Collaborative Activities of US Universities to Address International Agricultural Development

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ABSTRACT

US universities represent a major resource in agricultural and related sciences. Their capacity has been built on the need to serve domestic agriculture and natural resource issues. While universities have played a major role in the past in building capacity in developing countries, the donor emphasis on short-term, implementation activities has diminished universities' ability to contribute through traditional donor relationships. Recent events have begun to refocus the US development agenda on activities that universities can more effectively address. The recognition of globalization of markets, environmental problems and the impact of poverty on national security has had major implications for longer-term commitment to human and institutional capacity building and knowledge generations; things universities do well.

Universities have been active players in the international development field using a number of collaborative mechanisms. One of the most effective and enduring has been the Collaborative Research Support Programs (CRSPs) that link US researchers and extension with developing country partners to address problems of food production, food security, economic growth, nutrition and environment. These programs have existed over 25 years, have trained 5000+ students to the MS and PhD levels, built institutional capacity and provided knowledge to solve development constraints. There are 9 CRSP programs with variable organizational structures that have effectively engaged US University, CGIAR and developing country scientists in a problem-solving format. This format is a highly effective training mechanism because it creates a collaborative team focused on development problems in the host country. The host country students, while they may spend time in the US taking courses, focus their research in their country, maintaining and building contacts with their national peers and becoming familiar with the context of their national issues. This approach results in high rates of return of students who have invested directly in their country's national development.

Because the CRSPs are problem oriented and development problems are seldom simple, the projects are usually interdisciplinary. The Global Livestock CRSP has used a problem model (PM) approach that defines, through consultation with regional partners, an agenda of prioritized PMs. These models are detailed descriptions of the problem and the processes that underlie the issue. The detail of the PM allows the team to logically sort out appropriate partners, refine the model and develop a plan for ancillary funding as appropriate. The interdisciplinary team is created in response to the PM and therefore has a rationale basis for cross disciplinary interaction. The model has been an effective means to address a wide range of development problems and may be an effective mechanism to engage university researchers in other countries.

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ABOUT THE CRSPS

The Collaborative Research Support Programs, CRSPs, are effective mechanisms for engaging universities and similar institutions in the development process over the last 25 years. Since the first of the programs were launched in the United States, they have built a strong record of achievement.

In any collaborative effort, the institutions participating have their strengths and comparative advantages. Many universities in the United States have real strengths in agricultural- and environment-related sciences that are the core of development activities, as well as strong human and institutional capacity building capabilities. The "land grant universities" focus on issues related to agriculture and natural resource management, and their collaborative efforts within CRSPs, funded by USAID, the United States Agency for International Development, allow these programs to make an international contribution. US land grant universities are research-based institutions that encourage their faculty to produce high-quality research, and recently, with the increasing emphasis on globalization, they are keen to expand their international activities. Internationalism is now a more formal focus of both students and faculty, and it is being accomplished by cultivating development linkages with developing country institutions.

DONOR REQUIREMENTS FOR USAID

With the advent of major emphasis on accountability in US government agencies, USAID has placed a premium on projects that produce quantifiable, short-term impacts. The emphasis on short-term results-oriented programs creates an environment that does not draw on the strength of universities. Research and human and institutional capacity building are not short-term efforts, and their long-term impacts are not easily quantifiable. The strengths of universities in the long-term processes of human and institutional capacity building often commit them to efforts that can be out of step with the frequent political changes and rapidly shifting development goals of USAID. This asynchrony often places the universities and USAID in creative tension about their roles in development and the appropriate mix of long and short-term programs for appropriate development policy. The creation by the US Congress of Title XII has protected the long-term objectives of universities and the long-term objectives of development.

In the late 1970s, the US Congress passed Title XII, the Famine Prevention and Freedom from Hunger Act, a legislation authorizing USAID to tap into the capacities of universities in agriculture and food security issues to improve the conditions in developing countries.

> *Title XXI: Famine Prevention & Freedom from Hunger: "...in order to prevent famine and establish freedom from hunger the U.S. should strengthen the capacities of U.S. universities to improve their participation in the U.S. government's international efforts to apply more effective agricultural sciences to the goal of increasing world food production and ... support the application of science to solving food and nutritional problems of development countries."*

Specifically, the legislation directs USAID to engage US universities to use their expertise in agriculture and natural resources management (and a broad range of related activities) to address international problems of food security and poverty through research and institution building.

