AIRGRAM

# DEPARTMENT OF STATE

UNCLASSIFIED
CLASSIFICATION

For each address check one ACTION | INFO

TO - AID/W TOAID A-188 X

Reg. No. 6210373
A.I.D. Reference Center
Room 1656 NS
PD-AAB-255-B1
1969 AUG 28 PM 1 46

FROM - DAR ES SALAAM

August 22, 1969

SUBJECT - Non-Capital Project Paper (PROP)

REFERENCE - M.O. 1025.1

## NON-CAPITAL PROJECT PAPER (PROP)

### I. STANDARD IDENTIFYING INFORMATION

Country: Tanzania

Submission Date: August 22, 1969

Project Title: Masai Livestock and Range Management

Project Number: 621-11-130-093

U.S. Obligation Span: FY 1970 through FY 1980

Gross Life of Project Financial Requirements:

| | |
|---|---|
| U.S. Dollars | 1,553,000 |
| U.S. Owned Local Currency | - |
| SUB-total | 1,553,000 |
| Cooperating Country's Cash Contribution | 3,883,000 |
| Other Donor | None |

PAGE 1 OF 24 PAGES

| DRAFTED BY | OFFICE | PHONE NO. | DATE | APPROVED BY: |
|---|---|---|---|---|
| Ohess:mm | F&A | | 8/20/69 | DIR: Charles J. Nelson |

AID AND OTHER CLEARANCES
PO: CDWard
AD: WASponsler

UNCLASSIFIED
CLASSIFICATION

AID-5-29 (11-68) (Do not type below this line)

## II. SUMMARY STATEMENT

This is a new project designed to directly support the Ministry of Agriculture, Food & Cooperatives in its major role in Tanzania's Second Five-Year Development Plan in which priority is given to agricultural and rural development, increased agricultural production and diversification, and self-sufficiency. Development and use of livestock resources holds great potential for increasing and diversifying Tanzania's food production, and overcoming the nation's protein-deficient diet. Thus, the livestock industry has been given high priority in the Second Five-Year Development Plan 1969-1974, in which $17,360,000 have been earmarked for livestock development activities throughout Tanzania, of which $1,941,000 are for Masailand.

The Project will assist the Ministry to plan and implement a livestock production and range management development program, initially for selected areas of Masailand, which when established can serve as a model for extending the program throughout Masailand and elsewhere in Tanzania.

The project will provide the services of USAID's Food and Agriculture staff, plus five OPEX technicians, in planning, administration and management of the project.

### A. Justification

This project proposal has been screened from thirty potential agriculture development enterprises by comprehensive field studies and selective analysis. It satisfies the criteria for self-contained agriculture production enterprises, possessing potential for financial self-liquidation, and for total development within limited, selected geographic areas.

AID first became involved in Masailand in 1962 when an AID-sponsored range management study recommended a new administrative unit within the Ministry of Agriculture with special responsibility for range and livestock development. The study report formed the basis for the "Act to provide for the Development and Improvement of Grazing Lands" (the Range Act) passed by the National Assembly in 1964.

The Tanzania Government subsequently requested AID assistance with agricultural planning and project implementation in 1965. This assistance was planned in three phases, with the stipulation that proceeding to each succeeding phase would be contingent upon satisfactory performance and feasibility in the preceding phase.

The Phase I Agriculture Sector Reconnaissance, July-October, 1967, identified, defined and formulated this project, and gathered the data to develop the scope-of-work for the detailed study conducted during Phase II. The Phase II study 1/

---

1/ AID/USDA PASA Livestock and Range Improvement in Masailand, September to December, 1968.

formulated a detailed, time-phased development program for the project, confirmed the project's latent potential and technical feasibility, and confirmed that the project's input requirements are within Tanzania's resources limitations. Phase III proposes the physical implementation of the project as outlined in this PROP.

B. Project Goals

The overall purpose of this project is to assist the Masai Range Commission with its task of increasing the per man and per acre livestock productivity of Masai herdsmen. This will require livestock range and water improvement and development coupled with regularized marketing at economic off-take levels.

The Masai are nomadic herdsmen on tribally-owned, communally-used, land. Within this society every member of a tribal group, identified with a given area of land, has equal rights and access to all forage, water and other natural resources. Therefore, improvements must be made by cooperative group effort.

A ranching association is a corporate body and and provides the framework for an administrative and management unit through which land-use and water rights are legalized and cooperative action can be planned and implemented for developing the association's natural resources and improving the livestock and living conditions. An association/administrative and management unit is an essential prerequisite for achieving development in a social structure of this nature.

AID will work initially with four ranching associations, the Komolonik (Monduli) and Talami (Kijungu) associations which are presently being organized and registered, and the Olmoti and Loliondo Associations for which registration will soon be initiated. These associations will be established and used as pilot demonstration programs to serve as models for expansion to other areas of Masailand and elsewhere in Tanzania. The experience gained in establishing each association will provide guidelines for avoiding problems in forming succeeding associations.

The targets are to increase the herd average size from individual animals weighing 600-800 pounds at 60 months to 1,000 pounds at 30 months; lower the cow's age at first calf from five years to three years; increase the cow's calving rate from every other year to every year; increase the calf crop of mature cows from 50 percent to 90 percent annually; decrease the calf mortality rate from 65 to 10 percent; and increase the herd annual market off-take from 3 percent to 12 percent.

