

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT AUTHORIZATION REQUEST
FOR ALLOTMENT OF FUNDS PART I

1. TRANSACTION CODE

A ADD
 C CHANGE
 D DELETE

PAF

2. DOCUMENT CODE
5

3. COUNTRY ENTITY
CRSP DS/AGR/Livestock
Worldwide RDA-32

4. DOCUMENT REVISION NUMBER

Original

5. PROJECT NUMBER (7 digits)

[931-1328]

(4)

6. BUREAU/OFFICE

A SYMBOL B. CODE
DSB [36]

7. PROJECT TITLE (Maximum 40 characters)

[CRSP: Small Ruminants]

8. PROJECT PD-AAK-392 ACTION TAKEN

APPROVAL
DECISION

A APPROVED
 D DISAPPROVED
 DE AUTHORIZED

9. EST. PERIOD OF IMPLEMENTATION

YRS. [6] [5]

QTRS [0]

10. APPROVED BUDGET AID APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY 78		H. 2ND FY 79		K. 3RD FY 80	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) FN	100	080		6280		3091		3112	
(2)									
(3)									
(4)									
TOTALS				6280		3091		3112	

A. APPROPRIATION	N. 6TH FY 81		O. 5TH FY		LIFE OF PROJECT		11. PROJECT FUNDING AUTHORIZED	12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)
	P. GRANT	Q. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN		
(1) FN	3096				15579		2	81
(2)								
(3)								
(4)								
TOTALS		3096			15579			

12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)

A. APPROPRIATION	B. ALLOTMENT REQUEST NO.	
	C. GRANT	D. LOAN
(1)		
(2)		
(3)		
(4)		
TOTALS		

13. FUNDS RESERVED FOR ALLOTMENT

TYPED NAME (Chw/, SER, FM/FSD)
 SIGNATURE
 DATE

14. SOURCE/ORIGIN OF GOODS AND SERVICES OGD 341 LOCAL OTHER

15. FOR AMENDMENTS, NATURE OF CHANGE PROPOSED

FOR PRC/PIAS USE ONLY	16. AUTHORIZING OFFICE SYMBOL	17. ACTION DATE	18. ACTION REFERENCE (Optional)	ACTION REFERENCE DATE
		MM DD YY		MM DD YY

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

ENTITY : DS Bureau
PROJECT : CRSP: Small Ruminants
PROJECT NO.: 931-1328

I hereby authorize a Grant of not to exceed six million two hundred and eighty thousand United States dollars (\$6,280,000) to help finance the first two years of the five-year Collaborative Research Support Program (CRSP) on Small Ruminants as described in the Action Memorandum on the Proposed Collaborative Research Support Grant on Small Ruminants.

I approve the total level of AID appropriated funding planned for this CRSP of not to exceed fifteen million five hundred and seventy-nine thousand United States dollars (\$15,579,000) including the funding authorized above, during the period FY 78 through FY 83. I approve further increments during that period of grant funding up to nine million two hundred and ninety-nine thousand United States dollars (\$9,299,000) subject to the availability of funds in accordance with AID allotment procedures.

SEP 20 1978
Robert W. Nooter
Deputy Administrator

Clearances:

for
DS/AGR/L, NKonnerup CA McClure date 20 SEP 78
DS/AGR, FJWilliams CA McClure date 20 SEP 78
DS/AGR, MMozynski M.S.M. date 20 SEP 78
DS/AGR, DPeterson D. Peterson date 20 Sep 78
DS/PO, RSimpson R.S. date 20 Sep 78
DAA/DS/FN, ENBabb E.N. date 20.9.78
PPC/PDPR, EHogan _____ date _____

for
DS/AGR/L, M... MB 9/20
y:vdw:9/19/78

SEP 26 4 01 PM '78

SEP 26 1978

ACTION MEMORANDUM FOR THE DEPUTY ADMINISTRATOR AID

THRU : ES
AA/PPC, Alexander Shakow

FROM : AA/DS, Sandar Levin

SUBJECT: Proposed Collaborative Research Support Grant On Small Ruminants

Problem: Your approval of funds in the amount of \$15,579,000 is required for the five-year Collaborative Research Support Program (CRSP) on Small Ruminants.

Background: At its July 1977 meeting, the Board for International Food and Agricultural Development (BIFAD) recommended that AID proceed with arrangements for planning three CRSPs, including one on small ruminants. A contract was awarded on September 23, 1977 to Research Triangle Institute (RTI) to coordinate the planning process, working closely with U.S. institutions and scientists that potentially might be involved in the CRSP. The Joint Research Committee (JRC) of BIFAD has followed the planning process closely and RTI staff met with JRC on several occasions to discuss progress.

At the June 22, 1978 BIFAD Meeting, the Board approved the JRC recommendation that the RTI final report on small ruminants be accepted, and that AID be asked to move ahead with a goal of making a grant for the CRSP on Small Ruminants this fiscal year.

Two AID policy decisions relate to this program. The processes followed by AID in selecting the participating U.S. universities and the Management Entity for this program were approved by you August 22, 1978 (AA/DS to Acting Administrator memo dated August 14, 1978). And, the Grant Schedule and Standard Provisions proposed for use for collaborative research support program grants under Title XII are contained in a separate memorandum for your approval.

