

**SIXTH REPORT  
OF THE  
EXTERNAL EVALUATION PANEL**

**SMALL RUMINANT  
COLLABORATIVE RESEARCH SUPPORT PROGRAM**

**JULY 1984**

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SECTION I  
INTRODUCTION

- A. The External Evaluation Panel (EEP) of the Small Ruminant Collaborative Research Support Program (SR-CRSP) met twice during the sixth project year. All members of the Panel attended the Lubbock workshop on January 22-26, 1984, and prepared this report on July 17-20, 1984, at the University Experiment Station, Spooner, Wisconsin and at the University of Wisconsin, Madison. Documents evaluated in preparing this report are listed in Annex I.
- B. Other interim activities of the EEP since the fifth report was prepared July 1983 consisted of:
- o Attendance of W.M. Moulton at the meeting of the BIR/TC Executive Committees, May 9, 1984.
  - o Participation of W.M. Moulton at the meeting of the BIR, June 5-6, 1984.
- C. On-site reviews of the SR-CRSP projects at the University of Missouri, Utah State University and Texas Tech University were made July 11-16, 1984. The EEP has now visited all of the original US participating institutions and has found that these reviews have provided a much clearer insight into project activities and the commitment of personnel at all institutions as well as providing worthwhile discussions between hosts and panel members. The EEP greatly appreciates the sincere cooperation and time of all those involved in these site visits.
- D. The response to previous recommendations of the EEP deserves the following attention:

The EEP wishes to compliment USAID/Washington for the budgetary provision of three year renewal funding. Livestock research must be long term in order to show results in animal breeding, nutrition and related projects. While a three year contract is not a long time finance, it represents a significant commitment and permits essential planning and

program implementation vital to project success.\*

From January 22-26, 1984, host country representatives, Principal Investigators, ME staff, EEP members, senior representatives of USAID/Washington and USAID/Peru convened at Lubbock, Texas for a workshop. The ensuing deliberations of the TC, BIR, host country representatives and the intercommunications developed among the various groups proved to be extremely valuable. The meeting served as a useful medium for coordination and for discussing modifications in future program direction.

In the opinion of the EEP, the inclusion of host country representatives on the BIR represents a significant step towards developing a truly collaborative research effort - the goal of the SR-CRSP. In the same spirit of cooperation and collaboration, the EEP commends the US and host country PIs for their integrated project presentation at the Lubbock Workshop. Hopefully these encouraging steps will foster institution building and partnership in research sought by the SR-CRSP.

In its 1983 report, the EEP stressed the need for increased within-host country integration between SR-CRSP projects and suggested that in order to stimulate joint activities and validation an increase be made of "the country programs funds" for integrated within-country projects. Acknowledgement is made of the quick response to this recommendation made by the BIR, who at its meeting in January 1984 decided to combine site coordinator and host country funds and to distribute them equally among the five sites.

Emphasis on training at various levels, both in host countries and at US institutions is reassuring. This has included short courses, field-oriented technician training and graduate level education. In some instances, there has been an exchange of students between US institutions where areas of specialization were considered desirable.

\* The EEP has since been informed that USAID has changed position and that grant extension will need renegotiation.

The ME and the PIs are to be commended for the high quality publication, "Partners in Research", which contains the accomplishments made during the first 5 year grant period. The research results in each of the disciplines in every one of the participating host countries reflects the quality of work done and should constitute a solid base upon which appropriate technologies for small ruminant production can be built. The EEP expects that future publications of this nature will more clearly show the involvement and joint contribution of host country research workers.

The EEP wishes to congratulate the USAID Mission in Niger for proposing its participation in the SR-CRSP. The EEP is pleased with the positive responses of USAID, BIR and ME in developing the procedures for facilitating the addition of Niger to this CRSP.

In a document prepared for USAID/Washington in October 1983, the ME summarized the action taken in response to the recommendations made in the first four EEP reports. The EEP wishes to commend the ME for this document. The ME and BIR have enacted most of the EEP recommendations, resulting in significant though gradual changes towards increased cost efficiency and a better focusing on the overall objectives of the SR-CRSP.

The EEP considers the validation of research results and their integration into packages useful to the small producer to be of special importance. This matter will be further discussed in the main sections of this report.

SECTION II  
GENERAL RECOMMENDATIONS

A. Within Country Coordination

Coordination of the multidisciplinary activities being carried out in the respective host countries continues to be a major concern to the EEP. Encouraging developments have taken place in Kenya and Indonesia. An additional action intended to improve intra-country coordination is the establishment of "Country Research/Coordination Funds". However, in order to assure that these funds are developed and utilized in the manner intended, attention must be given to the establishment and effectiveness of the respective Program Advisory Committee (PAC) in each host country.

The EEP recommends that the ME insist that host country representatives, PIs and site coordinators establish a viable and functional PAC in each host country. By-laws should be prepared which establish membership that provides effective representation and with procedures insuring coordinated operation.

B., Within country integration, validation of research results and the production of technology packages.

In order to be of practical value to the small producers, most research results need to be subjected to validation and integrated into packages ready for implementation. The EEP stresses the need for all SR-CRSP projects to start working out such joint packages of technical innovations. These packages should be validated economically and socially under practical conditions.

- a) The EEP recommends that for each country, one of the PI project take the lead in this integration/validation process.
- (b) This matter should be discussed at one of the forthcoming meetings between the PAC and the PIs in each country. The EEP recommends that a major part of the "Country Research/Coordination Funds" be used for the validation and integration of research results into technology packages.

C. The need for documentation of the applicability of research results.

It is the consensus of the EEP that country reports (similar in quality to "Partners In Research"), which integrate and explain the research from the various disciplines in manual form for extension specialists be prepared well before the phasing out of activities at any one site is initiated. The EEP believes that the subject matter areas must be written jointly by the PIs and host country coordinators, but the production of these manuals should be under the direction of the ME.