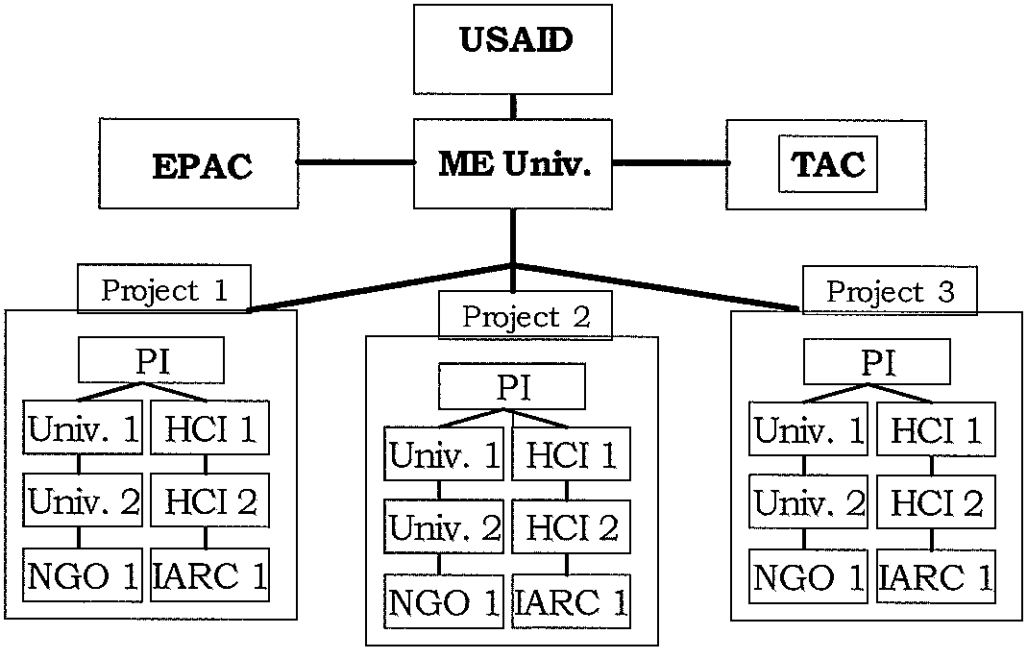

Fig 1. Organizational Structure of the Global Livestock CRSP.
Note: USAID, the donor, funds a lead university, in this case the University of California, Davis, which in turn funds a series of projects each lead by US university and a series of collaborating institutions. The Management Entity (ME) is a unit established at UC Davis to lead and manage the GL-CRSP. It is advised and project evaluated by the EPAC (a group of outside development professionals and the TAC (composed of the lead scientists from each project).

