

(7-71)

DEPARTMENT OF STATE
AGENCY FOR
INTERNATIONAL DEVELOPMENT

PIO/T

PROJECT IMPLEMENTATION
ORDER/TECHNICAL
SERVICES

WORLDWIDE 116030

2. PIO/T No. _____

3. Original or Amendment No. _____

4. Project/Activity No. and Title
International Livestock Center for Africa (ILCA)
991-11-150-311

9310311(3)
PD-AAF-201-0

DISTRIBUTION

5. Appropriation Symbol
72-11X1023

6.A. Allotment Symbol and Charge _____

6.B. Funds Allotted to:
 A.I.D./W Mission

7. Obligation Status
 Administrative Reservation Implementing Document

8. Funding Period (Mo., Day, Yr.)
From 1/1/76 To 12/31/76 13p

9.A. Services to Start (Mo., Day, Yr.)
Between Continuing and _____

9.B. Completion date of Services (Mo., Day, Yr.)
1/1/78

10.A. Type of Action
 A.I.D. Contract Cooperating Country Contract Participating Agency Service Agreement Other Grant Agreement

10.B. Authorized Agent
AID/W

Estimated Financing		(1) Previous Total	Increase	(3) Decrease	(4) Total to Date
\$1.00=					
11. Maximum A.I.D. Financing	A. Dollars		1,200,000		1,200,000
	B. U.S.-Owned Local Currency				
12. Cooperating Country Contributions	A. Counterpart				
	B. Other				

13. Mission References

14. Instructions to Authorized Agent

The contract office is requested to execute a grant with the International Livestock Center for Africa (ILCA), located in Addis Ababa, Ethiopia for the period 1/1/76 thru 12/31/76. The grant will be utilized by ILCA to fund part of their overall CY 76 budget included in attachment A (representing AID's contribution of up to 25% of ILCA's total budget). Special provisions are included in attachment B. Use of these funds shall be attributed to the core and capital sections (pending a favorable 611(d) determination) of ILCA's overall budget.

AID/...

15. Clearances - Show Office Symbol, Signature and Date for all Necessary Clearances.

A. The specifications in the scope of work are technically adequate TA/AGR: GBAIRD Date: _____	B. Funds for the services requested are available TA/PM: CMolfetto Date: 11/12/75
C. The scope of work lies within the purview of the initiating and approved Agency Programs TA/AGR: Llesser Date: 11/13/75	D. _____ TA/PM: MZozynski Date: 11/12/75
E. _____ TA/AGR: RHolmes Date: _____	F. _____ AFR/RA: WLeake Date: 11/12/75

16. For the cooperating country: The terms and conditions set forth herein are hereby agreed to	17. For the Agency for International Development Signature: _____ Title: _____	18. Date of Signature 3/12/76
Signature and date: _____		
Title: _____		

International Livestock Center for Africa (ILCA)

Program Description

January 1, 1976 through December 31, 1976

A. Project Objectives

ILCA was established to create an effective overall network for research, training and outreach on animal production and health in Africa, linking international, multilateral, regional and national efforts.

Objectives of ILCA will be to determine the means of improving animal production (breeding, feeding, management, improvement of range and pastures, social and economic factors and marketing) in tropical Africa and in lending support to governments and to authorities responsible for attaining new levels of productivity. For this purpose the Center will analyze selectively all existing information, collate the facts supplied by new studies, and participate in a broadened program of multidisciplinary research aimed at the integration of these disciplines. Special attention will be given to the analysis of current livestock development programs.

The research will be divided into the following five areas with each problem studied by groups of research workers:

1. Animal production -- "the animal"
2. Physical environment -- "climate and soil"
3. Biological environment -- "rangeland, feed crops, wildlife and epidemiology."
4. Human environment -- "sociology, anthropology"
5. Economic conditions -- "macro and micro economy, marketing"

ILCA's fields of interest are: transhumance (seasonal movement of livestock), rangeland management, maps of rangeland, sociological aspects, epidemiology, zootechnical experimentation, forage cropping and rangeland improvement, climate classification and range water development, and the economics of animal production and marketing.