The University of California, Davis has been selected by the participating U.S. universities to act as a management entity for this program. The University of California, Davis has submitted a proposal, which we find acceptable. The program proposed by the Management Entity

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6003403

has been derived from the final report of RTI. AID staff have worked with Management Entity to suggest minor changes in an earlier proposal submission. These changes resulted from AID's review and analysis of the RTI Report. To supplement the proposal presented by the University of California, Davis, AID staff have prepared a statement of problems and proposed response, a social soundness analysis, an economic analysis, and an environmental threshold determination. These papers, and a copy of our notification to congress are attached.

The Grant provides that in the first stages of the program the management Entity will work with the Regional Bureaus and the Missions to define the portions of the program to be done in the developing countries. The Grant also provides that the Management Entity will develop a program plan that displays specific objectives; budget; schedule of expected inputs, outputs, and indicators of each project (both in the U.S. and with specific institutions in developing countries); and the critical and supporting relationships among projects. A copy of the program plan will be submitted to AID for comment and may be used to assess the progress of the program and of its component projects. Management Entity will not issue sub-grants or sub-contracts for project implementation (as distinct from project planning) prior to completing the program plan.

Proposed Program

The proposed program is composed of a set of integrated, long-term research projects and related graduate training. The program goal is to efficiently increase production of meat, milk and fiber from sheep and goats among AID's client people. This is to be done by developing and testing improved technologies and by enhancing the abilities of developing country scientists to solve problems related to small ruminant production and use. U.S., developing country institutions, and international centers will be involved in the research and training. A substantial portion of the research will be done in the developing countries. The total program is divided into two major elements: research for intensive systems and research for extensive systems of sheep and goat production. Extensive systems are those in which the animals graze over relatively large areas. Intensive systems of production are those consisting of smallholders who own a small number of animals in an area where crops are commonly grown.

At my request, the Technical Program Committee for Agriculture (TPCA) composed of technical personnel from each of the four Regional Bureaus and from the Office of Agriculture, DSB, examined the RTI report, as did representatives of the BIFAD staff and the Office of Title XII and University Relations. Our analysis of the RTI Report indicated that neither the production system, the agroclimatic region to be served nor the specific research projects presented acceptable opportunities for reducing the total program without substantial sacrifice in service to the developing nations. Our analysis resulted in the following recommendations, which have been agreed to informally by the Management Entity, and have been included as appropriate in the Proposal.

1. That the Management Entity be challenged, as more detailed research plans are developed, to consider the positive aspects of involving more developing countries in the collaborative research effort (to enhance transfer of technology to developing countries and to strengthen their research capability), without seriously jeopardizing program efficiencies; and that AID be appropriately involved in the developing country site selection process.
2. That the funding for developing country locations be increased by \$200,000 per year, and that the project planners give special attention to developing country need, including operating funds and training.
3. That the planners be asked to be especially cautious about overload of the total commitments of the developing country institution and the management entity; that a careful analysis of the absorptive capacity of the LDC institutions be included in the joint planning of each research project; and that the management entity be alert to the potential for time phasing of projects, either to alleviate overloading of a program component or to reflect priorities among research projects.
4. That the more detailed research plans clearly define how the work at International Livestock Center for Africa is to be integrated into this program.
5. That about \$150,000 be allocated for the Ohio State project, that activities be limited to forage production and related aspects, and that research on genetic resistance to gastrointestinal parasitism be deleted from this project since it is now essentially included in the animal health and animal breeding projects.

The estimated cost of the program during the first five years is \$23.6 million. Of this, the participating U.S. universities are expected to contribute \$8 million and AID plans to contribute \$15.6 million, if funds are available. We plan to make an initial grant of approximately \$6,280,000 to cover the AID portion of the costs during the first two years. It is our intention to roll forward both the planning and funding of the program annually. The estimated cost per year are:

SMALL RUMINANTS CRSP COSTS (\$000)

<u>Year</u>	<u>Total Program</u>	<u>Non-Federal Contribution</u>	<u>Management Entity Cost</u>	<u>AID Contribution</u>
1	4,793	1,552	672	3,240
2	4,622	1,583	460	3,040
3	4,700	1,609	460	3,091
4	4,731	1,620	460	3,112
5	<u>4,728</u>	<u>1,632</u>	<u>460</u>	<u>3,096</u>
TOTALS	23,574	7,996	2,512	15,579

Recommendation: Considering the very expert opinions that have gone into the development of this program, AID's priorities, and the ability of AID to affect the direction and magnitude of the program in future years, I recommend that you approve \$15,579,000 to finance a five-year CRSP on Small Ruminants by signing the attached PAF.

Attachments:

- A. Problems and proposed response
- B. Social soundness analysis
- C. Economic analysis
- D. Environmental threshold determination
- E. Notification of Congress

Clearances:

- DS/AGR, DPeterson DP
- DS/XII, ELong E.L.
- DS/PO, RSimpson RS
- DAA/DS/FN, ENBabb EN
- PPC/PDPR, EHogan _____
- GC, RRichstein _____
- GC:MBall MB (see note)

for DS/AGR, FWilliams: ydw:8/30/78:revised 9/19/78:ext. 58893
Conclude

SMALL RUMINANT PROJECT PROPOSALS

Problem and Proposed Response

There are approximately one billion sheep and 400 million goats in the world, and 30% of the sheep and 65% of the goats are in the developing countries of Africa, Asia and Latin America. In addition, 10% of the sheep and 12% of the goats are in the Middle East.

