

Higher Education for Development
Knowledge, Partnerships, Results



United States-Mexico
Training, Internships, Exchanges, and Scholarships (TIES)

Final Partnership Report

Report Period
June 2004-September 30, 2007

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USAID
FROM THE AMERICAN PEOPLE

Partnership Title: Decision Support of Ruminant Livestock Systems in the Gulf Region of Mexico

Development Area: Rural development: Economic growth and competitiveness through animal agriculture

U.S. Institution: Cornell University

U.S. Partnership Director: Robert W. Blake
Department of Animal Science, 131 Morrison Hall
Cornell University
Ithaca, NY 14853
Telephone: 607-255-2858, FAX: 607-255-9829
Email: rwb5@cornell.edu

Mexican Institutions: Universidad Autónoma de Yucatán (UADY)
Universidad Veracruzana (UV)
INIFAP-Veracruz

Mexican Partnership Director: Guillermo Ríos Arjona
Facultad de Medicina Veterinaria y Zootecnia (FMVZ)
Apartado Postal 4-116 Itzimmá, CP 97100 Mérida, Yucatán
Telephone: 52-(999)-942-3204, FAX: 52-(999)-942-3205
Email: rarjona@tunku.uady.mx, gr66@cornell.edu

USAID/Mexico Contact: Nora E. Pinzón, Education Program Manager
USAID/Mexico
Email: npinzon@usaid.gov
Tel: (52 55) 5080-2835
Fax: (52 55) 5080-2574

Partnership Web Site: <http://tiesmexico.cals.cornell.edu/>

Partnership/Participant Information

TABLE 1

| ACTIVITY | NUMBER OF MEN | | | | | NUMBER OF WOMEN | | | | | DATES OF ACTIVITY | LOCATION | | |
|--|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|------------------------|--------------------|-----|-------------------------|
| New activities for current reporting period | Faculty, Admin | Students | | Other | | Faculty, Admin | Students | | Other | | | | | |
| | | 25 yrs & under | 26 yrs & older | 25 yrs & under | 26 yrs & older | | 25 yrs & under | 26 yrs & older | 25 yrs & under | 26 yrs & older | | US | MEX | 3 rd Country |
| 1) Number of Mexican participants who received scholarships for 2 or more semesters | | 1 | 2 | | | | | | | | 8/06-9/07 8/05-9/07 | Cornell Cornell | | |
| Description of scholarships: TIES project-funded MS degree programs at Cornell University. | | | | | | | | | | | | | | |
| 2) Number of disadvantaged Mexicans benefiting from TIES scholarships | | | | | | | | | | | | | | |
| 3) Number of U.S. participants who received scholarships | | | | | | | | | | | | | | |
| Description of scholarships: | | | | | | | | | | | | | | |
| 4) Number of Mexican participants who graduated with a scholarship | | | 3 ^a | | | | | | | | 8/05-6/08 | Cornell | | |
| Description of program: ^a One MS degree completed 9/07. Two additional MS degrees are expected to be completed in 12/07 and 6/08. | | | | | | | | | | | | | | |
| 5) Number of exchanges begun for Mexicans going to the U.S. | | | | | | | | | | | | | | |
| Description of exchanges: | | | | | | | | | | | | | | |
| 6) Number of exchanges begun for U.S. participants going to Mexico | | | | | | | | | | | | | | |
| Description of exchanges: | | | | | | | | | | | | | | |

TABLE 1 (continued)

| ACTIVITY | NUMBER OF MEN | | | | | NUMBER OF WOMEN | | | | | DATES OF ACTIVITY | LOCATION | | |
|--|----------------|----------------|----------------------------------|----------------|----------------|-----------------|----------------|-------------------------|----------------|----------------|--|--|--|-------------------------|
| New activities for current reporting period | Faculty, Admin | Students | | Other | | Faculty, Admin | Students | | Other | | | | | |
| | | 25 yrs & under | 26 yrs & older | 25 yrs & under | 26 yrs & older | | 25 yrs & under | 26 yrs & older | 25 yrs & under | 26 yrs & older | | US | MEX | 3 rd Country |
| 7) Number of Mexicans participating in internships | | | | | | | | | | | | | | |
| Description of internships: | | | | | | | | | | | | | | |
| 8) Number of U.S. participants participating in internships | | | | | | | | | | | | | | |
| Description of internships: | | | | | | | | | | | | | | |
| 9) Number of Mexicans receiving non-degree training --workshops, short courses, short-term training | 4 | 116 | 2 2 20 13 10 ~100 | | 2 | | 26 | 1 2 2 2 ~20 | | | 9/04-4/05 8/05-10/05 8-12/06 8-12/06 & 07 1/06 & 1//07 6-9/07 7/17-18/07 4/05 | Cornell ^b Cornell ^c Cornell ^d Cornell ^h | Gulf ^a Gulf ^e Xalapa ^f Xalapa ^g | |
| Description of training: ^a Five short courses conducted at UADY and UV in 2004 and 2005. ^b Course work, research & planning of teaching platform involving Mexican professors, scientists and doctoral students. ^c One full semester of consultation and training at Cornell for three UADY MS students (G. González, A. Calderón, M. Huchin). ^d Two IARD 402 videoconferenced courses with students from UADY and UV (in addition to Cornell students). ^e Two IARD 602 “living laboratory” field courses conducted in Gulf Region and involving students and faculty from UADY, UV and Cornell. ^f 3-mo short course on system dynamics modeling and its application to INIFAP’s research agenda. ^g International workshop on mountain microwatersheds, Xalapa. ^h Short-term training of UADY professor. | | | | | | | | | | | | | | |
| 10) Number of Mexicans participating in degree/certificate programs | | | | | | | | | | | | | | |
| Diplomas/certificates | | | | | | | | | | | | | | |
| Baccalaureate | | | | | | | | | | | | | | |
| Master | | | 3 | | | | | | | | 8/05-6/08 | Cornell | | |
| Doctorate | | | | | | | | | | | | | | |
| Description of programs: TIES project-funded MS degree programs at Cornell University. | | | | | | | | | | | | | | |

TABLE 2
Degrees, Diplomas, Certificates Awarded.

| Activity | Field of Study | With TIES Funding | | Without TIES Funding | | Total | | Institution(s) |
|--|----------------|-------------------|--------|----------------------|--------|-------|--------|----------------------|
| | | Male | Female | Male | Female | Male | Female | |
| 1) Number of baccalaureate degrees awarded | | | | | | | | |
| 2) Number of master degrees awarded | AnSc | 3 | | 1 | | 4 | | Cornell ^a |
| 3) Number of doctorates degrees awarded | Agric Systems | | | 1 | | 1 | | Cornell ^b |
| 4) Number of joint degrees awarded | | | | | | | | |
| 5) Number dual degrees | | | | | | | | |
| 6) Number of diplomas/certificates awarded (individuals not counted above) | | | | | | | | |

^a One TIES project-funded MS student and one Japanese MS student whose animal science research focused on the TIES agenda completed degree requirements in 12/06 and 9/07. Two additional TIES-funded Mexican males are expected to be awarded MS degrees in animal science in 12/07 and 6/08. ^b Australian doctoral research focused on Yucatán milpa systems also containing sheep (expected completion in 12/07).

TABLE 3
Leveraged Contributions.

| Contributions | Name/Source of Contributor | Name of Recipient | Description of Contribution | Estimated Dollar Value of Contribution |
|---|----------------------------------|--|--|--|
| Leveraged contributions <i>beyond</i> original anticipated cost-share budget | Cornell University | Kotaro Baba | Stipend, MS research on Yucatan | \$ 7,000. |
| | Cornell University | David Parsons | Ph.D.research support on Yucatan | \$22,000. |
| | Cornell University | Victor Absalón | Partial stipend, MS research on Veracruz | \$ 8,000. |
| | Cornell University | D. Parsons, R. Blake | Research planning, sheep system survey, office equip & transportation for director | \$13,700. |
| | Cornell University, UADY/CONACyt | C. Nicholson, 5 th short course, R. Blake, F. Duarte, V. Cardenas | Finance 5 th short course, airfares, office supplies, communication, lodging, books, software | \$22,500. |
| Total | | | | \$73,200. |

TABLE 4
Capacity Strengthening Activities

| Capacity building activity | Description |
|---------------------------------|---|
| Adapted/changed curricula | Showed potential value from modifying current curricula. |
| Improved methods of instruction | Integration of videoconferencing and field-laboratory experiential learning to bring students and faculty closer to problems of Mexican farmers. |
| Collaborative research | Four Cornell MS thesis projects focusing on cattle systems in Yucatán and Veracruz. One nearly-completed Cornell PhD study conducted in collaboration with six Yucatán farmers owning sheep and with UADY faculty and students. |

| | |
|---|--|
| Collaborative publication prepared | Publication activities are underway. |
| Involved in community outreach | IARD 602 field laboratory takes students to Mexican communities and farms for problem definition and appraisal. |
| Informed policy at institutional, community, national levels | Field studies and research identified policy issues pertinent to Mexican animal agriculture. |
| Consulted with government agencies; NGO groups; private sector groups | IARD 602 field laboratory unites students with government, NGO and other groups for problem definition, appraisal and potential action strategies. |

Partnership Profile

1. Executive summary

This partnership employed a systems-oriented program of training and decision support to the ruminant livestock industry aimed at improving productivity, profitability and rural incomes in the Gulf region. A fundamental goal was to enhance professional capacity to assess and act upon technology, market and policy changes. Efforts included developing an internet-based platform of teaching, research and communication for training a mixed cadre of UADY, UV and Cornell students.

Short courses on a variety of inter-related subject matters provided academic professionals and graduate students at partner institutions with new knowledge and perspectives. These courses were so well received that an additional one was conducted in response to requests from our partner institutions. They also generated much productive discussion about priority research and outreach activities. Another successful activity was the joint offering of courses (listed at Cornell as International Agriculture and Rural Development 402 and 602) in which there was participation by undergraduate students, graduate students and faculty from five institutions and multiple countries. Using a “field study” approach followed by use of the latest video-conferencing technology, we created a strong sense of group identity and a unique multi-disciplinary learning opportunity among members of this diverse group. Participants gained new perspectives on the challenges of multi-disciplinary research, outreach and policy analysis, and how different course formats may contribute to the overall effectiveness of undergraduate and graduate curricula. Graduate training for M.S. students at Cornell successfully incorporated thesis research projects focused on relevant Gulf region problems. These activities provided new policy and technical insights about livestock production systems in Yucatán and helped forge new linkages between university partners and regional producer organizations.

This project successfully achieved key student exchanges. Two PhD students and two faculty members from UADY spent ten weeks at Cornell University in 2005. This exchange opened up the possibility of a higher degree of interaction between academic and research groups in both institutions. Short courses and videoconferences were useful to UADY students and faculty alike, helping them visualize animal agriculture in a broad sense with holistic considerations. This partnership also helped a UADY colleague obtain substantial financial support from agencies supporting agricultural research in the State of Yucatan. These approved projects were closely related to the original TIES initiative.

Key activities and achievements included 1) two videoconferenced joint courses on key Mexican rural development issues for students from UADY, UV and Cornell (IARD 402), 2) two “living laboratory” field courses (IARD 602) in Mexico during January complemented by a subsequent videoconferenced component, 3) three MS degrees (and two additional graduate research projects) in support of the TIES research agenda, 4) enhanced understanding of methods for collaborative research and instruction, 5) further development of a substantial archive of print and electronic learning materials, 6) short-term

training of three UADY graduate students at Cornell (fall 2006), and 7) two external evaluations of this project. In addition, individual Web sites were developed for the 2006-07 editions of IARD 402 and 602 and integrated with our TIES partnership site (<http://tiesmexico.cals.cornell.edu>) to serve the multidisciplinary audience of international students at UADY, UV and Cornell. This platform serves as an information clearinghouse to support collaborations among the partners and to inform other interested parties. Selected joint classes and videoconferences were video-recorded, integrated with presentation (Powerpoint) files, and archived for use at the **Cornell Transnational Learning** Web site (<http://www.ctfl.com/>).

Two “living laboratory” field courses—a joint teaching experiment involving students, faculty and scientists from UADY, UV, INIFAP, Colegio de Posgraduados/Campus Cárdenas and Cornell—were resounding successes. This learning experience—unique for Mexican participants—involved interactions with many farmers and professionals in Mexico’s agricultural and natural resources sector (<http://ip.cals.cornell.edu/courses/iard602/2007spring/mexico/>).

The external evaluator emphasized need for greater flexibility to have better capitalized on this project (http://tiesmexico.cals.cornell.edu/reports/documents/present_first_external_evaluation_report.pdf, and http://tiesmexico.cals.cornell.edu/reports/documents/external_report_2007.pdf). The first report summarized, “(despite) strong institutional commitment to the project on the Mexican side...An extra effort is required in the project’s final year if fullest benefit is to be obtained.” The second (overall) evaluation report, following up on this need, identified important benefits especially to participating *individuals* but with comparatively modest (relatively less) benefit accrual to Mexican *institutions*. “The limiting factors stemmed mainly from insufficient institutional support for the project at the UADY and administrative incompatibilities between the partner institutions.” It was concluded that these benefits “will have made this project worthwhile, despite its limitations, provided that a) the project’s outputs continue to be exploited after its closure and b) the lessons learned are put to use in future.”

Overall, this project made progress toward enhancing capacity of participants, especially individuals, to address relevant development issues for ruminant livestock systems. It developed and delivered substantial learning resources and training to students and faculty at the partner institutions. It also helped train a skilled cadre of systems-oriented researchers and extensionists, and, to a lesser extent, began the dissemination of information of new and useful findings to the livestock sector.

Program Information

1. Success stories

TIES students visit ‘living labs’ of southeastern Mexico.

A multicultural engagement of students and faculty from multiple countries learn to learn together

Grinning broadly, Don Leonardo leads the student explorers through the *monte* of his farm. His manner and tone tell that the numerous healthy sheep trotting before us are his pride. He talks of plans to expand their numbers. Minutes later and a couple of kilometers down the road, Don Teobaldo and Don Sebastian show us much-less-thrifty animals penned behind the house. They tell that lack of feed, low access to technical assistance, and diseases have made them despair of ever seeing a financial return from sheep production. As the group assembles for lunch, the questions on everyone's mind are: “Why are these farmers having such different experiences?” and “What could or should be done for Don Teobaldo and Don Sebastian?”

Moments like these were commonplace during two weeks in January 2006, when students from UADY, UV and Cornell University, aided by scientists from INIFAP and the Colegio de Posgraduados-Campus Cárdenas, engaged in a 'living laboratory' study of agriculture and rural development in the Gulf region of Mexico. Hailing from six countries, these 31 explorers interacted with farmers, extensionists, researchers and policy makers in rural and urban Yucatán, Tabasco and Veracruz to develop their own perspectives on the needs of farmers and rural communities. Truly amazing was the development of thought processes and group camaraderie during this brief lab experience. Initially there was little interaction between the Mexican and Cornell students in the newly formed group. By the end of two weeks, the students had developed camaraderie and friendships that continue even now. These bonds among fellow explorers resulted from a group structure that intermingled students from all institutions, from class and group meetings that facilitated interpersonal contact and idea-sharing, and from a growing sense of joint responsibility to learn based on the truly pressing needs of the individual farmers visited. Overcoming language barriers, students figured out day by day how to exchange ideas effectively, to integrate their efforts and to work together to better understand the complexity of agricultural systems. They shared individual interpretations and analyses of need and development approaches, negotiated views about priority information and actions, and facilitated learning processes for each other. Ultimately, the participants became both active learners and teachers, to the mutual benefit of all involved.

A Cornell University Ph.D. student, Mr. David Parsons (Australian), also has been working with Don Leonardo. Results from this study are expected to contribute to the improved productivity of this farm. In summary, we expect Mr. Cocóm to be able to better manage farm net income as a result of his collaboration with TIES students and faculty.

Success is judged by people: Letter from Andrés

Building Friendships: TIES successes accrue from installments of concerted effort

Date: Thu, 15 Mar 2007 12:49:49 -0400 (EDT)

Subject: Reunión con el Presidente Bush

From: "Jorge Andres Calderon Quintal" <jc653@cornell.edu>

To: rw5@cornell.edu

Estimadísimo amigo Dr. Blake:

Antes de contarle quiero agradecerle a usted otra vez, y a la Universidad de Cornell por todo el gran apoyo que he recibido desde el primer momento en que tuve la fortuna de conocerlo. De verdad usted siempre se ha portado como un gran amigo. Esta experiencia jamás pensé que algún día podría vivirla. Fue extremadamente maravillosa porque tuve la oportunidad de ver cosas que no cualquier persona tiene la oportunidad de ver. Quiero agradecerles también al Dr. Nicholson y al Dr. Tucker por todos sus consejos e ideas que nos han ayudado mucho para seguir caminando hacia adelante.

La reunión fue totalmente exitosa. Cuando el Presidente Bush llegó a la mesa, nos saludó a todos de mano y nos mostró una gran sonrisa. Nos sentimos muy a gusto platicando con el presidente ya que se portó muy amable con nosotros y mostró un gran interés por conocer qué hacíamos y de conocer nuestras historias. En la mesa nos sentamos los 14 estudiantes de los proyectos, el Presidente Bush, el Embajador Antonio Garza, Joshua Bolten (White House Chief of Staff) y Stephen Hadley (Assistant to the President for National Security Affairs). El señor Hadley realizó estudios en la Universidad de Cornell, cosa que se

comentó por el Presidente Bush. Ya que cuando el Presidente Bush me preguntó qué había hecho en Estados Unidos, yo le comenté que realicé estudios en Cornell y él mostró un signo de exclamación de sorpresa ya que me dijo, “El Señor Hadley realizó estudios en Cornell. Espero que hayas obtenido mejores calificaciones que las de él y que logres tener un mejor puesto que él de él.” ¡Después todos sonrieron con la broma! Luego me preguntó qué había estudiado en Cornell y le dije que estaba en el Departamento de Ciencia Animal y lo que aprendí. Entonces él me contestó que Cornell era una excelente escuela en lo que se refiera a agricultura, y me felicitó. Después de platicar con él casi 45 minutos o 1 hora, nos pidió a cada uno de nosotros el papel que estaba frente a cada uno de nosotros con nuestros nombres y nos dijo que nos lo quería firmar para que las demás personas nos creyeran que habíamos tenido una reunión con él. Después de esto le pidió al fotógrafo de la Casa Blanca y de USAID que quería tomarse una foto con cada uno de nosotros, así que cada uno de los 14 estudiantes pudimos obtener una foto individual saludando al Presidente Bush.