This will require corresponding improvements in settling the nomadic Masai and in land tenure, in the livestock producer's capabilities in animal husbandry and range management, in range and water resourses development, in disease and parasite control, and in services to the livestock producers. It will also be necessary to encourage the livestock producers to cooperate in production and

and marketing problems, to reduce animal death losses through control of disease and parasites, to improve animal quality and shorten the growing-maturity period, to regularize marketing at economic off-take levels, to take into account the social and cultural traditions which inhibit change, and to upgrade the animal/herd quality through culling and selective breeding. The introduction of these practices will result in improving the standard of living of the Masai, increasing the protein availability necessary for improved nutritional levels in Tanzania, increasing and diversifying agriculture production away from the three-crop economy, maximizing utilization of Masailand's natural and human resources, and earning foreign exchange through increased export of processed beef. As the quality of the animals improves and regularized marketing occurs more animals will move through the marketing channels. Much of this increase will be processed for the export market.

C. General Approach

The first major effort will be to gain the confidence of the Masai in order to enlist their cooperation. The technicians will spend the majority of their time in the field gaining an understanding of how to work within the Masai social structure and decision-making process, and how to introduce and implement the innovations within the social and cultural context of the Masai traditions and society. Practices that are compatible with the religious, educational, and family backgrounds of Masai herdsmen, and that are relevant to their experience will be introduced to and through the Masai decision-makers to the Masai cattle owners. The project is expected to begin slowly, and the physical work may take as many as ten years to complete.

Once the technicians gain the confidence of the Masai and understand their decision-making process, they can help the Masai address such problems as slow maturing, poor quality animals, disease and parasites, water and range development, and inadequate market off-take. Special efforts will be made to increase the production supplies and credit availability, improve the technical/advisory services to the livestock producers, and encourage cooperative activities to reduce the costs of producing and marketing livestock.

Technological innovation and improved animal and range management practices are absolute prerequisites for attaining the project goals. Although a great deal of technological change needs to be made, the primary factors inhibiting change and delaying the transformation are basically cultural and sociological rather than technical.

The project will start with and build from the present social, cultural and technological context. Project implementation will avoid tampering with the social system directly, largely limiting innovation to technical change, and allowing the social structure to adapt by itself, as necessary, at minimum social cost and outside interference. However, since many of the developmental inhibiting factors are social and cultural rather than technical, special attention will be paid to formulating ways to cope with these inhibiting factors.

The introduction of some technological changes would encounter strong opposition if they interferred with ingrained social patterns, such as bride price or polygamy, and will be avoided. Other changes involve little or no social cost and technological changes affecting some past social customs can be planned as an integral part of the project implementation. One of these may be the creation of a productive role in work and social activities for the al-murranis as a substitute for their former very prestigious responsibility as warriors and fighters raiding for cattle and protecting the tribe--roles which have already been effectively eliminated by national legislation. Modernization, government and law have forced necessary changes in the al-murranis' social/cultural responsibilities, but to date no attempt has been made to substitute a new role for this segment of Masai society. Therefore, all other segments of the society continue with their traditional activities (women and girls cooking, milking the cows, carrying water and gathering wood, and building new homes when the boma is moved; the pre-teenage boys herd the cattle; the adult men are in the elder's council, etc.), but the al-murranis no longer have an essential role. One bad effect of the enforced inactivity of this age group is an increasing consumption of alcohol and development of patterns of irresponsible conduct. Positive responsibilities to substitute for their displaced responsibilities should help alleviate the problem and materially assist with project development.

The practices and skills for improving production and management will be demonstrated as often as required by the technicians on the associations' areas and Masai bomas under existing field conditions, using only those tools and techniques that are to be introduced, that can be mastered by the Masai, that are within the resources limitations of the Masai, and using or requiring only the labor the Masai can muster from existing al-murrani work-groups and the family.

The innovations in production technology and management initially introduced will be simple. Later, when the rate of change and progress warrants it, more sophisticated techniques such as artificial insemination to introduce exotic breeds for upgrading the indigenous animals can be introduced.

The elders' councils operate by discussion and consent and are the major points of contact and communication with the Masai and, therefore, for getting cooperation from the Masai. Since the Masai cattleman is proud, independent, and conservative he must be convinced not coerced. Therefore, all innovations, generally one at a time, will be thoroughly discussed with the elders for introduction through them to the Masai. Following this, and an indication that the cattle owners are not totally opposed, the technicians will demonstrate the innovations to them.

Accomplishing the long-term goals will require first that some short-term dramatic innovations or results be visually evident. The Masai live in a subsistence economy, have expectations of short-term duration, and look to the

herd of cattle now and through the next dry season rather than five or ten years ahead. Extension methods will be used to introduce such essential basic improved practices as feeding mineralized salt, castration, marketing culls, keeping production records, and disease control. Demonstrations will be carried out in cooperation with, and on the bomas of, the more progressive Masai to provide the short-term dramatic visual evidence that will result from implementing these improved practices. Establishing the first tick dips and cattle crushes, and the water development activities will provide additional short-term evidence. Furthermore, insofar as possible, the permanent improvements will be of low capital cost, high self-help labor input. This should foster attitudes of personal achievement through individual participation, contribution and involvement. Even on the construction of relatively expensive water development or tsetse fly control, Masai labor and contribution will be employed to the fullest extent possible.