Sheep and goats provide about 11% of agriculture's share of the gross domestic product in the Near East and Southwest Asia, 3% in Africa and 1% in Latin America. There is a strong demand for sheep and goat meat. FAO estimates that in 1980 world demand will exceed production by approximately 600,000 metric tons, or the equivalent of the production from 30 to 40 million sheep and goats.

In the developing countries sheep and goats are usually owned by small pastoralists and farmers. They are particularly well suited for smallholders in LDC's given their low initial cost, ability to scavenge marginal lands and crop residues, modest requirements for housing and maintenance, ability to provide meat and milk in small and readily useable quantities, and given that they can be cared for by almost any member of the household.

Sheep and goats are managed under both extensive and intensive systems. The principal extensive systems are the nomadic, transhumance and/or sedentarized grazing systems used in Africa, Asia and the Middle East, and the sedentarized systems as used in the highlands of Latin America. The main intensive systems are characterized by crop/livestock combinations as found in the Asian sub-continent, the Middle East, Africa and Latin America. Under both extensive and intensive management, sheep and goats provide meat, milk and fiber for both home use and for sale in local markets.

Although there are some 700 million sheep and goats in the developing countries of Africa, Asia and Latin America, total production and production per animal unit are low. The principal technological constraints in both extensive and intensive systems are inadequate year round feed supply, disease and parasitism, and uncontrolled breeding. In extensive grazing systems, rangelands are often over-grazed or mismanaged, resulting in wide-spread deterioration of vegetation sources and declining production of small ruminants. These technological constraints are exacerbated by the unavailability and/or high cost of external inputs required to improve sheep and goat production systems, inefficient marketing systems and by social factors constraining the application of improved practices.

In most instances significant improvements can be made in sheep and goat production systems. These improvements must be based on the more efficient use of available land, feed, animal and labor resources to both maximize the production of meat, milk and fiber and to conserve and improve range and other natural resources. In extensive grazing systems in arid rangeland areas, this will require the reduction of sheep and goat numbers in overpopulated areas which in turn will alleviate overgrazing and conserve range and water resources. This will result in the increased production of meat, milk and fiber even though numbers are reduced. However, in more humid areas which have large feed resources, the population of sheep and goats could be increased appreciably.

In intensive crop/livestock systems, the production of meat, milk and fiber from sheep and goats could often be increased through the application of improved feeding, breeding, disease control and management practices.

This program proposes to contribute to efficiently increasing the production of meat, milk and fiber from sheep and goats in both extensive grazing and intensive crop/livestock systems. This will be accomplished through the assembly and generation of improved production technology for sheep and goat production; the training of production specialists to conduct research and to implement sheep and goat production programs; and the diffusion of the new technology to national and regional sheep and goat research and production programs. Target areas for extensive grazing systems are the arid grazing lands in Africa and possibly Asia, and the highland grazing areas in the South American Andes. Target areas for intensive crop/livestock systems include the Indian sub-continent, Latin America and possibly Africa.

The program will focus on the development of integrated extensive and intensive production systems in regions where sheep and goats are now of major significance and/or where there is a high potential for increased production of meat, milk and fiber from sheep and goats. The program will address the alleviation of primary constraints within these systems, including range management, feed supply, animal breeding, animal management, health and socio-economic constraints.

To achieve these objectives, the program is composed of a set of integrated research projects and related training activities to be implemented collaboratively by investigators and institutions from the U.S. and the developing countries. This program has been formulated by the joint action of U.S. scientists representing 12 eligible institutions and one sub-contractor. It is designed to utilize the particular technological strengths of U.S. and developing country institutions, and to pool resources for sheep and goat research with cost sharing among AID, U.S. and developing country institutions commensurate with benefits to be derived.

Problems, Needs, Approaches and Funding of Projects within
the Small Ruminant CRSP, 1978

Section A - Intensive Management Systems

A-1 1.a Tuskegee Institute

Intensive Dairy Goat Production Systems for Smallholder
Farmers and Landless Peasants

AID funding	100,000
Tuskegee funding	61,666

1.b Winrock International

Intensive Dairy Goat Production Systems for
Smallholder Agriculturalist

AID funding	- \$100,000
Winrock funding	115,405

Problem:

Management related low productivity of small herds of dairy goats
(3-5 animals) in humid tropics.

Needs

Information on improved nutrition, health care, sanitation, reproduction,
selection, confinement effects, crop-goat interaction, nutritional
standards.

Approach

Develop and test dairy goat management systems, for smallholders.

A-2 The Ohio State University

Intensive Forage Production systems for Smallholder Sheep and
Goat Producers

AID funding	- \$150,000
Ohio State funding	- 68,480 (on basis of 175,000 AID funding)

Problem

Inadequate productivity and poor nutritional quality of available forages under current management.

Needs

Characterization of available forages; production and storage methods to assure year-round availability.

Approach

Record plant and animal response, plant persistence, carrying capacity, utilization and storability of forage.

