

## Agribusiness Training for Secondary School Graduates in Timor-Leste

*Charles J. Maguire, Consultant*

### SYNOPSIS

In Timor-Leste, capacity improvements are needed at all levels and across the spectrum of participants in the agricultural sector (public agencies, agribusinesses, individual farmers, cooperatives, and others). Building Agribusiness Capacity in East Timor (the BACET project) offers supplementary training in agribusiness skills through a one-year, postsecondary certificate program. The project—implemented by the National Directorate of Agricultural Education and Training in the Ministry of Agriculture and Fisheries (MAP) and Land O’Lakes (an international agribusiness)—graduated the first set of students in 2008 (121) and the second set in 2009 (111). For BACET students, the overarching goal is to learn the problem-solving and other skills required to begin careers as agribusiness entrepreneurs, agricultural extension workers, and middle managers to benefit communities in Timor-Leste. The graduate of this program is envisioned to be a learner rather than a passive absorber of information, capable of contributing to practical solutions in agribusiness. The curriculum’s focus on agribusiness and its emphasis on learning by doing and practical application of theoretical classroom materials were innovative in Timor-Leste. Teacher skills that emphasized learning versus teaching were another novel aspect of the project and considered fundamental to success. A major lesson from the experience is that the capacity of staff and facilities needs to be carefully assessed prior to program design, especially in countries classified as fragile states. Sites for the project must be chosen carefully to take into account logistics and the availability of services. Program design needs to incorporate lessons from implementation in redesigned curricula. To sustain the program over the long term, one strategy would be for MAP to shift the BACET program from the certificate level to a formal, two-year diploma course, similar to those offered by other countries in the region. Flexibility is needed to shape the future

of the program in light of lessons from the first phase of implementation and the fragile, postconflict setting.

### CONTEXT

Timor-Leste is a postconflict, fragile state that depends heavily on agriculture, which accounted for 31.5 percent of GDP in 2007 and employs about 84 percent of the population. Food security is critical for most people in Timor-Leste, where agricultural productivity is low in comparison to neighboring countries. Agricultural development is essential for improving food security, promoting stability, and ensuring conservation of environmental and natural resources.

The human and institutional capacity to bring about agricultural innovation and development suffered greatly during the conflict that ravaged the country for a quarter of a century. Education programs were disrupted; experienced and educated individuals fled; there was much loss of life; institutions were destroyed. By one estimate, 53 percent of rural people have never attended school. Capacity improvements are needed at all levels and across the spectrum of participants in the agricultural sector—public agencies, agribusinesses, individual farmers, cooperatives, and many others. In this context, only long-term investment can build the foundation for the country to recover.

### PROJECT OBJECTIVES

Building Agribusiness Capacity in East Timor—the BACET project—was designed to supplement agricultural training at the secondary level with training in agribusiness skills. The one-year, postsecondary certificate would be offered to graduates of the three-year program at three of Timor-Leste’s agricultural secondary schools. A five-year project costing US\$6 million, BACET was funded by USAID. It was implemented by the National Directorate of Agricultural

Education and Training in the Ministry of Agriculture and Fisheries (MAP)<sup>1</sup> and Land O'Lakes, an international agribusiness. The project, which started in 2006, was to run for two years, but that timeframe proved insufficient to evaluate and refine the curriculum, and the project was extended to 2011. The target for each secondary school was to produce 50 graduates from the BACET program each year, beginning in 2007. The first set of BACET students graduated in 2008 (121) and the second set in 2009 (111). For more information on agribusiness skills, see also module 3, TN 2; and module 5.

### Overarching objectives

The project's initial objectives (2006–08) were to:

- Develop and deliver an agribusiness curriculum that provides practical skills in crop and livestock production, agricultural mechanics, English language, IT, and business management. Courses would include instruction in basic bookkeeping, organizational management, marketing, financial analysis, cooperative business, and farming systems in Timor-Leste.
- Develop an ongoing agribusiness at each school and support agricultural enterprises and improved production in nearby communities. These efforts might include the development of a functioning poultry business (eggs) at the Fuiloro School and horticultural crops (a nursery, orchard, and vegetables) and livestock (goats) at the Natarbora and Maliana schools. Train students and faculty in the respective technical disciplines at each school with a view to taking a lead role in operating the business.
- Develop local and regional agribusiness case studies and identify published case studies appropriate for use in Timor-Leste. Train teachers in the use of case studies as a teaching tool.
- Develop career advancement services for BACET graduates.