Sin duda, Dr. Blake, fue una experiencia muy bonita y diferente. De nuevo agradezco todas las atenciones que usted nos ha dado y también le quiero agradecer una cosa más. Gracias por permitirme ir a Cornell a pesar de que yo no dominaba el inglés. Sin embargo, en base a esfuerzos y estudios en mis ratos libres y por mi cuenta, he podido aprender bastante el idioma inglés. Yo no tuve la oportunidad, ni los recursos, de pagar una escuela para estudiar inglés. Lo que he aprendido se lo debo a David Parsons y a la oportunidad que me dio Cornell por aprender más de este idioma que de verdad no solamente es necesario sino que también me gusta mucho y que sin duda seguiré estudiando. Le hago referencia a esto porque en una preparación previa al desayuno el día anterior, nos hicieron preguntas en inglés y pues internamente yo tenía un poco de miedo. Sin embargo pensaba también que tenía un compromiso con Cornell, con Usted, con el Dr. Nicholson y con el Dr. Tucker y que no les podía fallar. Así que el miedo desapareció y me animé a hablar en inglés. Después de responder me dijeron que la forma en como me expresé en inglés era excelente y que cuando yo estuviera en el desayuno, hablaría con el Presidente en inglés. Esto, por más insignificante que le pudiera parecer a alguien para mí, fue muy importante, ya que esto me permitió tener confianza y relajarme. Así que el día del desayuno y la plática con el Presidente Bush la hice en inglés sin necesidad de traductor. Muchas gracias por todo a Cornell y a todos ustedes que nos tendieron la mano en nuestra estancia en Estados Unidos.

El Presidente Bush dijo que sin duda los estudiantes que visitaron Estados Unidos son los mejores embajadores que pudiera tener USA en otros países. Yo, en lo personal, me comprometo a hacer del conocimiento de cada una de las personas con las que tengo contacto de todas las cosas buenas que tiene su país y de la forma en como me tendieron la mano por la Universidad de Cornell y el Pueblo de Norteamérica.

Gracias y muchos saludos.

Andrés

Jorge Andrés Calderón Quintal
Maestría en Salud Animal (FMVZ-UADY)
343 Morrison Hall, Cornell University, Ithaca, NY 14853
jc653@cornell.edu
andresjacq@walla.com

2. Lessons learned

[Cornell view]

We learned (confirmed) the power of inter-disciplinary systems-oriented thinking and modeling to stimulate analysis and identify interventions likely to provide sustainable benefits to Gulf region livestock producers. This approach provided insights about research priorities for the region, the likely implications of policy actions currently being implemented and influenced both the design of individual projects and overall research strategy. Given that most agricultural development problems cross multiple disciplinary boundaries and agricultural systems are dynamic and complex, the application of this approach has been extremely useful and novel for the project participants.

[UADY view]

The UADY faculty has learned that the operation of an international project such as this one requires unified commitment and cooperation of students, faculty, authorities, administrative personnel, etc. to make it both successful and rewarding. We have learned that we must achieve internal consensus among our own departments, officials, researchers and others involved in project operation before the actual signing and launch of program activities.

3. Major activities

Initially, project activities were focused on consensus-building for the development of research and joint teaching platforms in support of the ruminant livestock industry in the Gulf region. Subsequently activities were focused on integrated teaching and research agendas and short-term training in support of the ruminant livestock industry in the Gulf region.

Project initiation: year one, 2004-05

- *March.* Prior to the executed subagreement, graduate student David Parsons conducted exploratory visits with TIES partners in the states of Yucatán and Veracruz (with Cornell funding). These explorations led to a collaborative research proposal to rapidly survey and evaluate Yucatecan sheep systems.
- *June-August.* Conducted a rapid appraisal of constraints and opportunities for 63 sheep-owning households in 5 Yucatán locations. Led by D. Parsons and guided by R. Blake, C. Nicholson and T. Tucker, this appraisal was conducted by a Cornell-UADY research team including two students (Claudia López, Andrés Calderón) and two faculty members (Guillermo Ríos, Felipe Torres).
- *July.* Cornell Partnership Director, Robert Blake, began a 12-mo sabbatical leave and TIES project assignment as visiting professor at the UADY. Several organizational meetings ensued with UADY administrators, faculty and students.
- *August-September.* Nationwide announcement was made of our TIES Master degree program and call for applications by qualified Mexicans.
- *September.* TIES program visit by Cornell's Bonnie Shelley, Study Abroad Advisor and Exchange Coordinator, and Terry Tucker, Director of Academic Programs, International Programs, College of Agriculture and Life Sciences. Discussions focused on two program

elements: undergraduate academic exchange and TIES joint teaching activities (platform of core courses). A Memorandum of Agreement to launch undergraduate exchanges was signed by Fernando Herrera, Dean of the School of Veterinary Medicine and Animal Science, and witnessed by UADY Rector Raúl Godoy Montañez.

- *September.* The UADY Steering Committee, chaired by Guillermo Ríos, was formed to discuss and plan UADY implementations of TIES teaching/research platform elements. The UADY leadership team was invigorated to ensure effective implementation by establishing Drs. Ku and Ríos as UADY Co-Directors of our TIES Partnership.
- *October-December.* Planned and conducted a rapid appraisal of 60 beef production systems in eastern and southern Yucatán (Tizimín, Panabá and Peto). This effort complements our previous inquiry of sheep producers and was coordinated by Guillermo Ríos and R. Blake and conducted by Claudia López and Andrés Calderón.
- *October-February.* Five UADY Steering Committee meetings were convened by co-director Guillermo Ríos to discuss implementation of the joint teaching and research platform. Through this process, including the short course series, UADY graduate students were identified as TIES platform contributors. Doctoral students included Valentín Cárdenas, Fernando Duarte (also an INIFAP scientist) and Raciél Estrada; Master's students included Miguel Huchín, Timoteo Bautista, Ildefonso Aranda, Gonzalo Martínez, Gabriela González and Carlos Medina.
- *November.* Guillermo Ríos, Juan Magaña and R. Blake participated in the **Día del Ganadero 2004** (field day) at the INIFAP-La Posta Experiment Station in Veracruz. The primary objective was to evaluate how a similar event could serve producers and other livestock industry players in Yucatán. A follow-up report and recommendations were submitted by Drs. Magaña and Ríos to Dr. Fernando Herrera, Director of UADY's School of Veterinary and Animal Sciences.
- *November.* Invited workshop speakers (A. Ayala, R. W. Blake, J. Ku). **Como estructurar una propuesta para obtener financiamiento. Taller—Preparación de Propuestas Científicas para Solicitar Financiamiento.** (How to Structure a Grant Proposal. Workshop on the Preparation of Science Proposals for Funding.) Universidad Autónoma de Yucatán, Dirección General de Desarrollo Académico, Coordinación General de Investigación y Relaciones Interinstitucionales.
- *November.* Invited symposium speaker (R. Blake). **Perspectivas de la Investigación Pecuaria en el Mundo Tropical: El caso de la respuesta en leche en ambientes difíciles.** Pages 108-127 in *Symposium Situación Actual y Perspectivas de la Investigación Pecuaria en el Mundo*. XL Reunión Nacional de Investigación Pecuaria Yucatán 2004, Mérida.
- *December.* Invited speaker (R. Blake). **Ecological impacts of land use for livestock production in the tropics.** Workshop entitled, "Function of Tropical Ecosystems", (Funcionamiento de Ecosistemas Tropicales. University of Göttingen-Autonomous University of Yucatán (UADY; Germany-Mexico). In Spanish.
- *December.* **"Yucatán" Bienestar del hombre en el campo** (Rural Human Welfare ("Yucatan"), a 9-min video-documentary, was a student project in the UADY School of Anthropology course, *Media Analysis and Production*. Subjects were four families (and their communities) who participated in our rapid appraisal of farming systems with sheep. Four undergraduate women wrote the script and produced this video based on their eye-opening, first-ever, rural experiences

through our TIES project. This product came from novel collaboration between UADY's Schools of Anthropology and Veterinary Medicine and Animal Science, facilitated by this TIES project.

- *December-March.* Data from two rapid appraisals of constraints and opportunities in Yucatán farming systems with sheep and beef cattle were coded by Claudia López and Andrés Calderón (supervised by R. Blake and C. Nicholson). These data are available to Cornell and UADY student research projects. Two Cornell students (David Parsons, Australian, and Kotaro Baba, Japanese) will utilize them in contributions to the TIES research platform. These students subsequently conducted further research activities in Yucatán in 2005 and 2006.
- *February-March.* In collaboration with Veracruz partners (Universidad Veracruzana and INIFAP) and other institutions, a watershed management framework was developed for a TIES phase II project. Unfortunately, the potential partners were unable to garner sufficient resources to satisfy the scholarship requirement. A contingency plan of activities was developed with watershed management elements integrated into the Veracruz component of one of the field courses in our TIES joint teaching platform. Intended focus of the new project was community-based micro-watershed management in the cattle lands (pastures) that dominate the coastal plain of Veracruz. **Research themes included:**
 - 1) Water capture and retention
 - Improved soil infiltration and water capture by pasturelands (e.g., management of adapted species to improve land cover, soil pores and organic matter, forage quality and yield to increase net income from livestock).
 - Greater protection of brooks and streams in pasturelands to enhance the capture and retention of water (e.g., implement stream bed buffer areas of trees and shrubs to also produce firewood, forage, habitat services, timber, fruit and other products).
 - 2) Geographic systems to integrate watershed management practices and monitor land use changes and ecosystem services
 - 3) Economic returns from livestock in agrosilvopastoral systems
 - Improved availability and quality of forages from greater water capture by pasturelands.
 - Healthful foods of animal origin from pasturelands (nutritional composition and nutraceutical content [conjugated linoleic acid, an anticarcinogen]).
 - Greater profitability from animal agriculture use of watershed farmlands.
 - 4) Conceptual and empirical system dynamics models to evaluate nutrient cycling, farm and micro-watershed technologies and policy options at multiple levels of sociopolitical and physical aggregation.
- *March.* Invited speaker (R. Blake). **Perspectivas de la Investigación Pecuaria en el Mundo Tropical: El caso de la respuesta en leche en ambientes difíciles.** 6ª Reunión de Servidores Públicos Federales y Estatales de Ganadería, Mérida, Yucatán, 9 al 11 de marzo. (6th Congress of Federal and State Public Servants in Livestock Production).
- *Research funding proposals.* Three proposals with total value of \$15.5 million pesos were submitted by UADY in late 2004 and early 2005 in support of the TIES research platform.
- *April 15 TIES project visit by US Ambassador Antonio O. Garza, Jr.* Special efforts were made by UADY and other TIES partners to receive and interact with Ambassador Garza and his team. Representatives from all partner institutions were in attendance—UADY, UV, INIFAP and

Cornell. This provided an important opportunity for information sharing and positive feedbacks to Mexican colleagues. A team of UADY undergraduate students prepared a video description about the rural development focus and ruminant livestock dimensions of our project. The video contains images from formal and informal parts of this event, including Ambassador Garza's chat with Mr. Leonardo Cocóm, a local farmer who owns sheep and goats.

- *April-May.* UADY Professor Armin Ayala B. visited Cornell University and completed short-term training and consultation on ruminant nutrition issues for our TIES research platform. Main activities were in the Departments of Animal Science, Applied Economics and Management and International Programs. Professor Ayala (whose trip report is on our TIES project website, learned more about Cornell University and about future research collaborations between our institutions.
- *May.* **Enlaces**, a 15-min video-description of our TIES project, was the second video produced by students in the UADY course, *Media Analysis and Production*. Like its documentary predecessor ("**Yucatan**" **Bienestar del hombre en el campo**), this one was also the result of novel collaboration between UADY's Schools of Anthropology and Veterinary Medicine and Animal Science.
- *June-July.* Two Cornell graduate students, Kotaro Baba (Japanese MS student) and David Parsons (Australian doctoral student) conducted field research in Yucatán in collaboration with UADY graduate students and faculty and farmers owning sheep or cattle.
- *July 2005.* The US partnership director, Robert W. Blake, concluded a 12-mo sabbatical leave and TIES project assignment at the UADY.

Short courses, 2004-05

- *September.* **Short course #1**, *Evaluación Nutricional de Forrajes en la Región del Golfo de México* (Nutritional Evaluation of Forrages in the Gulf Region of Mexico) was conducted at UADY by Francisco Juárez Lagunes, Veracruz TIES partner. This course, coordinated by R. Blake and J. Ku, served 22 participants (UADY graduate students and faculty, undergraduates, and one representative of a regional cattle producers association), and was videographed. Participants received a booklet and CD-ROM of supporting literature (17 articles, all in Spanish).
- *October.* **Short course #2**, *Uso de un Modelo Computacional para el Manejo Nutricional de Bovinos y Ovinos* (Use of a Computational Model to Manage Nutrition of Cattle and Sheep). Principal instructors: Luis O. Tedeschi with Francisco I. Juárez and Bertha L. Rueda. This event served 21 male and 6 female participants (UADY graduate students, UADY and Veracruz faculty, undergraduates, and representatives of governmental and regional cattle producers organizations) and was videotaped. Participants received a booklet and CD-ROM of supporting literature (9 articles, 8 in Spanish).

November. **Short course #3**, *Análisis Bio-económico de Alternativas Tecnológicas y la Dinámica de Sistemas Agropecuarios* (Bioeconomic Analysis of Technological Alternatives and the Dynamics of Agricultural Systems). Principal instructors: C. F. Nicholson with R. Blake, Bertha Rueda and Eduardo Canudas. This event served 19 male and 8 female participants (graduate students from UADY and Germany, faculty from UADY and Universidad Veracruzana, UADY undergraduates, and representatives of governmental and regional cattle producers

organizations) and was videotaped. Participants received a booklet and CD-ROM of supporting literature (17 articles, 13 in Spanish).

- **February. Short course #4** (workshop format), *Evaluación del Potencial para Progreso Genético en Poblaciones de Ganado Rumiante en la Región del Golfo*. (Evaluation of the Potencial for Genetic Progress in Ruminant Livestock Populations in the Gulf Region)

1. *Estructuras de las bases de datos y estrategias analíticas.*

(Database structures and analytical strategies)

2. *La Aplicación de Esquemas Nucleares para el Mejoramiento Genético*

(Application of Nuclear Schemes for Genetic Improvement)

This event was organized by the TIES lead institutions and the Colegio de Posgraduados, Campus Cárdenas, Tabasco. Workshop leaders were J. Magaña, R. Blake and M. Osorio. Thirty-three participants (29 male, 4 female) received a booklet of supporting literature (6 articles, 4 in Spanish).

- **April. Short course #5**, *Aplicación de la Dinámica de Sistemas al Entorno Agropecuario en la Región del Golfo de México* (Application of System Dynamics to Agricultural Systems of the Gulf Region of Mexico) was graciously hosted by the Universidad Veracruzana and taught by Dr. Charles Nicholson. This course arose from demand from participants in previous courses, especially short course #3, *Bioeconomic Analysis of Technological Alternatives and the Dynamics of Agricultural Systems*. It was jointly financed by all TIES partners and an external donor (Mr. Allen Boorstein, a Cornell alumnus who supports educational efforts in System Dynamics). There were 27 participants (4 female, 23 male) representing all the TIES partner institutions plus the Universidad Nacional Autónoma de México. (This activity substituted for teaching a Yucatán version of Cornell's Livestock in Tropical Farming Systems for UADY students.)

Participation summary for the entire TIES program of five short courses:

- Total participants in four originally-planned short courses: 109 (87 ♂, 22 ♀)
- Total participants in the five actual TIES short courses: 142 (116 ♂, 26 ♀)
- Total classroom hours delivered: 175

MS Degree Programs for Mexicans at Cornell

- *Master of Science degree programs at Cornell.* One Mexican student from Yucatán, Luis Nabté, completed the MS degree program in 2007. Two additional Mexican students from Veracruz, Victor Absalón and Omar Cristobal, continue enrolled in MS programs and are working on thesis research projects targeting dual-purpose cattle systems in Veracruz with program completions expected in December 2007 and June 2008. All Mexican students were involved in supporting the TIES teaching platform as course assistants.

The following thesis projects of these students carry inherent linkages with farmers, farmer cooperatives, GGAVATs (Grupo Ganadero de Validación y Transferencia de Tecnología), and state government organizations in the Gulf region.

- *Effect of B-mannanase Enzyme Addition to Soy-containing Milk Replacers on Growth and Health of Neonatal Calves.* Luis Nabté (Mexican MS student from Yucatán). This thesis project and graduate training program was completed in September 2007.

- *Forage-based opportunities to improve productivity and profit of dual-purpose cattle systems in the State of Veracruz, México.* Victor Absalón (Mexican MS student from Veracruz). UV and INIFAP collaborators: Francisco Juárez, Bertha Rueda, Eduardo Canudas, and Gabriel Díaz P. This thesis project contributes to an INIFAP-funded project led by Dr. Rueda, “Nuevas opciones de producción sostenible para el sistema de bovinos de doble propósito en el trópico mexicano.”
- *Nutritional management options for improved heifer growth and reduced age at first calving in dual-purpose systems in northern Veracruz, Mexico.* Omar Cristobal (Mexican MS student from Veracruz).