It is essential that the association members be involved throughout in the planning, decision-making and management of the program. The mechanism for increasingly transferring these functions and responsibilities to the individual Masai is an absolute precondition for success. Means will be built into the activity for the Masai social system to take over, manage and operate the introduced changes.

The following activities are proposed for FY 1970: (1) Advisory Services; (2) Participant Training; and (3) Demonstrational Commodities and Vehicles.

D. Summary of A.I.D. Inputs

The scope and complexity of the problems of livestock and range development in Masailand are treated in the PROP, Section II.B (Project Goals) and Section III. (Setting), and in the Phase II Study. The difficulties are further compounded by almost non-existent roads and communications and difficult travel conditions, and the shortage of Tanzanians with adequate training or experience to plan and implement a livestock and range management development program.

Technical assistance is essential for the success of the project. This will be AID's major and most important input.

1. Technical Assistance

Five technicians will be required.

a. Animal Production and Health Technician. He will be responsible for:

(1) Advising and assisting the Masailand Range Commission and other Ministry personnel with planning, supervising and providing direction to the animal production, improvement and disease control programs. Primary emphasis will be given to the ranching associations and secondary emphasis to the balance of the Masai District.



Best Available Copy

(2) Increasing the number of productive animals and the productivity of these animals through encouraging the Masai to implement such improved management practices as culling, castration, rotational grazing, feeding salt and mineral supplements, disease and parasite control, production records, selective breeding, and regularized marketing.

b. Agronomist-Range Management Technician. He will be responsible for:

(1) Determining the livestock carrying capacity of new association areas and adjusting the livestock quotas of established associations in accordance with changes in range conditions;

(2) Identifying and demonstrating effective and economic methods (burning, herbicidal treatment or manual removal) of controlling undesirable plant species;

(3) Developing soil and gully erosion control practices;

(4) Planning boma site locations to minimize erosion;

(5) Developing watershed protection practices for surface water catchment areas and dams;

(6) Planning and constructing fire breaks; and

(7) Selecting sites and planning cropping practices for the limited cultivation permitted.

c. Water Development Technician. He will be responsible for:

(1) Determining the water requirements and optimum distribution of watering points in relation to forage availability, animal population and range conditions to maximize utilization and conservation of resources and production in the ranching associations, and in other areas of Masailand;

(2) Working closely with the marketing program to improve or develop watering points along the stock routes;

(3) Designing and constructing water-flow retarding structures;

(4) Installing gully control and grade stabilization structures and dams;

(5) Developing springs and laying water supply pipelines for better distribution of the water;

(6) Constructing water storage tanks and water troughs;

(7) Maintaining and servicing the developed water resources facilities.

d. Livestock Marketing Technician. He will be responsible for:

(1) Overcoming the Masai reluctance to marketing animals and accomplishing regularized marketing with the Masai. This will be a major problem of the project;

(2) Planning and implementing marketing schedules and assuring attendance of veterinarian personnel on market day for health inspection, vaccination, quarantine and issuing certificates for movement on stock routes;

(3) Developing a marketing intelligence program;

(4) Planning and supervising the development of new, and the improvement and maintenance of, the existing marketing infrastructures (stock routes, transportation, communications);

(5) Establishing marketing procedures;

(6) Identifying other obstacles to the development of an orderly, legal marketing system and formulating corrective measures.

e. Extension-Rural Sociologist. The problems of development and change are more social than technical. He will be responsible for:

(1) Identifying the factors inhibiting acceptance of innovations and formulating means for coping with them. The emphasis, however, will be on technical change, allowing the social structure to adapt by itself at minimum social cost;

(2) Providing training for Ministry field staff in extension methods and philosophy and in effective techniques of introducing social changes;

(3) Serving as advisor to other members of the team on extension methods and social change techniques that are particularly compatible with Masai culture, and maintaining effective communication links with the Masai;

(4) Conducting studies when necessary to provide information needed for program development and evaluation;

2. Commodites

The commodities will include three four-wheel drive vehicles for the specific use of the five OPEX technicians. Four-wheel drive vehicles are absolutely essential for the travel and road conditions in Masailand, and it is imperative that vehicles be available to permit the necessary constant travel throughout the 26,000 square miles of Masailand.

Tanzania's development and recurrent budgets place a heavy strain upon the nation's resources. For the Second Five-Year Development Plan, 1969-74 (the first five years of this project), $1,941,000 (development plus recurrent budget) will be budgeted for livestock and range development in the Masai District. This will include funds for POL and maintenance of the vehicles and basic salary and allowances for the OPEX technicians. Tanzania's direct cash contribution to the project amounts to 2½ times that of AID. Costs have not been included for office and other physical plant operation and maintenance, land values, depreciation, etc. This, USAID feels, justifies AID provision of vehicles for OPEX technician use.

The other commodities will consist of demonstration and training equipment, materials and supplies such as:

a. Materials required for water supplies, fences and shelters for night bomas and holding rounds, surveying, laying out and establishing a model stock route;

b. Materials and equipment for establishing a model livestock market facility (e.g., portable and permanent scales) and for constructing livestock crushes for vaccination and health inspection;

c. Animal husbandry equipment and supplies (knives and emasculators for crastrating, deborners, hoof knives and shears, beef weight tapes, salt and mineral supplements);

d. Post hole diggers, shovels, fence stretchers, hammers, axes;

e. Animal-drawn soil scrapers and packers for small dam construction;

f. Animal and crop sprayers (back pack and sprayer pumps);

g. Simple water delivery systems (hand pumps, windmills).

