* 1 (1):10-17.
- Oosterbeek, H., van Praag, M. and Ijsselstein, A. 2010. The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review* 54 (3):442–454. <https://doi.org/10.1016/j.euroecorev.2009.08.002>
- USDA. 2020. <https://nifa.usda.gov/topic/animal-production>. Accessed 2/7/2020.
- World Bank. 2018. [https://tradingeconomics.com/cameroon/school-enrollment-tertiary-percent-gross-wb-data.html#:~:text=School%20enrollment%2C%20tertiary%20\(%25%20gross\)%20in%20Cameroon%20was%20reported%20at,compiled%20from%20officially%20recognized%20sources](https://tradingeconomics.com/cameroon/school-enrollment-tertiary-percent-gross-wb-data.html#:~:text=School%20enrollment%2C%20tertiary%20(%25%20gross)%20in%20Cameroon%20was%20reported%20at,compiled%20from%20officially%20recognized%20sources). Accessed 15/08/2023