Non-degree Training

- *Short-term training at Cornell.* A 10-week short-term training at Cornell University was concluded in November 2005 for a six-member team of (four) Mexican scientists and (two) graduate students from UADY, UV and INIFAP. Training elements were identified in our 2004-05 annual report (http://tiesmexico.cals.cornell.edu/reports/documents/narrative_051031.pdf). Trip reports by the UADY team and by UV’s Dr. Canudas may be found at our TIES Web site at (http://tiesmexico.cals.cornell.edu/teaching/documents/trip_report_uadyteam.pdf and http://tiesmexico.cals.cornell.edu/teaching/documents/trip_report_canudas.pdf).
- *Special UADY student training at Cornell.* A full-semester training program at Cornell University was provided for three UADY graduate students, August 20 to December 9, 2006. These students—Gabriela González, Miguel Huchín and Andrés Calderón—completed course work in system dynamics, animal nutrition, agriculture and rural development, and TIES research and other academic seminars. They also developed an extension outreach proposal in support of Yucatan smallholder livestock owners for consideration by UADY leadership and governmental and non-governmental organizations. All of these students have been long-term participants in many TIES project trainings and research. Gabriela and Andrés represented this TIES project as two of the 14 USAID scholarship recipients at the March 14 breakfast with President Bush (see Success Story and the attached USAID-Mexico Mission Weekly Report for March 15.)

Like past training for Mexican students and professors, these UADY students also visited *Northland Sheep Dairy, Freetown Corners, NY*, a local organic sheep dairy. Activities included discussing forage management practices, nutrient cycling, the sustainability of current management practices, and how dynamic systems modeling can facilitate appropriate interventions. This activity reinforced learning related to systems thinking and modeling and provided a useful contrast to the sheep production and marketing systems in Mexico.

- *International workshop on mountain micro-watershed management in Xalapa, Veracruz.* About 120 registrants from across Mexico and Perú, Panamá, Costa Rica and the US were enthusiastic participants in this jointly sponsored event hosted by INIFAP partners, July 17-18, 2007. The workshop, *Manejo Integrado de Microcuencas de Montaña en México: Riesgos, Herramientas y Acciones*, included five presentations by TIES partners INIFAP and Cornell:
 - *Proyecto de Microcuencas de Montaña en México.* M.C. Gabriel Díaz Padilla, INIFAP-Xalapa.
 - *Investigación Participativa en Microcuencas de Montaña.* M.C. José Luis Martínez Rodríguez, INIFAP-Xalapa.

- *El Sistema Agroforestal Café: Productividad, Biodiversidad y Sustentabilidad en Cuencas de la Montaña Veracruzana.* M.C. Rosalío López Morgado, INIFAP-Xalapa.
- *Riesgo en Microcuencas: Tensiones entre Producción Animal, Agua Pura y Uso de la Tierra.* Robert Blake, Cornell University.
- *Opciones Económicas con Productos de Valor Agregado: Potencial del Queso Fino en Microcuencas de Montaña.* Keenan McRoberts, Cornell University.

The success of this event led to planning a second workshop with INIFAP. Consequently, a workshop format supported by rapid appraisals will constitute the format for an additional IARD 602 field course in January 2008 involving INIFAP scientists and students and faculty from Cornell and UV's Schools of Agricultural Sciences and Veterinary and Animal Sciences.

- *Intensive course in system dynamics modeling in Xalapa.* In addition to presenting a paper in the July microwatershed workshop, Cornell's Keenan McRoberts taught this 3-mo intensive course (June-September 2007) for the INIFAP mountain research team. The course was tailored to the INIFAP mountain research agenda and had about 12 participants (10 males, 2 females).

Web Platform of Teaching, Research and Communication

- 2005. A TIES partnership Web site was developed (<http://tiesmexico.cals.cornell.edu/>).
- A Web-platform, integrated with our TIES Web site (<http://tiesmexico.cals.cornell.edu/>), was created specifically to support the teaching platform. It also facilitated research collaborations and information flows among the partners and other interested parties primarily through open-access Web sites. These course pages include the following:
 - IARD 402, Agriculture in Developing Nations I—Mexico edition.
(<http://ip.cals.cornell.edu/courses/iard402/2006fall/mexico/index.html>)
 - IARD 602, Agriculture in Developing Nations II—Mexico edition.
(<http://ip.cals.cornell.edu/courses/iard602/2007spring/mexico/>)
 - AnSc 640, TIES Research Seminar.
(<http://tiesmexico.cals.cornell.edu/teaching/ansc640.cfm>)
 - AnSc 400, Livestock in Tropical Farming Systems.
(www.ansci.cornell.edu/courses/as400/)
 - IARD 402, Agriculture in Developing Nations I—Mexico edition.
(<http://ip.cals.cornell.edu/courses/iard402/2006fall/mexico/index.html>)
 - IARD 602, Agriculture in Developing Nations II—Mexico edition 2006.
(<http://ip.cals.cornell.edu/courses/iard602/2006spring/mexico/>)
 - IARD 602, Agriculture in Developing Nations II—Mexico edition 2007.
(<http://ip.cals.cornell.edu/courses/iard602/2007spring/mexico/>)

- *AEM 494*. In addition to the core elements above, a fifth course was added to the teaching platform, AEM 494, *Introduction to System Dynamics Modeling*. Password-protected materials for this course are available to registered parties (e.g., short-term trainees) via <http://www.blackboard.cornell.edu>.

Cornell Transnational Learning. Our TIES Web-platform was further supported by video-recorded presentations (with integrated Powerpoint presentations) from these five courses. These learning products constituted an important additional educational resource for faculty, graduate students and researchers at UADY, UV and INIFAP. These materials are available at the **Cornell Transnational Learning** Web site (<http://www.ctl1.com/>).

Integrated Teaching and Research Platforms

- *Throughout 2005*. Efforts were concentrated on organizing course content, logistics, teleconferencing, and key operational plans to conduct the four core courses (with two field trips) constituting the 2005-06 joint teaching platform. Besides Cornell, UADY and UV our teaching platform also involved INIFAP-Veracruz and the Colegio de Posgraduados, Campus Cárdenas.
- *Mid-term partnership planning meeting*. A mid-term internal evaluation and partnership planning meeting was held January 18, 2006 in Veracruz. (See minutes of this meeting at http://tiesmexico.cals.cornell.edu/reports/documents/narrative_060118.pdf). Primary objectives were to evaluate achievements, consider value-adding program modifications for the second half of the project, discuss collaborative research opportunities especially involving Mexican MS students, and discuss the objectives and plan for external evaluation of our TIES project.
- *Teaching platform, 2005-06 and 2006-07*. Efforts were focused on delivering four core courses (three involving videoconferencing), one field trip laboratory, and the systems modeling course. In addition to the Cornell student body, these courses served students and faculty from UADY and UV. The IARD 602 field laboratory was facilitated by INIFAP and other TIES partners and the Colegio de Posgraduados, Campus Cárdenas, Tabasco (ColPos).
 - *AnSc 640*. Besides Cornell students, participation in this fall 2005 seminar included eight Mexican participants at Cornell (six short-term trainees and two MS students) and parallel participation by an unknown number of students and faculty at UADY. Participation in fall 2006 included six Mexican participants (three short-term UADY graduate student residents and three Cornell MS students). Participation in the seminar in spring of 2006 and 2007 included three Mexican MS students at Cornell. UADY students and faculty were unable to participate due to unresolved problems in implementation.
 - *AnSc 400*. This course included three Mexican MS students in spring 2006 and 2007. UADY students and faculty were unable to participate due to implementation issues.
 - *IARD 402*. This fall semester course is a prerequisite (preparatory course) for IARD 602. The enrollment included Mexican participants at Cornell, students at UADY and UV via videoconferencing. Presentations were video-recorded, integrated with its Powerpoint file, and made accessible in a special IARD 402-Mexico library at **Cornell Transnational Learning**.

Following is a record of presentations in 2005 and 2006 addressing Mexican issues and priority themes for the Gulf region of Mexico.

2005

- *August 26.* Prof. Juan Jiménez (UADY). Agriculture and development in the Mexican tropics with emphasis on the Yucatán Peninsula.
- *September 8.* Prof. Robert Blake (Cornell). Livestock in development.
- *September 23.* Prof. Lilia Fernández (UADY). Maya households: Domestic archaeology and ethnoarchaeology.
- *September 30.* Prof. Lorenzo Aceves (Colegio de Posgraduados, Cárdenas). Biophysical environment and effects on plants and animals of Tabasco State.
- *November 4.* Dr. Heriberto Román (INIFAP). Agriculture and food systems in Veracruz, Mexico: Land uses and crop, livestock, agroindustry and marketing systems.
- *November 18.* Prof. R. Blake (Cornell). The Cornell-UADY-UV-INIFAP TIES project, Decision Support of Ruminant Livestock Systems in the Gulf Region of Mexico.
- *December 2.* Profs. R. Blake, T. Tucker, C. Nicholson (Cornell), G. Ríos and J. Magaña (UADY). IARD 602 learning objectives, course expectations, field trip itinerary and activities, and rural appraisal teams.

2006

- *September 1.* Raymond Craib. Department of History. *Mexican ejido system and rural issues of smallholder farmers in the Gulf region.*
- *September 8.* Lilia Fernández, UADY School of Anthropology. *Mayan civilization and household organization.*
- *September 15.* Juan Jiménez, UADY Department of Conservation and Natural Resource Management. *Agriculture and development in the Mexican tropics with emphasis on the Yucatán Peninsula.*
- *September 22.* William Rivera, University of Maryland. *Agricultural extension in Latin America in an Era of Reform.*
- *September 29.* Pedro Pérez. Department of Applied Economics and Management. *Fundamental globalization and trade issues and their impacts on Latin America's rural sector.*
- *October 6.* Terry Tucker, International Programs. *Making research and extension relevant to rural communities and development.*
- *October 13.* Robert Blake, Department of Animal Science. *Livestock in development.*

- *October 20.* Margaret Smith, Department of Plant Breeding and Genetics. *Maize in Mexican culture.*
 - *October 27.* Arturo Gómez Pompa, Center for Tropical Research, Universidad Veracruzana, and Professor Emeritus, University of California, Riverside. *Centro de Investigaciones Tropicales. Research in the Veracruz tropics by the Center for Tropical Research.*
 - *November 3.* Diputado Silvio Lagos Martínez, Congressman, District 24, Santiago Tuxtla, Veracruz. *Mexico's rural investment challenges.*
 - *November 10.* Charles F. Nicholson, Department of Applied Economics and Management. *Agriculture as a complex dynamic system: Mexico's sheep production systems.*
 - *November 17.* David Parsons with Leonardo Cocóm. *Of maize and manure—Learning experiences and experimenting in Yucatán.*
 - *December 1.* Robert Blake, Terry Tucker and Charles Nicholson (Cornell) and Guillermo Ríos and Juan Magaña (UADY). *IARD 602 learning objectives, course expectations, and 2007 field trip itinerary, activities and organization.*
- *IARD 602 in 2006.* There were 34 participants from six countries in the highly successful laboratory component of this spring 2006 course. Among the participants were 14 Mexican students: two from Cornell, nine (8 men, 1 woman) from UADY, and three UV men. In addition to excellent support from TIES collaborators from UADY, UV and INIFAP, this course greatly benefited from the expert contributions by Dr. Lilia Fernández at Uxmal, Dr. Mario Osorio in Tabasco, and many farmers and their families and other hosts throughout the field trip. Students from UADY, UV and Cornell discovered together, built friendships and camaraderie, and learned how to work together across cultures. See the IARD 602 Web site (<http://ip.cals.cornell.edu/courses/iard602/2006spring/mexico/>) for detailed information about the participants, course objectives and design, and the field trip itinerary.

The campus-based component of this course comprised class meetings in parallel at UADY and Cornell plus eight joint sessions via videoconferencing. As in other core courses, these joint classes were video-recorded, integrated with presentation (Powerpoint) files, and archived for use at **Cornell Transnational Learning**. Invited presentations were:

- *January 31.* Phil McMichael (Cornell, Development Sociology). *Impacts of trade liberalization, especially NAFTA, on US and Mexican farmers.*
- *February 2.* Bill Rivera (Univ. of Maryland, Education). *Extension reforms for world agriculture.*
- *February 7.* Alice Pell (Cornell International Institute for Food, Agriculture and Development). *Interdisciplinary research on sustainability issues in East Africa.*
- *February 9.* Elvira Sánchez (Cornell, Romance Studies). *Mexican masks: Modern cultural hybridity.*

Student theme group presentations of individual written projects were organized around two overarching, interdisciplinary sets of issues. Designated theme groups, each comprising UADY and Cornell students, were *Livelihood Systems in Mexico's Gulf Region*:

- (Group 1) *Which are the priority information needs, policies, and programs?*
- (Group 2) *How to make research and extension relevant?*

- *IARD 602 in 2007.* There were 31 participants from six countries and the US private sector (Northland Sheep Dairy) in the successful January 3-18, 2007 offering of the laboratory component of this course, which was first offered in 2006. Among the participants were 10 Mexican students: three from Cornell, eight (7 men, 1 woman) from UADY, and two UV men. In addition to key assistance from certain TIES partners this course greatly benefited from the expert contributions by Dr. Lilia Fernández at Palenque, Dr. Mario Osorio in Tabasco, and many farmers and their families and other hosts throughout the field trip. (Unfortunately, course planning and execution were hindered by lack of communication by the UADY counterpart and last-minute UADY student and faculty drop outs.)

Students from UADY, UV and Cornell discovered together, built friendships and camaraderie, and learned how to work together across cultures. See UADY student letters by Augusto Lizarazo and Jeferson Asprilla in the appendix. The IARD 602 Web site contains detailed information about the participants (<http://ip.cals.cornell.edu/courses/iard602/2007spring/mexico/>), course objectives and design, and the field trip itinerary. Field trip photographs are accessible via the itinerary.

As previously mentioned, planning was initiated to conduct an additional 602 field course as a workshop in collaboration with INIFAP and UV. This workshop would focus on mountain micro-watershed issues and communities and would involve about 15 Mexican students from two UV schools and a similar number of Cornell students from multiple countries, including Mexico.

- *System dynamics addition to the TIES teaching platform.* Our teaching/training platform and learning were enhanced by adding AEM 494, *Introduction to System Dynamics Modeling*. Enrollment in 2005 included eight Mexican participants, including MS students and UADY, UV and INIFAP students and colleagues. Enrollment in 2006 includes five Mexican students. This course builds on concepts introduced in previous TIES training events, and provides an integrating systems-oriented framework for other research and instructional activities. Course participants in 2005 were from diverse backgrounds (e.g., systems ecology, public administration, economics, systems engineering, animal science) and many countries (e.g., Kenya, Turkey, China, Italy, Canada, US, Mexico). Course materials and videotaped lectures are accessible to registrants via the Cornell Blackboard Web site for AEM 494.
- *Research platform.* Five thesis projects by Cornell graduate students constituted the core research of our TIES agenda:
 - *Analysis of Productivity, Nutritional Constraints and Management Options in Beef Cattle Systems of Eastern Yucatán, México: A Case Study of Cow-calf Productivity in the Herds of Tizimín, Yucatán.* Kotaro Baba (Japanese MS student). Mexican collaborators:

Guillermo Ríos, Juan Magaña and Francisco Juárez, and doctoral students Valentín Cárdenas and Fernando Duarte (also an INIFAP scientist). This thesis project, which was focused on management of Yucatecan beef cattle systems, was completed in December 2006. A PDF copy of this thesis is freely available via our TIES Web site at http://tiesmexico.cals.cornell.edu/research/documents/kotaro_baba_ms_thesis_20061212.pdf. Printed copies of this thesis were given to the libraries at UADY and UV and to individual collaborators and other interested parties during the IARD 602 'living laboratory' field course in January 2007.

- *Effect of B-mannanase Enzyme Addition to Soy-containing Milk Replacers on Growth and Health of Neonatal Calves.* Luis Nabté (Mexican MS student from Yucatán). This thesis project and graduate training program was completed in September 2007.
- *Enhancing the sustainability of smallholder crop-livestock systems in the Yucatán Peninsula.* David Parsons (Australian doctoral student). One year of field work for this independently funded project was completed in December 2006. Key collaborators include six Yucatecan farmers, UADY faculty and UADY students. Expected completion: December 2007.
- *Forage-based opportunities to improve productivity and profit of dual-purpose cattle systems in the State of Veracruz, México.* Victor Absalón (Mexican MS student from Veracruz). UV and INIFAP collaborators: Francisco Juárez, Bertha Rueda, Eduardo Canudas, and Gabriel Díaz P. This thesis project contributes to an INIFAP-funded project led by Dr. Rueda, "Nuevas opciones de producción sostenible para el sistema de bovinos de doble propósito en el trópico mexicano." Expected completion: December 2007.
- *Nutritional management options for improved heifer growth and reduced age at first calving in dual-purpose systems in northern Veracruz, Mexico.* Omar Cristobal (Mexican MS student from Veracruz). Expected completion: June 2008.

These thesis projects carry inherent linkages with farmers, farmer cooperatives, GGAVATTs (Grupo Ganadero de Validación y Transferencia de Tecnología), state government organizations like Fundación Produce, and were tied to our teaching platform, especially IARD 602.