UNCLASSIFIED

USAID/Dar es Salaam TOAID A-188

D. Summary of AID Inputs

| Fiscal Year | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 thru 1979 | Total |
|---|---|---|---|---|---|---|---|
| 1. Personnel (OPEX) | | | | | | | |
| Marketing, Water Development, Animal Production/Health, Extension, Range Management | 75,000 | 100,000 | 125,000 | 125,000 | 125,000 | 625,000 1/ | 1,175,000 |
| 2. Commodities | | | | | | | |
| Demonstration and Training, 3 vehicles | 35,000 | 15,000 | 15,000 | 15,000 | 15,000 | 60,000 2/ | 155,000 |
| 3. Participant Training | | | | | | | |
| 5 Replacement for OPEX plus 8 additional | 14,000 | 28,000 | 28,000 | 35,000 | 35,000 | 42,000 3/ | 182,000 |
| 4. Other Costs | 6,000 | 5,000 | 5,000 | 5,000 | 5,000 | 25,000 4/ | 51,000 |
| Total | 130,000 | 148,000 | 173,000 | 180,000 | 180,000 | 752,000 | 1,563,000 |

1/ $125,000 per year 1975 through 1979
2/ $ 10,000 per year 1975 through 1979
3/ $ 21,000 per year 1975 and 1976
4/ $ 5,000 per year 1975 through 1979

E. Summary Host Country Inputs

The host country will provide: personnel (some of whom may be assigned to the Masai Range Development Office as understudy/replacement personnel for the OPEX technicians); salary and allowance for participants while in training; recurring transportation costs (POL and maintenance) for the project and other official travel in Tanzania for OPEX and Tanzanian staff; housing and basic furnishings; medical and dental care and basic salary for the OPEX technicians.

Part of the water and range development activities, disease control and market facilities and other improvement will be provided jointly by the Ministry and the associations. The ranching associations will contribute funds and labor to the extent of their capabilities. The total nation-wide host country input proposed for livestock and range development during 1969-74 is $17,360,000. The input proposed for the project for the year period 1969-1979 is:

| | | |
|---|---|---|
| 1. | Salary for the Masai district Range Development Office and veterinary staff members for 10 years. | $ 263,000 |
| 2. | 3 vehicles for each 5-year period amortized initial cost and operation/maintenance for 10 years, plus POL and maintenance on AID provided vehicles. | 85,000 |
| 3. | Basic salary and allowance for 5 OPEX technicians for 10 years. | 325,000 |
| 4. | Capital Development costs in project areas. | 2,750,000 |
| 5. | Provision of credit for associations operational and capital cost first five years. | 400,000 |
| 6. | Participants' salary and allowance while in training (10 for 2½ years each) | 60,000 |
| | | $3,383,000 |

III. SETTING

A. General

Tanzania encompasses an area of 364,900 square miles (22,800 inland water) and has a population of 12,280,000. Although there are marked extremes of temperature and rainfall distribution and intensity, the climate and soil conditions are generally favorable for productive agriculture in the modern sense. Near-term increases in agricultural production, given sound management of resources, are potentially substantial. This production potential supported by

an efficient marketing system augurs well for the future overall economic and social development of Tanzania. Developing this production potential and efficient marketing system, however, will require considerable technical and economic input by Tanzania and external donors.

In Tanzania, capital resources are scarce and the government wisely rejects complex industrial enterprises as low priority developmental endeavors. The principal economic efforts are concentrated in agricultural and rural development. Agriculture is Tanzania's greatest economic and natural resource, and 80 percent of the population earn their living in the agriculture sector. Thus, the nation's overall economic and social development largely depends upon developing an efficient cash market agriculture sector. Tanzania must also diversify its agricultural production and reduce the cash market sector's extreme dependence upon the three crop economy of sisal, cotton and coffee which are all vulnerable to the vagaries of world market prices.

Tanzania's agriculture is characterized by poor crop and animal husbandry and land use practices, and the resulting subsistence production, inefficient farm and range management and use of resources, poor technological and managerial skills, inefficient marketing, distribution and transportation system, low demand of local markets, inadequate storage facilities, tight credit, excessive taxes and levies on marketed crops and livestock which depress producer incentives, and a shortage of trained human resources capable of planning, innovating and implementing the required changes. Agricultural and rural development require concomitant concerted efforts to improve all these factors.

Tanzania began independence with 95 percent of her population in the subsistence sector, with almost no industrial base, and with limited natural resources other than agricultural potential. Population distribution is highly influenced by the quality of agriculture land, with most of the economic activity located on the periphery of the country. This comprises about 41 percent of the land area and contains 73 percent of the population at a density of 53 persons per square mile. The remaining 59 percent of the area and 27 percent of the population are located mostly in the middle arid plateau, which has lower soil fertility and rainfall, and is relatively uninhabited. The bulk of the livestock production is located in the middle arid plateau.

