

Research Application Summary

**Analysis of entrepreneurship development at Botswana University of
Agriculture and Natural Resources: A case study of the Agripreneur Program**

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Abstract

Entrepreneurship development (ED) is a common phrase in the current business world, and similarly so in Botswana. The goal of the Botswana University of Agriculture and Natural Resources (BUAN) incubation agripreneur programme in collaboration with the Local Enterprise Authority (LEA) is to equip beneficiaries with the much-needed entrepreneurial and technical skills in agribusiness. This paper reports on the Agripreneur beneficiaries views on the program and propose suggestions on programme improvement. The results indicated that about 44% of the respondents are currently operating their own agribusinesses, with most of them being male. A third of the respondents' businesses are located in the Southern part of Botswana, where there is a good market potential and access to most of the key inputs. Furthermore, majority of the sampled beneficiaries indicated that the agripreneur programme moderately equipped them with financial management skills. The beneficiaries also reported that they had been equipped in husbandry aspects to a large extent. However, beneficiaries decried a lack of networking skills and labor management issues. Overall, the sampled beneficiaries indicated that they benefited from the Agripreneur programme. As a way to continually improve the programme, it is vital to carry-out ongoing monitoring and evaluation of the programme to ensure that skill gaps are regularly identified among the beneficiaries and remedial action is taken.

Key words: Agribusiness, Agripreneur, Botswana, entrepreneurship, incubation

Résumé

Le développement d'entreprenariat (ED) est une expression courante dans le monde actuel des affaires, et de la même manière au Botswana. L'objectif de l'Université du Botswana de l'Agriculture et des Ressources Naturelles (BUAN), dans son programme d'incubation «agripreneur» (entreprenariat agricole) en collaboration avec « Local Enterprise Authority » (LEA) est de doter les bénéficiaires des nécessaires compétences entrepreneuriales et techniques dans l'agro-industrie. Ce document rend compte des visions des Agripreneurs bénéficiaires du programme et propose des suggestions sur l'amélioration du programme. Les résultats indiquent que 44% des personnes interrogées sont actuellement en exploitation

de leurs propres agrobusiness, dont la plupart d'entre eux sont des hommes. Un tiers d'entreprises des répondants sont situés dans la partie sud du Botswana, où il y a un bon potentiel de marché et l'accès à la plupart des principaux intrants. En outre, la majorité des bénéficiaires échantillonnés a indiqué que le programme d' «agripreneur» les a modérément équipés avec des compétences en gestion financière. Les bénéficiaires ont également indiqué qu'ils avaient été équipés dans les aspects d'élevage dans une large mesure. Cependant, les bénéficiaires ont dénoncé un manque de compétences en réseau et les problèmes de gestion du travail. Dans l'ensemble, les bénéficiaires échantillonnés ont indiqué qu'ils ont bénéficié du programme d' « Agripreneur ». Comme un moyen d'améliorer sans cesse le programme, il est essentiel de faire régulièrement le suivi et l'évaluation du programme en cours pour veiller à ce que les écarts de compétences soient régulièrement identifiés parmi les bénéficiaires et que les mesures correctives soient prises.

Mots clés: Agrobusiness, Agripreneur, Botswana, entrepreneurial, l'incubation

Introduction

There is consensus and a much-more renewed emphasis among the Botswana's business community, policy makers and other stakeholders on the critical role of enterprise and sustainable entrepreneurship development (ED) in economic development, growth and diversification. In addition, there is appreciation in the local economy of the fact that, the primary barrier to economic growth is not limited to lack of capital, skilled labour and land, but it is also attributed to insufficient entrepreneurs (*i.e.* who can combine other resources together both efficiently and effectively). Notwithstanding that, the Botswana government has for more than a decade promoted and invested in small and medium enterprise (SMEs) development across all sectors of the economy. However, local SMEs have over the years not grown correspondingly and/or as initially expected due to some challenges relating to (*but not limited to*): lack of entrepreneurial skills, globalization, recession, increasing competition (*both locally and regionally*) and increasing input prices.