The EEP feels that the country specific manuals should have a format which includes sections on each subject matter specialty, a section on the integrated technological package, a section on implication and applicability of the package at the country, regional and international levels. The EEP recommends that one PI in each country be assigned immediately to the task of developing an outline for this final report in conjunction with the other PIs and country coordinators. The preparation of the manual should be a precondition for phasing out of any country site.

D. The need for the development of criteria for the scaling down and phasing out of country sites.

The EEP is very concerned over the lack of guidelines for scaling down and phasing out of country sites. As previously indicated, there must be concrete documentation on applicable research results and field evaluation which can be used by host countries and USAID. This is a minimal requirement.

In addition, criteria must be established for dropping some projects which are not contributing to an integrated research and technical package while continuing resources to the more productive projects. The EEP feels strongly that all projects cannot and should not phase out simultaneously at any one country site. On the other hand, projects which might be working on problems which are peripheral to the goals of the SR-CRSP and which are not well integrated into the overall design should be terminated.

A policy of maintaining continuity of communication and linkage after phase down is accomplishment, is considered essential.

E. Policies and procedures for expanding the SR-CRSP into new sites.

The question whether the SR-CRSP might be expanded into additional sites has been raised by various USAID country missions and universities participating in the SR-CRSP. The Bureau for Science and Technology (S&T) of USAID/Washington has stated that expansion into a new country may be accomplished provided that the USAID country mission concerned transfers sufficient funds to S&T or gives a grant of the same magnitude to the University of California-ME. The EEP would welcome an expansion of the existing SR-CRSP to one or a few additional countries, once sufficient resources have been granted. As most PIs and departments participating in the SR-CRSP are at present fully committed, the EEP recommends that if and when additional resources become available for new sites or subject matter areas, the PIs refrain from taking on additional responsibility. Instead serious considerations should be given to including additional institution/departments in the SR-CRSP.

F. The position of the Systems Analysis Project (Texas A&M University) of the SR-CRSP.

The "Blue Ribbon Panel", in its 2nd review of the Systems Analysis Project, concluded that the SR-CRSP should continue funding this project "if and only if collaborative projects involving one or more projects and the systems group are received". The EEP has noted that the BIR voted in favor of funding the TAMU Systems Analysis Project during the budget year 1984/85 at the agreed level for 2nd projects within a given country. The EEP assumes that this decision applies to the upcoming year only and recommends that for subsequent years, the views of the "Blue Ribbon Panel" be followed, i.e. one or more PIs should have developed a collaborative project workplan with the TAMU systems group. It is the view of the EEP that the proposed collaborative project(s) should be appraised by the BIR/TC Executive Committee before funding is initiated.

SECTION III  
ON-SITE PROJECT VISITS

**Sociological Analysis of Small Ruminant Production Systems. Missouri-Sociology**

Michael F. Nolan, Principal Investigator for the Sociology Project, gave an overview of progress, project focus and limitations faced in Brazil, Kenya, Peru, Morocco and Indonesia. It should be noted that the Missouri Sociology Project is the only one working in all five host countries. Dr. Nolan reviewed the site selection process and rationale with the EEP: two intensive sites - Kenya and Indonesia (humid areas, animals with crops), and three extensive sites - Peru, Morocco and Brazil (arid areas with small livestock producers in rangeland situations).

**KENYA**

The PI noted that a common theme in all sociology projects is the baseline survey which includes labor availability and utilization, role of women, etc. He noted the high level of cooperation among the PIs but feared that the development of a dual-purpose goat would be a limiting factor for the validation of a technological package.

Other challenges facing the Kenya project, according to Dr. Nolan, are monitoring the changes taking place in the farming communities which received dual-purpose goats and the effect of different technological packages in different geographical areas as well as the creation of public awareness of the SR-CRSP. In addition, there is the challenge of institution building - assisting the Ministry in developing social scientists in Kenya.

**INDONESIA**

Dr. Nolan indicated that Mark Gaylord will be a long term resident coordinator in Indonesia. He briefly outlined programs on 1) the characterization of non-small ruminant producers, 2) women's roles in small ruminant production, 3) animal sharing arrangements, 4) effects of placing improved rams, and 5) monthly meeting of farmers in West Java study locations. The EEP particularly noted the excellent cooperation with

economics and the outstanding response to monthly farmers meeting. Praise on the latter point from the Australian researchers at the Ciawi Institute was also noted and commended by the EEP.

#### PERU

Keith Jamtgaard, who has recently completed a long term assignment in Peru, presented information on the various projects in that country. From an overall standpoint, the Sociology Project has been concerned with three aspects:

- o the social aspects of range management -- especially overgrazing,
- o communal management of resources, and
- o crop-animal relationships on agro-pastoralism.

The sociological baseline data indicate that 70% of the communities in Peru are agro-pastoral and 15% are livestock-only communities. As a consequence, the Sociology Project has focused primarily on the agro-pastoral communities. In addition, the role of women in pastoral production will receive special attention through the research of Lidia Jimenez. The need for more collaboration between PIs was expressed and animal health problems due to insufficient nutrition and parasites were noted as limiting factors.

Future plans for the Sociology Project in Peru were described as:

- o Re-evaluate sociology work done in Peru for possible modifications.
- o Attempt to build stronger collaborative relationships with Peruvian institutions -- INIPA lacks a counterpart and permanent presence at sites.
- o Continue work on census of animals and development of typologies of community production systems.
- o Develop coordination among PIs to produce a final product - PIs gathered data independently but now the need is for synthesis.