- *Future publications.* Efforts continue towards the goal of Spanish-language publication of the results from our rapid appraisal of Yucatán sheep production systems. Work also continues with the aim of submitting a journal article to *Agricultural Systems* on the dynamics of sheep production systems in the Gulf Region with analysis of policy options. This article would be part of a chapter in the dissertation of D. Parsons.
- *Memorandum of Understanding signed with Universidad Veracruzana.* With key assistance from Diputado Silvio Lagos Martínez, State Congressman from Veracruz, the IARD 602 'living laboratory' program included a January 16, 2007 welcome by Veracruz Governor Fidel Herrera Beltrán. Although Governor Herrera was called away, the welcome was nonetheless extended through his delegates to every IARD 602 student and faculty member from all TIES partner institutions. Furthermore, in response to the interest expressed by UV leadership during the July 2006 external evaluation to explore options for expanded collaboration, an MOU between Cornell University and UV was signed by Rector Raúl Arías Lovillo and Cornell parties. The MOU specifies a one year period for exploration and development of a Memorandum of Agreement.

USAID-Mexico participants included Mexico Director Edward Kadunc and Education Program Director Nora Pinzón (see USAID Mexico Mission Weekly Report for January 17, 2007).

Project evaluation

- *First external evaluation, June-July 2006.* All partners and collaborating individuals were involved in project evaluation planning. The external evaluation carried out by Dr. Lucia Vaccaro was conducted in two phases: a brief one at Cornell followed by a substantial one in Mexico, July 1-9. The Mexico phase included consultations at both partner locations: UADY (Mérida) and UV and INIFAP (Veracruz). Dr. Vaccaro's reports were distributed to all partners and may be obtained at our TIES website. Key conclusions and recommendations were (report section 5):
 - Owing to an "impressive list of activities and outputs ..., which fit closely to those originally planned", assessments were that:
 - "There has been consistently positive impact at the personal level."
 - "A *widening of vision* is one of the benefits most consistently reported."
 - "Special importance is also attached to the changes at the institutional level..."
 - Nonetheless, despite "strong institutional commitment to the project on the Mexican side...An extra effort is required in the project's final year if fullest benefit is to be obtained from major investment (financial, time and effort) already made by the partner institutions, and if fullest advantage is to be taken of the opportunities it offers. The more successful its completion in 2007, the greater the options the Mexican partner institutions will have for obtaining financial support for developments they plan to make in the future."
- *Second external evaluation, July-August 2007.* Following up on needs identified in the first report, the second (overall) evaluation identified important benefits especially to participating *individuals* but with comparatively modest (relatively less) benefit accrual to Mexican *institutions*. "The limiting factors stemmed mainly from insufficient institutional support for the project at the UADY and administrative incompatibilities between the partner institutions." It was concluded that these benefits "will have made this project worthwhile, despite its limitations, provided that a) the project's outputs continue to be exploited after its closure and b) the lessons learned are put to use in future."

4. Results/outcomes of Activities

| Activity | Results/Outcomes |
|--|---|
| <i>Master of Science degree programs</i> | Students acquire the necessary skills and guidance to carry out their own research focused on Mexican problems and issues. |
| <i>Teaching platform</i> | Broad impact on thinking by students and faculty at UADY and UV, and at Cornell. See letters in this report by A. Calderón, A. Lizarazu and J. Asprilla. |
| <i>Web-platform</i> | Make information available to students, faculty and scientists at partner institutions and others. This platform constitutes a <i>global learning forum</i> for TIES partners and other institutions. |
| <i>Short-term training</i> | More UADY students will have the opportunity to team with TIES colleagues and other students and faculty at Cornell while also sharing responsibility in “taking home” what they learn so it can be discussed with peers and faculty. |
| <i>External project evaluation</i> | Help assure greater future achievements, larger benefits and long term impacts for all partners. |
| <i>TIES student research</i> | This information should enrich teaching and research programs at all institutions and help to develop practical recommendations for farmers and their advisors. |
| <i>Future publications</i> | Inform larger audiences in Mexico and abroad about agricultural challenges and problem-solving approaches in the Gulf region. |

5. How did these activities help strengthen the capacity of Mexican higher education institutions?

All teaching, training and research activities, and concomitant institutional and personal interactions, helped to better define and understand problems affecting farmers in the region. Courses on our teaching platform and the planning of thesis and other research projects were aimed at resolving management challenges of livestock owners. They also provided substantial interactions and “food for thought” foment and reflection about curriculum design and modifications to better prepare the next generation of professionals to effectively address Mexican problems and challenges. The IARD 602 field laboratory—putting together in farmer’s fields an international team of students and faculty, farmers and other Mexican professionals—was catalytic in this regard, and highly valued also by students from Mexican institutions. The overall goal is for livestock owners, their communities, and other professionals to benefit from a functional partnership focusing on decision support of the systems they manage. As pointed out by our external reviewer, Dr. Lucia Vaccaro, these activities challenge Mexican partners to consider needed adjustments—some structural in nature, others operational—to implement appropriate curricular changes and to capitalize on the learning and potential institutional synergies from this and future international partnerships.

A system dynamics-based model of the Gulf region's sheep sector provided insights about appropriate research policy (e.g., through examination of impacts of productivity increases on the well-being of small- and large-scale sheep producers) and development policy (e.g., the impacts of subsidies provided to support additional investment in sheep production). The initial audience for these policy-related exercises has been faculty, students and staff at the participating institutions, but upon further refinement these insights can be communicated to state-level and regional decision makers.

6. How did activities help strengthen the capacity of the Mexican community and/or community institutions?

Our IARD 602 field course and research activities visibly demonstrated university outreach efforts to farmers, farmer organizations and rural communities. They also demonstrated concern about the need for effective responses to their problems and for enhanced management capacity to assess and act upon technology, market and policy changes.

This field laboratory was also fundamentally a community and rural outreach activity facilitated by those working in this forum. Farmers from all backgrounds—ejidatarios to commercial agribusiness owners—and other professionals in the rural sector were gratified by the attentions given and the importance ascribed by this international field course to their communities and livelihoods.

7. How did these activities benefit the U.S. higher education institutions?

These activities helped build capacity and enhanced Cornell's ability to train future professionals from around the world to deal with pertinent global, as well as Mexican, problems. As a result, Cornell faculty members further developed skills in the application of methods and technologies to facilitate cross-cultural, inter-disciplinary research and instruction. Personal interactions and communications were also strengthened between interested faculty members and research scientists in addressing real-world problems and constraints. These benefits were mutual. Through various program achievements, starting with the TIES short courses in the first year of this project, short-term training, special UADY student training and full implementation of our teaching and research platforms, Cornell is also better prepared to focus on relevant issues with scientists and students at partner institutions.

8. How did activities benefit the U.S. community and/or community institutions?

Public awareness and consciousness about pertinent Mexican, regional and global issues—global citizenship—have been enhanced. Specific educational outreach mechanisms were through US student participation in (and parental and home community knowledge about) core courses, our Web-platform information clearinghouse, and press articles about modern educational programs. For example, the attached April 6, 2006 article, "Cornell students visit 'living labs' of Mexico and India", was published in a *Cornell Chronicle* edition that was circulated to all US land grant institutions (see page 10 at http://www.news.cornell.edu/Chronicle/06/04_06_06.pdf).

9. List other collaborating Mexican institutions (e.g., NGOs, government agencies, education institutions) and briefly describe their involvement in partnership activities.

Many others have contributed to our partnership's teaching and research platforms.

- Teaching platform collaborations included the following.
 - *Colegio de Posgraduados, Campus Cárdenas, Tabasco (ColPos)*. Professors Lorenzo Aceves and Mario Osorio were key collaborators in the planning and delivery of the Tabasco component of the IARD 602 field laboratory.
 - Several institutions, individuals and business owners contributed as “guest professors” in the IARD 602 laboratory addressing real-world problems. Many individuals were involved (**see itineraries** at the IARD 602 Web sites), including:
 - *Papaya Caribe*. A papaya export business also involved in forestry, horticulture and livestock production.
 - *Comisión Nacional de Áreas Protegidas*. A government agency charged with managing the Ría Lagartos Biosphere Reserve.
 - *Ejido Yaxchekú*. A Yucatán ejido managing a diversified agricultural portfolio including honey bees.
 - *Chocolates Casep*. A vertically-integrated cacao farm and chocolate manufacturer in Tabasco.
 - *Rafael Aguirre*. Entrepreneurial agribusinessman and cattle producer in Veracruz.
 - *Silvio Lagos*. Veracruz congressman (and former federal congressman) who discussed development needs of the Mexican rural sector.
 - *GGAVATT Nueva Generación*. Leaders of this livestock NGO, accompanied by INIFAP consultants, informed about dairy production and marketing challenges in the Veracruz highlands.
 - *GGAVATT Génesis*. This NGO membership of *ejidatarios* informed about their business model and the need for dedicated participation by each member.
 - *INIFAP El Palmar Research Station, Tezonapa*. INIFAP researchers informed about agroforestry, reforestation and integrated cropping options (e.g., tropical fruits, spices, rubber) for local farmers.
 - *Micoxtla*. This mountain community in the Coatepec, Veracruz watershed, where women's initiatives provide key leadership and action, works with the INIFAP-Xalapa field team on the enhancement of rural household incomes through high-value and value-added products.
- Student research projects were underwritten through individual farmer collaborators and farmer organizations who were partners in these studies. For example, the farms of six smallholder

collaborators are research sites for the doctoral study by D. Parsons. Many farmers and farmer organizations are collaborators with university and INIFAP scientists in the studies led by K. Baba, V. Absalón and O. Cristobal.

10. List other collaborating U.S. institutions and briefly describe their involvement in partnership activities.

- *University at Albany, State University of New York, School of Business.* The Mexican MS students had the opportunity to interact with systems researchers from the School of Business to complement the AEM 494 course materials.
- *Dowling College, School of Business, Oakdale, NY.* The Mexican MS students had the opportunity to attend a seminar on “participatory systems model building” presented by a faculty member visiting Cornell. This activity complements material covered in AEM 494 and may be an important component of future joint diagnostic and research efforts.
- *Ventana Systems, Inc (a systems modeling consulting company).* The Mexican MS students had the opportunity to meet with a Senior Consultant from Ventana Systems, Inc. during his visit to Cornell. They discussed the application of systems modeling in consulting and business, and attended presentations on integrated modeling of the global climate system and the future of electricity generation in China.
- *University of California, Berkeley.* The Mexican MS students and the three short-term trainees met with Ms. Leslie Martin, a PhD candidate in the Department of Agricultural and Resource Economics at UC Berkeley. Ms. Martin discussed modeling work on agricultural production chains in Bolivia funded by the World Bank, and presented a lecture on a variety of applications of system dynamics modeling in AEM 494.
- *Dr. Richard Dudley (a systems modeling consultant).* The Mexican MS students had the opportunity to meet with Dr. Dudley, a fisheries biologist who applies systems modeling in his work. His work on fisheries depletion is relevant for issues discussed during the IARD 602 course with a local fisherman’s cooperative. In addition, Dr. Dudley presented a seminar on the use of systems modeling to evaluate programs that make payments to farmers for environmental services. This has relevance for programs in the watersheds in Veracruz State visited during IARD 602.
- *Northland Sheep Dairy, Freetown Corners, NY.* The eight Mexican participants in fall 2005 and five in 2006 visited this local organic sheep dairy to discuss its forage management practices, nutrient cycling and its efforts to evaluate the sustainability of its management practices. This activity reinforced learning related to systems thinking and modeling and provided a useful contrast to the sheep production and marketing systems in Mexico.
- *Scheffler Dairy Farm, Groton, NY.* In fall 2005 TIES trainees from UADY, UV and INIFAP visited this 50 cow dairy farm that made the transition to organic production in late 2003. Owner-operators Ed and Eileen Scheffler explained organic dairy management systems and markets, the decision-making processes that preceded the transition, and the ongoing learning process that was required. This visit provided an example of how some farmers are responding to rapid structural and market changes in the US dairy industry. Participants learned about the roles that informal

innovation and farmer-to-farmer networks are playing as small producers respond to the challenges of change.

- *Hardie Farms, Lansing, NY.* In fall 2005 TIES participants visited this free stall dairy farm housing more than 800 cows and met with owner-operators Skip Hardie and Steve Palladino. This visit offered a contrasting example of managerial response to rapid agricultural industry change. Undergoing major expansion in the past two decades, Hardie Farms employs state of the art technology and economies of scale for labor, capital and management inputs to thrive when average producers are encountering shrinking net profit margins. Participants discussed design elements of milking parlors, free stall housing, feed storage and facilities for manure handling that are typical of large, confinement dairy operations. Mr. Hardie discussed the role of various knowledge and information sources—including university researchers, extension educators, private consultants and other farmers—to facilitate the efforts of his management team.
- *Cornell Sheep Farm (Animal Science Training and Research Center), Harford, NY.* Mexican TIES participants discussed common sheep management systems in New York State with Farm Manager Brian Magee. Visitors toured facilities and discussed Cornell’s research and extension programs (<http://www.ansci.cornell.edu/sheep/index.html>).
- *Cornell Beef Farm (Animal Science Training and Research Center), Harford, NY.* Mexican TIES participants discussed common beef systems in New York State with Farm Manager Debbie Ketchun. Visitors were given an overview of how the university works with producers in a program of applied research and extension (<http://www.ansci.cornell.edu/beef/beef.html>).
- *Dr. Jack Homer.* The Mexican MS students and the three UADY graduate student trainees met with Dr. Homer, a systems modeling consultant specializing in business and health policy issues. The students also attended a seminar by Dr. Homer on health policy, which complements the material covered in AEM 494.

11. What has been the partnership’s greatest success(es)?

- *Rural Human Welfare “Yucatan”* (“Yucatan” Bienestar del hombre en el campo), a 9-min video-documentary, was an exemplary outcome from the student projects conducted in Dr. Elvira Sánchez’ course, *Media Analysis and Production*. Subjects were four families (and their communities) who participated in our rapid appraisal of farming systems with sheep. Four undergraduate women wrote the script and produced the video based on their eye-opening, first-ever, rural experiences in September and October 2004. This documentary resulted from novel collaboration between UADY’s Schools of Anthropology and Veterinary Medicine and Animal Science (FMVZ), which was catalyzed by our TIES project.

“This video made me feel proud to be Yucatecan.”—Dr. Juan Magaña, UADY professor

- Completion of a 60-household survey of beef cattle producers in Tizimín, Panabá and Peto. In addition to fundamental information about constraints and opportunities, this activity serendipitously fostered unanticipated feedbacks from producers about how the UADY may better help them. Farmers said they needed a portfolio of effective technologies, information on how to use them, and tailored short courses in their own communities—a clear role for UADY. Priority technical issues included the management of costs of production, alleviation of productivity constraints, marketing, and credit.

- This feedback experience led to a UADY document summarizing these initial sentiments. This document, *Problemática y Retroalimentación Planteadas por Productores Bovinos del Oriente del Estado de Yucatán*, prepared by Drs. Juan Magaña and Guillermo Ríos, was circulated to producer associations for feedback to guide future research and outreach. View it by clicking on “Farmers said” at <http://tiesmexico.cals.cornell.edu/research/>. Thus, our TIES program identified information needs that can serve as the basis for better relationships between UADY and its producer clientele.
- Our original TIES training series of four short courses was so well received that participants emphatically requested a fifth course. Consequently, an independently financed course on the dynamics and effective modeling of agricultural systems with livestock was given April 8-13 at the Universidad Veracruzana. Additional benefits came from active discussions about teaching needs, teaching platforms and research planning, including potential thesis issues for a TIES student entering Cornell University in August (Victor Absalón) and two UADY doctoral students (Valentín Cárdenas and Fernando Duarte). Furthermore, Director Lamothe financed the training of one UV faculty member in system dynamics methods at Cornell in fall 2005 so that UV can offer a course in this subject to its students.
- *IARD 602 two-week “living laboratory”*. This joint teaching experiment was a resounding success in fact-finding and in building personal relationships and cross-cultural teams while analyzing constraints affecting farmers and rural populations in the Gulf region. Camaraderie, enthusiasm and excitement, and fluid communication among Mexican, US, and other participants from several countries were fostered through a structured itinerary for the gathering of information. This learning experience—unique for Mexican participants and others—involved many farmers and professionals in Mexico’s agricultural and natural resources sector. This information gathering mission was especially successful due to concerted efforts by UADY, UV, INIFAP and ColPos colleagues and many gracious hosts. This laboratory experience was complemented by written term projects and videoconference presentations by students about issues that were observed to impinge on farmers and communities in this region.

Mutual interest among INIFAP-Xalapa, two UV schools (Agricultural Sciences and Veterinary and Animal Sciences) and Cornell led to continuation of this course in January 2008 (and its IARD 402 prerequisite) to be conducted in a workshop mode focusing on mountain micro-watersheds. Each institution will fund its own students and faculty.

- *Enhanced understanding of methods and technologies for collaborative research and instruction*. As a result of our partnership activities, better appreciated are videoconferencing, Web-platform and face-to-face interactions as valuable constituents of a problem-oriented coursework curriculum and for designing thesis research projects.

Alternative approaches and methods of instruction and learning have been demonstrated through short-term training and the five courses constituting our TIES teaching platform. Details are found at our TIES project site and on our Web platform of course sites. These activities and interactions facilitated discussions with all partners about coursework focus and content and about problem-solving priorities and feasible research design (e.g., principal drivers and feedbacks affecting performance of livestock and farming systems).

Learning materials archive. Besides educational materials (literature references, Powerpoint presentations) from the five short courses in 2004-05, materials are also accessible (and downloadable) for courses offered through our partnership program. In addition, a total of 67 video-with-Powerpoint

presentations from the 2005-07 academic years are currently available via **Cornell Transnational Learning** (<http://www.ctl1.com/>).