Livestock production, a major enterprise in Tanzania, increased from 6.3 million cattle in 1961, to 12 million in 1969. The goal and sheep population remained relatively static at 4.0 million and 2.5 million respectively. Through 1966, Tanzania imported appreciable quantities of dairy products and better grades of meat. Local production has nearly eliminated meat importation, but the majority of Tanzania's dairy products are still imported.

Extensive livestock production is the most efficient land-use enterprise for the middle arid plateau, comprising nearly two-thirds of Tanzania, where about 99 percent of the national herd is owned by small-holders and nomadic pastoral groups. Masailand falls within the latter group and contains more livestock than any other single district in Tanzania.

The Masai are traditionally nomadic cattle owners depending entirely on livestock for their subsistence livelihood. They endure great hardship for the well-being of their livestock and have been reluctant to sell animals at economic off-take levels. Thus, although the number of animals grazing the area is great, the cash marketing of animals is small. With the increasing pressure for more cultivatable land some of Masailand's grazing areas has been put under cultivation. The present 26,000 square mile area of Masailand or the Masai District is comprised generally of lowlands and steppes, but does include some highland areas which are of great importance to the grazing systems in the drier years.

Although generally unsuitable for cultivation there are pockets in the area which would produce cereal grains and forage for dry-season feeding. Market outlets are favorably accessible to the area, both for internal consumption and export. However, exports are limited to processed products due to the prevalence of livestock diseases throughout the country.

The combination of slow maturing, poor quality animals, diseases and parasites, lack of water and range development, and poor animal husbandry and management practices result in minimal quality, quantity and value of beef production. The males require 5 to 8 years to reach maturity and weigh 600 to 800 pounds. The cows produce their first calf at five years of age, then calve every other year, producing a life-time average of five calves. Annual calf crop production is low, approximately 50 percent. The calves are weaned during the dry season when long distances must be traveled to and from water, and the available forage is below basic body maintenance level. During this period of stress the animals' resistance to disease is lowered and large losses are experienced. The calf mortality rate, up to one year of age, is extremely high, ranging up to 90 percent in bad years.

About 5,000 square miles of Masailand are infested with tsetse fly. Most of the area is infested with ticks and tick-borne diseases, particularly in the higher areas. Although rinderpest, bovine pleuropneumonia, and other diseases are relatively well controlled, the combination results in low production performance and heavy death losses, ranging from 25 to 75 percent of animals above one year of age.

The Government has recognized the urgent need for range and water development, disease control, and general development of the livestock industry in Masailand, and for the 1964-69 Plan period allocated $1,450,000 to the Ministry of Agriculture for this purpose. The 1969-74 Plan proposes approximately $1,941,000 for Masailand and $17,360,000 for the country as a whole for this purpose.

The Masai burn their grazing land and much additional area is burned off by uncontrolled fires started by cultivators, hunters, honey-gatherers, and natural causes destroying forage otherwise available and essential for dry-season grazing.

The result is constantly increasing disappearance of the perennial grasses and more productive browze and forage, take-over by fire-resistant and less desirable species, and invasion of weeds. This, coupled with overgrazing, keeps the vegetation cover to a minimum and results in excessive water run-off and severe soil erosion during the rainy season, adding up to an alarming deterioration of the range. Unless this trend is arrested, the annual value of the deterioration of the range may soon exceed the value of the annual contribution of livestock products from the range areas to the national economy. However, the problem is more the lack of water and range management than overgrazing. Various experts maintain that with adequate water and proper management the range would support more livestock than at present.

Development plans in the past have been based on opening up new areas with water development in waterless areas, and bush removal in tsetse areas. These actions resulted only in temporary improvement because the livestock population soon increased beyond the range-carrying capacity in the new areas. Without appropriate range management practices, the area of destruction was simply expanded to encompass the new areas.

The traditional system of land tenure in Masailand militates strongly against progress in livestock development. Grazing lands have always been used communally. A cattle owner has the absolute right to graze as many cattle as he chooses on natural pasture, and on cropped land after harvest. This communal grazing system gives no incentive to individual stock owners to improve the health and productivity of their animals, their pasture management, or the fertility of the soil; or to adopt a system of management involving rotational grazing and fodder conservation which would offset the more serious consequence of a drought. This results in low productivity, deterioration and eventual destruction of the range. Range and livestock development efforts are futile without appropriate changes in these traditional practices.

Although the livestock industry to date has made only a minor contribution to the GDP or export earnings, it has potential to become a major contributor to both, and to the improved nutrition and health of the nation. The statement is consistently made that cattle are looked upon as a status symbol, an investment, and a reserve to be tapped for customary functions and emergencies. However, marketing conditions favorable to the producer draw livestock to market indicating the value of such incentives. The incentive factor appears to be overlooked when the wealth-on-the-hoof, non-market mentality statement is made so often and so freely. Regardless, there are many problems to overcome before an economic off-take is realized from the national herd.

Tanzania's large livestock population and extensive areas of grassland for animal grazing represent a major asset with a potential for much greater output of livestock products for which markets are available. The present livestock population is capable of producing meat and meat products considerably in excess

of the nation's requirements given a reasonable level of efficiency in livestock management and greater emphasis on commercial production. Most of the cattle are Zebus of unimproved stock, reared and kept under poor husbandry and grazing management, but standards of management and disease control are improving.