B. Projected Activities: The Center will undertake the following tasks:

- collect, classify and disseminate in English and in French all the relevant facts on animal production in tropical Africa;
- design and develop new or improved production systems and establish new research priorities;

- employ an interdisciplinary research team to study existing systems of animal production;

- support and make fully operational existing research stations at the national and regional level, and cooperate with them in preparing a completely coordinated research program which will take account of the urgent needs of livestock development;

- take all appropriate steps to enable it to undertake all the specific research programs which could be entrusted to an international center. These programs should be fully justified, and particular regard ought to be paid to their international character and to their timetables;

- organize or to assist in organizing seminars, technical conferences and training courses for personnel dealing with livestock problems (whether in the field of research, extension, planning or production) with the prime objective of improving skills at the regional level in designing integrated, multidisciplinary systems for research and development; and

- furnish to national, regional or international authorities supporting statistics, information and advice on the different phases of animal production in which the Center will be actively engaged.

C. Guidelines for Research Programs

1. Systems of production in arid and semi-arid zones
(drought - water - vegetation - livestock)

a. Studies of existing systems of production among various pastoral communities. These should aim to investigate and quantify production parameters (vegetation and animal), livestock population dynamics, soil and water resources, human nutritional standards and behavior. As an urgent priority ILCA should seek to analyze the situations of communities affected by drought and should trace the adaptations of these people and their livestock to changing climatic and socio-economic circumstances.

b. Studies of existing and planned livestock development schemes in east and west Africa. These should aim to monitor ecological, social and economic progress and impacts on development.

Although the full range of required research projects of a disciplinary nature cannot be determined until these systems studies have been made, five fields appeared to merit consideration as soon as possible:

(1) The development of raising of sheep, goats, camels and other herbivores in association with cattle, starting with studies of the interactions among different species and different environmental conditions.

(2) The patterns of demography and monetization of pastoral economies, including the analysis of family needs and aspirations and, if possible, ways of increasing supply and demand for beneficial commodities and services, including alternative diets to milk.

(3) Evaluation of browse, with emphasis on naturally occurring browse plants, and including methodology for assessing productivity and utilization.

(4) Criteria and methods for assessing range condition and trends.

(5) The structural and ecological efficiency of water points.

ILCA should make a broad contribution to the study of the drought, by:

(1) collecting as many facts as possible on the consequences of the drought;

(2) carrying out studies on the dynamics of the phenomenon of livestock, vegetation and human rehabilitation;

(3) trying to minimize future risks by developing a counter-drought strategy and if possible a capacity to forecast meteorological models.

In connection with wildlife research, notably the domestication of wild species, ILCA should, without giving them high priority, give support to organizations already engaged in such research if they so require.

2. Systems of production in humid and semi-humid zones

ILCA should accord an appropriate priority to studies of livestock systems in the humid and semi-humid areas, including the highlands. The need for research in the arid zones was particularly urgent for welfare and conservation reasons, but the objective of humid zone and highland research should primarily be increased production.

The potential for livestock expansion in the humid zones should be considered from the point of view of ranching in tsetse-infested zones, and that of animal production in small farms in association with cropping.

ILCA should give high priority to the study and establishment of commercially viable systems of livestock production in tsetse areas. Such studies should consider particularly the most effective means of using trypano-tolerant breeds and species.

A study of the potential of N'dama cattle in such zones should be a top priority.

In places where chemical or immunological preventative methods against trypanosomiasis and for tsetse eradication would be useful, a study will be made of the possibility of integrating them into production systems.

In this work ILCA will consider the integration of the results of disciplinary research carried out by other organizations into possible production systems and livestock raising practices which might make such systems technically and economically viable (i.e., cross-breeding using trypano-tolerant breeds).

Close cooperation is highly desirable between ILCA and other institutions particularly ILRAD, which are studying the different aspects of the tsetse problem.

3. Problems of research on systems of animal production common to arid and humid zones

Consideration of ranching systems and small-farmer enterprises leads to the conclusion that, while the problems in the arid zones are of a socio-economic nature, those in the humid zones are largely of a technical nature.

Problems of pasture improvement, bush regrowth, forage production (particularly in the dry season), the nutritional value of crop residues and by-products, calf mortality, growth, breeding and cross-breeding, nutrition and fertility are all appropriate topics for the attention of ILCA.