A-3 North Carolina State University

By-product and Crop Residue Utilization in Intensive Sheep and Goat Production Systems for Limited-Resource Farmers

AID funding	\$100,000
N.C. State funding	38,388

Problem

Inadequate feed supply (amount, nutritive values, seasonal fluctuations) in smallholder crop/livestock systems.

Needs

Information on pasture improvement, forage production and storage; information on how to better use crop residues and by-products.

Approach

Conduct intake and digestibility trials, ration formulation, animal production with selected crop residue and by-product feeds; laboratory tests of nutritive values; study methods of storage; study methods of treatment to enhance nutritive value.

A-4 University of California, Davis

Improving Genetic Potential of Dairy Goats and Sheep for Smallholder Systems

AID funding - \$200,000
UCD funding - 117,396

Problem

Low productivity of indigenous goat and sheep herds in crop/livestock systems under tropical conditions.

Need

Information on indigenous breed differences, genetic parameters within breeds, breeding seasonality, performance of breed crosses.

Approach

Study breed traits that contribute adaptation to tropical environments, their occurrence in indigenous and other livestock, and means of exploiting desirable traits.

A-5 University of California, Davis

Herd/Flock Health Programs in Smallholder Systems

AID funding - \$200,000
UCD funding - 84,701

Problem

Health related low productivity of sheep and goats in smallholder systems in the humid tropics.

Need

Elucidation of health related limiting factors in small ruminant production, and available methods of alleviating health constraints.

Approach

Conduct health surveys and make clinical examination of indigenous goat and sheep herds in LDC's; test application of known disease control methods; explore new control methods; explore new control methods for currently intractable disorders.

Section B - Extensive Management Systems

B-1 Texas Tech University

Improving Small Ruminant Nutrition Management and Production
in Arid and Semi-Arid Rangelands

AID funding - \$200,000
Texas Tech funding - 83,463

Problem

Widespread deterioration of vegetation on grazing lands, and reduced productivity of sheep and goats in Africa.

Need

Socially acceptable management systems that are more productive, and that will maintain and restore the vegetation resource base.

Approach

Make resource inventory of grazing lands in target area, and formulate usable grazing systems on the basis of grazing trials; develop methods of strategic supplementation; results expressed in herd off-take.

B-2 Utah State University

Rangeland Small Ruminant Nutrition Management and Production
in Arid and Semi-Arid Rangelands.

AID yearly funding - \$200,000
Utah yearly funding - 109,840

Problem

Low productivity and overgrazing of rangelands, in relation to the ecological resources available. Uncontrolled grazing; and unsuited able livestock management.

Need

Information on stocking rates in relation to yearly feed supplies and improved grazing systems, formulation of superior grazing management and feeding systems.

Approach

Determine pasture production capacity; conduct controlled grazing trials; estimate seasonal nutritional needs of livestock herds; formulate suitable grazing management and feeding systems.

B-3 Montana

Evaluation and Genetic Improvement of Sheep and Goats in Extensive Management Systems

AID funding	\$200,000
Montana funding	61,882

Problem

Low inherent productivity of indigenous sheep and goats.

Need

To assay improvement potential by selection within indigenous flocks; and evaluate the effects of introducing desired heritable traits by crossing between indigenous breeds and with selected introduced breeds.

Approach

Assemble representative herds of local breeds and determine production and desirable heritable traits; develop superior breeding stocks by selection within indigenous breeds and by combining characteristics of several breeds.

B-4 Washington State

A Program to Improve Sheep and Goat Production by Reduction of Disease Losses

AID funding	\$150,000
Wash. funding	105,365

Problem

Low productivity due to animal diseases, especially internal and external ectoparasite diseases.

Need

Determine incidence of endemic parasitic diseases; identify causal organisms and vectors; inventory available control measures; focus on currently uncontrollable diseases.

Approach

Use available measures to minimize losses from controllable diseases; estimate the benefits and costs of suitable controls; undertake methods of coping successfully with diseases where effective controls have not been developed.

B-5 Colorado State

Research on the Diseases of Sheep and Goats Affecting their Productive Efficiency

AID funding - \$150,000
Colorado funding 75,622

Problem

Serious herd/flock health problems and livestock losses from infectious diseases and parasitism.

Need

Alert producers to the extent and causes of livestock losses, effects of such losses on herd profitability; develop animal health programs that include disease prevention, immunization, chemotherapy, and herd management.

Approach

Assess the scope and severity of current endemic health problems, including interaction with nutritional status; and develop local capability to carry out herd/flock health programs, including disease prevention.

Section C - Projects that are applicable to both Intensive and Extensive Systems

C-1 Missouri

Social Constraints to Increased Small Ruminants Production

AID funding - \$175,000
Missouri 87,985

Problem

Inadequate understanding of socio-economic factors which affect the role of livestock in agriculture, absence of reliable data on cost of production of livestock and their products in relation to prices; systems of land use for support of ruminants, and methods of assignment to herders; impacts of government control on ruminant livestock enterprises.

Need

Characterize present systems of herd management for specific areas; develop production programs to benefit small producers; utilize more effectively the natural resources available; exploit market opportunities for ruminant animals, meat, and milk.

Approach

Conduct short-term and long-term field studies to determine the sociological constraints in existing systems to the improvement of small ruminant production systems, and to formulate improved production systems that will be sociologically feasible.