Inadvertently, Botswana like other agriculture-dependent African economies, has in the recent past found herself having to deal not only with the effects of the declining contribution of the agriculture sector to the national gross domestic product (GDP), but other challenges relate to markets (*both local and external*), climate change, land issues, effectiveness of agricultural extension services, youth farmer development and capacity development of other emerging farmers. Reeve and Stayner (2006) caution that farming is becoming increasingly professionalized. Hence, the highly evolving technical nature of commercial agriculture, and the increasing importance to establish and maintain relationships with service providers and other stakeholders, requires new skills on the part of the farmers.

Notably, some of the main challenges facing policy makers and other key stakeholders locally include: (i) providing an enabling environment, (ii) ensuring efficient agricultural support and extension services, (iii) integrating entrepreneurship education and development in school curriculum, and (iv) designing and implementing entrepreneurship programs that facilitate smooth transition of youth and other emerging farmers into commercial agriculture in

Botswana. Currently, the wider impact and benefits of entrepreneurship development from planned interventions efforts such as “Agripreneur” at the Botswana University of Agriculture and Natural Resources (BUAN) are yet to be fully appreciated and realized. More effort therefore needs to be made in this area. Agripreneur which is a combination of agriculture and entrepreneurship offers opportunity for realising impact.

Entrepreneurship development at BUAN

Botswana like other agriculture-dependent African economies has and continues to experience numerous challenges that undermine the government’s efforts geared towards bolstering human capacity development, competitiveness, economic growth and diversification. More importantly, entrepreneurs in the twenty-first century find themselves having to deal with a very volatile economic environment and other emerging issues such as climate change. The challenge therefore facing BUAN and other stakeholders in the local economy, is how in a pragmatic manner to (i) institutionalize and run sound entrepreneurship development programs aimed at empowering local entrepreneurs, (ii) attract strategic partners who can offer various forms of support and expertise, and (iii) put systems in place to sustain such program/s both in the short and long-term.

There has been a paradigm shift over the years regarding training tertiary students locally for the job market. Hence, the Botswana College of Agriculture (BCA) now BUAN, introduced an entrepreneurship development program for completing students in 1999. The program was called Student Enterprise Projects (SEP). The College’s mandate was expanded from training for the public sector to training for both the public and the private sector, as well as for self-employment, in response to the changes in employment market. It was observed that there has been a decline in employment for agricultural graduates in the public sector. It was envisioned that SEP would equip agricultural graduates with entrepreneurial skills that make them better prepared for employment by the private sector or self-employment. This has now been incorporated into a broader entrepreneurship development programme branded Agripreneur Programme. The Agripreneur Programme was established in 2011 through a joint-partnership coordinated by the BUAN Centre for In-service and Continuing Education (CICE) in conjunction with the Local Enterprise Authority (LEA). LEA is a parastatal organization of the Ministry of Finance and Development Planning (MFDP).

According to United Nations Development Programme (UNDP) (1999), *Enterprise* is defined here as the application of creative ideas and innovations to practical situations. This concept is applicable to all forms of businesses. *Entrepreneurship* is then, the application of enterprise skills relating to starting and growing organizations in order to identify and build on opportunities. Entrepreneurs therefore identify an innovation to seize an opportunity, mobilize money and management skills, and take calculated risks to participate in the market for the new product/service. On the one hand *Entrepreneurship Development* refers to the process of enhancing entrepreneurial skills and knowledge through structured training and institution-building programmes. Entrepreneurship development therefore aims to bridge skills gaps, enlarge the base of entrepreneurs, increases the rate at which new ventures are created, promotes employment creation and economic growth.

Notably, sustainable development has also emerged as a very important factor in business and policy issues, and there is growing recognition that a fundamental transformation is needed to address the negative societal impacts created by our currently unsustainable business practices. Within this context, entrepreneurship is increasingly being recognized as a significant conduit for bringing about the much-needed transformation for sustainable business and policy development. It is therefore hoped that the BCA-LEA entrepreneurship development programme branded “*Agripreneur*” will, with proper planning, implementation, support and involvement of relevant stakeholders and strategic partners, go a long way in increasing Botswana’s pool of successful entrepreneurs.