12. Briefly describe programmatic challenges the partnership faced and how they were addressed.

As summarized by the external evaluator, the partnership faced serious challenges throughout the project in determination of decision-making authority and UADY administrative and logistical support, which constituted a significant limitation to achievement. Despite early frank discussion and agreements to remedy chronically slow action with more efficient and timely execution of project tasks, needed change was slow. Project activities needed to be carried out more efficiently and in a timelier manner to fully realize the expected benefits for all partners (e.g., reducing barriers and garnering institutional encouragement and faculty support to obtain greater faculty and student participation in joint courses and videoconferences). Near-nonexistent communication responses about IARD 602 field course planning and organization by UADY counterparts from August 2006 to January 2007 made successful execution of this activity particularly burdensome. These and related issues were further distilled in the attached second evaluation report.

13. Did your partnership working with Mexico's *Consejo Nacional de Ciencia y Tecnologia* (CONACyT)? Please describe involvement and information about any scholarship(s) awarded.

No. As indicated in past reports, we have attempted to obtain CONACyT scholarship support for new TIES applications. PIFOP-CONACyT funds have been utilized by UADY to support their graduate students in past short-term training at Cornell. One of the TIES project-funded Mexican students, Victor Absalón, independently obtained CONACyT support to pursue doctoral studies at Cornell (January 2008) following completion of his MS degree program.

14. Outline your partnership's planned activities beyond the HED funding period.

- Complete training and thesis research projects of two Mexican MS students (Victor Absalón, Omar Cristobal) who are participants in and contributors to our TIES research and teaching platforms.
- Finalize the dissertation research of D. Parsons on sustainability of Yucatecan crop-livestock systems.
- Conduct during the 2007-08 academic year additional (new, independently funded) editions of two courses, IARD 402 and 602, in collaboration with INIFAP scientists and students and faculty from two schools at the UV.

15. In your opinion, the overall partnership outcomes: x met (certain) expectations and x did not meet others, falling short of its potential.

16. How has information about your partnership been disseminated?

- *November 19, 2004.* Press conference with F. Herrera, R. Blake, G. Ríos and C. Nicholson about our TIES project and activities. A newspaper article and a television news report resulted from this conference:
 - Page 12, Sección Imagen, *Diario de Yucatan*. 20 November 2004. **Convenio de colaboración para investigación conjunta. Acuerdo entre instituciones de Mexico y EE.UU.** (See article in attached file: *Diario de Yucatán 20 noviembre de 2004.pdf*)
 - Other press releases in the UADY archive:
<http://www.uady.mx/sitios/prensa/boletines/nov-04/19-nov-04.html>
<http://www.uady.mx/sitios/prensa/boletines/oct-04/19-oct-04.html>
<http://www.uady.mx/sitios/prensa/boletines/sep-04/20-sep-04.html>
<http://www.uady.mx/sitios/prensa/boletines/sep-04/17-sep-04.html>
<http://www.uady.mx/sitios/prensa/boletines/sep-04/02-sep-04.html>
- *November 20, 2004.* One-hour interview (R. Blake with G. Ríos and C. F. Nicholson) about our TIES project on the weekly radio program, *Revista Universitaria*. Broadcast 8:00-10:00am, Mérida. A recording of this interview may be downloaded from **Cornell Transnational Learning** by clicking on Mexico Radio Show Download at <http://transnationallearning.cornell.edu/secureaccess/courses/iard402602/index.htm>
- *April 13, 2005.* **Estudian abaratar costos a productores**, brief article on the final day of our 5th TIES short course appearing in the Veracruz newspaper, *El Dictámen* (See article in attached file: *El Dictámen.pdf*)
- *Web-platform.* Information has been disseminated through our TIES Web site (<http://tiesmexico.cals.cornell.edu/>) and through the five course sites identified above.
- *October 27, 2005.* A general information article about our partnership based on interviews of short-term training participants from UADY, UV and INIFAP was published in the *Cornell Chronicle*. Entitled “Cross-border team to help Mexican farmers better manage their livestock”, this article may be accessed at *ChronicleOnline* (http://www.news.cornell.edu/stories/Oct05/Mexican_Scholars.kr.html) and in the *Cornell Chronicle* archive at www.news.cornell.edu.
- *April 6, 2006.* “Cornell students visit ‘living labs’ of Mexico and India” was published in a *Cornell Chronicle* edition circulated to all US land grant institutions (see page 10 at http://www.news.cornell.edu/Chronicle/06/04_06_06.pdf or the attached Cornell Chronicle article April 6, 2006.jpg).
- *TIES photo albums.* **Cornell-UADY partnership: Prof. Robert Blake’s photos** is a flickr Web location (<http://www.flickr.com/photos/81651699@N00/sets/>) containing dozens of albums with thousands of photos about our partnership activities. These photos are also accessible via the slide shows section of our TIES project site and the field trip itinerary at the IARD 602 site. Photographs are provided to HED and USAID-Mexico through this mechanism.

15. Appendix

UADY student thank you letters

- Augusto Lizarazu
- Jeferson Asprilla

El Dictamen, January 18, 2007

USAID Mexico Mission Weekly Report January 17, 2007

USAID Mexico Mission Weekly Report March 15, 2007

Nota en página Web UV, enero 2007

First external evaluation report by Dr. Lucia Vaccaro, 2006.

Second external evaluation report, July-August 2007

Date: Wed, 24 Jan 2007 08:50:10 -0500

To: "Augusto Cesar Lizarazo Chaparro" <aclizarazoc@gmail.com> From: Robert W Blake <rw5@cornell.edu> Subject: Re: Saludos!
Cc: Terry Tucker <tw2@cornell.edu>, "Charles Frederick Nicholson" <cfnl@cornell.edu>, Nora Pinzón, Guillermo Rios <goatrios@yahoo.com>, Juan Ku Vera, Juan Magaña, Francisco Juarez <juarez_lagunes@yahoo.com.mx>, Ruben Loeza <loeza@yahoo.com.mx>, "Eduardo Guillermo Canudas-Lara" <egcanudas@gmail.com>, "Bertha Rueda Maldonado" <br24@ver.megared.net.mx>, Carlos Lamothe, José Williams

Muy apreciado Augusto,

Muchas gracias por tus palabras y, sobre todo, tus contribuciones a este curso. Los provechos que citas tantos personales como profesionales involucran a los objetivos de este proyecto y del programa TIES-Enlaces. Estos resultados, frutos de un gran desempeño hecho por todos los aliados en la UADY, UV, INIFAP y Cornell, me complace.

Gracias por enviar tu propuesta de trabajo al Profesor Nicholson. Me la entregó ayer.

Saludos cordiales con un fuertísimo abrazo fraternal,

Roberto

At 08:03 PM 1/23/2007, you wrote:

Respetado Doctor Blake

Reciba un cordial saludo

A través de este medio quisiera agradecerle la oportunidad que me brindo de participar en este interesante curso, que amplía mucho más el criterio profesional, técnico económico y social que uno tiene acerca de la producción primaria en países en desarrollo, además de los problemas que en mi opinión, son transversales a todos los países, con sus respectivas particularidades.

Excelente la posibilidad de poder intercambiar opiniones e impresiones con gente de otras culturas, que lo hacen a uno crecer como persona.

Le queda a uno la inquietud de querer hacer muchas cosas relacionadas con la extensión y el desarrollo rural, que es fundamental para el crecimiento del sector primario de nuestros países.

Por último, le comento que le envié al Dr Nicholson, la justificación del trabajo que desarrollaré con respecto a la temática del grupo.

Atentamente

Zootecnista
Augusto César Lizarazo
Estudiante
Maestría Producción Animal Tropical
Universidad Autónoma de Yucatán
Unidad de Posgrado e Investigación
Mérida, Yucatán
9991267581

Mérida, Yucatán (México), enero 23 de 2007

Doctor:

ROBERT BLAKE

Cornell University

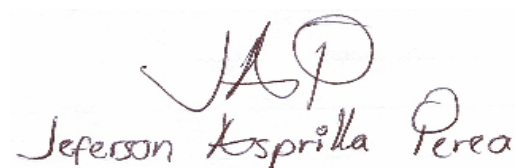
Atento saludo,

Mediante la presente me permito manifestar a usted, a su universidad y a todo su equipo de colaboradores mi mas profundo agradecimiento por haberme permitido la oportunidad de asistir en calidad de estudiante de la Universidad Autónoma de Yucatán al curso internacional Agricultura in Developing Nations II (602).

La verdad para mi fue una experiencia maravillosa por que pude conocer de cerca el estado, avances y problemática de los pequeños, medianos y grandes productores del área agropecuaria en el Golfo de México, lo cual enriquece considerablemente mis conocimientos y alcances a la hora de enfrentar la Maestría en Manejo y Conservación de Recursos Naturales que actualmente curso, más aun en mi calidad de estudiante extranjero (ya que mi país de origen es Colombia).

Finalmente, manifiesto mi interés de continuar el vinculo con ustedes y me comprometo a replicar los conocimientos adquiridos durante mi estancia en México y al regresar a mi país, ya que en este me desempeñaré como docente de la Universidad Tecnológica del Chocó, con sede en la ciudad de Quibdo, departamento del Chocó – Colombia.

Con profundo agradecimiento,

A handwritten signature in dark ink, appearing to read 'JAP' in a stylized, cursive font, followed by the full name 'Jefferson Asprilla Perea' written in a more legible, slightly cursive script.

Est. Maestría en Manejo y Conservación de Recursos Naturales (UADY)
Profesor Universidad Tecnológica del Chocó (Colombia)

Con copia: Universidad Tecnológica del Chocó (Colombia)



EL DICTAMEN

EN EXPOVER, SE FIRMÓ EL CONVENIO de colaboración entre la UV y la Universidad de Cornell, Estados Unidos; el acuerdo lo signaron el rector de la UV, doctor Raúl Arias Lovillo; el vice-rector de Relaciones Internacionales de la Universidad de Cornell, David Wippman y el profesor internacional de ciencia animal y responsable del proyecto Enlaces, Rober Blake.

Para impulsar al sector pecuario Convenio de la UV con Universidad de Cornell

MARIANO VELASCO HERNANDEZ / EL DICTAMEN

La UV y la Universidad de Cornell, Estados Unidos, firmaron ayer un convenio de colaboración para impulsar el

desarrollo de un área estratégica para los veracruzanos, la agricultura y la producción de alimentos.

Primera Sección (2)

Para impulsar al sector pecuario Convenio de la UV con Universidad de Cornell

VIENE DE LA PORTADA / EL DICTAMEN

Con la Universidad de Cornell, la UV ha venido trabajando desde el 2003 a través de la Facultad de Medicina Veterinaria y Zootecnia en materia de ciencia animal y alimentación. Con esta sociedad se busca la mejora de la productividad, de los beneficios y de las rentas rurales en la región del Golfo de México con un programa orientado al sistema de la ayuda del entrenamiento y de decisión a la industria del ganado.

En EXPOVER, el rector de la Universidad Veracruzana, doctor

Raúl Arias Lovillo; el vice-rector de Relaciones Internacionales de la Universidad de Cornell, David Wippman, y el profesor internacional de ciencia animal y responsable del proyecto Enlaces, Robert Blake, signaron el acuerdo con el que se formaliza la toma de decisiones sobre sistemas y componentes pecuarios en la región del Golfo de México, específicamente en rentabilidad y manejo nutricional del ganado bovino y ovino.

El doctor Raúl Arias Lovillo, acompañado del director de la Facultad de Medicina Veterinaria y Zootecnia, Carlos Lamothe Zavaleta, destacó que la alianza

internacional es la base del impulso para programas de beneficio social y que este convenio, al que se le suman la Universidad Autónoma de Yucatán y el Instituto Nacional de Investigaciones Forestales Agrícolas y Pecuarias (INIFAP), es una muestra muy clara de que a través de la colaboración es posible orientar los apoyos institucionales a problemas reales y fundamentales.

Resaltó la importancia de que el Gobierno de Veracruz junto con la UV puedan sentar las bases de un mejor futuro para los veracruzanos, porque "para la UV el papel fundamental que debe cumplir una universidad públi-

ca es distribuir socialmente el conocimiento; contribuir con conocimientos a los distintos sectores sociales que les permitan su crecimiento". En este sentido recalcó el rector que el acuerdo suma los esfuerzos de capacitación y entrenamiento para que se pueda elevar la productividad y la rentabilidad de un sector tan importante como es la producción de alimentos de origen animal en la zona del Golfo de México.

William Blake, responsable del proyecto Enlaces, financiado por la Agencia para el Desarrollo Internacional de Estados Unidos, detalló que su objetivo es establecer alianzas con instituciones educativas de México y los Estados Unidos, y el sector privado para apoyar el crecimiento económico y social de nuestro país, a través del intercambio de conocimientos, capacitación, inves-

tigación, becas e intercambios con las instituciones educativas.

Explicó que con la firma de este convenio se formaliza el compromiso de colaboración y la definición de la agenda de actividades. Además afirmó que de esta manera se establece una relación sin fronteras entre la Universidad de Cornell y la Veracruzana, y México se suma al gran laboratorio de desarrollo para la investigación conjunta entre académicos, que Enlaces sostiene con Alemania, China, Ghana, Colombia, Egipto y Argelia, entre otras naciones.

Como testigos de honor estuvieron presentes los secretarios de Gobierno, Reynaldo Escobar Pérez, y de Desarrollo Agropecuario, Rural, Forestal, Pesca y Alimentación, Juan Humberto García Sánchez, representantes del Gobernador Fidel Herrera Beltrán, lo que "manifiesta

el interés del ejecutivo estatal por este importante evento", reconoció el rector de la UV.

Reynaldo Escobar Pérez, secretario general de Gobierno del Estado de Veracruz, reconoció el brillante desempeño profesional del rector Raúl Arias Lovillo al frente de la UV y la gran expansión del conocimiento que ha promovido; expuso que esta alianza contribuirá al desarrollo de nuevos cuadros que impulsarán el crecimiento de Veracruz en un área estratégica como la agricultura y la producción de alimentos prioridad no únicamente para los mexicanos sino para toda la humanidad.

La vice-rectora de la UV, maestra Liliana Betancourt Trevedhan, asistió a la firma del convenio de la Universidad Veracruzana con la Universidad de Cornell.

Juan Malpica Silva 1912-1960

Bertha Rosalia Malpica Martinez de Ahued

Juan Malpica Mimerel 1960-1998

EL DICTAMEN
DECANO DE LA PRENSA NACIONAL
Fundado el 16 de septiembre de 1898

AÑO 109
Jueves 18 de
Enero de 2007
Núm. 38851
www.eldictamen.com.mx



USAID Weekly Report – January 17, 2007

U.S. Mission Mexico



USAID Supports Anti-TIP Awareness Efforts in Chihuahua

As a follow-up to the new anti-trafficking in persons (TIP) law that was unanimously passed by Chihuahua's state legislators, USAID provided support for an international conference entitled, "Trafficking in Persons: The current situation, perspectives and challenges," that was held in Ciudad Juarez. The conference brought together government and judicial officials, women and children's groups, members of human rights non-governmental organizations (NGOs), civil society, academics, and researchers to discuss how to investigate and prosecute traffickers, while maintaining a focus on protecting and rehabilitating victims. Chihuahua is the first state in Mexico to reform its penal code and adopt a comprehensive anti-trafficking in persons law that for the first time classifies TIP as a serious crime. The new legislation came into effect on January 1, 2007, and will serve as a model anti-TIP law that can be expeditiously adopted by Mexico's other thirty states and the Federal District. Once the anti-TIP law is enacted by all the states, Mexico will have the legal means, previously missing, to bring the scourge of trafficking in persons under control.



Universities Collaborate on Agriculture Programs



Under USAID's Training, Internships, Exchanges, and Scholarships (TIES) program, Cornell University, Universidad Veracruzana, Universidad Autonoma de Yucatan and the National Institute of Forestry, Agriculture and Fishing Research (INIFAP) participated in a "living laboratory" course developed by the TIES partnership to conduct field visits to rural farms throughout Yucatan and Veracruz to get a first hand look at development issues faced by small farmers. The class is composed of students from Mexico, U.S., Ghana, China, Algeria, Egypt, and Germany. Under a memorandum of understanding, the faculty and students of Cornell University and Universidad Veracruzana are increasing their collaboration on rural, agriculture projects, with a focus on Livestock Systems in the Gulf of Mexico region.

Financing Approved for Tabasco's Cacao Producers



The first international production loan was recently approved for a Cacao Marketing Board in Tabasco through EcoLogic Finance.

This production loan totaling \$90,000 USD will allow the marketing board to support cacao producers through this year's harvest cycle and finance the export of 250 metric tons of specialty cacao to new European markets.

In addition to helping procure production loans, USAID has provided assistance to cacao producers to raise the quality of their product to international standards, which will enable producers to obtain premium prices for their specialty and organic cacao.



USAID Weekly Report – March 15, 2007

U.S. Mission Mexico



President Bush Visits Mexico - Hears First Hand Accounts from USAID Scholarship Recipients



In a March 14th breakfast meeting with 14 USAID scholarship recipients, President Bush kicked off the meeting with the following statement, "I'd like to thank you all for joining us. One of the best things America can do is help people realize their dreams. The best way to realize dreams is through education."

I'm so happy that you all have joined me to share with me your experiences from one of our most effective programs, which is a program aimed at improving the human condition. I'm proud of the citizens of the United States who show great concern for citizens in our neighborhood. And I thank you for coming to share your experiences."

In addition to President Bush, senior members of his administration attended, including Assistant to the President for National Security, Stephen Hadley, White House Chief of Staff, Joshua Bolton, Assistant Secretary of State, Thomas Shannon, Special Assistant to the President and Senior Director of Western Hemisphere Affairs, Dan Fisk, White House Press Secretary, Tony Snow, along with U.S. Ambassador to Mexico, Antonio O. Garza.