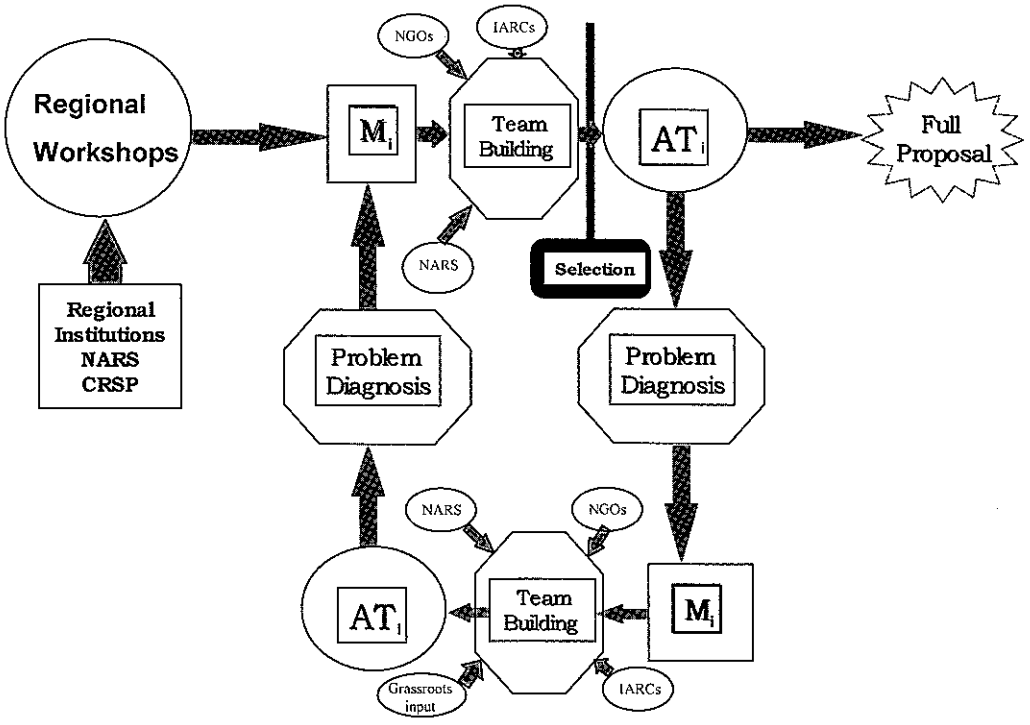

Fig 2. Project Development Process:
Note: Regional conferences lead to a series of M (problem models) that represented a concept of a priority problem that was turned into a request for proposals to which a series of teams responded. Those selected were termed an AT (Assessment Team) that condiucted a series of in-country meeting to further refine the M, make adjustments in the team composition, engage active organizations in the region. This iterative process finally resulted in a full proposal to the ME of which a subset of the AT full proposals were selected for projects in the GL-CRSP.

INTENT OF THE CRSP MODEL

The CRSP model was established with two purposes in mind: to build human and institutional capacity for research-focused collaboration, and to generate scientific knowledge relevant to development. The first, capacity building for research-based collaboration is accomplished through degree training and short-term training in science and institutional management. Institutional management is designed to endow institutions in developing countries with the capacity to interact in ways that gain them the resources they require to carry out their work. The second, the generation of knowledge relevant to development, is accomplished through bottom-up and top-down planning, agenda-setting focused on specific development problems to be tackled through research, problem assessment in the planning of full projects, open competition amongst US universities for project leadership, and lastly and most importantly, through the activities of the projects themselves.[†]

GLOBAL LIVESTOCK-CRSP PROGRAM ORGANIZATION

The global livestock management model is structured somewhat like other CRSP models. Funds flow from USAID to the University of California Davis, the management entity that takes the lead in implementing the CRSP program. Working in collaboration with a board of directors (EPAC) and technical