BUAN-LEA Agripreneur programme objectives and structure

The main objective of the Agripreneur is to equip agricultural graduates with entrepreneurial skills that make them better prepared for employment by the private sector or self-employment. Other specific objectives of the Agripreneur programme include: Inculcating the spirit of entrepreneurship among BCA graduates and thus develop aspiring entrepreneurs in Botswana; promoting innovativeness by driving sustainable businesses; provide aspiring entrepreneurs an opportunity to understand the importance of building a relationship with financiers when running a business; and assist aspirant entrepreneurs learnt how to establish, grow and maintain a good working relationship with financiers when running a business.

The Agripreneur Programme is coordinated by the Centre for In-service and Continuing Education (CICE) at BUAN, in conjunction with the Local Enterprise Authority (LEA), a para-statal organization of the Ministry of Finance and Development Planning. The CICE chairs the Agripreneur Programme Committee. The committee is composed of the Chief Accountant; BUAN Farm Manager; AEE- Economics Section; Supervisors of Agripreneur incubation participants; Assistant Manager Engineering Services; Dean Student Affairs; CICE and LEA. The terms of reference (TOR) are: To approve project proposals and advise on matters related the entire programme; to propose and receive amendments to proposals on Agripreneur programme guidelines and take appropriate measures in that regard; to identify experts for mentoring students and co-opt individuals with relevant expertise to help in the supervision of the projects; relieve/ exclude/dismiss non-performing supervisor/ mentors; and to serve as the Reference Team for the programme.

The entrepreneurship training programme is open to all final year students who are citizens of Botswana and come from all regular programmes offered at BUAN. The CICE, together with BUAN Departments and LEA, decide on the types of projects to be offered depending on available facilities at BUAN, future business opportunities and availability markets for the products. Various agricultural enterprises that aspiring entrepreneurs can engage in include: Horticulture (vegetables, ornamentals, fruits, mushrooms, seedlings); livestock (dairy, beef, piggery, poultry, rabbit, sheep and goats production); agricultural Engineering (manufacturing of simple agricultural structures, tools, services including repair and servicing of machinery); agricultural Products Processing such as leather industry, cheese and yoghurt production; and enterprises adding value to agriculture such as fodder production, consultancy and marketing.

Methodology

A survey questionnaire designed to identify participant's specific, socio-economic factors that influence students' participation in the BUAN-LEA agripreneur programme was administered in early March 2016 in Gaborone and the surrounding areas. The questionnaire was first tested for clarity with one of the respondents in Gaborone. All the fourteen beneficiaries of the agripreneur programme from 2011 to 2015 were identified as key respondents. However, five of the respondent were not available for interviews due to various reasons.

Findings

Respondents' demographic characteristics. Table 1 shows that most (5) (i.e. nearly 56%) of the sample respondents were male and about 4 (44%) were female. The nine respondents possessed various academic qualifications obtained at BUAN, including HDAH&P (1), BSCAEC (2), BSCSWCE (1) and BSCAGM (2). The study results show a good spread and representation of beneficiaries from the main academic departments, with the exception of the Department of Food Science and Technology (FST). The Department of Basic Science (BS) is excluded here because it does not offer any academic program. The BS supports other academic departments by offering pure science courses required by registered students, mainly in years one and two. A more comprehensive and detailed assessment could perhaps shed some light on FST students' enrolment in agripreneur.

In addition, the surveyed beneficiaries participated in the BUAN-LEA agripreneur programme between 2012 and 2015, with most (4) being from 2012 and the least (1) from 2013. In addition, 2012, 2014 and 2015 proportionately accounted for the same number of surveyed female and male respondents.

The sample BUAN-LEA agripreneurs were mostly male and relatively older than their female counterparts. The majority (almost 67%) of the surveyed beneficiaries were aged between 26 and 35 years of age. Most of those aged 26 and 35 years of age were males. The average age of the surveyed participants when enrolling in the programme and during data collection were respectively, 24.11 and 26.44 years. On average, females were aged 23.50 years old when they enrolled in the programme, compared to males with a mean age of 26.40 years. Male respondents accounted for the maximum age (i.e., 29 years), compared to 27 years for the oldest female respondents.

Table 2 shows that the majority (almost 67%) of the surveyed agripreneur beneficiaries were aged between 26 and 35 years of age. Most (4) of those aged 26 and 35 years of age were males. The average age of the surveyed participants when enrolling in the programme and during data collection were respectively, 24.11 and 26.44 years. The surveyed females were relatively younger than their male counterparts. On average, females were 23.5 years old when they enrolled in the programme, compared to males with a mean age of 26.40 years. The youngest female respondents before enrolment and during data collection were aged 22 and 23 years old, respectively. On the contrary, males were aged 23 and 25 years, respectively.