All the participants at the breakfast were recipients of USAID's Training, Internships, Exchanges and Scholarship (TIES) program, which is a collaborative effort between the U.S. government and U.S. - Mexican educational institutions, and the private sector. TIES promotes U.S. and Mexican university partnerships to address development problems and provides community college scholarships targeted for disadvantaged Mexicans living in rural and poor areas throughout the country, in addition to scholarships to Mexican rural teachers to strengthen rural primary education for indigenous children. To date, over 55 partnerships have been established and 600 long term scholarships awarded.



After the President's remarks, he asked Victor Lopez and Marcela Ruiz to share their experiences and had time to dialog with each participant to hear the impact that USAID scholarships had on their lives and their community in Mexico. The President told the participants, that he appreciated hearing their stories.

President Bush Highlights USAID's TIES Program at Joint Press Conference with Mexico's President Calderon



Following his breakfast meeting with USAID scholarship recipients, President Bush participated in a joint press conference with Mexico's President Calderon. In his statements, Mr. Bush had the following statement: "Education is an important issue for our two countries. And I appreciate your commitment to strong education. The United States can help. I'm a big believer in student exchanges between our two nations, on both sides of the border. And one reason I am is because I think it's important sometimes for people to gain an accurate perception of my country by coming to my country. I love the fact that students travel back and forth."

Mr. President, this morning I met with some students that are funded through USAID programs, who have come to the United States to take different courses in different subjects, and then have come back to Mexico to lend the expertise that they have gained to improve the communities in which they live. This is a vital program that the United States must continue, in my judgment, in order to help people realize the great benefits of education."

In His Own Words - Victor Lopez Addresses President Bush

I want to express my deepest appreciation for this opportunity. Thank you, Mr. President, for sharing my story in your speech last week. Your words fill me so happy. And I have the encouragement to keep working in my community. I want to express my gratitude, as well, to Becas CASS program and USAID for selecting me for this scholarship in 2004. I received also an associate degree in international business and trade at Scott Community College, Bettendorf, Iowa.

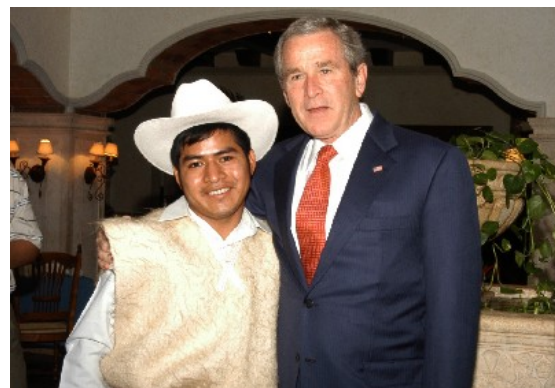
And finally, I would like to thank everyone that supported me and helped me for this opportunity, my dreams come true -- especially my family. I had to face many challenges to get an education, but I learned that with the right attitude and a lot of effort and commitment, everything is possible.

At the age of 12, I had to leave my community to be able to study high school. I faced several obstacles, including the fact that I did not speak Spanish, because my language is Tzotzil. Now I speak three languages. I had to work to support my education. This is how I was able to study. I still continue fighting for my dream today, which makes me value them even more.

I really enjoyed my time in the U.S.A. I lived with a nice family for the first year. We had a hard time trying to communicate to each other, but quickly I felt like one of their family. I still talk with them, and although I missed my Mexican food, I thought I would only be eating hamburger and pizza. My American family introduced me to delicious food and I gained weight. From the U.S.A. culture, I learned to value organization, civic responsibility -- and respect and tolerance, to be able to work with others. I did an internship in a coffee production company in Bentondorf, to use the skills that I was learning in commerce and administration. These same skills have helped me to start a small family-run Internet cafe and bakery in Comitán, Chiapas. I also volunteer with two associations, one is a local coffee company made up of indigenous people -- coffee growers. They assist with financial management and human resources, assist them in possessing the -- certificate and serve as a translator. I am also continuing my education in bachelor degree in accounting at Universidad Autónoma de Chiapas.

I want to invite Mexican young people to come together and commit to their community and our country. Education is the only means to improve our quality of life and achieve peace, social peace in the entire world.

Once again, thank you for this scholarship program. I hope the U.S.A. government will continue to support this program so that other young people can have the same opportunity that I have had. Thank you.



Marcela Ruiz Shares Her Experience With President Bush



Good morning, Mr. President, ladies and gentlemen. Being a small business owner is more than just a job or as a way to make a living. It's a calling in life. The power of having an idea, taking a risk, and starting a small business that fulfills a need in the marketplace, and that creating jobs is truly magical. In Mexico, there exists a very strong entrepreneurial spirit, just like in the United States, where men and women from all over the country are ready to engage their God-given abilities, work hard, and improve the life of their families. I have dedicated my life to helping businessmen and women in the state of Aguascalientes live their dreams and start their own small businesses. My center, CEINNOVA, was started in 2001 and has since helped over 300 small businesses start and prosper, which has resulted in the creation of hundreds of jobs and improved the lives of countless families.

A key factor in the CEINNOVA success was having the opportunity to participate in a training program offered by the Universidad Autonoma of Guadalajara and the University of Texas at San Antonio, and supported by USAID. The diplomatic training program shared a small business counseling and training best practices from the 1,100 centers from U.S. small business development network. This training not only helped us to better assist the entrepreneurs of Aguascalientes, but it also linked up with counterparts in the U.S. and helped us support a growing Mexican association of Small Business Development Center Network now led by the Universidad Veracruzana. On behalf of the many businessmen and women that we have helped, I would like to thank you, Mr. President, and the American people for supporting us. I am very proud of the work of CEINNOVA and the Mexican Small Business Development Center Network are doing here in Mexico to grow the small business sector, create jobs, and improves the life of its community. Thank you very much.



Para mejorar la productividad, los beneficios y las rentas rurales

Impulsarán UV y EUA desarrollo agrícola en Veracruz

- *A través de la UV , México se suma a un gran laboratorio de investigación conjunta con Alemania, China, Colombia, Ghana, Egipto y Argelia, entre otras naciones*



La UV y la Universidad de Cornell en EUA firmaron un convenio para impulsar el desarrollo agrícola de Veracruz

Carolina Cruz

Boca del Río, Ver.- Para impulsar el desarrollo de un área estratégica para los veracruzanos, como la agricultura y la producción de alimentos, la Universidad Veracruzana y la Universidad de Cornell, en Estados Unidos, firmaron este martes un convenio en materia de ciencia animal y alimentación.

Así, ambas instituciones consolidaron la colaboración que han sostenido desde 2003, a través de la Facultad de Medicina Veterinaria y Zootecnia (MVZ), en aras de mejorar de la productividad, los beneficios y las rentas rurales en la región del Golfo de México, mediante un programa orientado al sistema de la ayuda del entrenamiento y de decisión a la industria del ganado del rumiante.

En las instalaciones del World Trade Center, el rector de la UV, Raúl Arias Lovillo, el vicerrector de Relaciones Internacionales de la Universidad de Cornell, David Wippman y el profesor internacional de ciencia animal y responsable del proyecto *Enlaces*, Robert Blake, signaron el acuerdo con el que se formaliza la toma de decisiones para estudios sobre sistemas y

componentes pecuarios en la región de Golfo de México, específicamente en rentabilidad y manejo nutricional de ganado bovino y ovino.

Arias Lovillo, acompañado del director de la Facultad de Veterinaria, Carlos Lamothe Zavaleta, destacó que la alianza interinstitucional es la base del impulso para programas de beneficio social y aseguró que este convenio –al que se le suman la Universidad Autónoma de Yucatán y el Instituto Nacional de Investigaciones Forestales Agrícolas y Pecuarias (INIFAP)– es una muestra muy clara de que a través de la colaboración es posible orientar los apoyos institucionales a problemas reales y fundamentales.



Representantes de diferentes países atestiguaron la incorporación de México, a través de la UV , a una red internacional de investigación alimentaria

Resaltó la importancia de que el Gobierno de Veracruz junto con la UV pueden sentar las bases de un mejor futuro para los veracruzanos, porque “para la UV el papel fundamental que debe cumplir una universidad pública es distribuir socialmente el conocimiento: contribuir con conocimientos a los distintos sectores sociales que les permitan su crecimiento”.

En este sentido, recalcó que el acuerdo suma los esfuerzos de capacitación y entrenamiento para que se pueda elevar la productividad y la rentabilidad de un sector tan importante como es la producción de alimentos de origen animal en la zona sur del Golfo de México.

Por su parte Robert Blake, responsable del proyecto *Enlaces*, el cual es financiado por la Agencia para el Desarrollo Internacional de los Estados Unidos, detalló que su objetivo es establecer alianzas con instituciones educativas de México y los Estados Unidos, así como con el sector privado, para apoyar el crecimiento económico y social de nuestro país a través del

intercambio de conocimientos, capacitación, investigación, becas e intercambios con las instituciones educativas.



El rector de la UV , Raúl Arias Lovillo, aseguró que la colaboración entre instituciones y países permite resolver problemas locales.

Explicó que con la firma de este convenio queda asentado el compromiso de colaboración y la definición de la agenda de actividades. Además afirmó que de esta manera se establece una relación sin fronteras entre la Universidad de Cornell y la Veracruzana , mientras que México se suma al gran laboratorio de desarrollo para la investigación conjunta entre académicos, que *Enlaces* sostiene con Alemania, China, Colombia, Ghana, Egipto y Argelia, entre otras naciones.

Como testigos de honor estuvieron presentes los secretarios de Gobernación, Reynaldo Escobar Pérez, y de Desarrollo Agropecuario, Rural, Forestal, Pesca y Alimentación, Juan Humberto García Sánchez, representantes del gobernador Fidel Herrera Beltrán, lo que “manifiesta el interés del ejecutivo estatal por este importante evento”, reconoció el rector de la UV.

El secretario de Gobierno de Veracruz reconoció el brillante desempeño profesional del rector Arias Lovillo al frente de la UV y la gran expansión del conocimiento que ha promovido, además de que expuso que esta alianza contribuirá al desarrollo de nuevos cuadros que impulsarán el crecimiento de Veracruz en un área estratégica como la agricultura y la producción de alimentos, prioridad no sólo para los mexicanos sino para toda la humanidad.



**First external evaluation report of the Cornell-UADY-UV-INIFAP TIES project
'Decision support of Ruminant Livestock Systems in the Gulf Region of Mexico'
July, 2006**

Lucía de Vaccaro
(Apto. 412, Cusco, Peru; luciavaccaro@hotmail.com)

This report

This report corresponds to the first of two external evaluation exercises programmed for the project which is executed through a partnership between the Universidad Autónoma de Yucatán (UADY); the Universidad Veracruzana (UV), the Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias (INIFAP) and Cornell University. The present evaluation was carried out in July, 2006, towards the end of the project's second year. The report seeks to comment on the results and impacts obtained to date and on options for strengthening work in the future. Since the project's activities are documented very fully, as shown on the website <http://tiesmexico.cals.cornell.edu/>, the information is not repeated here.

The report covers the following aspects:

1. Evaluation activities
2. Objectives of the project
3. Institutional commitment
4. Outputs and outcomes:
 - 4.1 Academic activities
 - 4.2 Information
 - 4.3 Field interface
 - 4.4 Outcomes at the personal level
 - 4.5 Outcomes at the institutional level
5. Conclusions and recommendations

1. Evaluation activities

The following activities were carried out in the course of the present evaluation process:

- Review of electronic and hard copy teaching materials, project reports and communications
- Review of available evaluations, by students, of courses given within the project
- Interviews in Ithaca with Cornell Faculty involved in project (Annex 1)
- Written survey of Mexican students (UADY)

- Interviews with authorities, professors/researchers and students at participating institutions in Mérida and Veracruz (Annex 1)
- Inter-institutional seminar, hosted by UV, Veracruz, to discuss project (Annex 1)
- Field visits in Mérida and Veracruz

A draft of this report was shared for comments with representatives of all partner institutions before the final version was prepared.

Comment: This first evaluation exercise provided a unique opportunity for the participants themselves to take stock of the operation of the project at several levels (eg university authorities, students, researchers). In this sense, it was valuable, regardless of any input the external reviewer may have had, and timing it at the close of the second year still permits adjustments to be made before it ends in 2007. Participants have a realistic grasp of the project's strengths and weaknesses. The challenge now is to take corrective action, where necessary, in order to take fullest advantage of the project in its remaining year. As indicated below, some of the necessary measures will be of permanent benefit, paving the way for more effective international cooperation in future.

As input into the present review, consideration was given to the routine evaluations of academic activities carried out by the participating institutions. Whereas courses at Cornell and the joint courses in Mexico are routinely evaluated by Cornell students, this is not the case for the Mexicans. Neither have the short courses carried out in Mexico had systematic post-course evaluation by participants. It would be valuable to ensure that all the project's academic activities (including higher degree studies in Mexico and the USA) are evaluated by participants using simple, effective formats covering academic and logistical aspects. The results should be used for planning and making adjustments not only for the project itself, but may also be of more general utility to the participating institutions in future.

2. Objectives of the project

Comment: The objectives as set out in the project description are rated as highly pertinent and important. Livestock related production systems in the Gulf region are depressed, but have a high potential for generating employment and, properly managed, for conserving fragile natural resources. The highly disciplinary approach of education in animal and veterinary science, which characterizes Mexican (and generally Latin American) universities, highlights the importance of the multidisciplinary, problem-solving, systems-based focus of the project. At the same time, despite advances in information and communication technologies, there remains an enormous deficit of information pertinent to the problems of the smaller farmer in lowland tropical areas, and models for effective dissemination are urgently needed.

3. Institutional commitment

Visits to the UADY and the UV confirmed a very high degree of commitment of the university authorities to this project. It was pointed out that it fitted well with an ongoing movement to internationalize their operations and strengthen their institutions. At the same time, it fits with the new policy of INIFAP to forge alliances with other institutions and expand efforts in the area of

teaching. Material evidence of this commitment is given by the considerable UADY cash contribution and UV and INIFAP financial commitments to the project, as well as the logistical support provided by collaborating individuals from the three institutions.

Comment: Two aspects merit consideration in this area. First, despite the strong commitment described above, the number of faculty at each institution who are involved in the project is low and several of them in Veracruz already had links with Cornell. The quite limited response is probably to be expected in the circumstances (eg course work overload, administrative burdens, lack of incentives in the evaluation/reward system), and especially because the educational nature of the project itself contrasts with the accustomed type in which donations of equipment, operating costs etc. have been the norm. A set of informative activities was carried out at the start of the project to make it known, at least at the UADY, but there is some perception among faculty (not among the authorities) that it is more a Cornell supply-led initiative, than a Mexican demand-led one. This suggests that a more aggressive, continuous strategy is needed on the part of the Mexican institutional authorities to make the project known and encourage participation. It also raises the question whether the institutional incentive/reward system should give more weight to professional development and teaching excellence.

The second aspect refers to project operation. The volume of activities carried out to date is highly commendable, and events have been uniformly rated by participants as very successful (see 4.4). This tends to mask the fact that the 'transaction costs' (ie time and effort spent by local and Cornell participants), have been extremely high. In spite of the high degree of institutional commitment referred to above, it has not always been possible to carry through actions which had been jointly agreed, in a timely way, or at all. These difficulties are highly characteristic of LAC institutions and unlikely to be unique to this project. They are most apparent at the UADY, but this is at least partly due to their stronger participation and financial involvement. The problems appear to stem from a) intrinsically different academic and financial administrative structures and decision-making processes between the partner institutions, the implications of which were probably not recognized clearly enough before the project started b) complicated decision-making and administrative chains on the Mexican side, where responsibility for routine management of the project has not necessarily been accompanied by executive power, and possibly c) insufficient incentives for faculty to take on the additional work load which the project's operation requires. These problems have already been clearly recognized by the partners. Some of them only have solutions in the long term (see 4.5), but several measures can be taken now to improve the project's operation in its final year. Priority should be given to timely decision making and execution of agreed activities; encouraging wider participation of students and faculty and overcoming any administrative barriers to their participation; and disseminating widely the didactic materials produced by the project (see 5).

4. Outputs and Outcomes

4.1 Academic activities

As the project reports document, its outputs to date have been very substantial (joint courses, short courses, higher degree studies, professor/researcher exchanges, didactic materials produced in a variety of formats). Nearly all the activities programmed originally for the project have been

carried out, and some additional ones as well (eg an additional short course in Mexico, in response to demand). The positive personal and institutional outcomes are discussed further below (4.4, 4.5).

Comment: Each type of activity carried out by the project is justifiable, in this reviewer's opinion, and the balance between them about right. One aspect which now deserves further consideration refers to student selection. The Mexican students have been drawn so far from a fairly restricted pool. This is partly because it has been difficult to free undergraduates and graduates from other academic engagements (see below). On the other hand, the excellent policy of inviting applications from other Mexican universities for students to go to Cornell for graduate studies connected with the project should have attracted more interest. A different strategy from that followed so far seems appropriate (eg ensuring timely, wide circulation of the advertisement and directing it personally to key faculty and researchers in other institutions who might know outstanding student candidates). Language has not been a major selection criterion to date (except for the Cornell graduate students who obviously meet the university's TOEFL standard). The project has been lenient with respect to candidate's initial knowledge of English, and very accommodating about translation. Still, language problems among those who go to Cornell for training or degree programs seem to be a serious limitation, affecting their academic performance and ability to make best use of the opportunity. It is in the long term interest of the Mexican institutions to ensure a working knowledge of the language among students and faculty to enable them to participate fully in global science, so a policy of stricter language requirements should be helpful, especially for graduate students.

4.2 Information

The collection and preparation of information for transmission in a variety of electronic and traditional formats is one of the project's strengths. Courses have been fully supported with relevant literature. It has demonstrated a great richness of options for transmitting knowledge and facilitating learning, using electronic tools (eg web sites, DVD's, CD'S, videoconferencing).

