

University of Kentucky Partnership Project in Indonesia  
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This final report covers aspects of the project that were not covered in the other quarterly reports, and beyond the findings of the Impacts Report and the Evaluator's Report. This report focuses on the broader context of the project relative to the original objectives, planned activities, and project indicators. The project changed as it progressed because of the realities faced by the partner institutions (particularly the ability to attract certain individuals to participate); yet the overall project was certainly a success because the impacts were large and quite comprehensive.

The overall project goal was to increase the ability of three Indonesian universities to meet the needs of their constituents: students, businesses, governments, and non-government organizations. The objectives are to:

- Strengthen their teaching programs, especially in agriculture, basic education, business, engineering, and public administration, to make them more relevant to an increasingly globalized Indonesian economy.
- Provide technical assistance and mentoring for Indonesian professors as they change their teaching, research, and extension programs to make them more relevant.
- Assist in the development of management systems in these universities that will diversify their income sources and provide more support for the broad-based mission to assist the region.

It is clear that the project met these objectives in a multitude of ways. Mostly, though, through investments in many Indonesian professors who came to the UKy for various types of visits, attended short courses in Indonesia supplied by UKy faculty members, and participated in technical assistance visits by UKy faculty members.

Specific Activities:

The specific activities mentioned in the proposal were:

1. A planning visit to UKy by four top-level administrators from each Indonesian partner. This visit took place in 2007 and was attended by eleven administrators from the three Indonesian universities. It was very successful and set the stage for all of the subsequent project activities.
2. A university management seminar that last for two weeks. This formal seminar took place in Fall 2007 and was very successful. Nineteen Indonesians attended and there

were many administrative changes at the three universities that took place because of this visit. All of the changes as of October 2009 were documented in the Impact Report that was submitted in late 2009. Some of those changes are highlighted below.

In addition to the Fall 2007 visit, three administrators from UNSYIAH came to UKy during the Spring 2010 to participate in a version of the university management training. Two of these individuals were new Deans (from Economics and Engineering).

3. Curriculum development visits by Indonesian faculty members to work with a UKy mentor. This was a key component of the project and there were a total of twenty-seven (27) such visits, which is more than specified in the proposal. Furthermore, some of the visits often lasted longer than the four weeks specified in the proposal. Many of the visits during 2008 were for Indonesian Deans to understand the curriculum at UKy and the curriculum development process. This allowed them to better understand UKy and help the reform process in their universities. They were instrumental in choosing the participants for 2009 and 2010.

4. Three four month residencies (one at each university) for UKy faculty to teach and develop research projects in Indonesia. This activity did not happen. There was simply not enough interest at UKy for people to spend that much time in Indonesia. The Evaluation Report suggests that funding the salaries for the faculty members would have increased participation (we didn't fund faculty salaries because of the cost share requirements). This might be a factor, but the busy schedule and research commitments of UKy faculty members make such visits difficult.

5. Eight three-week short courses will be conducted in Indonesia. A total of six short courses were conducted in Indonesia – GIS, Community Development, Scientific Writing, Econometrics, Robotics and Automation, and Biotechnology. The short courses were usually one week in duration (it was difficult for Indonesians and UKy faculty members to devote more than a week to a short course), but they were often conducted in multiple locations. The two seminars that were highly desired by the Indonesians that did not take place were Watershed Management and Biofuels. The Watershed Management short course was scheduled for 2009, but the main participant from UKy suffered a heart attack two months before the seminar was to take place. The Biofuels short course was tentatively scheduled a number of times, but the UKy faculty members needed to change the date each time. We have commitments from three UKy faculty members that they will perform the short course if another Partnership Activity is approved.

6. Twelve (four per university) technical assistance visits by UKy faculty members that will provide curriculum development assistance, laboratory assessment and design, outreach mechanisms for businesses and government, and specific research endeavors. There were a total of thirteen (13) such visits and all visits involved stop at more than one of the partner universities in Indonesia. They were quite successful in generating targeted change at the Indonesian universities.