#### MOROCCO

Jere Gilles discussed the status of the Sociology Project in Morocco. The Morocco site was late in developing, but their agricultural scientists are

among the best trained and most innovative in the area. The focus of the Sociology Project will be in communal management of pasture land. Two studies are planned:

- o The Rheraya Valley study where attempts will be made to identify factors leading to the deterioration of the pastoral economy; and
- o Agdal study where identification and description of traditional range management systems.

The institution building aspects of these projects will have a lesser degree of importance than at other sites because Morocco has a large number of well trained social scientists.

#### BRAZIL

Currently, the Sociology Project has no presence or a project in Brazil. Previous work had been done at Ceara, Bahia and Paraiba, but there are no plans for additional staff or studies in the country. The preliminary analysis of the data indicate a complex relationship between animals, crops and climate (especially rainfall). If all three of these factors are not considered simultaneously in the development of a management strategy for producers especially small producers, there is little chance of success. For example, in years with high amounts of rainfall, producers emphasize crop production and large animals at the expense of goats and sheep. In low rainfall years, the reverse is true.

As a consequence, more of a farming systems approach is required but the SR-CRSP has been unable to develop close ties with the farming systems people in EMBRAPA. In addition, the National Goat Research Center (CNPC) does not have a social science component because, in general, EMBRAPA does not station social scientists at their commodity centers. As a result, no working relationships with sociology collaborators from the host country were developed through no fault of the CNPC. Furthermore, the Center cannot by mandate, study crops and thus lacks the capacity to study the animal, crop and climate interplays. As a net result, the PI feels any further work must await structural changes in EMBRAPA.

## EEP OBSERVATIONS

The EEP was impressed with the high level of commitment to the project which was demonstrated by all levels of university administration. For example, those in attendance at the review included Chancellor Barbara Uehling; Ronald Bunn, Provost; Donald Blount, Vice Provost and Dean of the Graduate School; Roger Mitchell, Dean of the College of Agriculture; William Pfander, Associate Dean of Agriculture; and Joel Hartman, Chairman of Rural Sociology. In addition, the EEP noted that the University administration was well aware of the accomplishments and needs of the project. They have made significant contributions to insure project success and are proud of the role Rural Sociology is playing in the project.

The EEP was especially impressed with the manner in which the SR-CRSP has become an integral part of the rural sociology program in the sociology of agriculture and not just a fourth or "add on" function in addition to teaching, research and extension.

In summary, the EEP commends the Sociology Project on its training and publication records and its cooperation with other disciplines in providing sociological inputs and in the identification of sociological factors which affect agricultural production and adoption of new technology. The EEP was concerned, however, that the sociological staff was spread quite thin.

## UTAH STATE UNIVERSITY

The EEP made a site visit to Utah State University on July 12 and 13, 1984. Discussions were held with the PIs and collaborating personnel involved in the Range and Reproduction Projects. Vice Provost Sorenson, Deans Box and Mathews, Director Whitaker and Department Heads Dwyer and Plowman emphasized their support of these projects and stated that the objectives of the SR-CRSP complemented those of Utah State University. The EEP was impressed with the sincere interest shown in international agriculture and the effort that is being made by those involved.

**Range Project: Rangeland Research for Increasing Sheep and Goat Production in Northeastern Brazil. Utah State-Range.**

Dr. John Malechek, Principal Investigator, presented an overview of the project approach, objectives and general accomplishments. The annual dry

season has been identified as the major limiting factor in Northeastern Brazil. Much of the research effort has therefore been directed towards developing methods to reduce the loss in production during this period. However, since rangeland science concerns the entire ecosystem, it has been necessary to investigate what happens to forage and animals throughout the year and how their manipulation or management may affect plant production.

The research component of this project is to be commended. It has been organized in a logical and scientific sequence. Goals were first established to understand the biological system involved before manipulation of plant or animal was attempted. The approach was to concentrate on small pasture areas with few animals to gather basic data. Through the close cooperation of Brazilian scientists and US advanced PhD graduate students, a great deal has been accomplished in a relatively short time. The next logical phase will be to test these more basic findings under field or applied conditions and to establish and operate long term grazing and land treatment studies. The EEP gives such a phase high priority for all SR-CRSP projects in Brazil at this stage of development.

With this in mind, the EEP will view with interest the development of a facility at Santa Quitéria which is approximately 160 km south of Sobral. It is understood that the approximate 800 ha there hopefully can be developed so that a production system approach will be possible. The EEP feels that all SR-CRSP projects in Brazil should now be focusing on a united production system effort. This should include the other four biological and two socio-economic projects.

Two or three years will be required to validate these all encompassing systems or packages. It appears that the Santa Quitéria station will not be ready for several years and relates to new settlement development. The EEP considers this too long a period before testing the production system can begin and would urge therefore, that a start be made with a few selected farms in the coming project year. Farms where data from the Economics, Sociology or Reproduction projects have been obtained should be considered. Further reference to this need for system validation appears in other sections of this report.

The training program involved with this project is excellent. Seven students have completed advanced degrees and there are currently eight students enrolled in graduate programs. There is an equal mix of Brazilian

and US participants and all have the opportunity to work in each others' country. Robert Kirmse, Scott Kromberg, Joao Queiroz and Ederlon Oliveira, who are all presently enrolled in graduate school, gave informative and stimulating views on how SR-CRSP participation relates to their education and career objectives. The EEP endorses the plan of involving graduate students to this extent in SR-CRSP projects. The publication record of the Range Project is exceptional and the authors are to be congratulated. Certainly an important factor in this productivity is the involvement of graduate students.

Another training component of graduate student teaching in the Department of Range Science is worthy of recognition. Five special courses in International Range Management are offered and three courses in Sociology are required for an international MS degree. Anthropology, nutrition and other disciplines are integrated into the graduate program, all contributing to a broad and innovative learning experience. Dean Box expanded on this point when he emphasized the importance of young scientists to grow scientifically, intellectually, emotionally and socially.