The AID-sponsored range land study in 1962 recommended a new administrative unit within the Ministry of Agriculture with special responsibility for range and livestock development, which subsequently formed the basis of the Range Management and Development Act passed by the National Assembly in 1964. The Act provides for establishing range development commissions to administer ranching associations in their respective districts, and lays the groundwork for establishing a sound range development and management program. The commissions have authority to determine land use rehabilitation, conservation, development and improvement of the range development areas.

The Ministry of Agriculture considers the Range Act as the key to developing livestock production in the drier areas of the country with large cattle populations, and where the problems related to communal land ownership are more serious. Local range commissions, appointed by the Minister for Agriculture, stimulate the formation of ranching associations, which in return for accepting various forms of internal discipline, including restriction of stock numbers, may receive capital and technical assistance from the Government to develop their land resources and obtain occupancy rights to the land.

The primary function of a range commission is to assist with the organization, by-laws and management of the ranching associations. The members of the Masai Commission are inexperienced. They will need both management and technical assistance until they gain experience and learn how to carry out their responsibilities.

One of the important features of ranching associations is providing the producers an opportunity to actively participate in range development planning and management. This decision-making responsibility will be a new experience for the Masai. They will need considerable help, in the early stages, in learning how to organize and manage an association. The officers of each association will need special training and supervision to properly carry out their responsibilities.

The Range Act is at present fully operational only in Masailand. Five other commissions have been proposed. In accordance with the Act, and at the request of the cattle owners in the respective areas, four ranching associations, registration of two, the Komolonik and the Tamali Associations, have been initiated. The development programs have been prepared and are presently being implemented. Tanzania has accepted the Ranching Association concept as a possible means of drawing the Masai into a more communicative position with government and government policy, of improving their social conditions, and increasing their livestock productivity.

A limited number of Tanzania B.Sc. and diploma graduates in agriculture, range management and animal husbandry are becoming available from Egerton College, Morogoro College, and Makerere University College. However, they are inexperienced and require supervised on-the-job experience and further formal training in planning and implementing range and livestock development programs, such as can be provided through technical assistance and participant training programs.

A more detailed treatment of Masailand range and livestock conditions and potential, and Masai cultural/social background is contained in the AID/USDA PASA report, "Livestock and Range Improvement in Masailand," September-December, 1968.

## IV. STRATEGY

### A. U.S. Assistance Strategy

#### 1. Background

The high plateau of East Central Africa which runs through Ethiopia, Somalia, Kenya, Tanzania, Uganda, Zambia, Malawi and the Southeast Congo is ideal for livestock production. According to the IBRD, FAO, and others the high plateau has greater potential for livestock production than for any other single agriculture enterprise. This project will help develop the potential of the plateau and assist Tanzania to realize greater benefits from these presently poorly utilized resources.

A satisfactory rate of economic growth in Tanzania is in large measure dependent upon progress achieved in increased production and diversification of the cash market agriculture sector which has been dominated by sisal, cotton, and coffee. All three of these crops are extremely vulnerable to shifting world market prices.

Diversification of agriculture production is essential to assure Tanzania increased returns from agricultural production. Livestock production is a natural choice for diversification because livestock is one production enterprise in which there is and will continue to be an expanding world market demand with no evident danger of future world surplus production.

#### 2. Strategy and Rationalization

The approach used in this project differs from most previous efforts. Rather than a country-wide livestock production program, a specific program and implementation plan was formulated for range management-livestock development in small, manageable ranching units in Masailand. Ranching associations will

be formed. The Tanzanian Government has allocated resources for water and range development and disease control in Masailand.

This project directly supports the agricultural development program for eastern Africa recommended and projected by the IBRD, the FAO and others. In their view, it is an activity which should receive priority development attention.

The project has regional significance in that positive findings and recommended practices will have application, with a minimum requirement for modification, to the other countries of the eastern Africa plateau area. This project will also benefit from the Regional Rinderpest and Contagious Bovine Pleuropneumonia Eradication Projects and other regional livestock efforts.

Two-thirds of the grazing area is in the drier part of the country. The production of meat from this livestock population is relatively low and Tanzania needs more meat for home consumption and export. The nomadic Masai have learned to exist and manage livestock in this dry part of the country. They have developed rigid cultural customs which carry high risks to those who do not adhere to them. These customs must necessarily be considered in any development plans for the area. This project has been formulated to take into account the developmental inhibitive cultural factors of the Masai society and to make technical change at minimum social cost in this ultra-conservative society.

The Government feels an economic and political need to improve the productivity of such areas and people. It also recognizes that this will require capital and technical inputs and is committed to $17,360,000 in capital development funds for the nation-wide needs for this purpose during 1969-74. A major question is how much and what is needed, and how such inputs can be introduced into an ultra-conservative society to the mutual benefit of the society and the economic needs of the country.

The Phase II study confirmed the project's latent potential and technical feasibility, confirmed that the project's input requirements are within Tanzania's resources limitations, and that it will add to the nation's economic resources.

B. Host Country Development Emphasis

The Second Five-Year Development Plan 1969-74 places major emphasis upon agricultural and rural development. Due to its potential for agricultural diversification, for providing protein, and as a source of foreign exchange from a commodity not in world surplus, increased emphasis has been placed upon the livestock industry. Of the total agriculture sector development funds for 1969-74 of $90,800,000, $17,360,000 have been budgeted for livestock and range development.