7. Nine (three per university) extended visits (three months each) to UKy to establish deep relationships involving academic, research, and extension matters. There were a total of twenty five (25) research visits to UKy by Indonesian faculty members. About 50% of them lasted three months or longer. Some of these visits were by faculty members who were also doing graduate work in Indonesia (addressing activity #8 below). This allowed the visitors to develop collaborative research projects and to work on manuscripts that were to be submitted for publication later. The benefits of these visits will last a lifetime for most of the Indonesian participants.

8. Nine additional research visits (three per university) will be by Indonesian graduate students who will visit laboratories for four months and be directly involved in research projects at the UKy. These visits are included in #7 above.

9. Visits by nine Indonesian educators or civic leaders (three from each region) to increase their leadership skills and expand their understanding of entrepreneurial approaches to business decisions, especially in agriculture. This did not happen. The Indonesian universities were simply not able to identify individuals outside the university who could spend one year in the US. The key decision-makers and leaders are far too busy to be away from their job for an extended period of time. This was an activity that was not in the initial proposal, but was inserted at the insistence of a reviewer.

10. The project would make \$20,000 available to each university for the purchase of books, journals, and other academic materials. Book, journals, and other academic materials were provided to the Indonesian partners in two ways: first through a book allowance for all visitors (and there has been a document submitted that specifies all books purchased through the project) and second, through donations from UKy faculty members. The donated books and journals, which were almost two cubic meters of materials, were shipped to Indonesia. A listing of those items was also provided in earlier reports.

### Outputs and Impacts

The specific outputs of and impacts from the project are difficult to track because much of the activity takes place once the Indonesians return from their visit to UKy or after they complete the short course in Indonesia. We attempted to collect impacts from a report completed in Fall 2009, but certainly the impacts and outputs, though substantial, were underestimated. The specific indicators listed in the project proposal are especially difficult to track. Nonetheless, an outline of those indicators follows.

Each of the three universities is much more involved in quality management systems that assess how they are meeting their objectives and indicators. Much of that new emphasis has come from their visits to UKy. Such management systems are crucial if the universities are to become autonomous, as desired by the Indonesian central government. There is also an increased emphasis on accreditation of programs within the university (such as the Faculty of Economics, Faculty of Engineering, etc.). The visits to UKy

helped Indonesian visitors understand the accreditation process and they have gone back home to help institute some of the changes needed for accreditation to take place.

The teaching methods have changed because of the visits of Indonesian faculty members. They require more out-of-class assignments in determining the student's grade. The material presented in class is more student-centered, with a focus on engaging the student to promote active learning. As these Indonesian visitors spread what they learned from their visit to UKy and more Indonesian students experience a more active learning environment, these new teaching methods will spread to other Indonesian faculty members.

The research visits by Indonesian faculty members and short courses held in Indonesia have stimulated their writing and research output. Many former visitors are continuing to work on publications for international journals. There are already a few Indonesians who have received grants from DIKTI to continue their research work (and sometimes their collaborations with UKy). Such activities will continue to expand as time goes on because the research process is slow, but deliberate.

All three of the Indonesian partner universities are changing their research farms too, so that they serve as an extension or public service mission. They have seen how UKy runs its farms to make them more relevant to local producers, and they have decided to change the way such farms are organized and managed at their universities. This is one of many public service changes that have been made at the Indonesian universities. They have seen how the UKy services the people of Kentucky so they can more fully understand what the regional and central governments want from them in Indonesia.

At this point, participants in the project have accomplished the following (these are the indicators listed in the proposal):

The following new courses have been offered in Indonesia based on the project:

- Endro Wahono (UNILA) now teaches the “Community Development” at the graduate level. There have been 12 students per year. The course is taught with Erwanto. Both got all this information through the project.
- Courses at UB's Faculty of Agriculture
  - Agricultural Ecology (over 500 students per year)
  - Plant Production Technology (over 500 students per year)
  - Agroecosystem Management (216 students)
  - Sustainable Agriculture (512 students; will be offered regularly now)
  - Internship in Sustainable Agriculture (will be offered in 2011 and have 216 students)
  - Precision Agriculture (will be offered as an optional course in 2011)
- Sri Karindah (UB) developed the following course, which is taken by 70 students every year: “Production Techniques of Biological Control Agents”