C-2 Winrock International

Economic Analysis of Small Ruminant Production Systems

AID funding - \$175,000
Winrock funding 146,725

Problem

Insufficient data base on economic significance of small ruminant enterprises. Lack of quantitative data of livestock contribution to development of LDC's.

Need

Evaluation of ruminant production systems; identify opportunities for improving economic returns; evaluation of marketing methods and potentials for positive economic returns to producers. Extent to which improved technology will contribute to LDC progress.

Approach

Make quantitative determination of productivity by producers, critical determinants and controlling factors, supplies and markets for livestock and products; identify critical features of supplies, market demands and price controls within specific LDC's; focus on profitability to producers. Develop improved production systems that are workable, deliverable and economically viable.

C-3 Texas A&M University

College of Agriculture

Systems Analysis and Synthesis of Small Ruminants Production

AID funding - \$175,000

Texas funding 100,282

Problem

LDC neglect of livestock production problems. Information on critical aspects of production and marketing not available. Little recognition of dependence of national food needs on natural resources and productivity of livestock components.

Need

Information needed on natural resource base, and present levels of productivity; present and potential feed supplies for ruminants; the nature of animal health problems and feasible control measures; present and potential profitability of livestock enterprises; estimates of national food needs in terms of livestock products.

Approach

Develop models to examine alternative production methods and to synthesize desirable production systems, and to supply input/output data of traditional and altered production systems for use in economic analysis studies. Identify further data acquisition required to refine the models.

C-4 Texas A&M University

(San Angelo)

Identification/Evaluation of Meat Goats and Hair Sheep for
Introduction into LDCs

AID funding - \$150,000
Texas funding 194,644

Problem

Absence of small ruminants improvement program in LDCs, to pursue objectives of individual animal productivity traits that are heritable; little adherence to effective breeding programs; absence of information on effectiveness of selection within indigenous herds for disease and parasite resistance, and production of salable offtake.

Need

Undertake and pursue small ruminant improvement programs based on indigenous herds, and explore potentials for importing adapted genetic breeds from other tropical countries. Recognize the genetic aspects of nutrition, disease and parasite resistance, tolerance of adverse environments, and of animal productivity.

Approach

Develop a sustained coherent program of improvement of meat type goats and hair sheep in tropical regions, starting with basic indigenous stock, and proceeding by logical genetic procedures to improve animal productivity.

C-5 a. Utah State

Improving Female Reproductive Performance of Small
Ruminants in LDC Countries

AID funding - \$90,000
Utah funding - 57,300

Problem

Lack of information on existing genotypes in LDC flocks of sheep and goats that affect the level and efficiency of meat and milk production; and sources of desired traits to upgrade indigenous flocks. Paucity of information on reproductive potential of females, with reference to environment, nutrition and management.

Need

Collect information on reproductive physiology of females, and means for improving fecundity under conditions in local situations.

Approach

(See statement for Calif. Polytechnic University, Pomona, for collateral program on male aspects)

Conduct pertinent research on female physiology and fecundity to establish data base on present status in LDCs, and opportunities for improving reproductive performance by any feasible means. Field test the usefulness of applicable management systems in LDCs.

C-6 b. California Polytechnic University, Pomona

Improving Male Reproductive Performance of Small Ruminants in LDC Countries

AID funding -	\$60,000
Cal Poly funding	61,700

Problem

Absence of control in selection of males for herd reproduction in LDCs; paucity of information on management of sires to improve conception rates; limited use of management practices.

Need

Information relating to the reproductive performance in the male as influenced by genetic and environmental factors, and means to exploit the production potential of selected male germplasm.

COLLABORATIVE RESEARCH SUPPORT
PROGRAM ON SMALL RUMINANTS

Social Soundness

Sheep and goats are owned principally by small pastoralists and small farmers. They are an important means of transforming pasture, forage, browse, crop residues and other feedstuffs that are not destined for human consumption into meat, milk and fiber. The high quality meat and milk protein produced serve as protein supplements, correcting the crude protein and amino acid deficiencies of food sources of plant origin. The hair, wool and hides provide important sources of fiber for domestic use and home industries. Not only are these products of major importance for home consumption but they are also sources of income to smallholders.

This program proposes to contribute to efficiently increasing the production of meat, milk and fiber from sheep and goats in developing countries. The program focus is on small producers, and the concomitant benefits to be derived by low income consumers of products from sheep and goats. The production objective is to efficiently utilize available range, feed, animal and human resources for the production of meat, milk and fiber using production practices that conserve and protect natural resources. The consumer objective is to devise mechanisms that will provide for orderly marketing and distribution of these products to assure a regular supply at lowest cost to the consumer. This, of course, will also benefit producers by stabilizing markets, strengthening demand and reducing risks.

In accomplishing these objectives, the program must be amenable to program adjustment as required. The research program aims to assemble and generate technology to increase production and production efficiency. The problems selected for solution and the nature of the technologies to be generated will be directly affected by the continuing economic and social research that is an integral part of the program. Training is integrally linked with research, and is designed to enable small ruminant production specialists from the developing countries and the U.S. to apply available technology and to develop efficient production systems. The technology flow is from small ruminant research projects to national small ruminant research and production programs that will disseminate and apply this technology as appropriate, at the field level.