Table 1. Respondents' program of study and enterprise type by gender, 2016

Characteristic	Agripreneur participants (n=9)	Gender (n=9)		Percent (%)
		Female (n=4)	Male (n=5)	
Program of study				
HDAH&P	1	0	1	11.1
BSCAEC	2	1	1	22.2
BSCAS	1	0	1	11.1
BSCCSP	1	1	0	11.1
BSCSWCE	1	0	1	11.1
BSCAGM	2	1	1	22.2
BSCAEDU	1	1	0	11.1
Total	9	4	5	100
Year enrolled in programme				
2012	4	2	2	44.4
2013	1	0	1	11.1
2014	2	1	1	22.2
2015	2	1	1	22.2
Total	9	4	5	100

Note: HDAH&P: Higher Diploma in Animal Health & Production; BSCAEC: BSc Agricultural Economics; BSCAS: BSc. Animal Science; BSCCP: BSc Crop Science & production; BSCSWCE: BSc Soil and Water Conservation Engineering; BSCAGM: BSc Agricultural Mechanization; BSCAEDU: BSc Agricultural Education

Respondents' enterprise type and business ownership

The revealed that most (2) broiler enterprises were registered in 2014 and were carried out by both male and female beneficiaries (Table 3). On the contrary, none of the surveyed respondents was engaged in horticulture in 2014. However, the three recorded horticulture enterprises were respectively started in 2012, 2013 and 2015. Furthermore, the one horticulture enterprise recorded in 2013 was run by a male respondent. But the males participated in the majority of the BUAN-LEA agripreneur programme activities.

However, two of the respondents, both female did not complete the agripreneur programme because they found employment offer elsewhere (Table 4). The results in Table 4 also show that half (4) of the respondents were running their own businesses, with most (3) of them being male. The other half (4) were employed elsewhere. The surveyed male participants were engaged in businesses similar to what they did during agripreneur (e.g. vegetable and broilers). Most (3) of the new businesses of the interviewed agripreneur beneficiaries were concentrated in Southern part of Botswana because of a good market potential, some of the

Table 2. Respondents' age and enterprise type by gender, 2016

Characteristic	Agripreneur participants (n=9)	Gender (n=9)		Percent (%)
		Female (n=4)	Male (n=5)	
Age category (years)				
21 – 25 years	3	2	1	33.3
26 – 35 years	6	2	4	66.7
Total	9	4	5	100
Mean age (years)				
At programme enrolment	24.11	23.5	24.6	N/A
Std deviation	1.453	1.291	1.517	
During data collection	26.44	25.5	27.2	
Std deviation	2.007	2.38	1.483	
Minimum age (years)				
At programme enrolment	22	22	23	N/A
During data collection	23	23	25	
Maximum age (years)				
At programme enrolment	27	25	27	N/A
During data collection	29	28	29	
Enterprise type (number)				
Broilers	6	3	3	66.7
Horticulture	3	1	2	33.3
Total	9	4	5	100

participants originate from the South, and relative easy access to resources such as land, other inputs and information elsewhere (see Table 4).

Respondents' views on programme benefits

Tables 5 and 6 provides a summary of the extent to which the surveyed respondents were capacitated in agripreneur key success areas (KSAs). Most (nearly 78%) of the sampled beneficiaries indicated that agripreneur moderately equipped them with financial management skills. Financial management here, included budgeting, cash flow management, record keeping and remission of payments to the BUAN accounts office. The majority (almost 78%) of the beneficiaries also reported that they had been equipped with husbandry skills. This is partly due to the fact that husbandry aspects are regarded as the core or main activity of the agripreneur project. For example, husbandry aspects in broiler production include house preparation, stocking/batches, bedding, watering, heating, ventilation and disease control. A detailed description of agripreneur KSAs is shown in Table 7.