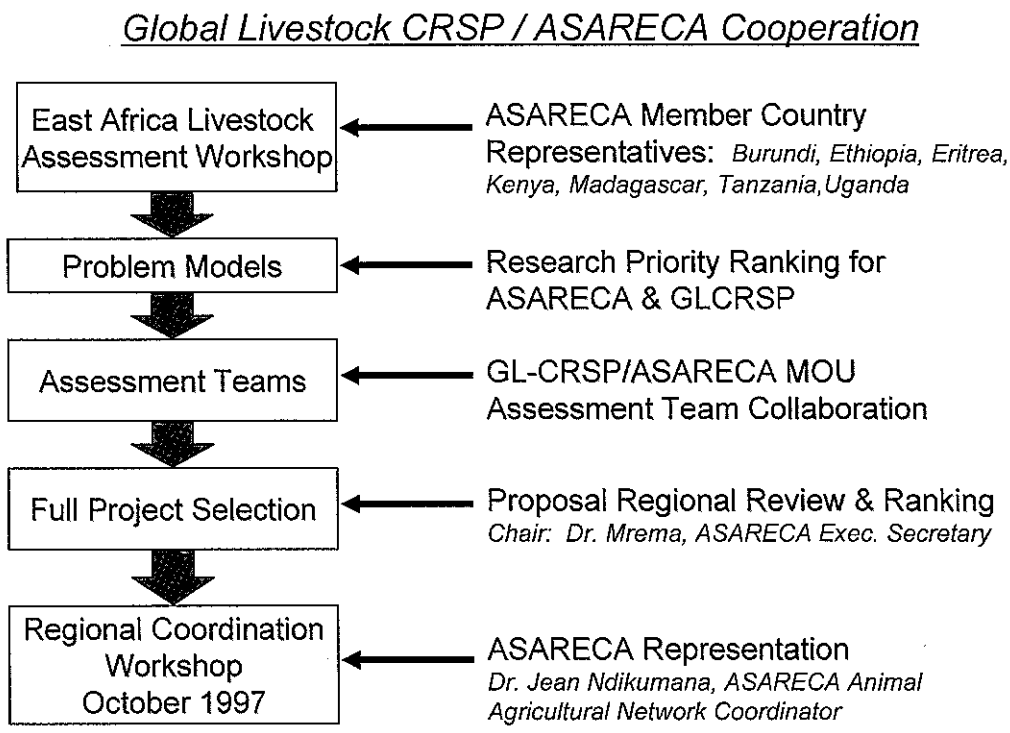

Fig. 3. Regional Selection Activities.
Note: The process of developing the problem models and conducting the compeition was done in close coordination with ASARECA, the regional association of national agricultural research organization of the East Africa.

[†] The agenda for research has diminished under USAID in the last 10 years as a result of the focus on short-term results. In many cases, the efficiency with which development work is performed hinges on knowledge of overseas cultures, environments, and economic, social and political processes. Failing to invest in research is a short-term mistake that decreases the efficiency of program implementation and in the end has long-term negative impacts.

group (TAG) that provides input, the university is responsible for programmatic direction, fiscal management, and project performance. Based on an RFP (a request for proposals), the program is divided into projects, each of which is awarded to the principal investigator of the lead institution. As many as five or six US universities participate in each of the 13 projects established in the global livestock CRSP program, together with partners such as NGOs, CGs, private sector organizations, and host country institutions (in total 70+ globally).

The 9 CRSPs engage in collaborative, long-term, multidisciplinary research and human resource and institutional capacity building. At the stage of problem analysis, the projects branch out into many disciplines. In total, the programs involve 54 US universities, 16 IARC centers, 184 host country research entities, 70 extension institutions, and 67 developing countries.

The CRSP management entities are responsible for the following topics: land, labor, and credit (BASIS; University of Wisconsin); bean and cowpea (Michigan State University); global livestock (UC Davis); sorghum and millet (INTSOLMIL; University of Nebraska); integrated pest management (IPM; Virginia Tech University); peanut (University of Georgia); pond dynamics/aquaculture (Oregon State University); sustainable agriculture and natural resource management (SANREM; University of Georgia); and soil management (University of Hawaii). USAID provides funds of about $24 million for the CRSPs per year.

GL-CRSP/ASARECA WORKSHOP
29 January - 1 February 1996

Ranking for SR-CRSP	Priority Problem Models	Ranking for ASARECA
	•Ensuring food security and development needs of resource poor households	1
	•Improving the ability of pastoral people to cope with and recover from drought	2
	•Establishing enabling policy environment	3
	•Identify and evaluate practical methods to increase animal products in children's diets	4
	•Matching livestock genotypes to ecological and economic environments	5
	•Improving input and output markets	6
	•Conserving forage and browse plant and livestock biodiversity	8
	•Optimizing land use and natural resource conservation by integrating domestic and wild animal species	9
	•Livestock/Wildlife Production Systems	10
	•Livestock/Wildlife Policy	7

Fig. 4. Ranking of the Problem Models.
Note: The problem models that emerged from the 4 day regional workshop were ranked by the attendants. The difference in the ranking between the CRSP and ASARECA reflects the comparative advantages in the two organizations ability to successfully solve the problem models.