Comment: The project has made a major contribution by filtering useful information in the subject area, and making it easily available to the user, often with translation. This is of particular importance given the proliferation of information, much of it of marginal value. Processing unfiltered information often leads to a gross misuse of time, especially among students and professionals in early stages of formation when language is usually a serious additional limitation.

At the same time, existing curricula in the Mexican institutions are heavily loaded with course work, leaving students and faculty little time for reflection, discussion, research planning and practical work. Access to computers and internet is widespread. Hence the particular value of making full use of electronic tools for the transmission of information, so that more time can be freed up for other vital activities.

The dissemination of the project's information and tools by the Mexican institutions has been somewhat slow to date (eg in the library of the UADY). A more effective strategy is now needed

to promote their incorporation fully into the daily operations of participants (students and faculty), and more widely outside the project as well.

4.3 Field interface

There is a perception in the region that the universities, and to some extent INIFAP, need to do more to address the real problems of farmers. In fact, there was a strong component of on-farm research during the 1980's at the UADY, but this apparently diminished once cooperation with the British government came to an end.

Comment: The TIES project has made consistent efforts to breach this gap (eg through the two producer surveys carried out (sheep and cattle), the 'living laboratory' course work and the on-farm design of thesis work. The opportunity should now be taken to use the project as a model for institutionalizing on-farm linkages, so that they become a permanent feature of research and teaching, independent of the ups and downs of external project funding. This might be possible by negotiating long term links with farmers' associations or GGAVATT's, using funding sources such as Fundación Produce Yucatán and CONACYT.

4.4 Outcomes at the personal level

There is evidence of a very high degree of personal benefit to Mexican participants (ie students, professors and researchers). This is documented in the TIES project activity reports, and confirmed consistently by the student survey and all interviews carried out by the external evaluator.

Comment: Possibly the most significant benefit has been a widening of vision and a new appreciation of the multidisciplinary nature of the problems of rural development. This advantage was consistently emphasized by all participants. Its importance is underlined by the traditional disciplinary focus of the Mexican (and Latin American) educational system in animal sciences and related areas. Long standing experience in international agriculture with a specific focus on poverty alleviation through rural development gives Cornell a particular advantage as the USA partner institution which would be difficult to match.

At the same time, the project has provided opportunities for extending professional contacts, and for filling knowledge gaps in specialized fields (eg systems dynamics) through the participation of renowned international experts in various subject areas. Visits to Cornell have provided Mexicans with new insights into the structure and operation of a leading USA university, some of which could usefully be emulated at home. Participation in the project is recognized to have facilitated the formulation of two new UADY research projects which have been successfully funded. This kind of benefit is of major significance both for the individual researcher and for the local institution itself.

In summary, the project deserves a very high rating to date in terms of benefits to participating individuals. The challenge for the remaining phase is to ensure that these benefits are extended to the maximum possible numbers of Mexican students and faculty. A new strategy is required at

each Mexican partner institution to make the project known more widely and ensure wider participation.

4.5 Outcomes at the institutional level

Reference is made above to the strong institutional commitment which is evident at the level of the Mexican institutional authorities. However, the educational nature of the project makes it unusual because joint educational activities demand matching, or at least highly compatible, administrative arrangements, which are an intrinsic part of institutional structures. Participants clearly recognize that existing institutional structures and norms do not always facilitate the kind of collaboration which this project involves. For example, there have been problems of freeing up students from existing course work, assigning credits for project courses completed, and of providing incentives, or removing disincentives, for students and faculty to participate more widely in project activities. Progress has, nevertheless been made in this area, which the Mexican participants attribute partly to the project. At the UADY, for example, the project is recognized to have played a role in decisions regarding increasing the flexibility of the undergraduate curriculum, the system of course work accreditation and the inclusion of English language teaching in the first three years.

A second important area refers to teaching and learning approaches and tools. A very important contribution of the project in this area has been to demonstrate how teaching and research are interdependent, mutually enriching components of university activities. In Mexico, the incentive and reward systems for faculty depend quite heavily on schemes which operate at the national level, but there may still be room within the universities to encourage a suitable research/teaching balance. In this connection, the new policy of INIFAP to increase their teaching activities is to be welcomed. The TIES project has also provided an excellent model of information processing and dissemination, but it would be important to make these known more widely among non-participating faculty in the period remaining.

A third area of impact concerns inter-institutional collaboration. This is often a weak point in Latin American institutions, so the project's role in bringing the local partners closer together and sharing resources (eg INIFAP and UV) is of considerable significance. Events such as the inter-institutional project seminar arranged during the course of the present evaluation provided a forum for frank discussion and will certainly facilitate further communications and collaboration between the partners.

A fourth area of importance relates to complementary funding. As described above, at least two new projects at the UADY have been successfully funded, following discussions and research activities during visits to Cornell. These achievements not only benefit the researchers individually, but are also of major institutional benefit because they increase the prospects for additional funding in future. At present, even more could be done to look for additional funding from Mexican sources (eg CONACYT) to complement and extend the project's work during the final year.

Comment: The complex structural issues described above are slow and difficult to change. As it is, the contribution which the project has made in this area since the start deserves the very

highest credit, because solving these problems will have sustainable beneficial effect on the partner institutions over the long term. Continued efforts are now needed to facilitate mobility at the graduate and faculty level, and to ensure that for the next year of the project any administrative barriers to participation are overcome.

5. Conclusions and recommendations

1. The project has an impressive list of activities and outputs during its first two years which fit closely to those originally planned. There has been consistently positive impact at the personal level. A 'widening of vision' is one of the benefits most consistently reported. Special importance is also attached to the changes at the institutional level which the project has helped to bring about, since these should be sustainable over time and pave the way for more effective international cooperation in future.

2. There is strong institutional commitment to the project on the Mexican side, at the highest level of authority. Still, the number of collaborating faculty is low, the dissemination of the project outputs (eg didactic materials) is limited, and there have been considerable logistic and administrative problems during the first two years of operation. An extra effort is required in the project's final year if fullest benefit is to be obtained from major investment (financial, time and effort) already made by the partner institutions, and if fullest advantage is to be taken of the opportunities it offers. The more successful its completion in 2007, the greater the options the Mexican partner institutions will have for obtaining financial support for developments they plan to make in the future.

It is therefore recommended that the high level of commitment to the project, which is evident among the authorities of the partner institutions, should be translated even more effectively into actions in the final year, with a view to:

-empowering those responsible for the routine management of the project with matching decision-making and executive power, ensuring agile, flexible operation. At the same time, this should lighten the presently very heavy 'transaction costs' of the project both on the Mexican and Cornell sides.

-continuing to work towards administrative arrangements which will remove, as far as possible, any disincentives for potential student/faculty participants and encourage wider participation by students and staff in the final year. This will enable partner institutions to take fullest advantage of the present project before it ends, and prepare for similar opportunities that may occur in future

- developing an urgent new strategy for disseminating information about the project widely among students and staff, to encourage greater participation, and for broadening the usage of the project's didactic materials and of its teaching/learning tools (eg through special campaigns in the libraries)

-promoting the routine use of simple evaluation processes for all the project's activities in Mexico, making use of the results for planning and further adjustment

-working towards incentive/reward systems for staff which will encourage participation in projects of this kind in future. This requires a balanced agenda of research, under- and post-graduate teaching, emphasizing the interdependence of research and teaching, and a problem-solving research/teaching focus

-continuing to explore additional sources of funding locally which might complement the project's work in its final year, and prepare now for finding new sources of support after 2007 to develop those aspects of the present project which have proved most valuable to the Mexican partners

-following up the project's inter-institutional initiatives to extend cooperation between the Mexican partners on themes of mutual interest.

Acknowledgements

The author expresses her sincere gratitude to the people in Mexico and at Cornell who all received her with warmth and hospitality. They gave generously of their time for frank discussions, in a constructive and enthusiastic spirit which bodes well for the future of this very worthwhile project.

Annex 1. Itinerary of visits carried out in the course of the evaluation

June 29: Cornell University, Ithaca. Group meeting with faculty involved in project (R. Blake, C. Nicholson, T. Tucker)

July 3: UADY, Mérida. Group meeting with student participants (D. Parsons, C. Medina, L. Nabté, F. Duarte, J. Calderón, J. V. Cárdenas, R. Estrada, M. Huchin, S. Flores), and R. Blake; Group meeting with faculty participants (G. Rios, J. Magaña, J. Ku, A. Ayala, F. Torres, J. Jiménez) and R. Blake; meeting with F. Herrera (Director, FMVZ) and R. Blake; tour of library; group meeting with faculty from School of Anthropology (F. Fernández, D. Arizaga, L. Fernández) and R. Blake.

July 4: UADY, Mérida. Field visit, Unidad Ovina Sta. Rosa (Sr. L. Cocóm); private meetings with F. Herrera (Director, FMVZ), J. Ku (participating faculty); meeting with R. Godoy (Rector, UADY), F. Herrera, G. Rios and R. Blake.

July 5: UV and INIFAP, Veracruz. Meeting with students (V. Absalón, O. Cristobal) and R. Blake; Group meeting and discussion of ongoing research with INIFAP staff, La Posta (about 20 participants including UV-INIFAP TIES project participants: B. Rueda, F. Juárez, E. Canudas, R. Loeza) and R. Blake.

July 6: UV and INIFAP, Xalapa. Group meeting with UV authorities R. Corzo (Academic Secretary); V. Alcaraz (Director, Research); E. Rodríguez, (Director, Agricultural Biology); a representative of the Graduate School; C. Lamothe (Director, FMVZ), and R. Blake; Group meeting with INIFAP participants in the project (G. Díaz, R. López, J.L. Martínez) and R. Blake.

July 7: UV, Veracruz. Inter-institutional seminar on the TIES project, with presentations by R. Blake (CU), C. Lamothe (UV), F. Herrera (UADY), L. Ortega (INIFAP) and L. Vaccaro, followed by discussion with about 30 participants.

July 8, Veracruz Field visit to dual purpose farm where project thesis will be conducted (V. Absalón); private meeting with C. Lamothe (Director, FMVZ, UV).

**Second external evaluation report of the Cornell-UADY-UV-INIFAP TIES project
“Decision Support of Ruminant Livestock Systems in the Gulf Region of Mexico”
(July-August, 2007)**

*Lucia de Vaccaro
(Aptdo 412, Cusco, Peru)*

1. Introduction

This report corresponds to the second external evaluation of the project, which is executed through partnership between the Universidad Autónoma de Yucatan (UADY), the Universidad Veracruzana (UV), the Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias (INIFAP) and Cornell University. The report of the first evaluation (carried out in July, 2006) was circulated at the time among participants and made available on the project's website. It led to the following conclusions and recommendations. No dissenting opinions about these were received by the evaluator:

a) The project has an impressive list of activities and outputs during its first two years which fit closely to those originally planned. There has been consistently positive impact at the personal level. A ‘widening of vision’ is one of the benefits most consistently reported. Special importance is also attached to the changes at the institutional level which the project has helped to bring about, since these should be sustainable over time and pave the way for more effective international cooperation in future.

b) There is strong institutional commitment to the project on the Mexican side, at the highest level of authority. Still, the number of collaborating faculty is low, the dissemination of the project outputs (eg didactic materials) is limited, and there have been considerable logistic and administrative problems during the first two years of operation. An extra effort is required in the project's final year if fullest benefit is to be obtained from major investment (financial, time and effort) already made by the partner institutions, and if fullest advantage is to be taken of the opportunities it offers. The more successful its completion in 2007, the greater the options the Mexican partner institutions will have for obtaining financial support for developments they plan to make in the future.

It is therefore recommended that the high level of commitment to the project, which is evident among the authorities of the partner institutions, should be translated even more effectively into actions in the final year, with a view to:

- empowering those responsible for the routine management of the project with matching decision-making and executive power, ensuring agile, flexible operation. At the same time, this should lighten the presently very heavy ‘transaction costs’ of the project both on the Mexican and Cornell sides.

- continuing to work towards administrative arrangements which will remove, as far as possible, any disincentives for potential student/faculty participants and encourage wider participation by students and staff in the final year. This will enable partner institutions to take fullest advantage of the present project before it ends, and prepare for similar opportunities that may occur in future

- developing an urgent new strategy for disseminating information about the project widely among students and staff, to encourage greater participation, and for broadening the usage of the project's didactic materials and of its teaching/learning tools (eg through special campaigns in the libraries)

- promoting the routine use of simple evaluation processes for all the project's activities in Mexico, making use of the results for planning and further adjustment

- working towards incentive/reward systems for staff which will encourage participation in projects of this kind in future. This requires a balanced agenda of research, under- and post-graduate teaching, emphasizing the interdependence of research and teaching, and a problem-solving research/teaching focus

- continuing to explore additional sources of funding locally which might complement the project's work in its final year, and prepare now for finding new sources of support after 2007 to develop those aspects of the present project which have proved most valuable to the Mexican partners

- following up the project's inter-institutional initiatives to extend cooperation between the Mexican partners on themes of mutual interest.

The objective of this second report is to build on the first one, rather than repeat its contents. It aims to concentrate on changes which may have occurred in this final year, attempt an overall assessment of the project, and discuss implications for work in the future. Most attention is focused on the UADY among the Mexican partners, due to their predominant role and contribution to activities. It is also noted that the condition of INIFAP in the project was somewhat different since participants from that institution had previous links with Cornell. The project's activities and outputs are documented fully in reports available on the website, and are not detailed here.

2. Methodology

The evaluator visited all participating institutions in 2006 so it was agreed that the present assessment should be based on existing documentation and electronic correspondence, without further travel. A calendar of activities was prepared, circulated and no objections were raised. A list of participants whose opinions were to be sought was drawn up and circulated to members of each institution. All suggested additions were incorporated in the final list of 36 individuals, who were contacted by e-mail. They were classed into four groups as shown in Table 1. Each group was sent a separate letter and a questionnaire to

elicit their opinions (Annex 1). Initial response to this was rather poor (see Table 1) so a reminder was sent and a new deadline fixed. The number of final responses received is shown in the Table. A draft of the present report was circulated to those who had responded. Further comments were received from five participants (3 Mexico, 2 USA). The final version was sent to representatives of each partner institution to check for factual errors before it was formally submitted.

Table 1. Responses received to request for opinions about the TIES project

| Class of participant | No. contacted | Replies received on time (first deadline) | Total replies received (second deadline) |
|--|----------------------|--|---|
| | | | |
| Mexico professors/ researchers | 14 | 0 | 7 |
| Cornell professors | 3 | 2 | 2 |
| Graduate and short term Cornell students | 12 | 3 | 6 |
| Undergraduate students | 7 | 0 | 0 |
| TOTAL | 36 | 5 | 15 |

3. Achievement of Objectives

The extent to which each of the project's original objectives has been reached is discussed below.

3.1 Collaboratively address an array of complex development issues and challenges related to the growth in demand for livestock products and changes in trade policy over the next two decades.

The activities planned for the project have, for the most part, been carried out satisfactorily, despite cancellation of some and limited participation in others. So a start has been made towards achieving this first ambitious objective. However, although discussion about the issues within an integrated systems-based framework has pervaded the project's teaching activities, and there has been active inter-institutional collaboration in course work, a holistic, collaborative approach to solving specific development problems has been less evident in other areas. The research topics have been somewhat specific and isolated, dissemination of the results at field level has been very limited, and there appears to have been little or no interaction with local policy makers. At the same time, important opportunities for collaboration between the partner institutions for discussion and further planning (eg inter-institutional tutoring of graduate students; discussion of the research results through video-conferencing), have been lost, and the

limited field activity has reduced opportunities for participation from producers. So while the multiple dimensions of the problems may have been discussed in the classroom, they have not yet been addressed systematically at the research, extension and policy levels, or in the sense of proposing integrated solutions and facilitating necessary changes. However, a promising development in this area is the setting up of an inter-disciplinary group of faculty and students from the UADY working on farms at Tizimin with local financial support. This initiative is perceived by UADY faculty as partly attributable to experience obtained from the TIES project.

3.2 Strengthen the capacity of Mexican partner institutions and Cornell University to conduct problem-solving research, instruction, and service, that is, to identify and address the relevant development issues

In the area of *instruction*, institutional capacity has been strengthened in several ways. First, the execution of the joint courses, especially IARD 602, has demonstrated the relevance of an integrated approach to problem solving and exposed students and faculty to the reality of farming systems in low-income tropical communities. This is a rare opportunity both for the Mexican institutions and Cornell, and will have enriched their capacity to teach local and international students. Second, the project has served to demonstrate the use of a variety of powerful and innovative electronic tools for instruction and information exchange, which can be incorporated more widely, as required, by the Mexican institutions. Third, the project is considered by UADY faculty to have served as the stimulus for introducing an English teaching program for undergraduates, since language was found to be such an important barrier to participation in the TIES activities. It also appears to have stimulated the introduction of internship programs for undergraduates at the UV as well as the UADY. It is urgently necessary to extend this facility to graduate students and permit them to take credits in other recognised institutions, provided this enriches their overall program.

In the areas linked directly to *research and service*, institutional strengthening seems to have been more tenuous.

On the Cornell side, institutional benefits have accrued from the additional experience of research in tropical farming systems, enabling them to refine their own agenda and methods. It will also have provided additional insights into the nature of the institutions in countries where the University collaborates, and into the particular problems which Mexican institutions have to face. This should prepare Cornell for even more fruitful collaboration in future.

