

PD-BAS 505

Central Files 12/7/14

AGENCY FOR INTERNATIONAL DEVELOPMENT  
PROJECT DATA SHEET

1. TRANSACTION CODE:  A = Add,  C = Change,  D = Delete  
Amendment Number: \_\_\_\_\_  
DOCUMENT CODE: 3

COUNTRY/ENTITY: SOMALI  
3. PROJECT NUMBER: 649-0109

4. BUREAU/OFFICE: AFRICA  6   
5. PROJECT TITLE (maximum 40 characters):  Livestock Marketing & Health

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM DD YY 01 03 08  
7. ESTIMATED DATE OF OBLIGATION (Under 'B' below, enter 1, 2, 3, or 4):  
A. Initial FY: 84 B. Quarter: 4 C. Final FY: 88

8. COSTS (5000 OR EQUIVALENT \$) =

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	2,000		2,000	11,000		11,000
(Grant)	( 2,000 )	( )	( 2,000 )	( 11,000 )	( )	( 11,000 )
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1.						
2.						
Host Country		5,500	5,500		5,500	5,500
Other Donor(s)						
<b>TOTALS</b>	<b>2,000</b>	<b>5,500</b>	<b>7,500</b>	<b>11,000</b>	<b>5,500</b>	<b>16,500</b>

9. SCHEDULE OF AID FUNDING (\$000)

A. APPLICABLE PRIOR ACTION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ARDN	133	060				2,000		11,000	
(2)									
(3)									
(4)									
<b>TOTALS</b>									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 010 050 040 960  
11. SECONDARY PURPOSE CODE: 131

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each):  
A. Code: BR BS R/AG  
B. Amount: \_\_\_\_\_

13. PROJECT PURPOSE (maximum 480 characters):  
To restore the contribution of cattle exports to the Somali balance of payments and to lay the conceptual basis for a broader approach to strengthening the Somali livestock industry.

14. SCHEDULED EVALUATIONS: Interim MM YY 07 86 Final MM YY 04 88  
15. SOURCE/ORIGIN OF GOODS AND SERVICES:  000  941  Local  Other (Specify) \_\_\_\_\_

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a \_\_\_\_\_ page PP Amendment):  
I concur in the methods of implementation and the financial arrangements under this Project.  
*Charles Brooks*  
Charles Brooks, Controller

17. APPROVED BY: Louis A. Cohen, Mission Director  
Date Signed: MM DD YY 01 12 84  
18. DATE DOCUMENT RECEIVED IN ADD/W, OR FOR ADD/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

## PROJECT AUTHORIZATION

Name of the Country : Somali Democratic Republic  
Name of the Project : Livestock Marketing and Health  
Number of the Project: 649-0109

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Livestock Marketing and Health Project (the "Project") for the Somali Democratic Republic (the Cooperating Country) involving planned obligations not to exceed \$11.0 million (eleven million U.S. dollars) in grant funds over a four year period, subject to the availability of funds in accordance with the AID/OYB allotment process, to help in the financing of foreign exchange and local currency costs of goods and services required for the Project. The planned life of the Project is four years from the date of initial obligation.
2. The Project will assist the Cooperating Country to develop livestock marketing and health policies and programs, including the establishment of a quarantine system for the export of cattle which will help Somalia regain its share of the international market for live cattle. To carry out the objectives of the Project, AID will provide financing for technical assistance, training and commodities, including vehicles, animal drugs and vaccines, and reconstruction/rehabilitation of quarantine facilities.
3. The Project Agreement, which may be negotiated and executed by the officer to whom such authority is delegated in accordance with AID regulations and delegations of authority, shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as AID may deem appropriate.
4. (a) Source and Origin of Commodities, Nationality of Services:  
  
Commodities financed by AID under the Project shall have their source and origin in the United States, the Cooperating Country or in countries included in AID Geographic Code 941, except as AID may otherwise agree in writing. The suppliers of commodities or services, including ocean shipping, shall have their source in the United States, the Cooperating Country, or other countries included in AID Geographic Code 941 countries as their place of nationality, except as AID may otherwise agree in writing.
- (b) Conditions Precedent to Disbursement:  
  
First Disbursement:  
  
Prior to any disbursement of funds or to the issuance of any commitment documents under the Grant, the Cooperating Country shall, except as the Parties may otherwise agree in writing, furnish to AID in a form and substance satisfactory to AID:

- (1) A statement indicating that the GSP Committee has reviewed the annual local currency requirements for the Project and that such requirements will be included in the annual budget programming document.
- (2) A letter from the Ministry of Finance confirming that personnel and commodities financed by AID under the Grant shall be exempt from all GSDR taxes and duties, including taxes on fuel purchased by Project funds.