C. Cooperating Country Leadership

Tanzania's program of agricultural and rural development and self-sufficiency has a broad base of support from top government officials to the local citizens. However, there is a shortage of competent leadership to convert Ministry plans to action programs in the field. The shortage is in experience and know-how rather than in support and desire to accomplish the task.

Five graduates from the Range Management Diploma Course at Egerton will be assigned in Masailand as understudies of the OPEX technicians for varying periods of time prior to being programmed for further training in range management and animal husbandry disciplines.

D. Cross Relationships

The Government has proclaimed a development policy of Ujamaa (cooperative effort) and rural development. The Ministry of Rural Development and Regional Administration has the responsibility for Ujamaa Village Development. Although this project is not being developed under the Rural Development and Regional Administration Ministry's administrative responsibility, there will be close coordination as the project develops.

The FAO/UNDP is assisting the Tanzanian Government with range and livestock development in the adjoining areas of Sukumaland and Gogoland. Close coordination and exchange of information and findings will be exchanged to the mutual benefit of all concerned.

V. PROJECT ACTIVITIES

The overall objectives of the project are to increase the per-man and per-acre productivity of the Masai herdsman, transform the deteriorating range and subsistence livestock society into productive range and efficient market-oriented livestock enterprise, with minimum social cost, and establish a pilot program which can serve as a model for expansion to other areas. (Discussed in Section B. Project Goals). As related above, the development program in its totality will be thoroughly discussed with the Masai elders and people initially, and step by step as the project progresses, to reach an understanding and agreement on the various activities required for change which must be made.

In view of the Masai decision-making process no effort will be made to rush or force an issue. Gentle persuasion will be used. The Masai will be given full details regardless of the time required, and then be permitted to reach decisions in their own way.

## A. Establishing Ranching Associations

### 1. Target

Four ranching associations will be established as the administrative and management units through which the increased per-man and per-acre livestock productivity and marketing at economic off-take levels can be realized. These will serve as model programs for expansion to other areas of Masailand and elsewhere. (Discussed in Section II.B, Project Goals)

### 2. Course of Action

Desirable geographic areas with potential natural resources for establishing ranching associations will be identified, and their boundaries demarcated. Discussions will be held with the cattle owners to determine their interest in forming associations and abiding by the by-laws and regulations necessary for such associations. The minimum of these initially will cover:

a. Formation of an overall association and individual member livestock quota based upon the animal unit carrying capacity of the range and the availability of water in the association area.

b. Drafting of a development plan for each association area describing the development work and costs required to develop the area, i.e., water development, disease control, tick dips, cattle crushes, marketing facilities, range improvement, soil conservation, bush clearing, roads and fire breaks. This work will be planned and phased over a period of years with only the most essential activities implemented the first year or two, and generally in the order of priority listed. A minimum budget will be formulated for the first year, adequate for administration and operation of the association. The total cost will be divided between the association and the Government based upon the members' ability to finance the plan. Eventually, as the activities increase income, all costs will be taken over by the associations. Based upon the association's budget, the prospective members will be assessed a proportionate share in yearly dues.

c. Thorough discussion of proposals with the prospective members. Registration of an association requires that 60 percent of the prospective members approve the proposals. If they do not, and the forms and proposals cannot be revised to remove the objectionable points and provide a minimum of good management, plans to form an association will be dropped.

d. Registration of association. After the proposals are approved by 60 percent of the members, and this is announced by the Range Commission, one or more members must apply to have the association registered. Following registration, prospective members must apply and sign registration forms to become members. When 60 percent have done so, the association will be entitled to receive rights of occupancy to the land and rights to water resources existing or developed in the association area. The Ministry of Lands and Urban Development will then survey and demarcate the association area boundary. The Komolonik Association at Monduli and the Tamali Assoetation at Kijungu will be registered first followed by Olmoti and Loliondo. No other associations will be formed until these four are well established to avoid over-extending the manpower resources of the range management and OPEX staff before sufficient experience and management know-how have been gained by association members to assure a reasonable degree of success.

B. Permanent Improvement

1. Target

The project will plan and carry out the necessary improvement works such as tick dips, cattle crushes, water development, range improvement and conservation, bush clearing, tsetse control, fire breaks, roads, and market facilities.

2. Course of Action

The plans for these improvements have been completed for the Komolonik and Tamali Associations and partially implemented. Implementation will be continued. Plans will be developed for other associations as required. The required permanent improvement facilities and development works will be planned and implemented in cooperation with the appropriate divisions of the Ministry of Agriculture, Food and Cooperatives and other ministries when necessary. The amount of capital and labor to be contributed by the association members will be determined for each improvement made, and will be based upon the situation existing at that time. Participation will be required of the Masai.

C. Livestock Marketing

1. Target

Regularized livestock marketing at economic off-take levels will be developed through marketing committees or cooperatives within the ranching associations.

2. Course of Action

An overall marketing program will be put into effect in Masailand with flexible guidelines to allow for modifications as needed changes are identified. This program will consist of several integrated activities. Cattle selling committees or cooperatives will be formed in the associations which will function on a regular and continuing basis to assemble livestock, arrange for buyer contact, facilitate vaccination and quarantine, and move livestock to points of exchange with buyers or final markets. This should effectively eliminate collusion and depressed prices caused by buyers rings, the Somali buyers and other middlemen, increase prices to the producer, and help to reduce the illegal market.