On the Mexican side, at least three new research projects are reported to have been designed and financed, partly as a result of participation in the TIES Project. This important outcome has *institutional* as well as personal benefits. On the other hand, a disappointing piece of evidence is the very consistent perception among faculty and student participants from all institutions that there has been no decisive institutional action by the UADY to deal with the problems which were identified early on as limiting the project's potential. These problems were perceived by participants to include: lack of

broad commitment and interest in the project; an insufficient incentive/ reward system to encourage faculty participation; the excessive load of course work and other previously assumed responsibilities; the complicated and rigid administrative system which precludes the agile movement of resources; budget insufficiencies and delayed release of assigned funds; problems of granting credits and permission to encourage wider student participation; timetable clashes which limited joint activities; and limited outreach activity in the field. The extent to which these problems were more perceived than real is discussed later (see Section 4), but the net result has been what is widely acknowledged to have been an institutional lack of interest in the project on the side of the UADY.

The carry-over effect which this project has had into plans for future cooperative research would seem to be an important indicator of *institutional* strengthening. It is therefore significant that an MOU has been signed between the UV and Cornell for further cooperation, and new cooperative projects are being developed with INIFAP. However, it is disappointing that there are no plans for future institutional collaboration between the two major partners, Cornell and the UADY, although some joint work does continue at the individual level.

3.3 Contribute to the preparation of a skilled cadre of inter-disciplinary, systems-oriented agricultural researchers and extensionists that can address the needs of Mexico's livestock sector in a global marketplace.

This has been the project's main strength. There is consistently high praise from participants who have participated in training activities, particularly from those who spent time at Cornell. There has been unquestionable personal and professional benefit to those who participated in the short courses, the joint courses (IARD 402, 602), and, notably, the MS program and the study periods at Cornell. The benefits were recognized by Mexican faculty and students, as well as Cornell international students. One of the comments most frequently made in this context, refers to a "widening of vision" and an understanding of a systems-based, integrated approach to problem solving. One participant even stated that the project had changed his "vision of life itself". As pointed out above, the impact went beyond training to enabling new research projects to be undertaken.

On the other hand, it must also be noted that the *number of beneficiaries* has been below the real potential of the project for various reasons. This seems partly due to the limited interest in the project on the part of the UADY faculty, but mainly to the administrative problems which limited the numbers of students and faculty able to participate. A notable case is that only three, instead of four, Mexican students went to Cornell for a semester in substitution for the fourth MS student, who also was unable to participate. Participation was further limited by the lack of English language skills in many cases although, as shown above, the UADY now offers opportunities to undergraduates for training in this area. These factors probably also affected the *quality* of the student participants, by limiting the pool from which participants could be drawn. Some very sketchy evidence in this regard was obtained by the evaluator in the responses to the request for opinions. There were very variable levels of perceptiveness and ability for clear expression among

the respondents in their native language. At the same time, the reduced level of faculty involvement has also limited the number of beneficiaries outside the project itself. This aspect is dealt with in more detail in Section 3.5 below.

3.4 Increase attention to, and understanding of, international education and development issues at Mexican partner institutions and Cornell University (and their broader constituencies).

Arguably the most important outcome of this project for the Mexican institutions is that participation will have provided experience in the operation of international projects with strong educational components, and pointed up some of the steps which need to be taken if they chose to extend this cooperation in future. Reference to other benefits is made in the foregoing sections.

For Cornell, the benefits outlined in Section 3.2 all contribute to their ability to carry out research and teaching for international agricultural development, which has traditionally been a priority objective for the university.

3.5 Promote the broadest possible dissemination of the information generated through the partnership's research and instructional efforts.

As pointed out earlier, there have been very important initiatives in this area, primarily from the Cornell side, to use innovative electronic means of communication and information sharing, including the website, videotaping, videoconferencing, CD's and printed materials, all of excellent quality. However, the utilization of these tools and the dissemination of the materials beyond the small group of project participants have been quite limited, even within their own institutions. At the field level, communication has not been strong. Dissemination of the project's outputs has been very reduced on the part of the UADY (eg field days to discuss research not yet held) and there is a considerable backlog of information still awaiting analysis and/or publication (eg sheep/cattle survey results; Spanish version of sheep research). Consequently, much of the valuable information generated by the project has yet to be made available to the farming community and political decision makers. This can still be remedied, but needs a more effective local strategy.

4. Discussion

Two clear trends seem to emerge from the above analysis.

First, the objectives have been fulfilled to a partial extent. The most significant outcomes are probably the personal and professional benefit to participants as *individuals*, and the experience gained by the Mexican *institutions* in the operation of international educational projects.

Second, there has been a series of problems which have prevented full advantage being taken of the project on either side. A large part of the difficulty seems to have stemmed

from the limited involvement in the project on the side of the UADY. This was the single main weakness consistently mentioned in the responses of faculty and students to the evaluator's questionnaire, and was frequently described as a lack of interest. It was also reflected in the response pattern to requests for opinions for this evaluation. It had a major negative impact on all activities: student participation, dissemination of the project's products and field outreach, besides increasing the "transaction costs" for the partner institutions. The effects were also evident at the Mexican leadership level, notably in the third year, when there was a long breakdown in communication with Cornell and last-minute cancellation of some scheduled activities. The explanation lies to some extent in the nature of the project itself, the benefits of which are mainly academic and intellectual. This contrasts with most previous ones where the benefits often included equipment, operational resources and visiting scientists. Efforts were certainly made to consult and communicate during the planning stage, there was much enthusiasm among those originally involved in the design, budgets were approved and support was expressed by the highest level authorities. But this did not ensure (or derive from) much support further down, and local leadership responsibilities were apparently not fully defined. The project was perceived by some of the faculty as the 'territory' of the few individuals involved in the original planning, and more 'supply' than 'demand' driven.

The lack of broader based support at the UADY must also have been partly due to the administrative obstacles which were encountered, but the two types of problem became interdependent and persistent. The project's academic component had important administrative implications for each participating institution. Perhaps due to the novelty of this kind of collaboration, the implications were either not discussed sufficiently at the UADY during the planning stage, or ways were not foreseen to overcome the evident incompatibilities between the partners. Alternatively, the UADY group was overly optimistic about the extent to which obstacles could be overcome as the project proceeded, or were satisfied that whatever benefits accrued would be worthwhile, even if they were less than the potential. But if so, they overlooked the point that institutional incompatibilities could be a source of conflict and frustration on the part of their collaborators, as proved to be the case. As it was, the operation of the project was burdensome on both sides, the 'transaction costs' excessively high, and opportunities were lost all too frequently because of bottlenecks such as lack of permits for participation in project activities, the absence of a credit system to compensate students who took the courses, timetable clashes and teaching overload.

Another problem area concerned finances. It is noted that the UADY was the only Mexican partner to commit financial resources, because of restrictions at the UV and INIFAP. At the UADY, the project budget was approved at all levels, but there are still differences of opinion among the faculty as to whether the funds were in fact available or had to be diverted from other areas, thus competing with other demands for scarce resources. In any case, the routine for fund release was complicated and onerous so delayed disbursements occurred when the process was not followed in a timely way.

It is fully recognised that the administrative systems in Latin American institutions are typically burdensome and difficult to change, and the problems are often attributed to the

‘system’. But once they were identified, the causes should have been corrected or ways to optimise working within the system discerned, and leadership empowered to take and execute the necessary decisions. This would have required much stronger institutional commitment to the project than was actually forthcoming. As it was, the complex of problems which arose was probably a stronger constraint to fuller participation than an inadequate recognition system at the institutional level, which was adduced by some faculty as an important reason. Nevertheless, there may be a case for revising internal incentives in the partner institutions so that research, extension and teaching activities are suitably balanced in the reward system, both for full-time and part-time faculty members.

An interesting feature of the project is that the monitoring and evaluation activities built into it, which seemed adequate on paper, turned out to be ineffective. There is clear consensus that the problems at the UADY did not diminish in the third year, and may in fact have increased. They were identified early on in the life of the project, discussed at the highest level by Cornell and UADY participants after year one and at the HED in year two. On the other hand, they were dealt with quite summarily in the HED reports, and their real dimensions were generally underplayed. The reports were drafted by Cornell faculty with, understandably, a certain degree of reticence, but there was typically limited input from Mexican participants who might otherwise have used them to bring pressure to bear on their own institutions to take required action. Recognising that political and personal relationships generally come into play in such circumstances, perhaps especially in Latin American institutions, this would have required strong leadership and concerted support among the participants. The fact that neither the frequent reports to the HED, nor the external review had any significant effect should raise questions for the donors as well as the participants, since these activities have a very high opportunity cost. A more effective strategy might have been to rely heavily on internal evaluations. This would include the routine evaluation of all project activities (which was actually not done), and the regular workshop-type internal evaluations (such as that held in Veracruz in July, 2006), provided there is full participation of those responsible (at least at a national level) and continuous follow-up of corrective measures.

5. Conclusions and Recommendations

- 5.1 The objectives of this project have been met partially. The most important benefits probably accrued to the participating *individuals*, especially those who visited Cornell, and to the Mexican *institutions* by providing experience in the advantages and prerequisites for successful international collaboration on projects with strong teaching components. Otherwise, institutional benefit is judged to have been moderate so far, and farm level impact very limited, but benefits in both these areas can still be obtained, even after the project’s closure.
- 5.2 The limiting factors stemmed mainly from insufficient institutional support for the project at the UADY and administrative incompatibilities between the partner institutions. This is partly understandable given the novel characteristics of the project. The experience suggests that the successful operation of such collaborative efforts in future requires that:

- a) A careful process to determine whether such a project is in each institution's best interest and, as such, commands sufficient base-level support and disposition to ensure operational feasibility, should be a prerequisite for initial commitment.
- b) Administrative incompatibilities between the partner institutions - which might seriously affect project operation - should be foreseen at the planning stage. Partners should work together to find solutions which will permit satisfactory operation. Cornell can play a valuable role here by detecting potential areas of conflict and helping to seek viable options before new agreements are signed.
- c) Responsibilities of all parties are clearly defined, especially for those in leadership roles, who should be empowered to carry out their role effectively.
- d) An effective monitoring and evaluation process is in place, with accountability ensured at all levels. All project activities should be evaluated. Fully participative internal evaluations, carried out at regular intervals and with systematic follow-up, seem more likely to bring about the necessary changes than formal reporting. Donors might consider whether their reporting requirements should be reduced and modified to make space for such a process.

5.3 The benefits outlined (5.1) will have made this project worthwhile, despite its limitations, provided that a) the project's outputs continue to be exploited after its closure and b) the lessons learned are put to use in future. In this context, the present report will only be useful if it serves as a stimulus for internal discussion (eg in a workshop type forum), and if the conclusions from the internal discussion are documented to serve for institutional memory. At the very least, such an analysis should be done within each institution, with participation of those responsible at all levels, and those who presently occupy the corresponding administrative positions.

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Annex 1: Request for views from participants

(This questionnaire was circulated by e-mail to professors, researchers and graduate students, with a simpler version for undergraduates. A separate covering letter, inviting responses, was prepared for each group)

Second external evaluation of Cornell-UADY-UV-INIFAP-TIES project: Request for views of participants

As a starting point, would you please be kind enough to provide your comments on the progress of the project in this final year. The following questions may be used as a guideline, but **comments on any other issues are welcomed. All information you send will be treated in TOTAL CONFIDENCE.** For convenience, please write your comments in Spanish or English on this same document, if that would be easier, and return BEFORE JUNE 24.

Como punto de partida, mucho les agradecería enviarme sus comentarios sobre el progreso del Proyecto en éste, su ultimo año. Las preguntas formuladas abajo solamente deben considerarse como guía, y sus opiniones sobre cualquier otro aspecto serán bienvenidas. LA INFORMACION ENVIADA SERA TRATADA DE MANERA TOTALMENTE CONFIDENCIAL. Para facilitar su repuesta, por favor escriba su comentario en ingles o español sobre este mismo documento y devuelvamelos ANTES DE 24 DE JUNIO.

1. Have the original goals of the project (see below*) been reached satisfactorily in your opinion? If not, what are the probable causes?

Hasta que punto han sido cumplidos satisfactoriamente los objetivos originales del Proyecto (ver abajo)? De no ser así, cuales son las causas probables?*

2. There have been frequent reports to HED on the project's progress, and at least one internal** and one external review (conclusions and recommendations annexed below for convenience)***. Have these described the project's achievements fairly? In this final year, do you consider that progress has been maintained/improved? Have the participating institutions been able to correct any weak points identified in the above mentioned documents – or acted upon any of the recommendations? Please give examples, if possible, and attempt to explain the reasons.

*Este proyecto ha sido sometido a frecuentes informes al HED y al menos una evaluación interna ** y una externa (las conclusiones y recomendaciones de ésta estan anexadas abajo ***). En su opinión, estos documentos describen de manera justa y razonable los logros del proyecto? En este año final, se ha mantenido/mejorado el progreso? Las instituciones participantes han corregido algunos de los puntos débiles identificados en los informes o adoptado algunas de las recomendaciones? Favor dé ejemplos, si es possible, e intente explicar las razones.*

3. Have there been lost opportunities (eg in numbers or ‘quality’ of participants, dissemination and utilization of outputs, relevance of research topics to farming systems, dissemination/uptake of decision support information to farming communities, or other)? If so, why?

Han habido oportunidades perdidas o no plenamente aprovechadas (ej. en el número o “calidad” de los participantes, diseminación y utilización de los productos del proyecto, relevancia de los temas de investigación a los sistemas de producción vigentes, diseminación y adopción de la información generada de apoyo a los sistemas de producción, u otras)? De ser así, porque?

4. Has the project influenced the capacity of the Mexican participating institutions to enter into new cooperative projects (ie since last year) at the national or international level? How are they placed in this respect for the future? Has the UADY-UV-INIFAP participation led to new cooperation between these institutions? Please specify, and give examples if relevant.

Hasta que punto ha tenido este proyecto impacto sobre la capacidad de las instituciones mexicanas participantes de iniciar nuevos proyectos de cooperación a nivel nacional o internacional desde el año pasado? En este sentido, como estan preparadas para el futuro? La participación UADY-UV-INIFAP en el proyecto ha conducido a nuevas iniciativas de cooperación entre estas instituciones. Por favor, especifique y dé ejemplos, de ser pertinente.

5. How would you assess the cost: benefits of this project to a) the participating individuals b) the participating institutions (Mexico and USA) and c) the local livestock farming community? (defining costs in the broadest sense eg: money, time, effort). Please give examples/explain. What conclusions do you draw?

Como juzgaría usted los costos:beneficios del proyecto para a) los individuos que participaron b) las instituciones participantes (México, EEUU) y c) la comunidad ganadera local (definiendo “costos” en su sentido mas amplio de dinero, tiempo, esfuerzo etc). Por favor, dé ejemplos y explicar. Cuales son sus conclusiones al respecto?

6. In retrospect, would you recommend changes in this project at the a) design and planning b) operational or c) reporting and evaluation stages? Please specify.

Haciendo un análisis retrospectivo del proyecto, que modificaciones recomendaría usted en las etapas de a) diseño y planificación b) ejecución o c) informes y evaluación? Por favor, especifique.

*, **, *** The project’s objectives and the conclusions of the first external review were annexed to the questionnaires, but are not repeated here as they are set out in Sections 3 and 1, respectively.

Environmental Mitigation Assessment

Please answer the following questions if the partnership conducted or trained others to conduct activities that have the potential to result in negative impacts on the environment.

| | |
|----|--|
| 1. | <p>If you implemented activities last year, what specific activities had a potential environmental impact, either positively or negatively?</p> <p>We did not have any implementations carrying direct environmental impact (except via farmers' practice of animal agriculture itself). However, expected impacts would be negative if livestock management ignored ecosystem considerations like those mentioned above, which is among project considerations. They would be positive, or at least less unfavorable, if management strategies effectively consider ecosystem dynamics, amelioration of unwanted environmental impacts, and regeneration of natural resources (e.g., biodiversity in flora and fauna).</p> |
| 2. | <p>If you conducted capacity building activities that have the potential to impact negatively the environment, what environmental mitigation and impact assessment trainings for Mexican participants have been included in the activities?</p> <p>This emphasis is especially incorporated into four courses on our teaching platform, IARD 402, IARD 602, AEM 494 and AnSc 400. Although we are not focusing directly on the assessment of potential negative environmental effects of agriculture or their mitigation, these courses especially acknowledge the need for specific actions to ameliorate unfavorable impacts and to regenerate stocks of agro-ecosystem resources. For example, attention is devoted to strategies for managing and utilizing native plant species, especially multi-use species and habitat that provide ecosystem services as well as livestock feed and fuel for rural households. The doctoral dissertation research project of D. Parsons is focused on the dynamics of nutrient stocks, flows and feedbacks in Yucatan farming systems with sheep with the goal of understanding how these systems can be made both more productive and sustainable. Our systems-oriented approach has broadened the research agenda and will result in greater ability to assess how interventions can minimize the "unintended consequences" (negative side effects) including various forms of environmental degradation.</p> |
| 3. | <p>What research and evaluation was conducted to mitigate any potential negative environmental impact of these activities?</p> <p>Activity of this kind has not been conducted by our partnership. Although direct implementations are an acknowledged need, our plans include options to ameliorate undesirable impacts.</p> |
| 4. | <p>What specific techniques or processes were established to mitigate <u>and</u> monitor the environmental impact of these activities? Please include <i>who</i> has been involved in the process and <i>when</i> this has taken place.</p> <p>Our project planning and coursework platform incorporate valuable essential ecosystem principles and considerations. Although environmental mitigation and monitoring are not focal project undertakings, students have undertaken these issues as part of their scholarly pursuits (e.g., written projects and oral presentations in IARD 602). We are continuing to foster this process through the inclusion of relevant environmental issues in our coursework platform. For example, see the IARD 402 class itinerary (http://ip.cals.cornell.edu/courses/iard402/2006fall/mexico/index.html).</p> |
| 5. | <p>Are mitigation techniques working?</p> <p>As indicated above, we have not undertaken any direct implementations. However, one project objective is to limit or minimize unfavorable environmental effects, especially negative impacts of farming system management options on biodiversity of flora and fauna.</p> |