AGENDA-SETTING

The agenda-setting process for the Global Livestock CRSP flows in two directions: top-down and bottom-up. The process started with a global conference in which more than 50 individuals from the development community met with the management entity to set general themes for the program and establish management priorities and structures. Upon a review of the themes so set, USAID selected the target regions and countries in which it wanted the program implemented, and the ME organized 4-day conferences in the three regions with NARS, local NGOs, and farmer organizations. During each workshop, the local stakeholders were asked to provide problem models, namely, descriptions of specific problems and processes underlying those problems that provided rich hypotheses for potential research. After the workshops were completed, the project teams reviewed the problem models, prioritized them in each region, and published a book on each of the regional conferences. Later, based on the funding available, the CRSP drew up a list of RFPs for assessment teams. The assessment process was competitive, and the CRSP initially started out with more assessment teams than were to be finally included in the full projects. Each team was given a budget with which to work on its problem model, develop appropriate collaborators in the region, refine their problem model and submit a full proposal nine months later.

Based on this experience, the GL-CRSP found that it took considerable time to build strong research teams to tackle specific development problems that required a multidisciplinary approach. Since the PMs drove the team compositions, the problems that the teams were to address formed the core of this process. During the nine-month assessment period, the team evolved as the PM was redefined. Changes in the PM required adjustment of the team composition and team composition brought new perspectives that changed the model. The process was iterative and the time invested worthwhile. The dual process of consulting at the

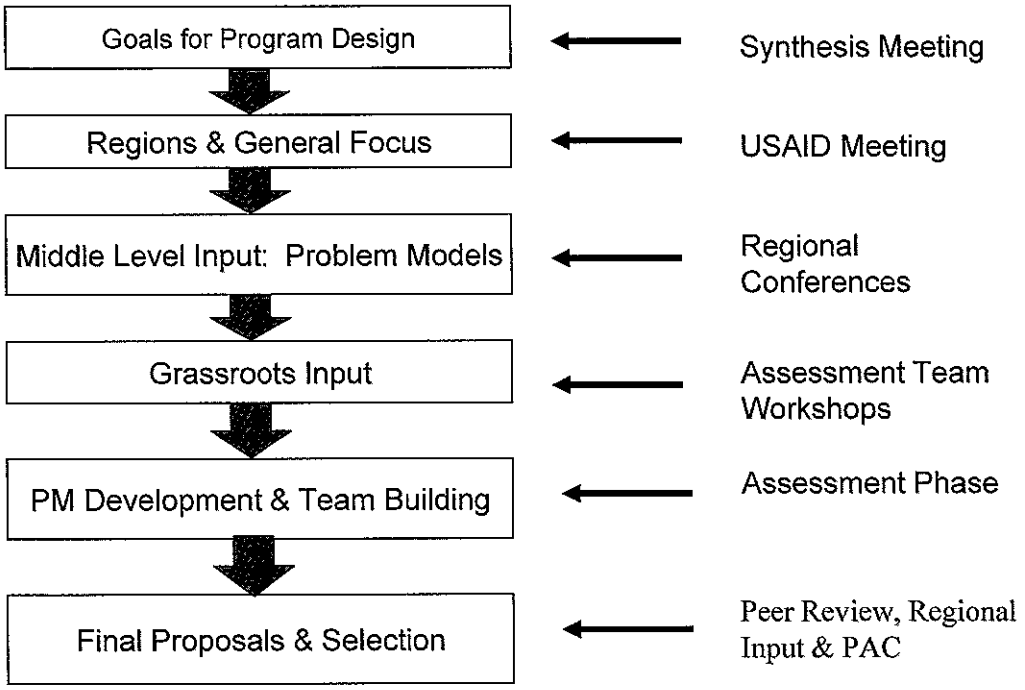

Fig. 5. Overall Project development Process.
Note: An initial large conference of development professionals from developed and developing countries set the broad themes economic growth, environment, human nutrition and policy for the GL-CRSP. A meeting with USAID set the priority for regions of activity. Regional conferences set the problem models. Each assessment team held a series of in-country meeting and workshops to further refine their problem models and team composition during the assessment phase. Full proposals were reviewed by scientists and development experts, and by the PAC in the final selection process.

local level and starting at the top produced a number of themes that have proven especially relevant in the last five years. The problem identified at the local level 5 years ago are now some of the most relevant being addressed by donors today. The local people were out ahead of the curve! As the problem model was a logical framework that identified particular components necessary to address to solve the problem, this approach placed the CRSP in a very strong position for buy-ins from the host country, other funding agencies like NSF (National Science Foundation), private foundations, and USAID missions (the missions are essentially independently budgeted field organizations in each of the countries in which USAID is active). Key issues that could not be covered by the funding from the ME were now clearly and logically linked to the overall problem by the logic of the PM.