The following courses have been revised based on the project:

- Endro Wahono (UNILA) revised the following courses:  
  
River Engineering (20 students per year)  
River Management (10 students per year)
- Wenny Sunarharum (UB) revised "Spices & Herbs Technology" (70 students in 2010).
- Siti Nurdjana (UNILA) has revised:  
  
Starch and Sugar Technology (24 students per year)  
PostHarvest Physiology and Technology (8 graduate students per year)
- Ari Darmastuti (UNILA) has revised:  
  
Indonesian Political System (98 students per year)  
Regional Autonomy and Local Politics (52 Masters students per year)  
Government and Political Sciences Methodology (48 Masters students per year)
- Dyah Kusumastuti (UNILA) has revised:  
  
Soil and Land Conservation Engineering (MS level course taken by 9 students per year)
- Titik Aeny (UNILA) has revised:  
  
Plant Clinic Course (taken by 35 students per year).
- Sri Karindah (UB) has revised the following course:  
Biological Control
- Dias Satria revised the following courses at UB:  
Introductory Economics (40 students per semester)  
Basic Macroeconomics (45 students per semester)  
Intermediate Macroeconomics (45 students per semester)  
Monetary Economics (40 students per semester)  
Money, Banking and Financial Markets (40 students per semester)
- The Faculty of Agriculture at UB has revised the following courses:  
Fundamentals of Soil Science (over 500 students per year)  
Fundamentals of Plant Protection (over 500 students per year)  
Plant Pathology (over 500 students per year)

Agricultural Sociology (over 500 students per year)  
Plant Entomology (30 students in 2010; will continue)  
Weed Control Technology (80 students in 2010; will continue)

Endro Wahono (UNILA) has developed a new extension outreach program entitled “Coastal Community Empowerment.” It is funded through the Ministry of Fisheries and Oceanography for 350 million rupiahs.

The following Indonesian faculty members made laboratory management (which normally meant using technical staff and students more efficiently in the research process):

Titik Aeny, UNILA  
Rosma Hasibuan, UNILA  
Siti Nurdjanah, UNILA  
Sri Adelila Sari, UNSYIAH  
Rina Sriwati, UNSYIAH  
Sri Karindah, UB  
Sri Winsarih, UB  
Sri Suhartini, UB  
Erni Murtini, UB

The following Indonesian faculty members made specific improvements in their laboratory protocols to improve the quality of their research:

Titik Aeny, UNILA  
Siti Nurdjana, UNILA  
Sri Winsarih, UB  
Sri Suhartini, UB

There was a large increase in the number of books and journals in the following units:

Faculty of Administration, UNILA  
Department of Agricultural Economics, UNILA

The following management changes have been made to the universities based on their experiences from the UKy:

- The Faculties of Politics and Social Sciences, Agriculture, and Economics (UNILA) are redesigning their administrative procedures based on ideas obtained from UKy. They are also revising their performance appraisal system for faculty

members so that it is based on more objective criteria, such as citations, publications, etc.

