

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

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### **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).