The EEP was impressed with the commitment of the Department of Range Science to international activities. There are 18 international students enrolled and faculty are involved in countries not participating in the SR-CRSP. Such experience has given them the opportunity to carefully analyze the departmental and university costs and benefits of an international program such as the SR-CRSP. Dr. Dwyer very frankly enumerated costs to include:

- o detracting from Utah needs
- o criticism from people in the state
- o missed classes
- o extended absences from the department
- o alienation of some colleagues

He listed the benefits as:

- o establishment of international courses
- o linkages with other universities in the US and abroad
- o enhanced departmental status
- o attraction of higher quality international students
- o "specially" prepared US students
- o faculty with global perspective

- o capability to do international research of greater quality

Dr. Dwyer left little doubt that his years of experience as departmental head have convinced him that the benefits heavily outweigh the costs.

#### EEP COMMENTS

In summary, the EEP commends the USU Range Project and their host country counterparts in establishing a logical and scientific procedure to gather basic information about the biological and environmental systems in which they work. Their next phase, which is to test these findings under farm conditions, is encouraged. The need to combine this component with other SR-CRSP disciplines in Brazil is critical. Compliments are given to the training component and to the international atmosphere and commitment of the department.

#### **Improving Reproductive Performance of Small Ruminants. Utah State- Reproduction.**

The policy of the University to support international activities was apparent and contributes to the effectiveness of the fulfillment of overall SR-CRSP objectives.

The support provided by USU to reinforce and consolidate work in the host country institutions in Brazil and Peru is considered good and believed to be of lasting value. Similarly, emphasis placed on training at all levels, both in host countries and in the US is considerable. The reputations of the respective institutions and scientists appears to have been enhanced as a result of SR-CRSP activities.

Brazil's development of a radioimmuno-assay laboratory, primarily for reproductive work is a positive step. However, its resources and potential capability should be extended to support other disciplines as well. It may be advantageous to correlate studies with the RIA laboratory work in reproduction being conducted in Peru.

At this stage in the evolution of the SR-CRSP, considerable research has been accomplished. The EEP considers that major emphasis by all institutions and disciplines must be directed to evaluating the validity of results for application to smallholders. Because of the perceived urgency to develop

coordination in the achievement of SR-CRSP objectives, the following recommendations are made.

1. Studies carried out thus far on sheep are considered to be valuable but the introduction of genetic resources for studies in reproduction, in addition to those made or being made by the Montana Breeding Project, are not considered justified;
2. Studies proposed for goats on the north coast of Peru as well as those proposed for hair sheep on the north coast and Amazon jungle of Peru would detract from the objective to consolidate work already in progress;
3. Work with Camelidae would benefit from the development of an overall plan based on a thorough review of existing literature in order to identify work needed which would permit establishing priorities for research;
4. Direct involvement of this project in the integrated community projects being developed in Peru is necessary in order to test the findings as an integral part of a production system. Such participation is also essential in the integrated production systems projects to be carried out in Brazil to test research results in the field.
5. The quality of work in reproduction could be improved and better coordination obtained by the presence of a US scientist in the host country for longer periods. The current travel commitments appear to be superficial and would be more constructive if of longer duration.
6. The EEP proposes that taking on additional project activities should be considered only after review and endorsement by the respective PAC.

**Improving Small Ruminant Nutrition, Management and Production through Proper Management of Native Range and Improved Pastures in Peru. Texas Tech-Range.**

A site visit was made to Texas Technical University, Lubbock on July 15. The EEP was welcomed by the Dean of the College of Agricultural Sciences, Dr. Sam E. Curl, who gave an overview of the involvement of Texas Tech in

international agriculture and expressed a strong positive interest in the SR-CRSP. Dr. Henry Wright, Chairman, Range and Wildlife Management Department, discussed the benefits of the SR-CRSP to Texas Tech and pointed out that in the Texas University systems, foreign graduate students generate research and development funds from the state for the responsible department; they make it possible to widen the scope of the research and give useful contacts and an international flavor to students on the campus. Dr. Jack McCroskey Chairman of the Department of Animal Science, expressed support and interest for the SR-CRSP program in Peru on behalf of his colleagues in the field of Animal Science.

Dr. Fred Bryant, Principal Investigator, gave an overview of the SR-CRSP project. He stressed the importance of the natural ranges in animal production in the Andes and the need for their improvement. Texas Tech has established collaborative research programs in the southern Sierra, the central Sierra and on the northern coast of Peru. In each of the former two sites, graduate students/staff from Texas Tech have been working together with Peruvian colleagues for over two years. For security reasons, it was necessary to withdraw foreign staff from the southern Sierra in 1983. The collaborative research involved numerous Peruvian colleagues from five different institutions and covered range nutrition, grazing management, range ecology and improvement and cultivation of pastures. Training played an important role in the overall program. A total of 22 students had been trained including 6 Peruvian graduate students at Texas Tech. Of the total funds spent during the last two years, 60-70% were utilized in the host country.

Five Texas Tech scientists reported on their involvement in the Peru program.

- o Professor B. Allen of the Department of Plant and Soil Science presented some results from a preliminary survey of soils in the Andes, a subject on which surprisingly little information is yet available.
- o Professor Gerry Matches, Department of Plant and Soil Science described work on forage species in Peru, specifically legumes and

discussed the training program in this subject matter area.