The continued relevancy of these activities will be assured through (1) internal program evaluations by the management entity and the technical program committee, and (2) external program evaluations by the external evaluation committee composed of a multi-disciplinary

group of eminent scientists from the U.S. and LDC's. In addition, AID/W will maintain direct contact with the management entity, monitoring overall program activities, receiving and evaluating reports of the external evaluation committee, all of which will impact on AID decisions on program and funding.

ATTACHMENT C

COLLABORATIVE RESEARCH SUPPORT PROGRAM ON SMALL RUMINANTS

Economic Analysis

The usual cost to benefit or cost effectiveness analysis cannot be done ex ante for a substantial research program because the products of the program can not be assigned a realistic monetary value. Two factors related to the costs and potential benefits of this research program have been considered. First, the costs of the various research components seem reasonable in that they were developed and cross checked by research administrators who routinely develop similar research budgets and they are similar to costs per scientist year for such research done in other organizations, as adjusted for developing country involvement. Second, returns on investments in agricultural research have been very high in comparison to alternative public sector investments. Several post facto analyses have shown rates of return on public agricultural research investments (since 1910) in the U.S. between 40 and 50%. These figures apply to broad based investments in both basic and applied research. This program, concentrating near the applied end of the research spectrum and on identified developing country problems, should give returns much higher than the average research investment.

COLLABORATIVE RESEARCH SUPPORT
PROGRAM ON SMALL RUMINANTS

ENVIRONMENTAL THRESHOLD DETERMINATION

TO: AA/DS, Sander Levin
THRU: DS/PO, Robert Simpson *Befor*
FROM: DS/AGR, Leon F. Hesser *NOTE*
SUBJECT: Environmental Threshold Determination

Project Title: Small Ruminants CRSP
Project #: 1328
Specific Activity (if applicable) _____
REFERENCE: Initial Environmental/Examination (IEE) contained in
Impact Identification and dated 8/7/78
Evaluation Form

On the basis of the Initial Environmental/Examination (IEE) referenced above and attached to this memorandum I recommend that you make the following determination:

- XX 1. The proposed agency action is not a major Federal action which will have a significant effect on the human environment.
- _____ 2. The proposed agency action is a major Federal action which will have a significant effect on the human environment, and:
- _____ a. An Environmental Assessment is required; or
- _____ b. An Environmental Impact Statement is required.

The cost of and schedule for this requirement is fully described in the referenced document.

_____ 3. Our environmental examination is not complete. We will submit the analysis no later than _____ with our recommendation for an environmental threshold decision.

Approved: *Jay Bobb*

Disapproved: _____

Date: 31.8.78

**IMPACT IDENTIFICATION AND EVALUATION FORM
FOR THE COLLABORATIVE RESEARCH SUPPORT PROGRAM
ON SMALL RUMINANTS**

Impact
Identification
and
Evaluation 2/

Impact Areas and Sub-areas 1/

A. LAND USE

1. Changing the character of the land through:

- | | |
|---------------------------------------|---|
| a. Increasing the population _____ | N |
| b. Extracting natural resources _____ | N |
| c. Land clearing _____ | N |
| d. Changing soil character _____ | N |

2. Altering natural defenses _____ N

3. Foreclosing important uses _____ N

4. Jeopardizing man or his works _____ N

5. Other factors _____ N

_____ N

_____ N

B. WATER QUALITY

1. Physical state of water _____ N

2. Chemical and biological states _____ N

3. Ecological balance _____ N

4. Other factors _____ N

_____ N

_____ N

1/ See Explanatory Notes for this form.

2/ Use the following symbols: N - No environmental impact
 I - Little environmental impact
 M - Moderate environmental impact
 H - High environmental impact
 U - Unknown environmental impact

IMPACT IDENTIFICATION AND EVALUATION FORM FOR THE COLLABORATIVE
RESEARCH SUPPORT PROGRAM ON SMALL RUMINANTS

2

C. ATMOSPHERIC

- | | | |
|--------------------------|-------|---|
| 1. Air additives _____ | _____ | N |
| 2. Air pollution _____ | _____ | N |
| 3. Noise pollution _____ | _____ | N |
| 4. Other factors _____ | _____ | |
| _____ | _____ | N |
| _____ | _____ | |

D. NATURAL RESOURCES

- | | | |
|--|-------|---|
| 1. Diversion, altered use of water _____ | _____ | N |
| 2. Irreversible, inefficient commitments _____ | _____ | N |
| 3. Other factors _____ | _____ | |
| _____ | _____ | N |
| _____ | _____ | |

E. CULTURAL

- | | | |
|--|-------|---|
| 1. Altering physical symbols _____ | _____ | N |
| 2. Dilution of cultural traditions _____ | _____ | N |
| 3. Other factors _____ | _____ | |
| _____ | _____ | N |
| _____ | _____ | |

F. SOCIOECONOMIC

- | | | |
|--|-------|---|
| 1. Changes in economic/employment patterns _____ | _____ | N |
| 2. Changes in population _____ | _____ | N |
| 3. Changes in cultural patterns _____ | _____ | N |
| 4. Other factors _____ | _____ | |
| _____ | _____ | N |
| _____ | _____ | |

IMPACT IDENTIFICATION AND EVALUATION FORM
FOR THE COLLABORATIVE RESEARCH SUPPORT PROGRAM ON SMALL RUMINANTS

3

G. HEALTH

- | | |
|---|---|
| 1. Changing a natural environment _____ | N |
| 2. Eliminating an ecosystem element _____ | N |
| 3. Other factors | |
| _____ | N |
| _____ | |

