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SMALL RUMINANT PROJECT PROPOSAL

Section A - Intensive Management Systems

A-1 1.a Tuskegee Institute

AID yearly funding - \$100,000
Tuskegee funding 61,666

1.b Winrock International

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

Problem:

Low productivity of small herds (3-5 animals) in humid tropics - management related.

Needs

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

Approach

Develop and test management systems, in U.S. and developing countries.

A-2 Ohio State (Wooster)

AID yearly funding - \$150,000
Ohio State funding - 68,480

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, storability of forage.

A-3 North Carolina State

AID yearly funding - \$96,858
N.C. State funding - 38,384

Problem

Inadequate feed supply (amount, nutritive values, seasonal fluctuations).

Needs

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 feeds, laboratory tests of nutritive values.

A-4 University of California, Davis

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

Problem

Low productivity of indigenous goat and sheep herds under tropical conditions.

Need

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

Approach

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

A-5 University of California, Davis

AID yearly funding - \$196,145
UCD yearly funding - 84,701

Problem

Health related low productivity of sheep and goats 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 - E

SMALL RUMINANTS PROJECT PROPOSALS

Section B - Extensive Management Systems

B-1 Texas Tech University

AID yearly 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, formulate usable grazing systems, on the basis of grazing trials, use of available supplemental feeds, with results expressed in herd off-take.

B-2 Utah State University

AID yearly funding - \$200,000
Utah yearly funding - 61,882

Problem

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

Need

Adjust stocking rates to yearly feed supplies; and improve forage production. Formulation of superior management systems.

Approach

Determine forage production capacity; conduct field trials on controlled growing systems; estimate seasonal nutritional needs of livestock herds. Formulate suitable management systems.

B-3 Montana

AID yearly funding - \$105,365
Montana funding 61,882

Problem

Low grad 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 with hybridization with selected introduced breeds.

Approach

Assemble representative herds of local breeds; and undertake initial selection for desirable heritable traits; testing progeny from selected males and local females.

B-4 Washington State

College Veterinary Medicine

AID yearly funding - \$198,906
Wash. yearly funding 105,365

Problem

Important animal disease losses, especially, internal and external ectoparasite diseases in LDC flocks.

Need

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

Approach

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

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B-5 Colorado State

College Veterinary Medicine

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

Problem

Serious herd health problems and livestock losses from disease, nutritional deficiencies, and heritable weaknesses.

Need

Alert producers to the extent and causes of livestock losses, effects of such losses on herding 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, interaction with nutritional status; and develop local capability to carry out herd health programs, including disease prevention.

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SMALL RUMINANT PROJECT PROPOSALS

Section C - Intensive and Extensive Systems

C-1 Missouri

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

Problem

Neglected socio-economic aspects, on role of livestock in productive agriculture, absence of reliable data on cost of production of livestock and their products, in relation to government controlled prices; systems of land use for support of ruminants, and methods of assignment to herders government control of ruminant livestock enterprises.

Need

Characterize present systems of herd management for specific areas; develop production programs to benefit small operators; 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 on methods of improving productivity and profitability of livestock enterprises, to exploit apparent local opportunities.

C-2 Winrock International

(Analysis of small ruminant production & marketing systems)

AID yearly funding - \$175,000
 Winrock year 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; accompanying 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.

C-3 Texas A&M University

College of Agriculture

AID yearly funding - \$184,000

Texas yearly 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 resources 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 test available data for individual LDCs, and identify further data acquisition to refine the models. Plan specific programs for data collection, and field trials to measure probable impact of improved technology. Develop patterns of desirable production systems.

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C-4 Texas A&M University

(San Angelo Res. Station - Sheep and Goat Research)

AID yearly funding - \$160,000
Texas 194,644

Problem

Absence of livestock improvement program in LDCs, to pursue objectives of individual animal productivity traits that are heritable; little adherence to effective animal 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 animal 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 livestock improvement, starting with basic inheritance of indigenous stock, and proceeding by logical genetic procedures to improve animal productivity.

C-5 b. Utah State

(Improving female productive performance of small ruminants in LDCs)

AID yearly funding - \$99,800
Utah yearly funding - 57,300

Problem

Lack of information on existing genotypes in LDC flocks of sheep and goats or reproductive performance 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.

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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 performance by any feasible means. Field test the usefulness of applicable management system in LDCs.

C-5 b. California Polytechnic University, Pomona

(re: Male aspects of reproductive performance by small ruminants, in continuing cooperation with Utah State, project C-5,a.)

AID yearly 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 males to improve fertilization of females, and percentage increase in offspring; no incorporation of more effective management practices into practice.

Need

Information relating to environmental stress, nutritional level, and management practices, on performance of sires on actual production and survival of offspring.

Approach

Evaluate potential opportunities for application of improved technology, on actual performance of males in indigenous herds; evaluation of apparent superiority of selected indigenous males; undertake the introduction of superior traits from other ecological regions, and measure assumed benefits.

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