- o Professor Frank Craddock of the Department of Animal Science referred to his work on wool quality in relation to studies on wool production on different types of pastures and ranges. He had made the interesting observation that the wool grading system used in Peru appeared to be inadequate. Application of modern laboratory techniques in the classification process might lead to considerable economic advantages for the wool producers and Peru.
- o Mr. Carlos Fierro, senior graduate student, summarized his work on cultivated pastures in the southern Sierra. The work involved collaboration with the Technical University for the Altiplano (UNTA) and with IVITA and INIPA as well as with the SR-CRSP Sociology, Economics and Reproduction projects.
- o Dr. Jim Pfister of the Department of Range and Wildlife Management discussed the goat project on the northern coast of Peru and the integration of the range project with other SR-CRSP projects. Jim Pfister accepted a position at Texas Tech in late 1983 after having completed his PhD at Utah State University on range research with the SR-CRSP project in Brazil. The range studies in the goat project are carried out in collaboration with INIPA and the University of Lambayeque (UPRE). There will also be some cooperation with a project on goats supported by Canada.

The integration with other SR-CRSP projects in Peru was said to have involved economics, sociology, breeding and reproduction. It was pointed out that cooperation with sociologists appeared particularly important in range research in Peru. A community project had recently been started in the central Sierra at Santa Barbara. The Texas Tech Range Project had so far not been involved in the community projects in either the Montaro Valley or in the Puno area.

The overall discussion on the range research in Peru dealt in particular with the collaboration between the different SR-CRSP projects, the community projects and the future prospects for posting some US staff/students in Peru

under the auspices of the Texas Tech Project. Fred Bryant pointed out that he had not been given the opportunity to participate in the planning of the community project in the Mantaro Valley and that he knew practically nothing about the community project near Puno. Otherwise, he was on the whole satisfied with the collaboration received from the other SR-CRSP projects with the exception of the Colorado Animal Health Project which he felt worked in isolation.

Overall EEP impressions of activities undertaken in Peru by Texas Tech were summarized as follows:

- o Texas Tech was complimented for its early and strong involvement in range research in the southern and central Sierra and the posting and financing of expatriate staff/student there,
- o The collaborative spirit demonstrated in the cooperation with several Peruvian institutions and with other SR-CRSP projects, particularly Sociology and Economics was complimented,
- o The publication policy worked out together with the Winrock Economics Project which involved publications with joint authorship from the Peruvian counterpart institutions and the two SR-CRSP institutions was considered commendable,
- o The training program, both the one in the US for graduate students and the one in Peru which involved thesis programs and short courses was considered good, and
- o The soils work was deemed very interesting. It would be useful if more work could be done in this area.

With regard to the goat work on the northern coast, the EEP felt that this should be given low priority in comparison to the pressing needs for practical and economic validation of research results which had so far been obtained in the Sierra. The EEP was assured that Range Project involvement on the northern coast would be small.

The EEP stressed the need for SR-CRSP projects to begin working out joint packages of technical innovations which could be useful to the small producers. These packages should be subject to validation under practical conditions. It would therefore be necessary for all SR-CRSP projects in Peru to be actively involved in the community projects. As the range was the major

feed resource in most of the small ruminant production systems, a strong involvement from Texas Tech was considered essential. The PI responded very positively to these views. The ensuing discussion dealt largely with ways in which the validation process could be improved.

Finally, the EEP pointed out that it found the preliminary results by Frank Craddock on wool grading most interesting. The project was encouraged to explore the possibilities to extend this type of research through collaborative arrangements with some of the larger cooperatives. Evidently a better wool grading system would be economically beneficial to all wool producers, large as well as small, in the country.

With regard to the planned range research activities in Morocco, the EEP and the Principal Investigator exchanged views on how such a project could be implemented considering the limited resources available. Evidently the Moroccan counterparts would like to see collaborative research activities established in three different sites. Fred Bryant would prefer to concentrate on one of them. The EEP shares his concern about the risks involved in spreading the activities too thinly.

## SECTION IV HOST COUNTRY OBSERVATIONS

### BRAZIL

It is not the intent in this evaluation of program progress in host countries to analyze each project in detail. Rather the intent is to make those comments that summarize and describe EEP concerns. Comments on the Utah Range, Utah Reproduction and Missouri Sociology projects are contained in the on-site reports (Section III).

#### Winrock Economics

The work on this project is progressing satisfactorily. The planned analysis of the economic viability of dairy goat production systems in Northeast Brazil is important. This is to be carried out with the Texas A&M Management and Breeding Project. The previous work with the Utah Range Project indicates a cooperative effort. It is worthy to note that there is now an economist, Jose de Souza Neto employed by EMBRAPA and so the transfer by Nestor Gutierrez to Peru should not slow project progress. An expatriate is expected to be on board July 1, 1985.

#### North Carolina Nutrition

The apparent lack of integration between this project and Utah Range is of concern to the EEP. The central theme of both projects is to provide sufficient feed throughout the year to sheep and goats. When the range cannot supply sufficient nutrients, supplements should be considered, hence an example of needed coordination between these projects. Information from the Range Project indicates that protein may not be limited and energy levels are being investigated. No coordinated effort is planned on the mineral status of these animals. The EEP expects that this situation will be corrected as the validation of a field production package occurs.

#### TAMU Management and Breeding

A cooperative study is in progress with the Winrock Economics Project to analyze the economic viability of dairy goat production. The EEP feels this is important since the Sociology Project has concluded:

"That for a complex set of economic reasons the introduction of dairy goats is unlikely to be successful even though the small producers are, in principle favorable to this." Missouri - Sociological Analysis of Small Ruminant Production Systems, 1983/84, Annual Report, p 1.

Similarly the breeding component of this project may be less important than the other SR-CRSP disciplines in Brazil. EMBRAPA and the state organizations such as EPACE have the capability of continuing these studies with the SR-CRSP serving only an advisory role. More serious constraints appear to be nutrition and health.