- The Faculty of Agriculture (UNILA) has a new “Ambassadors” program that uses highly successful, current students to help with student recruitment and various academic/social events at UNILA.
- The Faculty of Agriculture (UNILA) is preparing a strategic plan for attaining Top 5 in 2025 (again based on the UKy Top 20 Plan).
- Staff evaluations at UNILA are being modified to reflect the quality of their work relative to job description and distribution of effort
- The Faculty of Economics (UNILA) will launch the 2+2 program with UKy during 2010 (where Indonesian students take two years at UNILA and transfer to UKy for their final two years). This will be accomplished by using UKy courses (the syllabus, books, and other teaching materials) in the International Class format.
- The Faculty of Political and Social Sciences (UNILA) is designing courses that are more applied and user-friendly for their students. They are working to begin a professional accreditation program for their Public Administration program.
- UNSYIAH has established an International Programs for Agriculture Office that is headed by a participant from the University Management program.
- The Quality Assurance unit at UNSYIAH has begun to collect data that can be used for Institutional Research. Examples include a survey of student satisfaction and a listing of international research publications. They also want to design an IT system (like what they saw at UKy) where these research findings can be stored, analyzed, and accessed for reporting. They will need to track a lot more data fore the accrediting process in the future.
- The Quality Assurance unit at UNSYIAH has published three internal booklets associated with Quality Management and Standards. They are titled Academic Standards; Academic Policies; and Manual for Academic Quality.
- The Faculty of Economics (UNSYIAH) will begin teaching courses using the UKy curriculum with an International Class format. This should enable students to transfer all the credits they earn to the UKy after two years. This is another step toward establishing a 2+2 program between UNSYIAH and UKy.
- The Faculty of Sciences (UNSYIAH) is using concepts learned at UKy to change their curriculum – Curriculum Mapping, core competencies, learning outcomes, etc.
- The Office of Quality Assessment (UNSYIAH) is teaching staff throughout the university on the changes taking place in the Faculty of Sciences (modeled after the UKy), so that the process can be copied in the other Faculties.
- The Quality Assessment office (UNSYIAH) has given 12 grants to develop e-learning classes/modules (similar to what they have seen at UKy). Many at UNSYIAH would like to establish a center like the Teaching and Academic Support Center at UKy, but they don’t have the resources yet. They want to train several potential candidates that might learn how to achieve the objective of the office in a scale that is appropriate and possible for UNSYIAH. This would involve the current exchange program with UKy.

- One of the UB participants from a curriculum development visit (Gugus Irianto) is the new dean in the Faculty of Economics. Another past participant (Didied Affandy) is the new vice dean for administration.
- The Faculty of Economics (UB) is changing its staff evaluation system so that there are performance based measures associated with the Distribution of Effort (similar to the system at UKy).
- UB has a plan to increase its student population (similar to the plan that UKy has). Since the visit of the UB Rector to UKy, their student enrollment has increased from 25,000 to 32,000. Their goal is to hit 45,000 students. In order to support such student numbers (and the associated staff numbers needed), they have a huge building program. The new facilities and those under construction are quite impressive.
- UB has a new Job Placement Center inspired by their visit to UKy. They are trying to connect students and employers to help their students find jobs.
- UB is moving towards autonomous status by actively recruiting students -- visiting high schools, coordinating student visits to campus, and using a slogan – Go Big Blue (the same slogan UKy uses). This is new to their university, but happens all the time at UKy because of the competition among universities.
- UB is building a teaching hospital that will use their Medical Faculty; an idea that they had before their visit to UKy, but the UKy visit convinced them that they needed a university hospital.
- UB now has a number of new businesses on campus that generates money for UB – catering, a restaurant, etc. These income streams are used for UB activities. They also have a Business Incubator project with the local government. All of this they learned from UKy (getting more money for UB activities).
- The Faculty of Economics (UB) is now a member of the Association for the Advancement of Colleges and Schools of Business (AACSB) and they are looking at getting accredited. Dr. Dan Stone’s visit (from UKy) helped with this and a future UKy visit will also look at this.
- The Faculty of Economics (UB) is using curriculum mapping, outcomes assessment, student learning outcomes and other development concepts that they learned at UKy to revise their curriculum.

The following publications have come from work at UKy or collaborations with UKy after the Indonesian visitor returned:

- Karindah, S. (UB), B. Yanuwadi, L. Sulistyowati and P. Green. “The Influence of Weed Species on the Abundance of *Metioche Vittaticollis* and Natural Enemies in a Rice Agroecosystem” submitted to *Agrivita* (International Edition).
- Satria, Dias (UB). “The Determinants of Bank loans in Indonesia.” *Jurnal Keuangan dan Perbankan*, Universitas Merdeka Malang
- Satria, Dias (UB). “30 Days to Write the Skripsi.” This book is used to advise undergraduate students at UB.