While relative priorities may be determined in the light of ILCA's analyses, forage production and animal nutrition are of immediate and pressing importance.

The importance of milk production in almost all systems of animal production emphasizes the need to include this form of production (as well as meat, power and faecal output) in the analysis of systems. It is hoped that ILCA will study in detail the problems of commercial dairy production in the lowland humid tropics and in the highlands.

There is a need to collect and collate information on breeding and cross-breeding programmes (particularly in the English-speaking countries) and this might best be done by cooperation with national institutions and their staffs.

The most effective economic research would probably be done by analyzing particular development projects.

The following fields for economic research into pastoral systems were identified: new and customary rules and regulations governing water and pasture use and stock control; development policies in various countries and their consequences; costs and return of ranching, traditional economics, and fattening schemes, marketing and processing structures.

In the humid zones economic studies are also required, and these might include: cost/return studies of tsetse control, disease control, pasture improvement techniques and types of dry season feeding. These studies would be particularly appropriate in relation to that ecological zone between the high humid lowlands suitable for tree crops and the arable farming area in the drier areas.

A lesser priority should be given to the economic problems of highlands and of animal production systems using irrigation.

During the initial phase of ILCA's research activities emphasis needs to be given to the quantitative analysis of livestock development schemes from the ecological, economic and social aspects, and the study of failed schemes is likely to be as rewarding as those judged to be successful.

The analysis of these schemes, and of traditional production systems, should include measures of energetic efficiency as well as criteria related to changes in natural resources (soil, water and vegetation), social attitude and behavior, production parameters and economic efficiency. It is important that all of these investigations should be orientated towards specific development objectives.

Special consideration has been given to the place of sociological research in ILCA's programs. Limited case studies will be necessary in order to establish methodologies and attitudes.

ILCA should constitute a small number of studies in which experienced men would lead teams of younger people. This would provide excellent training for the less experienced African and non-African scientists from whose ranks ILCA staff will be recruited in the future.

D. Ongoing Cooperative programs

The projects studied at the January meeting of the Board of Trustees and the May meeting of the Executive Committee were considered by the Programme Committee to be priority projects.

The Board had selected four areas in which ILCA was to undertake research on animal production systems:

Sahelian and Sahelo-Sudanian zone: Mali

Semi-humid zone: Nigeria and Cameroon

Highland zones: Kenya and Ethiopia.

1. Mali Program

The goals of the program are to identify means of raising the productivity of traditional systems while attempting to introduce sub-systems to increase production both qualitatively and quantitatively.

The part of this report pertaining to the budget contains only expenditure by ILCA proper. For the years 1975-1978 Mali will allocate US\$ 600,000 to the project.

The project will have its logistic base in the Sahelian livestock and zootechnical research station in Niogo which has the advantages of being close to important hydro-agricultural installation of the office du Niger. The traditional area of transhuman livestock raising covers the fourth region between Niger and Mauritania and is bounded on the west by the Nara meridian.

The main points of the program are:

(a) Investigation of the traditional system (integrated studies of the system covering sociological, economic, zootechnical, physical and biological aspects);

(b) Identification of modifications in the traditional system as a result of new techniques being popularized;

(c) Evaluation of the technical and economic characteristics of specific production factors: nutrition, rangeland evolution, forage resources, animal potential, and so on;

(d) Construction of a model of the system and its variants identified and quantified by previous studies, with the goal of understanding the mechanism, improving them and developing new production systems.

2. Kenyan projects

a. Following preliminary contact initiated by the Director in July 1974, a mission was dispatched to Kenya in January 1975, as recommended by the Board of Trustees in November 1974, in order to explore possibilities for cooperation on the basis of Kenyan proposals and the guidelines set down by the Programme Committee. It emerged that two projects could be begun rapidly.

1) In the field of documentation:

a) Synthesis of programs for the development of rangeland in Kenya including statistics, methodology and technical information and covering ecological surveys, socio-economic studies, data on wildlife and experience linked with development.

b) Synopsis on Sahiwal and Boran cattle as improving breeds, with special emphasis on meat and milk production and taking into account the impact of the environment.