The EEP is informed of the recommendation by the Joint Executive Committees to reduce the Management and Breeding Project to the level of a single project in 1985-86 funding. The EEP supports this view and suggests that even further reductions might be considered. The future of this project should be discussed by the ME, TC and BIR as soon as the results of the Winrock study on the potential of dairy goat production have become available. Should the Winrock project reach the same conclusions as the Missouri Sociology project (see above) there is hardly any justification for continuing the Management and Breeding Project.

#### UCD' Health

Development of a more collaborative health component is welcome. It would be useful to identify areas of collaboration agreed upon, being carried out or accomplished. The research objectives appear realistic and have the potential of being applicable.

The workplan indicates "the overall CRSP program should benefit directly from the standpoint of disease control in animals within or impacting on CRSP projects". This concept is strongly endorsed as being long overdue for each of the health programs.

#### Integration and Testing

The research results being obtained by the different disciplines and those to be obtained in the future will be of limited value to the producers unless they are properly evaluated in an integrated fashion and technological packages suitable to the needs of small farmers of northeast Brazil are developed.

Several field studies to characterize the production systems and to evaluate different management treatments have been initiated and are being carried out by some disciplines in a rather isolated manner.

The EEP strongly feels that the time has come to set up an integrated project with direct involvement of all disciplines in order to possibly evaluate research findings within the framework of a production system. For such an integrated project to be operational, the PIs should develop clear cut guidelines and define responsibilities for coordination, evaluation and reporting.

The EEP also considers that due to the relatively short spending horizon of the SR-CRSP, steps should be taken to initiate the integrated project as soon as possible.

#### Training

The training component of SR-CRSP in Brazil is considered adequate. A sizeable number of Brazilian scientists have received training or are engaged in formal graduate programs at the MS and PhD levels. Likewise, the research work carried out by US graduate students in Brazil has been an effective means of promoting intellectual interactions with lasting value.

#### INDONESIA

A continuing theme throughout this report relates to the urgency of country projects to carry out consolidation and evaluation of work undertaken thus far and the mandate to carry out these validation studies that will indicate their degree of applicability to smallholders.

There are several factors which have resulted in Indonesia being one of the more effective sites of the SR-CRSP in accomplishing this objective. Some of the factors include:

- o Consolidation by the Indonesian Government of the administrative structures dealing with small ruminants;
- o The assignment by US institutions of well qualified scientists on site for sustained periods;
- o The policy indicated in the Nutrition Project workplan "to give preference to projects started but not yet completed";

- o Carrying out monthly meetings of farmers in study locations incorporating various BPT disciplines.

The collaboration of the Research Institute for Animal Health in studies on brachiaria toxicity should be encouraged and extended to include studies on the elevated mortality rates of lambs in Cirebon.

It is considered that the SR-CRSP and host country agency may benefit from close communication with other activities being encouraged by the local USAID Mission; however, the dangers of becoming heavily committed to non-SR-CRSP responsibilities are obvious.

The training carried out and commitments for additional training is considered to be good. Similarly, the balance between publications appearing in the local language and in internationally recognized journals appears suitable.

The policy of having senior scientists that were previously responsible for program activity (SR-CRSP) in Indonesia return for specific responsibilities such as workshops is considered valuable.

#### KENYA

It is now approximately three years since the EEP made its site visit to Kenya. The impressions and views which the EEP holds on the Kenya projects are therefore mainly based on written reports, workplans and oral information obtained from some PIs and the ME.

From early on, the Winrock Project on dual-purpose goat production systems for smallholder agriculturalists has been charged with the responsibility of integrating research results from the different SR-CRSP projects and such other sources which might be available, into production systems which would fill the needs of small producers in a specific region, namely the humid/subhumid areas of western Kenya. Unlike other host countries, Kenya has therefore long had one project which focuses on the integration and validation of research results.

The EEP has the impression that this integration and validation process is proceeding reasonably well. There is a functioning PAC and qualified national leadership. The other SR-CRSP projects are to varying degrees feeding information to the Winrock Production Systems Project on technical results and

constraints of relevance to dual-purpose goat production. The current severe drought may to some extent have slowed down the normal operations of the breeding experiment and the planned delivery of experimental animals to the Winrock Project. Should there be a shortage of crossbred animals in the TAMU Breeding Project, it should, in the view of the EEP, be possible for the Winrock Production Systems Project to acquire a sufficient number of animals for the Maseno activities from other sources. Upgrading local goats might also be considered. The EEP notes to its satisfaction that the WSU Animal Health Project has, as one of its objectives, to monitor diseases in integrated dual-purpose goat production in western Kenya.

The EEP has been kept informed of the discussions between the USAID Mission in Kenya, the ME and the Ministry of Agriculture and Livestock Development about the possibility of initiating SR-CRSP activities in the more arid regions of Kenya. With the limited resources available to the SR-CRSP, the EEP holds the view that the ongoing work in western Kenya should continue until the objectives of the Winrock Production Systems Project have been accomplished. Only then should SR-CRSP involvement in the more arid zones be seriously considered. The USAID Kenya Mission is commended for their recognition of the need to complete this ongoing project in the humid/subhumid zone.

#### MOROCCO

Morocco was the last country program to be included under the SR-CRSP. As a consequence, Morocco became the 2nd or 3rd project site for all PIs and received less resources. This limited resource base and restricted funding resulted in reduced program scope.

The drought conditions of the past year also complicated the situation. Resources had to be diverted from planned project activities for the purchase of pumps, etc. to mitigate against the drought situation and insure continuation of the projects.

Currently the program's financial situation has improved due to the formula agreed to (at the Lubbock Workshop) for budgetary allocations. The net effect for country programs like Morocco and Indonesia, which in the past received smaller budgets than other countries, was an increase in their budgets and more of an equalization in funding.