**Disbursement for Construction:**

Prior to any disbursement or to the issuance of any commitment documents for construction, the Grantee shall, except as the Parties may otherwise agree in writing, furnish to A.I.D. in a form and substance satisfactory to A.I.D.:

- (1) Evidence of the establishment of a Livestock Quarantine Unit within the Animal Health Department of the Ministry of Livestock, Forestry and Range (MLFR) which will have the responsibility for implementing the vaccination, quarantine, animal health and certification programs called for in this Agreement and which will have the necessary authority and staffing to carry out its mission.
- (2) Evidence of the establishment of a quarantine export revolving fund which will be the recipient of vaccination/quarantine user fees from owners of export cattle and which will finance the costs of (a) vaccination and quarantine of cattle for export, and (b) operating and maintaining the quarantine facilities.

**Disbursement for Livestock Investment Fund:**

Prior to any disbursement or to the issuance of any commitment documents for disbursement from the Livestock Investment Fund, the MLFR shall, except as the Parties may agree otherwise in writing, furnish to A.I.D., in a form and substance satisfactory to A.I.D., criteria for the selection of applicants wishing to make purchases with Fund resources.

**(c) Special Covenants:**

- (1) The Parties agree to establish an evaluation program as part of the Project. Except as the Parties otherwise agree in writing, the program will include two evaluations. The first shall be conducted in the 25th month of the Project and the second evaluation shall be conducted in the 46th month. The evaluations will include, but not necessarily be limited to:

- (i) evaluation of progress toward attainment of the objectives of the Project;
- (ii) identification and evaluation of problem areas of constraints which may inhibit such attainment;
- (iii) assessment of how such information may be used to help overcome such problems; and
- (iv) evaluation, to the degree feasible, of the overall development impact of the Project.

The Grantee agrees to make appropriate staff available for training programs and to serve as counterparts to the technical assistance personnel, both on a timely basis.

The Grantee agrees to maintain an open market for fodder production and distribution with a view to allowing traders and exporters to procure their own fodder for feeding their animals in quarantine.

Date: 12 July 1984

\_\_\_\_\_  
Director, USAID/Somalia

Clearances: AGR, J. Neptune JGN  
PROG, A. Martinez AM  
CON, C. Brooks CB  
PROJ, E. Birgells EB  
REDSO/RLA, K. Hansen (draft) KH

# LIVESTOCK MARKETING AND HEALTH

## PROJECT PAPER

(649-0109)

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GLOSSARY OF TERMS

ADD	Agriculture Development Office, USAID/Somalia
AID	Agency for International Development
CBPP	Contagious Bovine Pleuropneumonia
CDSS	Country Development Strategy Statement
CIP	Commodity Import Program
CIPL	An account in the Ministry of Finance containing the local currency proceeds of the CIP and PL-480 Programs
CSB	Somali Commercial and Savings Bank
ENG	Office of Engineering, USAID/Somalia
GSDR	Government of the Somali Democratic Republic
GSP	Generation of Shilling Proceeds Committee: the committee that passes upon requests for CIPL funding
IFAD	International Fund for Agriculture Development
IQC	Indefinite Quantity Contractor
IRR	Internal Rate of Return
LDA	Livestock Development Agency
LIF	Livestock Investment Fund
LQU	Livestock Quarantine Unit
MLFR	Ministry of Livestock, Forestry and Range, GSDR
NRA	National Range Agency, an autonomous agency in the MLFR
ODA	Overseas Development Agency
OIE	Office International des Epizootic
PASA	Participating Agency Service Agreement
PEA	Private Enterprise Advisor
PID	Project Identification Document
PO	Project Officer
PSC	Personal Services Contract
PTR	Department of Planning, Training and Research, MLFR
SMO	Supply Management Officer, USAID/Somalia
SVI	Serum and Vaccine Institute
TA	Technical Assistance

## SUMMARY AND RECOMMENDATIONS

### A. Project Objective and Description

The goal of the Livestock Marketing and Health Project is to support the expansion of Somali livestock exports and foreign exchange earnings and to increase the income and welfare of the Somali people over the next decade. The Project purpose is twofold: 1) to restore the contribution of cattle exports to the Somali balance of payments, and 2) to lay the conceptual basis for a broader approach to strengthening the Somali livestock industry.