Table 3. Respondents' enterprise type by year and gender, 2016

Characteristic	Year				Total
	2012	2013	2014	2015	
Enterprise type					
Broilers	3	0	2	1	6
Horticulture	1	1	0	1	3
Total	4	1	2	2	9
Gender					
Female	2	0	1	1	4
Male	2	1	1	1	5
Total	4	1	2	2	9

Table 4. Respondents' programme completion and business ownership by gender, 2016

Characteristic	Agripreneur participants (n=9)	Gender (n=9)		Percent (%)
		Female (n=4)	Male (n=5)	
Officially completed agripreneur				
No	3	2	1	33.3
Yes	6	2	4	66.7
Total	9	4	6	100
Current engagement				
Running own business	4	1	3	44.4
Studying	1	1	0	11.1
Employed elsewhere	4	2	2	44.4
Total	9	4	5	100
Business location and type				
None	5	3	2	55.6
Gasita (vegetables)	1	0	1	11.1
Kumakwane (broilers)	1	0	1	11.1
Oodi (vegetables)	1	0	1	11.1
Serowe (Agri-tourism)	1	1	0	11.1
Total	9	4	5	100

Table 5. Respondents' extent of capacitation in key success areas, 2016

Key success/result areas (KSAs)	Extent of capacitation in KSAs					Total
	Very much	Moderate	Neutral	Very little	Not at all	
Financial management	2	7	-	-	-	9
Husbandry aspects	7	1	1	-	-	9
Marketing	2	5	2	-	-	9
Risk management	3	4	2	-	-	9
Labour management	2	4	3	-	-	9
Environmental management	2	3	1	3	-	9
Interaction with stakeholders	1	4	2	1	1	9

Table 6. Overall programme benefit, 2016

Enterprise type	Overall BUAN-LEA agripreneur programme benefit rating					Total
	Very much	Moderate	Neutral	Very little	Not at all	
Broilers	1	5	-	-	-	6
Horticulture	1	2	-	-	-	3
Total	2	7	-	-	-	9

A third of the surveyed beneficiaries indicated that they acquired moderate and very little skills in environmental management. This was attributed to the fact that there was limited emphasis on issues pertaining to proper agricultural waste management both at BUAN and nationally. In addition, a large proportion (44.4%) of the interviewed respondents reported that they were moderately capacitated in production, business, financial and social risk.

Overall, the sampled respondents had varying views concerning the extent to which they benefitted from the agripreneur programme (i.e. in terms of being capacitated in the KSAs).

Conclusion and recommendations

Most (66.7%) of the respondents were engaged in broiler production, an equal number of females and males respondents quit before the official completion of their 12 months training. Perhaps more encouraging was the fact that about 44% of the respondents were running their own businesses (most of them being male). A third of the businesses are located in the Southern part of Botswana, where some of the participants originate, and there is good market potential and access to most of the key inputs.

Table 7. Broiler and horticulture project key success areas, 2016

Key Success/Result Areas (KSAs)	Description
Financial management banking, etc.	Includes: Budgeting, cash flow management, record keeping and
Husbandry aspects (in broiler and horticulture production)	Includes: (a) Boilers: House preparation, stocking/batches, feeding, watering, lighting, heating, ventilation and disease control. (b) Horticulture: Seedbed preparation, choice of crops, watering, use of fertilizers, weeding, disease control, crop management techniques, harvesting, etc.
Marketing (of broiler and horticulture products)	Includes: (a) Broilers: Catching procedures, slaughtering, packaging, advertising, pricing, competition and market choice, etc. (b) Horticulture: Harvesting, packaging, advertising, pricing, competition and market choice, etc.
Risk management	Includes: production, business, financial and social risk.
Labour management	Includes: Labour laws, basic conditions of employment and people management.
Environmental management	Includes: National environmental policies, care for the environment such as proper manure, chemical disposal or use.
Interaction with internal and external stakeholders	Includes: (a) Internal stakeholders such as finance departments, BUAN farm, ASP department. (b) External stakeholders such as Govt departments, commercial banks, input suppliers, farmers, other agripreneur participants.

There is varying extent of acquisition of skills in the programme KSAs among the respondents. Most of the sampled beneficiaries indicated that agripreneur moderately equipped them with financial management skills and husbandry, but less so from environment skill exposure. It is therefore important to carry out periodic monitoring and evaluation to ensure that skill gaps are continually identified among the beneficiaries and remedial action taken.

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