As the activities in Morocco increase, the need for the formation of a PAC

composed of host country representatives and US personnel, charged with the duty of coordination, becomes crucial. The EEP also feels that before any additional projects are developed or added in Morocco, the existing projects must be adequately funded.

## PERU

There is considerable progress in SR-CRSP activities in Peru. Annual reports submitted by PIs show that an increasing amount of information is being generated in the various aspects of small ruminant production. This information is, without a doubt, also relevant to other countries with characteristics similar to the Peruvian highlands.

The efforts to participate in the goat research program in northern Peru have been rather fragmented. The EEP cautions against making further commitments instead of concentrating efforts to properly consolidate activities already initiated with sheep and alpacas.

The training of host country scientists at higher levels has received a great deal of attention. This is considered to be one of the most important long-term contributions of the SR-CRSP.

The incorporation of additional Peruvian institutions, other than those headquartered in Lima, in SR-CRSP activities, is desirable. However, any involvement must be on an institutional basis rather than between individuals. Furthermore, quality of research must be kept at a high level, which implies a careful evaluation of the real research potential of the prospective participating institutions before any formal commitments are made.

The annual reports and workplans show an increasing awareness of PIs on the need to strengthen interdisciplinary collaboration. It is reassuring to note that this interdisciplinary collaboration has been put into effect among some disciplines. More progress is needed and expected in the near future.

The need to integrate research results into the framework of production systems and to test them under field conditions has led to the implementation of small ruminant production systems research and technology validation in peasant communities in the highlands of Peru. Two communities were selected, one in the Mantaro Valley and one in the southern Sierra. The EEP made reference to this integration project in its Fifth Report. Unfortunately, the EEP is at the present, neither aware of the progress that has been made on

this community project since its inception more than a year ago, nor is there any evidence of joint participation of all disciplines in the project. The EEP has also noticed that in the workplans for 1984-85 the development of another community integration project in Santa Barbara, near SAIS Pachacutec, has been planned. However, no specific operational details have been given.

Taking into consideration the importance of these integration and field testing projects in the development of technological packages suitable to the needs of the small producers and the need to evaluate and follow up actions, the EEP recommends that the responsibility to coordinate these projects be properly defined. The presence of expatriate scientists on a long term basis in Peru would certainly facilitate the multidisciplinary effort that this type of work demands.

It is essential, therefore, that all disciplines participate in a coordinated fashion in these integration projects. Direct involvement of INIPA personnel in these activities both at the coordination level and in the field, is essential to ensure continuity and the establishment of proper linkages with extension services.

In its Fifth Report, the EEP expressed concerns about in-country administration of the Peru Program, particularly the lack of a functional counterpart to the Site Coordinator from INIPA, who should be responsible for interinstitutional coordination at the host country level. The EEP is not aware of any effective changes that has taken place in this regard.

The ME has responded to the suggestion of the EEP to create and put in operation a PAC in Peru. However, due to the complex nature of the program in Peru and the large number and distant locations of the participating institutions, a more dynamic and effective structure needs to be developed at the working level.

SECTION V  
MEMBERSHIP AND EEP WORKPLAN

Dr. William Flinn became a member of the EEP in November 1983 and attended the January 1984 Lubbock Workshop. Bill Flinn is Executive Director of the Midwest Universities Consortium for International Activities (MUCIA) and Professor of Rural Sociology and Sociology at the Ohio State University. He is former president of the Rural Sociological Society. Prior to 1975, Dr. Flinn was a professor at the University of Wisconsin and served as Chief of Party on a USAID/Wisconsin Peasant Community and Technological Change Project in Colombia from 1970-1973. He was a Fulbright lecturer at the National University in Bogota, Colombia in 1964. Bill Flinn has also conducted research in El Salvador and the Eastern Caribbean countries. He received his PhD from Ohio State and has also studied at Iowa State University. The Panel looks forward to working with one with such valuable experience.

The July 1984 meeting of the EEP represented the final participation of Dr. Saul Fernandez-Baca as a regular Panel member. From the earliest considerations on the potential of having a small ruminant collaborative research support project, he has participated in the evolution of this blastocyst to embryo, to a gasping neonate, to puberty and now to witness evidences of maturity. His participation in the Research Triangle period was particularly useful and provided realistic experience with developing country program requirements. As an original member of the External Evaluation Panel, Saul Fernandez-Baca has continued to provide a mature, balanced judgement presented in a courteous but decisive manner in evaluating all programs. Now that he has decided to leave the Panel, we will acutely miss him and wish him most sincerely a productive and satisfying future.

→ An EEP visit to Morocco is tentatively scheduled for May 17-23, 1985. This will complete on-site visits in host countries. Preparation of the annual report will be prepared scheduled thereafter.

SECTION VI  
ACKNOWLEDGEMENTS

The EEP expresses sincere thanks and appreciation to all personnel at the University of Missouri, Utah State University and Texas Tech University for making these on-site visits informative and productive. The frankness and openness of the discussions were especially beneficial. The hospitality arranged and expressed completed the effectiveness of these visits.

