

Research Application Summary

Innovative research and teaching methods towards creation of entrepreneurs

Sila, D.N.,¹ Tsunoda, M.² & Molteni, M.³

¹Department of Agricultural and Resource Economics, Jomo Kenyatta University of Agriculture and Technology, P.O Box 62000-00200, Nairobi, Kenya

²JICA Expert. Africa ai Japan Project, P.O Box 62000-00200, Nairobi, Kenya

³Professor of Corporate Strategy and Rector's Delegate for Business Relations – Università Cattolica del Sacro Cuore; CEO – E4Impact Foundation, Via San Vittore, 18 – 20123 Milan, Italy

Corresponding author: dsila@jkuat.ac.ke

Abstract

Jomo Kenyatta University of Agriculture and Technology (JKUAT), one of the public universities in Kenya, is largely involved in training at undergraduate and postgraduate level in Basic Sciences, Engineering, Health, Human Resource, and Agriculture. More recently, the student numbers in universities have increased dramatically and the need for quality education while continuously leading in innovation and new product development is increasingly important. The industry is also complaining of half-baked students who cannot match the needs of the industry while graduates are complaining of lack of job opportunities. Government capitation to support teaching and research is on the other hand decreasing forcing universities to think beyond the traditional approaches for income generation. In this respect, JKUAT has adopted an entrepreneurial culture in executing its core mandate of teaching, research and dissemination. This is highlighted in this paper.

Key words: Agribusiness, coaching, entrepreneurship, international degree, JKUAT, social impact

Résumé

Université Jomo Kenyatta d'Agriculture et de Technology (JKUAT), l'une des universités publiques du Kenya, est largement impliquée dans la formation au niveau Licence et troisième cycle en Sciences de base, Ingénierie, Santé, Ressource humaine et l'Agriculture. Plus récemment, les nombres d'étudiant dans les universités ont augmenté de façon dramatique et le besoin pour une formation de qualité alors qu'au même moment l'évolution continue en innovation et le développement de nouveaux produits est de plus en plus importante. L'industrie se plaint également des étudiants à moitié-formés qui ne correspondent pas au besoin du marché d'emploi tandis que les diplômés se plaignent du manque d'opportunités d'emploi. De l'autre côté, la capitation du gouvernement à supporter l'enseignement et la recherche est entrain de décroître obligeant les universités à penser au-delà des approches traditionnelles génératrices de revenu. Par conséquent, JKUAT a adopté une culture entrepreneuriale dans l'exécution de sa mission centrale d'enseignement, de recherche et de dissémination. Cela est

souligné dans le présent document.

Mots-clés : Agrobusiness, entraînement, entrepreneuriat, diplôme international, JKUAT, impact social

Overview

There is an increasing demand for universities to train entrepreneurial graduates. This is more so because employment in the public sector has dwindled significantly and the market is also complaining of half-baked students who cannot match the needs of the industry. To respond to the market needs, Jomo Kenyatta University of Agriculture and Technology (JKUAT), one of the public universities in Kenya, has adopted an entrepreneurial culture in executing its core mandate of teaching, research and dissemination (Imbuga, 2013).

To address the above need it is now mandatory for all academic programmes at JKUAT that are being developed or that have gone through a full cycle to undergo a stakeholder review/analysis. The need to resonate with the local industry demand is critical if universities will play a pivotal role in development. The 'Africa we Want', as enshrined in the African Union Agenda 2063, is calling for creation of a critical mass of scientists in multidisciplinary areas including engineering, marine economy, agriculture, health, among others. The need to depart from training job seekers to training job creators has spurred JKUAT to become increasingly entrepreneurial. The introduction of the Department of Agricultural and Resource Economics is one such initiative. Students in the Faculty of Agriculture can now work hand in hand with the industry along the entire value chain in solving agricultural production and agri-processing issues. Agricultural value chain strengthening is considered one of the key pillars that will contribute to approximately 10% economic growth in Kenya. Jomo Kenyatta University of Agriculture and Technology is home to the Sorghum Value Chain Development Consortium, an Agribusiness Incubator funded by DANIDA through UniBRAIN (Universities, Business and Research in Agricultural Innovations). This incubator supports graduate start-ups through incubation by providing technical, market and financial support. This is the catalyst required to support innovative and creative ideas from students to grow into businesses.

At the university-wide level, the need to profile and commercialize innovations within the universities has increasingly been supported through the *Africa ai Japan* project and the JKUAT Research Production and Extension division. Examples of technologies that are now ready for rolling out to the industry are the tissue culture banana, the tick trap, eco-block, and a variety of food products from the Food Technology Centre, to name just a few. Also, JKUAT is now home to Taifa laptop and Shujaa tractor. The Nairobi Industrial Trade Park will host some of the innovative ideas and spin off companies from the university. Income generation within departments is now mandatory. For the first time, JKUAT has launched a spinoff company for production of noodles made from

sorghum and spiced with local flavours such as Nyama Choma flavour and Ladha ya kuku (chicken flavour). This is a public –private partnership between JKUAT and Nissin (a Japanese Company). By hosting the Sixth Tokyo International Conference on African Development (TICAD-VI) on 27 to 28 August 2016 in Nairobi, Kenya, JKUAT also opened doors to many Japanese companies to co-invest within Kenya. The innovation culture is now largely informed by the Japanese way of thinking but using indigenous knowledge and local resources (Figure 1).