In order to address Somalia's immediate marketing concerns, the Project will focus on upgrading quarantine and related export facilities to meet international trade requirements and on improving the health program for cattle exports. This will involve investments in physical infrastructure for quarantine stations and marshalling yards near the ports of Kismayo, Mogadishu and Berbera. The Project also will provide supplies and equipment to the Somali Government veterinary service for vaccination activities before and during cattle quarantine. In addition, the Project will provide technical assistance for improved animal health measures and management of cattle quarantine and production of fodder. It will further provide equipment to a serum and vaccine institute and diagnostic laboratories and financial support to the private sector (Livestock Investment Fund) for feed production and transport related to animal quarantine. The final major element of the Project is a series of studies designed to improve understanding of the characteristics and potential of the Somali livestock industry to serve as a foundation for future project development in the livestock sector. All of these Project elements will be implemented through the Ministry of Livestock, Forestry and Range (MLFR).

Private sector livestock traders will be the primary beneficiaries of the Project as cattle exports and resultant incomes are increased. Cattle herders will similarly benefit from the Project since the demand for their animals will increase and pressure on the range will fall with a higher off-take rate. Farmers will benefit from a growth in demand and increase in price of fodder stimulated by the quarantine system. The rest of the Somali population also is expected to benefit from the increased foreign exchange entering the economy as a result of the Project.

FINANCIAL PLAN

<u>Project Inputs</u>	<u>USAID</u>	<u>Grantee</u>
	<u>FX (\$1000)</u>	<u>LC (\$1000 equivalent)</u>
Technical Assistance	2755	--
Staff and Counterpart Salaries	--	475
Quarantine Facilities Construction/Rehabilitation	2965	2276
Commodities	1180	150
Livestock Investment Fund	2000	--
Training and Evaluation	192	--
Support Costs	107	1659
Inflation and Contingencies	1801	940
	-----	-----
Total:	11000	5500

B. Background

The livestock industry is the backbone of Somalia's economy. The livestock marketing sector and its associated pastoral system support 60 to 80 percent of the population and generate 75 percent of the country's export earnings. Since 1974, at least 90 percent of the hard currency earned by exports of live animals from Somalia resulted from sales in Saudi Arabia. In May 1983, the Saudis placed a ban on the importation of all cattle from East Africa, based on the fear of introducing rinderpest into Saudi cattle herds.

USAID/Somalia has been interested in assisting the Somali livestock sector for some time. During 1980-83 a series of studies were commissioned by USAID/Somalia to analyze various aspects of animal health and marketing in Somalia. These studies all noted that improvements were needed in the animal health service to fully assure the health of exported livestock. The ban on the exportation of cattle to Saudi Arabia and resulting loss of foreign exchange created an emergency situation and escalated the need for a quarantine system to the highest priority.

In late 1983 a PID was drafted by USAID/Somalia and the MLFR responding to the ban and other issues related to livestock marketing and health. The PID was reviewed by the Africa Bureau Executive Committee for Project Review on February 15, 1984. Following AID/Washington guidance, the Project Paper was written to meet the immediate needs of Somalia's livestock producers and traders by establishing a quarantine system for export cattle. In addition, a series of studies will be done to better define the livestock health and marketing situation in Somalia as a basis for designing a possible long-term livestock assistance project.

#### C. Grantee and Executing Agencies

The grantee will be the Government of the Somali Democratic Republic (GSDR) represented by the Ministry of Livestock, Forestry and Range.

#### D. Recommendations

1. A grant in the amount of \$11 million over a four-year period commencing July 1984 should be authorized to the Government of the Somali Democratic Republic for execution by the Livestock Marketing and Health Project.

2. USAID/Somalia should procure the services of three long-term health advisors (two veterinarians and one quarantine manager/trainer) through a PASA agreement with USDA since that institution is considered to have the strongest capabilities in livestock quarantine. Other advisors will be procured through a contract awarded through Section 8-A of the Small Business Administration Act. To speed up project implementation, construction of quarantine facilities should be done on a turn-key basis by a competitively selected firm.

#### E. Summary Findings

The design team has examined the economic, financial, social, technical, and administrative implications of the Project's activities. The findings from these analyses have been incorporated into the Project design, and all Project activities are considered feasible and beneficial.

## F. Project Issues

Following is a list of issues resulting from the ECPR PID review.