2) In the field of current projects, monitoring and continuous evaluation of the project "Livestock Development - Phases 1 and 2," in the financing and implementation of which several bilateral and multi-lateral aid agencies are participating.

b. The aim of ILCA's work will be:

1) To define the nature of the production systems and the interactions of the sociological, economic, biological and ecological components of the environment;

2) To establish key criteria to assess trends and progress and the best possible methods of using them;

3) To identify constraints to productivity;

4) To develop methods and models for forecasting trends, thus making it possible to deal with new situations;

5) To identify methods whereby current performance may be improved; and

6) To identify areas requiring more thorough research.

3. Nigerian projects

Nigeria's geographical position alone would justify the carrying out of research work on production systems in the country. However, it is in addition a market for the production of its neighbors Niger, Chad and Cameroon, whose rangeland is integrated into a transhumance cycle which ignores borders.

Furthermore, in Nigeria strong pressure from population growth is making it necessary to extend cultivated land at the expense of rangeland areas, farming systems are evolving, tsetse has been eliminated from large areas previously infested, thus allowing their settlement by cattle, and the growth of demand for meat and milk will certainly make it necessary to put intensive production systems into practice.

During a fact-finding mission in February 1975 the Director of ILCA was able to identify a number of possible fields of activity together with the Federal Nigerian authorities. The Permanent Secretary in the Nigerian Federal Ministry of Agriculture is a member of the ILCA Programme Committee and has thus been able to play an active part in the Committee's decision taking.

The work to be carried out in Nigeria which might be exclusively ILCA work should stress current changes among pastoral communities in northern Nigeria, who have been dramatically affected by the recent drought, thus the nomadic pastoralists are moving southwards and settling, apparently permanently in heavy-rainfall areas.

The humid and semi-humid zones thus seem, as was stated during the first meetings of the Board, to have an important role to play in the future. Nigeria is an excellent field for research in this area.

At the time of the discussion of the Mali and Nigeria projects, the Committee reaffirmed (i) that ILCA should seek to analyze the circumstances of the communities affected by the drought and to identify the adaptations of the livestock raisers and their animals to the climatic and socio-economic changes; and (ii) that ILCA should be encouraged to study livestock development projects under way in east and west Africa.

In respect of the projects which might be carried out by ILCA in Nigeria, it has been agreed that their content will be defined and necessary resources identified during the second half of 1975 and the first half of 1976.

4. Ethiopian projects

The negotiations with the Ethiopian authorities entered an active phase when the negotiation of the Amendment to the Memorandum of Agreement had been completed.

The Government authorized Dr. Shenkute, formerly Director of the Agricultural Research Station at Holetta, to assume the post of Assistant Director of ILCA, which had been left vacant by the hospitalization and subsequent death of Dr. Almaze, who had joined ILCA in September.

The Programme Committee had an opportunity to hold a working meeting with Ethiopian officials from the Ministry of Agriculture, the Institute of Agricultural Research, the Livestock and Meat Board, the Dairy Development Agency and the Awash Valley Authority, and to explain to them that ILCA's activities in Ethiopia, as elsewhere, would be focused on problems recognized as important at the African level more than in the national context.

The Committee urged that special emphasis should be placed on the rehabilitation and development of communities which had suffered the drought or its consequences.

The programs to be carried out in Ethiopia should complement those in Mali and Nigeria; they were to be prepared during the latter part of 1975, in close cooperation with the Ethiopian authorities and in liaison with aid agencies already operating in Ethiopia. The resources which would be applied would depend on the programs.

E. Capital Investment

In January 1974, the Board requested the Executive Officer to draw up together with a firm of architects a Building Program for the headquarters, keeping to the areas indicated in the Tribe report.

It decided to defer the studies for the installation of a station on the land offered by the Ethiopian Government.

On April 19, the Executive Officer received a memorandum from the World Bank laying down arrangements for the selection of a firm of architects.

The Building Program for headquarters, drawn up at the request of the Board, was adopted by the Programme Committee:

4,700 m² of main buildings: offices, laboratories, common buildings for training;

1,500 m² for sheds, workshops, light technical buildings.