We thank the ME for their sincere effort throughout the year to keep the EEP informed on all activities of the SR-CRSP. Appreciation is also expressed for the help in arranging travel plans and in providing valuable information in the preparation of this report. The EEP commends the ME staff for their sincerity, dedication and hard work to make this collaborative research effort a success

## ANNEX I

### DOCUMENTS REVIEWED

1. Partners in Research - A five year report of the Small Ruminant Collaborative Research Support Program (SR-CRSP), 251 pp.
2. Minutes of the Board of Institutional Representatives (BIR) Meeting, November 7, 1983.
3. Response of SR-CRSP Management Entity (ME) to External Evaluation Panel (EEP) Recommendations in EEP Reports I through IV, October 1983.
4. Global Plan of SR-CRSP prepared by ME in response to AID and BIFAD.
5. Proceedings of the Second Small Ruminant Workshop held in Kenya in 1983.
6. Initial Draft Report of the SR-CRSP Survey Team to Niger, October 1983.
7. Paper entitled "Coordination of CRSP Programs at the Country Level" presented at 1983 BIFAD/CRSP Conference in Washington, October 1983.
8. Correspondence and other documents concerning relations between SR-CRSP and the Kenya USAID Mission, November 1983.
9. Minutes of the BIR Meeting, January 1984.
10. Minutes of the Technical Committee (TC) Meeting, January 1984.
11. Small Ruminant Collaborative Research Support Program. Research Publications 1978-1983. Prepared by Management Entity, January 1984.
12. Special Report of SR-CRSP Systems Analysis Project, March 1, 1984.
13. SR-CRSP Budget and Workplans for 1984-85.

14. By-Law changes proposed and adopted 1984.
15. Second Review of the Systems Analysis Component of the Small Ruminant Collaborative Research Support Program (SR-CRSP), April 1, 1984.
16. Minutes of the Joint Meeting of Executive Committees of BIR and TC, May 1984.
17. Minutes of the BIR Meeting, June 1984.
18. SR-CRSP Annual Reports 1983-84.
19. Curriculum vitae of nominees for EEP replacement.
20. Selected SR-CRSP Technical Reports submitted by Principal Investigators.

THE MANAGEMENT ENTITY RESPONSE TO THE EEP REPORT  
FOR 1984

Periodically the Management Entity (ME) has drafted a memorandum summarizing the SR-CRSP response to the EEP recommendations. The purpose of this memorandum is to respond to the general recommendations for the report in 1984.

EEP REPORT OF 1984

- P. 6 The EEP recommends that the ME insist that host country representatives and site coordinators establish a viable and functional PAC in each host country.

There are now formally established PAC in Kenya and Peru, MSP in Morocco with by-laws in place. In both Brazil and Indonesia, the indigenous research establishment requested that the SR-CRSP work within the already established protocols of those countries' EMBRAPA and AARD without establishment of separate committees. Since this has worked well and has caused no difficulties, the local model has been pursued.

- p. 6 The EEP recommends that for each country one PI project take the lead in the integration validation process.

This is a recurring theme (see p. 15, 19, 22) and the process of addressing the issue was begun and will continue. For example:

- one PI was given responsibility for preparing with host country counterparts the long range Host Country Plans, which include the issues of validation and integration.
- individuals were given the lead in monitoring the integration of projects. For example:
  - Kenya - Dr. Fitzhugh - production systems
  - Peru - Dr. Nolan/Dr. Quijandria - community projects
  - Indonesia - Dr. Van Eys/Dr. Knipscheer - village testing program
  - Brazil - Dr. Kawas/Dr. Shelton - collaborative research project
  - Morocco - revised integration management package put in place
- substantial proportions of the host country budgets for 85/86 were devoted to improve on farm testing and community collaborative projects.
- there are proposals from PIs for "state of the art" studies to be made.

- p.7 The need for documentation of applicability of research results -- in manual form.

Production of manuals in each country for describing applicability of research to smallholders has not been done for various reasons.

- in some cases the research is not advanced enough or has not been field tested given the long term nature of livestock research.

- this is seen in some places as very much an expansion into the areas covered by extension services.
- to a large degree, in places like Indonesia, much of the research is in fact "on farm" and being validated right before the farmers.
- there are several complex systems in most countries which do not easily lend themselves to a standard manual approach.
- production of such materials require special skills which the SR-CRSP has yet to acquire.

At present a new approach is being proposed to do this, where mini-committees of experienced people are put together in order to develop such packages of technology (see correspondence Robinson to PIs, June '85). They may include such people as Monte Bell or Don Torrell who have worked at the SR-CRSP sites in extending results to farmers, and have themselves life long experience in the field.

- p. 7 Criteria must be established for dropping projects not contributing to integrated research.

The ME recommendations to the Board in 1985 dealt with this issue in part by recommending cut back in funds to certain projects, closer scrutiny of others, and the merger of others for more efficient use of funds.

- p. 8 The SR-CRSP should continue funding (Systems Analysis) if, and only if, collaborative projects...are received.

The systems project, apart from its ongoing research in Kenya, has signed agreements with three other countries and PIs for use of the model. On that basis further funds were provided.

#### HOST COUNTRY OBSERVATIONS

- p. 21 NCSU BRAZIL - the apparent lack of integration between this project and Utah Range is of concern to the EEP.

The ME recommendations to the Board suggest a complete merger of nutrition into the range program.

- p. 22 TAMU MANAGEMENT - reduce the management and breeding project to the level of a single project in 85/86...and that further reductions be considered.

The ME recommendations to the Board did exactly this. The budget was reduced from \$175,000 to \$135,000 with further reductions proposed for the future.

- p. 22 Integration and Testing

This has been addressed by the preparation of an integrated research proposal by the site coordinator in conjunction with the PIs and host country scientists. \$14,000 of host country funds were set aside for use in this project.

- p. 23 Indonesia - was complimented for its on farm work.

p. 24 Kenya - was complimented for its on farm work.

p. 25 Morocco - the EEP correctly observed that Morocco was:

- a late starter
- a smaller program
- suffered a severe drought

For these reasons "packages" of technology were some distance from being available for on farm tests.

p. 26 Peru - the EEP cautioned against making further commitments in northern Peru, and where this was not observed it lead directly to a closer scrutiny of the project (especially USU reproduction).

p. 27 The EEP recommends that the responsibility to coordinate (community projects) be properly defined.

This was the subject of discussion at the Peru PI meeting in Lima and it was agreed that the monitoring of funding should be done by Missouri while Dr. Quijandria would coordinate on a daily basis.