In Phase 2 (2009–11), Land O' Lakes, using feedback from the Ministry of Agriculture, USAID, teachers, and students, enhanced the initial program to reinforce practical and market-oriented skills. Ideally, in this phase, the project will finalize an agribusiness course that can supply graduates to be problem solvers and meet labor-market needs for agribusiness entrepreneurs, agricultural extensionists, and agricultural middle managers. The project will continue to facilitate enterprise creation at schools and in communities and expand school outreach to farming communities. This phase of the project will also develop a placement system to

help students understand the professional recruitment process and secure jobs in agribusiness. An agribusiness education program will be coordinated to enroll young people in the one-year agribusiness course, which will be handed over to the Ministry of Agriculture and Fisheries (MAP) in June 2011.

### Program content: skills and coursework

For BACET students, the overarching goal was to learn the problem-solving and other entrepreneurial skills required to begin careers as agribusiness entrepreneurs, agricultural extension workers, and middle managers to benefit communities in Timor-Leste. During the one-year certificate program, students build their knowledge of agricultural systems, with a particular emphasis on markets and practical training. They learn to apply their agricultural knowledge practically and effectively in agribusiness, demonstrate practical agricultural skills and transfer them to rural communities, analyze issues and problems and find appropriate solutions, and adapt to changes and needs of the agricultural systems in Timor-Leste. Students also develop their capacity to be independent and reflective in their practices and to perform their duties in a moral and positive manner.

The core of the BACET curriculum is agribusiness, with an emphasis on agribusiness management and planning. In addition, students learn the principles of cooperative business models, farming as a business (see module 3, TN 2), and providing business services to agricultural producers. Additional courses required by agricultural professionals included production agriculture (plant science, crop production, animal science, and livestock production); agricultural mechanics; computers and IT; and English. All of these courses are linked to the core agribusiness focus. Other themes that students gained exposure to included sustainable agriculture, gender awareness, healthy lifestyles, and ethics.

### INNOVATIVE ELEMENTS

The curriculum's focus on agribusiness was an innovation in Timor-Leste. The emphasis on learning by doing and practical application of theoretical classroom materials was also innovative. The graduate of this program is envisioned to be a learner rather than a passive absorber of information, capable of contributing to problem solving and practical solutions to agribusiness. Teacher skills that emphasized learning versus teaching are an innovative aspect of the project and considered a fundamental principle for success.

## **IMPLEMENTATION HIGHLIGHTS: BENEFITS AND IMPACT**

With project assistance, infrastructure for water and sanitation, dormitories, and school buildings was improved. Each school has enough land for practical work and demonstrations, but additional investment is needed in fencing, irrigation, livestock facilities, and storage. The computer centers and Internet connections at each school are important project contributions. Support from MAP is limited, and Internet connection costs are high. Priority should be given to sustaining the existing computer and Internet arrangements and planning the expansion of the facilities.

The variation in capacity at the three schools affected implementation of the BACET project. Project designers overestimated faculty capacity: The new program required skills that are not found in traditional, technology-oriented programs. The curriculum was adjusted quickly to take faculty capacity into account, but clearly faculty capacity building must continue.

Texts for the various courses were prepared in Bahasa Indonesia by consultants and with inputs from staff and BACET coordinators, but they proved too difficult for teachers to use as testing materials and for students to understand. In response, the curriculum was streamlined and revised courses are being used. The curriculum is designed to be 80 percent practical and 20 percent theoretical, which proved challenging for teachers more familiar with rote theoretical learning in a classroom setting. During the remaining project implementation period, a detailed syllabus for the BACET program will be completed.

Recruiting students is another challenge, perhaps partly owing to the fluidity of society in a postconflict country. The BACET program competes with university recruitment. Efforts are being made to publicize the program, and the mid-term evaluation notes that “enrollment is likely to fluctuate until the BACET program is well established, with adequate school facilities, a clearly defined curriculum, and recognition of the enhanced skills and knowledge of the graduates.”

The program established successful internships with about 18 organizations, even if some placements were less than satisfactory. Students appreciated the widening of their horizons, and some employers offered jobs to interns after graduation. A big gain was the increase in student confidence after completing the internships.