Total cost of construction is estimated at \$4.5 million. Construction should begin in March 1976 with completion scheduled two years after that date.

F. General Discussion

The current level of animal production in Africa is well below the continent's potential. Several reasons -- economic growth rates, nutrition and welfare of the population, trade balances and conservation of imperiled range resources -- make efforts for improvement most urgent.

The principal obstacle to the development of animal production is not the simple lack of technical knowledge. Decades of activity in numerous research centers have built up a considerable body of knowledge. Moreover, the existing national or regional centers provide researchers with most of the facilities needed for their future activity.

Granted that the results of prior research have not been disseminated widely enough, and that current research work is limited by lack of funds and of experienced personnel, results achieved in tropical Africa in increasing animal production have been disappointing mainly because of the failure to integrate the biological, economic and sociological components of research and apply them to development programs. Thus, technology is clearly ahead of development, but the breeders do not have the means to employ it, and in particular lack adequate funds to make the necessary investments.

It is particularly important to study systems of animal production in tropical Africa in greater depth, so as to be able to take full advantage of existing knowledge and to define the order of priorities for future research. This study should take full account of aspects of biology, economics and social anthropology relating to animal production. The production systems approach will permit study of the relationship between plant and animal production, which toooften are studied independently.

The authorities of several African countries are now making an effort to define the problem of livestock development from a multidisciplinary point of view and a number of promising programs are coming into being. Progress is, however, limited by the dearth of relevant information and of adequately staffed interdisciplinary teams.

The International Livestock Center for Africa has a circumscribed and clearly defined objective and the research program would be quite different from the classical approach.

**International Livestock Center for Africa (ILCA) @
Net Financial Requirements
CY 1976**

<u>Core Budget</u>		<u>3,754,000</u>
Research, Headquarters	\$1,192,000	
Conference and Training	417,000	
Information	420,000	
Research Support	207,000	
General Administration	455,000	
General Operating Cost	512,000	
Other	106,000	
Cooperative Programs*	445,000	
Capital Development *		<u>2,168,000</u>
Sub-total		<u>5,922,000</u>
Less Carryover		957,000
Total requirement		<u><u>\$4,965,000</u></u>

Sources of Funds

United States (AID) - 24.2%	\$1,200,000
Australia, Belgium, Denmark, France, IDRC, Nigeria, Norway, Saudi Arabia	3,751,000
Other	14,000
	<u><u>\$4,965,000</u></u>

@ Based on estimates available in October 1975 and on consultations between AID and CGIAR in November 1975.

* Not including Nigeria and Ethiopia - will be funded separately at later date (total \$540,000).

1/ Specific contributions for those listed not confirmed at the time this budget was prepared (Nov. 75). It is estimated, however, that the \$3.751 million shown is the minimum amount that will be subsequently approved by the respective governments and organizations.

Special Provisions

1. Reports

A. The following reports shall be submitted to the TA/AGR Technical Specialist as stated in B below:

- (1) One hundred copies of a Comprehensive Annual Report on overall program and fiscal matters for CY 1976.
- (2) Five copies of a report prepared in connection with annual International Centers Week. (This report will describe proposed program and funding requirements for CY 1977)
- (3) Five copies of reports that may be prepared from time to time on various program activities.

B. The AID/Technical Specialist is: Dr. Guy B. Baird
 Associate Director (Research)
 Technical Assistance Bureau
 Office of Agriculture
 Washington, D. C. 20523

General Program questions can be addressed to:

Mr. John Wiles
Program Analyst, Research
Technical Assistance Bureau
Office of Agriculture
Washington, D. C. 20523

C. Questions concerning the administration of the Grant by its terms should be addressed to the Grant Officer.

2. A. PIO/T is subject to AID regulations governing grants of funds.

B. Except as specifically authorized by AID/W, all ^{COMMERCE} ~~services~~ financed with funds from this grant agreement must be obtained from U.S. sources.

C. Except as specifically authorized by AID/W, the purchase of commodities financed under this PIO/T must be limited to the U.S. under Geographic Code 000.

D. The Federal Reserve Letter of Credit (ERLC) method of financing is to be used and funds are to be advanced periodically as needed by the Grantee in accordance with AID's terms and conditions for such reimbursement.