1. Does the Project focus on immediate constraints to the export of livestock or does it attempt to address the livestock sector as a whole? The Project deals directly with only the loss of the Saudi export market for cattle by instituting a quarantine system for health certification of Somali livestock, with related fodder production and livestock transport activities.

2. Will the Project provide an analytical basis for a longer term approach to the livestock sector? A series of studies is included in the Project to build a data and conceptual foundation on which a more comprehensive, longer term approach can be built.

3. Will the Project benefit both herders and traders; how will benefits be distributed? The Analysis presents the probable distribution of benefits with positive findings for herders, traders and farmers. The Analysis is summarized in Section 6 and included in Annex E.3. More extensive studies into the social context of livestock husbandry and marketing in Somalia are planned in the Project.

4. Has the drug and vaccine component of the Project been limited to addressing the short-term export problem? Drug and vaccine importation and distribution is limited to uses directly related to preparation of cattle for export in the quarantine system. A study on drug importation and distribution and the feasibility of in-country drug formulation and packaging will be done during the Project.

5. Does the Project design include an environmental review of Project impacts; is an environmental assessment necessary? An environmental review was carried out by the Regional Environmental Officer who recommended a Negative Determination. The findings and recommendations are included in Annex E.4. The Africa Bureau Environmental Officer has concurred in the recommendations.

## G. Major Conditions Precedent and Covenants

The following major Conditions Precedent will be met prior to the initial disbursement of funds:

1. A statement indicating that the GSP (Generation of Shillings Proceeds) Committee has reviewed the annual local currency requirements for the Project and that such requirements will be included in the annual budget programming document.

2. A letter from the Ministry of Finance confirming that personnel and commodities financed by AID under the Grant shall be exempt from all GS DR taxes and duties, including taxes on fuel purchased by Project funds.

The following major Condition Precedent will be met prior to the disbursement of funds for the Livestock Investment Fund:

1. Presentation by the Ministry of Livestock, Forestry and Range of criteria for the selection of applicants wishing to make purchases with Fund resources, and the concurrence of AID to such criteria.

The following major Conditions Precedent will be met prior to disbursement of funds for construction:

1. Evidence of the establishment of a quarantine export revolving fund which will be the recipient of vaccination/quarantine user fees from owners of export cattle and which will finance the cost of (a) vaccination and quarantine of cattle for export, and (b) operating and maintaining the quarantine facilities.

2. Evidence of the establishment by the GS DR of a Livestock Quarantine Unit within the Animal Health Department of the Ministry of Livestock, Forestry and Range which will have the responsibility for implementing the vaccination, quarantine, animal health and certification programs called for in this Agreement and which will have the necessary authority and staffing to carry out its mission.

The following covenants will be included in the Grant Agreement:

1. The GS DR will review taxes currently being imposed on traders and exporters of livestock with a view to making adjustments to improve the competitive position of Somali livestock in foreign markets.

2. The GS DR will maintain an open market for fodder production and distribution with a view to allowing traders and exporters to procure their own fodder for feeding their animals in quarantine.

3. The MLFR will take steps necessary to assure that the three quarantine stations established by the Project will have an adequate supply of vaccines and other medicines.

4. The MLFR will take steps necessary to assure the removal of all waste materials from quarantine facilities prior to the arrival of each new batch of animals.

5. The MLFR will review at least semi-annually the financial status and schedule of fees for the revolving fund with a view to assuring that it is covering the costs for which it was established.

#### H. Project Design Team

The design of the Livestock Marketing and Health Project is the result of the collaboration of the USAID design team and Somali counterparts at the Ministry of Livestock, Forestry and Range.

USAID - Kenneth Randolph - Livestock Officer, USAID  
Andrew Sisson - Project Development Officer, USAID  
Robert Armstrong - Agricultural Officer, REDSO/ESA  
Kathleen Hansen - Legal Advisor, REDSO/ESA  
Dennis Light - Engineer, REDSO/ESA  
John Gaudet - Environmental Officer, REDSO/ESA  
Pamela Procella - Veterinarian, Consultant  
Bernard Lane - AID/W, Economist  
John Walker - Livestock Health Specialist, Consultant  
John Blumgart - Project Design Specialist, Consultant  
Michael Brown - Social Scientist, Consultant