Procedures for identification of animals for market will be introduced, in conjunction with the regular dipping and vaccination programs. The identified animals will be marked for ease of assembling at the appropriate time for marketing. Weigh bridges will be installed at each association for determining growth rate of growing stock and weight at marketing. The weigh bridge will provide the first common denominator needed to establish market communication and information and discourage the existing collusion. Weights will be recorded as the animals leave the association area, again at the end of the stock route walk (when sold at market points for slaughter, or loaded on the rails), and again when taken from the rail cars at the market-slaughter point. The shrinkage can then be determined and equitable live weight prices established for animals at the association areas.

Both fresh and canned meat markets will be investigated to determine which type and weight animals should be marketed in each type market. Efforts will be made to reduce the market cesses and charges, and to assure that monies charged for marketing are accounted for that purpose, and to eliminate collection of taxes, levies, rates, and political dues at the markets.

A livestock market information and intelligence program will be initiated and regular reports issued on prices by weight, types and grades of livestock, and movements of these types at representative points.

Market infrastructure will be developed initially for each association and eventually for the balance of Masailand. Stock routes with bomas, watering points, and holding grounds will be repaired or laid out and developed and put into use as required. Roads will be laid out or improved to the extent possible with equipment available. The major road works are normally done by the Ministry of Communications, Transport and Labor.

D. Institutional Activities

1. Target

Agriculture extension, credit and multi-purpose cooperatives programs will be established in the associations.

2. Course of Action

The implementation of this project will be supported by selective concentration of institutional activities and benefits, agriculture extension, credit and multi-purpose cooperatives, and other promotional efforts in the associations. This will be aimed at establishing and developing agriculture extension services and multi-purpose cooperatives services, i.e., marketing livestock, furnishing production and consumer supplies, and providing credit, particularly through members' savings. On-the-job and participant training will be provided to more adequately prepare Tanzanians for this role.

The OPEX technicians will work closely with the extension and cooperatives staffs in developing efficient and effective institutional service programs, and in providing training, services, encouragement and demonstrations.

E. Reducing Nomadism

1. Target

Through demonstrating economic benefits to be derived, the project should persuade the nomadic Masai to settle in more permanent locations which will be essential for faster development.

2. Course of Action

The nomadic wanderings and movements of the Masai cattle owners in the past have been basically due to the need for forage and water for their livestock. They remained in one location as long as adequate water and forage were available, animal disease conditions remained within tolerant levels, and/or natural catastrophes, such as drought, did not necessitate movement.

Water development, range and animal improvement, disease control, equitable marketing programs, and other improvements to be made through the project will eliminate the need to move to new areas. Establishing and enforcing the livestock quota will avoid over-grazing and permit ample range forage production for the association livestock on a sustained grazing basis.

As conditions improve and the reasons which necessitated the traditional nomadic movement in the past are eliminated, the Masai should settle down.

F. Animal Disease and Parasite Control

1. Target

The project will provide means for control and eradication of diseases and parasites.

2. Course of Action

Constant efforts will be made to improve environmental conditions and management practices necessary to achieve better disease and parasite control and animal health. Bush clearing and spraying will be conducted where tsetse fly exist. Tick dips will be constructed and used regularly to control tick-borne diseases, and break the infectious stage host cycle of the tick. The on-going rinderpest and contagious bovine-pleuropneumonia eradication campaigns will reduce the danger from these diseases.

Cattle crushes will be constructed in strategic locations to permit regular inspection, vaccination, and treatment for diseases and parasites.

G. Animal Improvement

1. Target

The project will improve the health and genetic characteristics of the animals and increase growth and production.

2. Course of Action

The factors presently limiting increased growth and production are environmental more than genetic. Realizing the target will require improving the environment first since the greater the genetic capacity to reproduce, grow and produce meat and milk, the greater the demand for improved inputs (management, health conditions, feed, water) to support the demands of higher production. Sophisticated breeding efforts to introduce exotic breeds will be delayed until the general management capabilities and practices have improved sufficiently to warrant such activities.

The initial efforts will be on culling and marketing the non-productive animals. The removal of these non-productive boarders will greatly improve the overall average quality of the herds. Production records will be introduced to identify individual animals that are efficient producers. Selective breeding of the efficient producers and culling the boarders will substantially increase the herd productive capacity. As the management and other conditions warrant it, improved bulls or artificial insemination will be introduced.

KRUSEKOPF



H. New Ranching Associations

1. Target

Additional areas with potential for development as ranching associations will be identified, registered and developed after the original four associations are established and sufficient experience has been gained to assure a reasonable degree of success.

2. Course of Action

The localities of decision-making in Masailand will be identified by determining where the local elders' councils meet and what area is covered by the particular councils. These localities seldom change, therefore, the Phase II study results should apply for some time. Since the important decisions of Masailand are made at local elders' councils, implementation of development plans will starts with the councils. This will also avoid the danger of splitting localities, or of combining non-compatible groups in designing programs.

Concurrently, wet and dry season grazing patterns and tribal boundaries will be determined and mapped. The combination of information on localities of decision-making, tribal boundaries, wet and dry season grazing, and topography/ecology will permit appropriate identification of new ranching association areas.

PICKERING