The problem model has emerged as a component of the way the GL-CRSP does business. First of all, it provides a result orientation with a strong logical framework. The research performed by the CRSPs actually attempts to solve problems, and the results make it very much more effective when dealing with USAID. Second, it produces a clear framework for integrating disciplinary research to ensure problem solving and not just knowledge generation for the sake of research Third, it sets a natural continuum from research to extension, because part of the solution is usually to communicate the findings of research in order to formulate the appropriate interventions. Fourth, it incorporates collaborators at the front end. In the course of using the problem models in their collaborative research, the CRSPs have also learned that in order to obtain strong partnerships, the partners have to be at the table from the very beginning of the planning process and fit naturally into the program. Fifth, the problem model allows the CRSPs to capitalize on other funding sources. In the global livestock program, for example, the project has doubled the size of its budget with leverage funds from other sources. Last, the problem model contributes directly by solving a priority problem.

ADVANTAGES OF THE CRSP MODEL

The CRSPs have a wonderful advantage as a training vehicle. American students gain an international perspective they too often lack, and exchange students from host countries are focused out and then back. When students from development countries are brought to the United States for four years to earn doctorates and other advanced degrees, the extensive contacts they make here and their research experience in the US is a disincentive to return home. For scientists, the nature of their thesis research and the scientific contacts they make are the basis for their career trajectory. If a developing country student is totally US based and focused, is it small wonder that they want to stay in the US? To avoid this, students working within the CRSPs come to the United States for course work but concentrate their research within the context of the problem model back in their own countries. As these trainees spend most of their time in their home countries doing their research, they build their contacts with national colleagues, and hence CRSPs have very high rates of return.

Another of the great advantages of the CRSPs is the ability to maintain a long-term funding base. The CRSPs are now the longest-funded of USAID programs. Most people who work in development understand that development is a long-term process, and by having a long-term relationship the CRSPs support the scientists involved in their programs. Oftentimes the relationships with scientists trained in host countries span their entire careers. Not only does this increase their capacity to do their jobs, but it also connects them, through their contacts in the US, with funding resources that otherwise would have been unavailable.

US universities have large resources in agriculture, biological, and environmental sciences that can contribute significantly when captured and brought into the development arena. The CRSPs have strong training capabilities and a history of successes in taking basic science to implementation in agriculture and many other areas. Within the programs, the land grant universities are also taking on a much more international role. While some of the states that fund the land grant system have questioned whether this

works to their interests, now they are beginning to realize that much of their future lies well outside their borders and that international activities support their economic growth.

The CRSP model is very cost effective. By maintaining full partnerships within collaborating institutions within host countries, the programs have no need to place expatriate scientists or incur the costs entailed. Host countries provide large amounts of matching funds, and each project is also required to receive 25% in matching funds from the US land grant universities. The problem model has provided platforms for successful funding from other sources, and the leveraged funds provided equal the core contribution from USAID.

LESSONS LEARNED FROM THE CRSP MODEL

The CRSP model provides many valuable lessons and examples from which to draw in organizing like endeavors in the future. Foremost examples include:

The effectiveness of open competition: Many universities are eager to participate, and an optimal blend between continuity and revitalization can be drawn into the programs through the open competition process.

Investment in the assessment process: The funds invested in planning and development of strong team compositions and relationships have reaped solid returns, particularly in the development arena.

The problem model focus: The process used to define the problems has proven successful on many levels, particularly in providing a rationale to ensure that interdisciplinary work becomes truly interdisciplinary, rather than merely emulating a fashionable term.

Human and institutional capacity building: The CRSPs trained over 5,000 students to the Masters or Ph.D. level.

Long term projects: Development is a long-term process and should be addressed with a focus on long-term processes as well as short-term results.

Equal partnerships: The CRSP partners share an equal role in setting the program agendas, and that equality has made it possible to run the programs without expatriates stationed in host countries.

Top-down, bottom-up planning: The bidirectional flow of assessment has put the CRSPs right on the cutting edge of the development field.