H. GENERAL

- | | |
|---------------------------------|---|
| 1. International impacts _____ | L |
| 2. Controversial impacts _____ | L |
| 3. Larger program impacts _____ | L |
| 4. Other factors | |
| _____ | N |
| _____ | |

I. OTHER POSSIBLE IMPACTS (not listed above)

_____	_____
_____	_____
_____	_____

25 SEP 1978

INFORMATION MEMORANDUM FOR THE DEPUTY ADMINISTRATOR

THRU: ES

FROM: GC, Markham Ball

MB

SUBJECT: CRSP Small Ruminants Grant

Discussion: Several points should be made in regard to the attached Action Memorandum which requests your approval of a five-year CRSP grant for small ruminants.

1. Page 1 of the Action Memorandum includes a statement that "the processes followed by AID in selecting the participating U.S. universities and the management entity for this program were approved by you on August 22, 1978." It is true that you approved the recommendation that the processes used in this grant be approved for future grants, but you added a significant caveat to that approval when you stated that "I assume that this implies that AID concurred in the JRC and BIFAD recommendation. In cases where we don't, then the procedure would be different from this point forward."

I believe your caveat was intended to point out what I consider to have been a significant omission in the memorandum approved on August 22. That memorandum fails to describe AID's role in the process adequately. As you know, I believe AID has a significant role to play in, among other things, insuring access to the process by all interested universities, and in reviewing JRC recommendations as to scope of work and selection of participating institutions. In fact, from the August 22 memorandum, it would appear that AID's role is essentially pro forma only. This was not my understanding of AID's proper role in the CRSP process, and GC's clearance of the memorandum should not be taken as an indication that the views of this Office as to AID's role have changed. I assume from your caveat in approving the memorandum that you also believe that AID should play a substantive role in concurring in JRC and BIFAD recommendations for CRSP projects. I think this role needs to be stressed in light of the statement in the attached Action Memorandum that you have already approved the processes followed in this grant, without any reference to the caveat that you attached to your approval.

2. Also on the first page, there is a statement that "the grant schedule and standard provisions proposed for use for collaborative research support program grants under Title XII are contained in a separate memorandum for your approval." I have seen a draft version of those provisions, but have yet to see the final version. The brief description of these provisions on page 2 of the Action Memorandum does present a potentially serious issue in its statement that "a copy of the program plan will be submitted to AID for comment and may be used to assess the progress of the program and of its component projects." This could be read as a statement that we have decided that we will have no right of approval over plans submitted by participating universities during the next five years. I suppose it could be argued that the right to "comment" on the program will protect AID's rights, but I think this issue should at least be flagged for your attention. I should think it would be in AID's interest to retain approval rights over all program plans submitted during the life of the project.

Attachments

September 26, 1978

MEMORANDUM FOR THE DEPUTY ADMINISTRATOR

THRU: ES

FROM: AA/PPC, Charles  Pabillo

SUBJECT: Project Authorization for Small Ruminants CRSP

We received this project authorization today, with a request for immediate clearance.

We have not had an opportunity to analyze the project, so are in no position to pass judgment on it. A cursory examination suggests questions about the value of the project, however.

We are informed by DSB that all the regional bureaus have cleared the project during review sessions, though we note that no regional bureau clearances are shown.

You are aware of the continuing questions on this project from the Senate Foreign Relations Committee.

In view of the above, and in light of the time of year and of your personal interest in and knowledge of this project, we are passing this to you without our clearance.

CP:cg

07 August 1978

COLLABORATIVE RESEARCH SUPPORT
PROGRAM ON SMALL RUMINANTS

INITIAL ENVIRONMENTAL EXAMINATION

The activities of this project fall into the area described in environmental procedure regulations, paragraph 216.2 (c) "Analyses, studies, academic or investigative research, workshops and meetings." These classes of activities will not normally require the filing of an Environmental Impact Statement or the preparation of an Environmental Assessment. It is possible that an output of this project will be a set of procedures, guidelines or research results which when used would require such an assessment. However, the project itself only proposes research and directly supportive activities. Under these guidelines, this activity clearly qualifies for a Negative determination at the time when a threshold decision is determined.

UNITED STATES GOVERNMENT

Memorandum

TO : AA/DS, Sander Levin
THRU : DAA/DS, Tony Babb
FROM : DS/AGR, Leon F. Hesser *L.F.H.*

DATE: July 25, 1978

SUBJECT: FY 1978 Advice of Program Change

Attached for your clearance is an Advice of Program Change to notify the Congress that A.I.D. intends to obligate \$20,973,000 for Collaborative Research Support Programs. The projects and programs are listed on the Advice of Program Change.

This Advice of Program Change should be handled as quickly as possible as it requires clearances outside of DSB which have been known to take a month. Then after the Congress receives the notification, the Agency must wait 15 days before obligations can take place.