- Satria, Dias (UB). “Money and Banking.” A book used in his class.
- Sari, Sri Adelila. “The Determination of Heavy Metals and Endocrine Disrupting Chemicals (EDCs) in the Groundwater Samples, Sub District of Baitussalam, Aceh Besar” The 1<sup>st</sup> IWA Young Water Professionals Conference (IWAYWP2010) held on 2-4 March 2010 in Kuala Lumpur, Malaysia.
- Sari, Sri Adelila. “Comparison of Problem Solving with Problem Posing Models of Student Learning Outcomes in the Concept of The Periodic System.” IEEEExplore digital library [http://ieeexplore.ieee.org/xpl/freeabs\\_all.jsp?arnumber=5529508](http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=5529508). This paper was accepted for the 2<sup>nd</sup> International Conference on Education Technology and Computer (ICECT), held June 22-24, 2010 in Shanghai, China.
- Sriwati, Rina (UNSYIAH) and Chris Schardl. “Detect and Characterize the Endophytic fungal Associated on Leaf Area Cacao (*Theobroma cacao L.*) Tree in East Aceh. Paper presented to the International Seminar on Horticulture to Support Food Security 2010, Lampung
- Sriwati, Rina (UNSYIAH), Chamzurni T , Ardiansyah. “The Response of Cocoa Seedlings to Application of Trichoderma spp Grown on Different Media.” Paper presented to the International Seminar on Horticulture to Support Food Security 2010, Lampung.
- Taufik Fuadi Abidin (UNSYIAH), Bustami Yusuf, and Munzir Umran, "Singular Value Decomposition for Dimensionality Reduction in Unsupervised Text Learning Problems". Proceedings of the International Conference on Education Technology and Computer (ICETC 2010), June 22-24, 2010, Shanghai, China.
- Wahono, E.P. (UNILA), Erwanto, Afandi: Penataan Vegetasi Sempadan Sungai Terintegrasi untuk Pelestarian Lingkungan dan Produksi Pakan Ternak: Pendekatan Berbasis Masyarakat di Sungai Way Sekampung, Laporan Penelitian Tahun Pertama, Hibah Strategis Sesuai Prioritas Nasional Batch II, 2009d
- Wahono, E.P. (UNILA), Rudi Hermana: Perilaku Hidrolika akibat perubahan kekasaran sempadan sungai: Studi Kasus Sungai Way Sekampung ruas Pujo Rahayu-Argoguruh, dalam proses publikasi, 2010a
- Wahono, E.P. (UNILA), Kastamto, Ruben Sitepu: Perilaku Morfologi Dasar Sungai akibat perubahan vegetasi tebing sungai: Studi Kasus Sungai Way Sekampung ruas Pujo Rahayu-Argoguruh, dalam proses publikasi, 2010b
- Waru Djuriatno (UB). “A Simple Method for Operating IGBTs in Series Connection.” Paper presented at the EECCIS 2010 Conference. Submitted to IEEE Transactions in Dielectrics and Electrical Insulation.

- Widya Dwi (UB). “The Effect of Biodegradation by Lactic Acid Bacteria on Physical Properties of Sour Cassava Starch.” International Seminar of the Indonesian Society for Microbiology.

The following research projects have been funded because of Indonesian participant involvement at UKy:

- Mona Muda (UNILA) has received a nationally-competitive National Strategic Research award for 300 million IDR over three years. The topic is “Using Unmanned Aerial Vehicle (UAV) as Remote Sensing Technology to Identify Vegetation Indexes in Plantation by Processing Digital Near Infra Red Images.” He learned about using near-infrared images at the UKy and the project will adapt these techniques to Indonesia’s plantations and the unmanned aerial vehicles used there.
- The Faculty of Agriculture (UNILA) is developing an Integrated Farm Laboratory (based on Spindletop Farm at UKy) that will study crop/livestock/fish interactions and their effects on soil, water, etc. The 570 million IDR needed to develop the farm is coming from the DGHE and the local government will provide operating funds for the farm. This is a unique research environment for UNILA.
- Rosma Hasibuan (UNILA) received a nationally-competitive National Strategic Research award for 240 million IDR over three years approved by the DGHE on integrated pest management based on her trip to UKy and will participate on the 3<sup>rd</sup> Asia Africa on Integrated Pest Management.
- Endro Wahono (UNILA) has a research project funded by the Ministry of Education entitled “Community-based Approaches in River Corridor Conservation.” It is for 98 million rupiahs.
- Bustanul Arifin (UNILA) has a DGHE grant on "Economic Governance and Agricultural Certification" based on his trip to UKy and opportunity he had to attend a conference on coffee marketing.
- Siti Nurdjanah (UNILA) a joint proposal with Clair Hicks (UKy) on "Utilization of Sweet Potato as a Functional Food." This proposal is being considered by DIKTI
- Rina Sriwati (UNSYIAH) is collaborating with Prof Schardl on fungi interactions in plants. They have a joint project through DIKTI for \$15,000 US that will fund their activities. She has two students working on this research. She learned a new method to isolate fungi at UKy that has changed her work.
- Rina Sriwati (UNSYIA) has received a fellowship from the World Cocoa Foundation

- The Faculty of Engineering at UB has a joint research project with Nik Stamatiadis (UKy) on bicycle usage that is funded by DIKTI (150 million IDR for the first year).

If we were able to continue tracking these indicators, we feel that they would still be increasing for many years to come (especially the management changes and research accomplishments). The Indonesians who visited UKy will continue to do great things and be promoted to new academic positions. Four Indonesians who visited UKy have already been promoted (two have been promoted to Dean; one to Vice Rector; and one to Vice Dean). This will continue in the future.

### Reflections and Lessons Learned

We learned quite a lot through this project that is applicable to future partnership collaborations with Indonesian universities (and other international universities). We went into this project with the idea that we needed to work closely with the Indonesian universities to determine the project's direction. That meant that we needed to be flexible and open to the specific needs of the Indonesian universities.

The stage was set for this open, flexible design when UKy hosted the rectors from the three universities in 2007. The rectors had good ideas of what needed to be accomplished but not much about the details (though a list of specific short courses to be conducted in Indonesia was established). When various Indonesian deans visited, that was when more details on specific activities were established because the deans knew more about their curriculum, research, and outreach programs that could be improved based on UKy capabilities. Furthermore, they were more familiar with the English capabilities of their faculty members. The UKy couldn't dictate specific activities without having this input from the Indonesian deans.

Yet there are many areas that could be improved at our Indonesian partner universities through collaboration with UKy. Thus, it is important to keep communication lines open at UKy on potential activities, and the same at the Indonesian partners. It is difficult to know how open the project was on the Indonesian side. The external evaluator talked with some faculty members who knew little about the project and we willing to question its value. This is not surprising because the activities were normally decided at the highest levels in Indonesia (by the deans and rectors). Yet almost any activity that UKy suggested was accepted (though often modified) by the Indonesian partners. This indicates that project leaders need to keep communication lines open so that UKy and Indonesian faculty members believe that they can be involved in the project.

Once successful activities occur, it is good to have the flexibility to continue with further activities in those areas. We had lots of activity in the areas of food science, biofuels, biotechnology, public administration/finance, and quality assurance. Many Indonesians came to the UKy for visits in these areas. We were also able to have UKy faculty members visit Indonesia in these areas to follow up and make sure that momentum is

continued. This is important because UKy faculty members are much more likely to travel to Indonesia when they already have collaboration established.

Finally, we found that it is important to plan well in advance because the visa procedures take so long. However, we found long lags in getting information on potential participants from our Indonesian partners too. So a two-year project was not really feasible (it takes six months to decide on participants and then six months to get the visa). Such projects should be at least three years in length (but even longer collaborations would be preferred). We found that having a visa specialist in Jakarta to be the point of contact on all immigration issues was very beneficial. Furthermore, it is also important to have good coordinators at the Indonesian partner universities. This is difficult with a broad project such as this one, where fields vary from Education to Engineering.