

## TECHNICAL ASSISTANCE COMPLETION REPORT

Division: MKAE

Division: MRAE

<b>TA No. and Name</b> TA 5812-REG: Third Agriculture and Natural Resources Research at CGIAR Centers; Increasing Productivity of Crop Livestock Systems in Asia			<b>Amount Approved:</b> \$1,000,000	
			<b>Revised Amount:</b> -	
<b>Executing Agency:</b> International Livestock Research Institute (ILRI)		<b>Source of Funding:</b> TASF	<b>TA Amount Undisbursed</b> \$3,000	<b>TA Amount Utilized</b> \$997,000
<b>Date</b>  <b>Approval</b> 22 Oct 1998  <b>Signing</b> 26 Dec 1998  <b>Fielding of Consultants</b> Jan 1999			<b>Completion Date</b>	
			<b>Original</b> 31 Dec. 2001	<b>Actual</b> 31 Dec 2001
			<b>Closing Date</b>	
			<b>Original</b> 31 Mar 2002	<b>Actual</b> Jul 2003
<b>Description</b> ILRI is a relatively young organization, formed in 1994 by merging the International Livestock Research Center for Africa and the International Laboratory for Research on Animal Diseases. In 1997, ILRI requested ADB support for its Asian program, where problems of poverty, food security and resource degradation are most severe in rain-fed areas, and lack of quality livestock feed is a major constraint in smallholder farming systems. The livestock research capacity of the National Agricultural Research System (NARS) is weak in many Asian countries, and significant advances can be achieved through collaborative research and information exchange programs among the NARS and ILRI. Policy changes are also needed to encourage smallholder farmers to adopt productivity enhancing technologies.				
<b>Objectives and Scope</b> The objectives were to: (i) develop improved feed production and utilization technologies for ruminants in smallholder farms; (ii) develop macro and sector policy options as incentives for smallholder farmers raising ruminant livestock; and (iii) improve NARS capacity for systems-oriented livestock research. The TA was implemented during 3 years (1999-2001) at benchmark sites in P.R. China, Indonesia, Philippines, Thailand and Viet Nam. The total cost was \$3.6 million, of which ADB contributed \$1.0 million, ILRI \$760,000, EDF \$600,000, Japan \$300,000, ACIAR \$210,000, and NARS \$750,000, mostly in kind. ILRI was the executing agency and chaired the Steering Committee comprising the participating NARS and ADB; and the various field activities were implemented by the NARS under ILRI supervision. TA activities included: (i) characterizing production systems and analyzing constraints and opportunities for increasing livestock production; (ii) designing procedures to test and spread available feed production technologies; (iii) assessing new strategies for feed production; (iv) identifying improvements in policies and livestock markets to improve smallholder competitiveness; and (v) conducting on-farm fodder production research, and assessing constraints to adoption by farmers. Research capacity building included: (i) support for sharing research information; (ii) training for 60 NARS scientists; and (iii) three workshops and a final symposium to share the results of collaborative research.				
<b>Evaluation of Inputs</b> Although the TA objectives were appropriate, TA formulation was somewhat weak because not all of the expected outputs and activities were realistic. Specifically, the primary focus of ILRI and the NARS was on crop-livestock systems research, and they were not effective in getting the national agricultural extension systems to adopt and disseminate the results. The researchers also were not well qualified to undertake the policy analysis and reform component, that was overly ambitious regarding the ease and speed with which policy changes to improve smallholder livestock production could be developed and adopted by Government. Finally, the TA description in Schedule 1 of the TA Agreement with ILRI was much less specific than the TA Paper and Project Framework regarding the activities and outputs, thus causing some confusion, and the TA reporting requirements were very vague. Given the shortcomings in TA formulation, the performances of the executing agency (ILRI) and the implementing agencies (NARS) were satisfactory. ILRI successfully established the Crop-Animal Systems Research Network (CASREN) linking the NARS in participating countries. The NARS characterized traditional livestock systems, and successfully tested changes to those systems that resulted in significant gains in livestock production. Significant formal and on-the-job training was also provided to NARS staff and other participants to increase their capabilities. ADB supervision of the TA was also satisfactory. Two review missions attended the 1 <sup>st</sup> Planning Workshop in June 1999, and the 2 <sup>nd</sup> Planning Workshop in May 2000. ADB was also in frequent contact with the Team Leader and other TA staff at the benchmark site in Los Banos, Philippines, and with ILRI headquarters in Nairobi, Kenya.				
<b>Evaluation of Outputs</b> The primary TA outputs include the analysis and modeling of traditional crop-livestock systems in the benchmark sites, and the design and field testing of various modified and alternative systems designed to increase livestock production and protect the natural resource base of the small farm. The new systems typically utilize readily available crop residues as feed, and included supplements such as multi-nutrient block licks to provide essential minerals. New systems trials increased livestock productivity (the rate of weight gain) by more than 20%, and their low cost makes				