Clearance: DS/PO, Robert Simpson _____

AGENCY FOR INTERNATIONAL DEVELOPMENT

ADVICE OF PROGRAM CHANGE

Country: Worldwide

Project Title: Collaborative Research Grants
(Title XII Collaborative Research Support Programs)

Project Number: 931-A032

FY 1978 C.P. Reference: Interregional Programs, p.39

Appropriation Category: Food and Nutrition

Intended Obligations: \$20,973,000

A.I.D. intends to obligate \$20,973,000 for Title XII Collaborative Research Support Programs (CRSP). This amount is \$14,973,000 above the amount estimated in the FY 1978 Congressional Presentation, Interregional Programs, p. 39 which was requested for an unspecified collaborative research support program. At the time of the FY 1978 Congressional Presentation, the CRSP program had not developed to the point of earmarking funds for specific grants. Late in FY 1977, planning contracts were executed in three priority areas: sorghum and pearl millet; small ruminants (sheep and goats); and fisheries and aquaculture. In FY 1978, \$153,000 was added to first two planning contracts to complete the planning phase and A.I.D. plans to obligate funds for the program grants to cover three years of activity. A planning contract has been executed in FY 1978 for Functional Implications of Malnutrition in the amount of \$220,000. In addition, planning grants are planned for Beans and Soils Management.

The FY 1978 funding of new activities is to be allocated as follows:

- Small Ruminant Animal (sheep and goats) CRSP - to develop improved range management, feeding, breeding, management and disease control practices which will lead to increased production of meat, milk and fiber. (\$9,600,000)
- Sorghum and Pearl Millet (CRSP) - to improve disease and insect resistance, stability of yield, drought resistance and to develop better production methods for increasing production by smaller farmers in developing countries. (10,500,000)
- Beans Planning Grant - to improve varieties for increased yields and nutritional quality and develop biological control of insects and diseases. (\$250,000)

-2-

- Tropical Soils Planning Grant - to stabilize and increase production on cultivated land and to develop technology for restoring and preserving the productivity of highly-weathered, under-fertilized potentially arable lands in the tropics. (\$250,000)

Attachment: Activity Data Sheet

Worldwide Technical Assistance and Research

INTERREGIONAL ACTIVITY

TITLE Collaborative Research Grants 931-A032	FUNDS Food and Nutrition PRIOR REFERENCE FY 1977 Interregional Programs, p. 25	PROPOSED OBLIGATION (in thousands of dollars) FY 78 20,973
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PURPOSE AND COURSE OF ACTION: To strengthen the involvement of U.S. land grant and other eligible agricultural universities in collaborative efforts which apply agricultural sciences more effectively to the solution of LDC problems. The project focuses on long-term university research programs to resolve critical agricultural production, distribution, storage, marketing and consumption problems to increase world food production for famine protection and freedom from hunger. The project is a new activity within the scope of Title XII of the International Development and Food Assistance Act of 1975, carried out in collaboration with the Board for International Food and Agricultural Development (BIFAD) which will participate with A.I.D. in selecting and organizing university and A.I.D. resources for management and implementation of the collaborative programs. Priorities for programs will be selected to meet LDC needs and simultaneously serve the universities' interests for benefiting U.S. agriculture. Programs will capitalize on existing research efforts, including those of the International Agricultural Research Centers and other international agencies. A.I.D. grants will be used to support the universities' activities related to overseas programs. University resources will be used for support of complementary domestic activities.

tional Food and Agricultural Development (BIFAD) in the development and implementation of Collaborative Research Support Programs (CRSPs) and in carrying out other Title XII research responsibilities. JRC guidelines for planning and implementing CRSPs have been circulated widely in the academic community and federal agencies. The programs link institutions having common interests. The land grant-type universities will contribute their own resources in the U.S. These universities, LDC research institutions, and International Research Centers will coordinate to utilize effectively each institution's scientific specialization. Priorities for CRSPs have been developed. Capabilities and interests of U.S. institutions in participating, to be determined largely by the extent of their contribution, are being identified. Contracts for planning CRSPs in three priority areas have been made: sorghum and millet; small ruminant animals (sheep and goats); and fisheries and aquaculture.

FY 1978 Program: Two Collaborative Research Support Programs (CRSP) will be executed in FY 1978: Small Ruminants and Sorghum and Pearl Millet. The Small Ruminants Program will develop improved range management, feeding, breeding, management and disease control practices for increasing production of meat, milk and fiber. The Sorghum and Pearl Millet program will improve

Progress to Date: A Joint Research Committee (JRC) began operation in July 1977 to assist the Board for Interna-

U.S. GRANT FINANCING (in thousands of dollars)				PRINCIPAL CONTRACTORS/GRANTEES
	Obligations	Expenditures	Unliquidated	
Through 9/30/76*				University of Missouri Research Triangle Institute Resources Development Corporation Others to be determined
Estimated FY 77	497	23	474	
Proposed FY 78	20,973	852	20,595	

*Excludes activities which terminated prior to FY 1974

INTERREGIONAL ACTIVITY

Continuation Sheet

TITLE Collaborative Research Grants	NUMBER 931-A032
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disease and insect resistance, stability of yield, drought resistance and develop better production methods for increasing production by smaller farmers in developing countries. Planning grants are planned in the priority areas of beans, soils management and functional implication of malnutrition.

Type of Activity - FY 1978	Amount (\$000)
Research	20,973
Adaptation and Application	
Field Services	
Institutions Working w/LDCs	
Program Development and Support	
211(d) Institution Building Grants	
Total	20,973