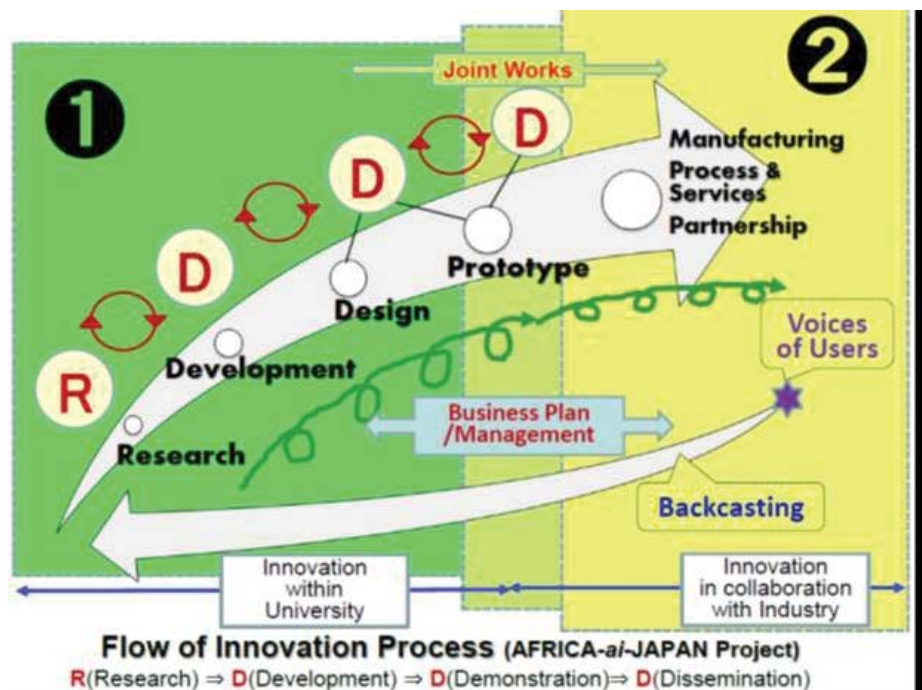


Figure1. Proposed model for universities to work with industries

Strengthening Entrepreneurship training at JKUAT. Jomo Kenyatta University of Agriculture and Technology and E4Impact Foundation (which is a spin-off of Università Cattolica del Sacro Cuore, Milan, Italy) will launch an innovative Master of Science in -- Agri-Food Entrepreneurship. The program will guide active and aspiring agro-entrepreneurs to start or scale their businesses, giving them simultaneously an academic and business acceleration experience (Morati and Molteni, 2016). The program will adopt an innovative formula that has been tested since 2010 in six African Countries where the Foundation operates: Kenya, Uganda, Ghana, Sierra Leone, Ivory Coast and Senegal (Golleti, 2011; Morati and Molteni, 2016). The MSc will have the following characteristics (see also Table 1):

- *For entrepreneurs only:* it admits only participants who want to become entrepreneurs or are already managing an agri-business project.
- *Blended Formula:* after a semester of in-presence lessons, semesters 2 and 3 will be business while potential entrepreneurs are free to validate in the field their business

offer classroom and on-line instruction, while the students will work on their field projects. Such an approach allows active entrepreneurs to continue to run their business while potential entrepreneurs are free to validate in the field their business assumptions. The Last semester will be dedicate to finishing the field project and to writing the final business plan.

- Dual degree: The program offers a MSc degree from JKUAT and a Master degree from Università Cattolica of Milan (Italy), the largest private university in Europe.

- Coaching: participants are supported by a business coach, a dedicated business consultant that assists them in refining of their business idea, developing the business plan and establishing an industry network
- Relations with investors: participants are given some opportunities to individually meet investors and to pitch their project to a jury of investors.

The pilot trial for the program will be run within JKUAT before launching it in other African Universities. Such an effort will contribute to realizing Agenda 2063, the ‘*Africa We Want*’.

Acknowledgement

The authors acknowledge JKUAT, E4IMPACT Foundation and the *Africa ai Japan* project for supporting this work. This paper is a contribution to the 2016 Fifth African Higher Education Week and RUFORUM Biennial Conference.

References

- Imbuga, M. 2013. JKUAT at a Glance. JKUAT Press.
- Moratti, L. and Molteni, M. 2016. We do not teach entrepreneurship, we train impact entrepreneurs. E4IMPACT Foundation Business Prospectus.
- Goletti, F. 2011. Background Case Study of Agri-business Incubator at ICRISAT. A study conducted by Agrifood Consulting International (ACI) and Economic Transformation Group (ETG) for infoDev, Bethesda.

Table 1. Proposed MSc in Agribusiness and Development

Year 1				Year 2			
Semester 1		Semester 2		Semester 1		Semester 2	
2 Class	2Action	1Class	3Action	2 Class	6 Action	2 Class	6 Action
Class work on Agricultural concepts		Idea recognition		Transforming the idea to business		Entrepreneurship	
Proposed Unit		Proposed Units		Proposed Units		Proposed Units	
1. Farming system and Sustainable Agriculture		1. Managerial and production		1. Entrepreneurial Finance and risk management		1. Resource mobilization	
2. Agricultural Value Chains		2. Special problems in Agribusiness		2. Market analysis		2. Monitoring and evaluation	
3. Idea recognition and generation		3. Business strategy		3. Entrepreneurial Finance			
4. Business model canvas				4. Financial planning			