them highly appropriate for small farms. However, at TA completion there was little evidence that the new systems were being adopted outside the benchmark sites and trial farms, due to inadequate linkages to extension systems. ILRI established the CASREN Network to facilitate sharing information and technology on crop-animal systems. TA outputs include 9 journal articles, Proceedings of the TA Planning Workshop, Proceedings of the 2<sup>nd</sup> TA Workshop, about 30 technical papers and reports; and the quarterly *CASREN Newsletter* that has kept participants and others informed of TA activities. CDs containing TA reports and publications, and a comprehensive bibliographic database on crop-animal systems, were distributed to the NARS and Workshop participants; and a CD containing all of the TA reports and papers is being prepared for distribution in 2003.

Two short training courses on Approaches for Crop-Animal Systems Research, and On-Farm Evaluation and Impact Assessment of Technological Options in Crop-Animal Systems were attended by 21 and 27 regional participants, respectively; and several short courses were conducted at the national level. A training manual entitled *Approaches and Methods for Improving Crop-Animal Systems in South-East Asia* comprising 8 different modules was prepared. Informal training has also been provided for about 365 extension agents and farmers.

The attempt to develop policy options for each country to "improve the competitiveness and market efficiency of smallholder crop-animal systems" resulted in few outputs. The studies identified needs in a number of areas, but did not produce national policy papers with clear recommendations and plans for action. There was also no mechanism to present the results of the studies to national policy makers for adoption and action. From these results it is clear that neither ILRI nor the NARS had the expertise and experience to develop appropriate policy recommendations, and that specialists should be engaged to guide any further attempts in this area.

An external evaluation of the TA was conducted during 2 weeks in June 2001. The evaluation noted that although partnerships to perform biophysical systems research had been formed, organizational coalitions within wider social, economic and political systems were yet to be formed. Recommendations were made to address these shortcomings during Phase 2 – RETA 6005: *Improving Crop-Livestock Production Systems in Rainfed Areas of Southeast Asia*.

### **Overall Assessment and Rating**

When compared to the Project Framework, the TA outputs and the success in achieving the TA objectives are rated as partly successful. Livestock feed technologies to improve farm productivity and reduce soil erosion were developed at the benchmark sites; however, they have not yet been widely disseminated and adopted. Identifying policy options to improve smallholder livestock productivity was much more difficult than anticipated; and recommendations have not yet been successfully communicated to government policy makers for action. Formal training for NARS staff, and informal or on-the-job training for participants in the various surveys, modeling exercises, feed system trials, and other activities, have improved the research capacity of the NARS. Thus, although policy reforms were not completed during the 3-year implementation period, the TA did develop improved crop-livestock production models for adoption by smallholders, produce and disseminate a number of valuable reports on livestock systems improvements, and strengthen and improve the capacity of the NARS.

### **Major Lessons Learned**

ILRI's focus, like that of many other CGIAR centers, is primarily on its research agenda. Even the most useful results of research programs often are not effectively disseminated to and adopted by the people they are intended to help, simply because the link is not made with the requisite facilitators. In this case, the lack of a research-extension link has limited the field application of potentially very useful improvements in livestock feed systems; and the lack of a research-government link has precluded the possibility of the timely adoption of recommended policy changes to support livestock production by smallholders. Such necessary links should be explicit in future ADB support to agricultural research by CGIAR and others. In this case, the dissemination of research results to agricultural extension agencies could have been improved by: (a) conducting seminars to present research results to the appropriate extension agencies in each country, and (b) ensuring that the extension agencies get free access to research results through newsletters, publications, and dedicated websites.

The TA Agreement with the executing agency (ILRI) should always accurately reflect the TA design as presented in the TA Paper, including the Framework. In this case, the TA Agreement, Schedule 1 – Description of the Technical Assistance, provides only a very general description of the TA activities, and omits virtually all of the detailed outputs and quantified targets found in the TA Paper and Framework.

Institutes like ILRI that focus primarily on technical and field systems research may be ill equipped to prepare policy analyses and recommendations in their sector. When preparing changes to national policies, laws and regulations, or institutional frameworks, an external specialist in policy and institutional analysis may be engaged if needed to direct the study and utilize the technical inputs of the research specialists to develop appropriate recommendations.

### **Recommendations and Follow-Up Actions**

In December 2000, ILRI was awarded \$1 million for a Phase 2 TA to continue this research during 2002-2004, including clear performance targets for the dissemination and adoption of improved systems, and the preparation of policy papers for 3 countries. The Mid-term Review in June 2003 should carefully examine whether the new livestock systems are being disseminated and adopted, and whether an appropriate policy dialog is initiated with government, and make necessary adjustments to the TOR and work plan to ensure that the objectives are realized.