### **Employment of graduates**

Timor-Leste is a country of high unemployment. Finding a job is difficult for all graduates, including those from the

BACET program. Graduate student placement services were part of the project’s design. The service is labor intensive and difficult to institutionalize, but the benefit to the schools is that they can learn where their graduates go to work and gain information on where job openings can be found. As of September 2009, 42 percent of the initial group of 121 graduates (2008) was employed, and 26 percent were continuing their education. A slightly higher percentage of women graduates were employed. Groups of graduates have established their own farming businesses and many others have gained employment as community agriculture extension workers or with agriculture livelihood NGOs.

### **Government commitment**

The government was strongly committed to the BACET program. Memoranda of Understanding were signed with GIZ<sup>2</sup> (for teacher development in Indonesia); with Land O’Lakes (for sharing responsibility for the program, including curriculum development, agribusiness support, infrastructure, technology, operational support, and phased-in support for teacher’s salaries and student scholarships from 2009); and with Udayana University in Indonesia (to enroll agricultural school teachers to pursue bachelor’s degrees). Financial commitment from government proved difficult because of the overall national economic situation, but in-kind support was provided. As noted, MAP will assume full responsibility for the agribusiness course in mid-2011.

### **LESSONS LEARNED**

Lessons include implications for the program’s long-term operation as well as the initial lessons from the attempt to augment secondary education with subject matter and teaching methods that were innovative in the context. Flexibility is needed to shape the future of the program in light of lessons from the first phase of implementation and the fragile, postconflict setting.

### **Long-term strategy for a diploma course**

To sustain the program over the long term, one strategy would be for MAP to shift the BACET program from the certificate level to a formal, two-year diploma course, similar to those offered by other countries in the region. Presently, graduates of BACET and the agricultural secondary schools are expected to work as technicians with agricultural skills, field managers, and extension workers, but in the future the agricultural sector would benefit from a pool of graduates

trained to the diploma level. There is logic in focusing on the practical planning and agribusiness aspects of commercial agriculture in the first year, followed by a second year of further training and skills development in technical specialties. A strategy to upgrade to a diploma course could have the following elements: continue to seek donor support to increase teachers' level of education (this support is needed because of government budget shortages); send teachers to Udayana University in Indonesia to improve skills and knowledge; review the curriculum periodically; and enhance and upgrade facilities (such as laboratories, libraries, and agricultural equipment) to facilitate learning.

### **Lessons from the midterm evaluation**

At midterm, it is clear that the difficulties of establishing the new agribusiness curriculum were underestimated. As noted, the greatest challenge was that the initial curriculum was too academic and difficult for students, and the faculty lacked the knowledge and pedagogical skills to teach it. Owing to the new subject matter, developing new courses and teaching the new material was a challenge. An additional complication was that 80 percent of the curriculum involved practical work, which required considerable innovation and flexibility to plan production and marketing activities, manage machinery workshops, and guide computer work that maximizes practical learning.

A second challenge was the poor infrastructure (from sanitation and housing to the kinds of equipment needed to support training). Logistics were another problem, because of the

geographic location of the schools and the condition of roads and communications. The midterm evaluation observed that it would have been better to start with one school and, based on that experience, scale up. Finally, few students or staff members were familiar with Portuguese (the official curriculum language). Although Tetum is the national language, Bahasa Indonesia is widely used. Teaching materials were not available in Bahasa and had to be developed.

The midterm evaluation contained a number of other observations. Students should be involved in two types of enterprises while in school. One is a school-sponsored enterprise in which students interact with the public by marketing school produce and work in production projects on school farms. The second enterprise, based on the school farms, should have activities structured as agribusinesses, with annual budgets and financial records to improve management and to use in teaching. Budgeting by farm enterprise can help with planning and management. Some farm enterprises will be profitable and some will not, but this is a good teaching/learning situation for students. Graduate enterprises established after students leave the program should receive continuing support from BACET and from the agricultural secondary schools. GIZ will help graduates who wish to start their own enterprises.

Faculty training should also be emphasized. School management should be strengthened so that all responsibilities for administering BACET will reside with BACET when external support ends. Finally, semiannual or annual tripartite reviews should take place to plan for sustainability beyond project completion.