

Market and Technology Led Curriculum Enhancement at Agricultural Education Institutions in Africa and South Asia

Executive Summary

1) Concept:

Fund partnerships between selected US and overseas universities to support the transformation of existing undergraduate curriculum in Africa and S. Asia through 1) the development of a series of curricular modules to address the business, market and supply chain information needs of 21st century smallholders, 2) foster the introduction and expansion of experiential learning as part of the educational experience of undergraduate students, and 3) train master trainers to assist in the deployment of these new curricular features. Modules and strategies would be developed to focus on three key areas currently lacking in most programs:

- ✓ Market and technology led curriculum focusing on business management skills for smallholders as entrepreneurs as well as for the various players in the agricultural supply chain
- ✓ ICT and information access skills with emphasis on extraction of relevant information via multiple channel access to information databases and web 2.0 technologies
- ✓ Preparation for 21st century career opportunities in agribusiness which extend beyond the traditionally limited focus on farming, to processing, supply chain management, and emerging agribusiness market opportunities such as supermarkets and regional and global sales activity. Linkages between the university and the private sector would create internship and long term employment opportunities for students.

2) Rationale:

Agriculture in the African and South Asian regions is in transition from production to market-driven systems to meet the dual goals of maintaining food security and opening new markets for local agricultural products through value addition and trade. Along with the local traditional markets, new supermarkets are emerging to serve the rapidly growing urban consumers. In addition, the research institutions in South Asia and Africa regions are accessing and applying the new tools of biotechnology, geographic information systems and ICTs for enhancing agricultural productivity and natural resource management. In this environment, smallhold farmers require new levels of business skill which will allow them to make better business-based decisions regarding product and input choices and at the same time, allow them to better take advantage of market opportunities – both locally and globally.

In this new environment, the private sector is expected to play an increasing role in building technology and ICT base, requiring a greater cooperation and collaboration among various stakeholders and public-private sector partnerships. These emerging trends have important implications for improving the quality and relevance of higher education in the African and South Asian regions in the coming decades. The current curriculum largely focuses on the production aspects of agriculture. These new trends, however, are demanding curriculum reforms/enhancement for developing human resources with training and skills in market and technology driven agriculture.

A large pool of human resources will be required in the areas of food processing, food packaging, food safety, food marketing, agri-biotechnology, environmental biosafety, intellectual property management, bio-entrepreneurship, technology commercialization, and agribusiness. As a result, careers in agribusiness require skills in business management and entrepreneurship as well as the more traditional skill sets addressed in the traditional agricultural curriculum. At the same time, experiential learning is gaining increased attention and is being embedded in the new curriculum to provide practical real-world experiences to the graduates of tomorrow.

Partnerships could be funded between select US universities and universities in Africa and South Asia which would be configured to develop and deliver market and technology led curriculum intended to prepare students for a career in large or small, public or private agribusiness institutions. Through dialogue

and discussions with educational institutions, this Partnership will conduct a landscape analysis of current curriculum, proposed reforms, and opportunities and challenges.

As a result, five to ten 21st century agribusiness career profiles will be developed which represent viable career options in the developing world agribusiness space. A gap analysis will identify where the current agricultural curriculum is failing to prepare their graduates for these careers. These gaps will be addressed with specific new curriculum modules which supplement and in some cases replace the traditional agricultural training already in place.

Master trainers (selected primarily from existing host university faculty) will travel to the US for one year where they will go through an intensive training program on the new modules and experiential learning practice. The capstone of their training will be a three month internship in a US company related to agricultural business. This will be achieved through the establishment of close partnerships between the US university partner and surrounding agribusiness-related firms. This internship will provide master trainers with practical experience and model the value of experiential learning. Having participated in the experiential learning opportunity, the master trainers will return to their respective institutions serving as resources to facilitate the integration and implementation of the new curriculum modules and the service learning component.

3) Evidence the project can be successful:

Many universities and higher education institutions around the world are attempting to reform their curriculum in order to prepare their students for work and life in the context of globalization, rapidly growing industry, as well as the blending of local, regional and international food markets.

Experience suggests that universities are some of the most stable institutional platforms for sustaining programs beyond the life of a proposed project. The proposed project idea is a demand driven activity and a direct response to the stakeholders and potential job providers with whom the WorldAgInfo Design Team met during the site visits to Asia and Africa.

3) Expected benefits of the project:

A new generation of graduates will be prepared to take leadership roles in meeting increasingly complex and market-driven demands in the agribusiness space of developing countries. In addition to traditional agricultural training, graduates will acquire a basic set of technical and business skills which will prepare them for specific career tracks reflecting the changing face of global agriculture.

This program is at once a response to a specific information need in the smallholder information supply chain and an effort to lay the groundwork for increased demand for smallholder goods by improving the human resource capability of future employees/leaders in agribusiness. Meeting both objectives will be of immediate and mid-term benefit to smallholders.

Sustainability and Scale

The train the trainer model is designed to allow scaling. As the original wave of trainers return to their home countries, they represent the primary resource for assisting their university in the implementation of the new curriculum. After these individuals have successfully launched the new curriculum in their own institutions, a “stage two” funding could be made available to facilitate their travel to assist additional universities implement similar projects. The train the trainer classroom sessions could be video-taped and made available as podcasts worldwide over the web.

In addition to current college students, it is possible that former graduates of the university system (ie extension officers, researchers, and a few smallhold farmers) could return for a one year “tune up” to upgrade their skills and capabilities as well relying on the same new curriculum modules.

4) Projected costs of the project:

It is estimated that this project would cost about \$7 Million over a 5-year period.

100 trainers in the US for one year (\$30,000/trainer) \$3,000,000

Curriculum development

Supplementary support (with milestones) for trainers back in the field which would serve as incentive for continued participation in the program

5) Measures of success:

- ✓ Retention of agriculture studies majors in the agriculture supply chain.
- ✓ Employer assessment of skills of graduates
- ✓ Satisfaction of students with curriculum
- ✓ Measurable impact at the smallholder level

6) Risks:

- ✓ Bureaucracies in universities may resist curriculum reform
- ✓ Lack of desire on the part of students to remain in the agricultural sector
- ✓ Substantial curriculum reform will not alone be able to overcome lack of jobs and career opportunity in the agricultural sector