MLFR - Dr. Abdirahman Haji Nur, Director General  
Dr. Abdi Elmi, Deputy Director General  
Abdullahi Mohamed, Director, Division of Livestock  
Marketing Facilities, National Range Agency  
Dr. Aboukar Hussein, Veterinarian  
Dr. Abdi Mohamed, Veterinarian  
Dr. Ali Yusef, Director, Animal Health Department

## 1.0 PROJECT RATIONALE

### A. Relation to GSDR Strategy and Plans

The Livestock Marketing and Health Project is highly supportive of GSDR strategy and plans as articulated in the Government of the Somali Democratic Republic's most recent planning document "Development Strategy and Public Investment Program 1984-86 (Revised, December 1983)". That document emphasizes that GSDR strategy is to concentrate on three main goals: 1) stabilization of the economy, 2) restoration of productive capacity, 3) building up of the basis for steady self-sustaining growth. By its impact on cattle exports and animal health improvements, the Project will contribute to each of the foregoing objectives.

More specifically, the Project will reinforce the GSDR plan to "emphasize export for agriculture and livestock production" and to concentrate on "investment projects that can be expected to realize quick returns (and the) enhancement of existing capacity". It will also reinforce the GSDR's desire "to increase livestock productivity so as to increase commercial offtake of animals for local consumption and for export demands".

### B. Relation to CDSS

The Project directly supports USAID's CDSS Update in several ways. As the later document indicates: "in the short-term our strategy is to support the macroeconomic stabilization program by placing emphasis on marketing livestock for export". Project success in helping to make possible the lifting of the Saudi ban of Somali cattle would increase Somali foreign exchange receipts by up to \$40 million. The CDSS Update also emphasizes that "the agricultural sector, comprising crop agriculture and livestock is the heart of our longer term development strategy". The Project is supportive of such a longer term strategy in that (a) it will strengthen the competitive position of Somali exports through its animal health measures and (b) it will establish the information and conceptual base for a comprehensive livestock development program in the future.

The CDSS Update notes that "policy dialogue is continuing with all levels in the Government". The Project will further such dialogue through joint examination of a number of financial, regulatory and organizational measures which would remove bottlenecks or provide incentives for improving government/private sector relationships in animal health and marketing. In addition, the Project is supportive of "policies favorable to the expansion of the private sector" by helping Somali entrepreneurs to provide the fodder and trucking services that will be needed under the proposed cattle quarantine and export system.

## 2.0 PROJECT DESCRIPTION

### A. Project Background

Livestock is the mainstay of Somalia's economy. Approximately 60 percent of the population is composed of nomadic or semi-nomadic pastoralists, while a further 20 percent are crop farmers who keep livestock. Exportation of live animals generates over 75 percent of the country's hard currency earnings. Since 1974, over 90 percent of the cattle exported from Somalia were imported by Saudi Arabia.

In 1979, recognizing the importance of the livestock industry to the Somali economy, USAID/Somalia began discussions with the Ministry of Livestock, Forestry and Range (MLFR) to provide assistance in the area of animal health. A concept paper was prepared, but Mission decided more information was needed on the existing animal health/livestock marketing system before proceeding further. A series of studies were done during 1980-83. While various constraints to improvement of livestock marketing and health were noted in these reports, all pointed out the need for better export health services, including reliable pre-export vaccination and health certification based on quarantine. In May 1983, the need for such a quarantine system was made apparent by the ban on export of cattle to Saudi Arabia based on the threat of introduction of the disease rinderpest into Saudi Arabia and threatening that country's investments in its growing domestic cattle industry.

Although experts from OIE (Office International des Epizootics) and FAO reported that there is no direct evidence of rinderpest now being present in Somalia, the immunity level of the national herd was low enough to make it a possibility. Since the Nationwide Rinderpest Campaign of 1972-75, vaccination of subsequent Somali cattle has been sporadic at best. Saudi requirements for lifting the ban, therefore, include a nationwide campaign for vaccination against rinderpest and establishing a new quarantine system for export cattle.

In response to this situation, the MLFR received a grant of 70 million shillings from the Ministry of Finance for animal health purposes. Over half of this was used to equip new vaccination teams, and much of the remainder has been spent on rehabilitation of marshalling yard facilities at the 3 main ports. However, funds were not sufficient to construct and operate a quarantine system which would meet the International Zoo-Sanitary Code standards, as demanded by the Saudis, and the MLFR appealed to various donors for assistance in this.

In late 1983 and January 1984, USAID responded by drafting the Livestock Marketing and Health PID (649-0109) in consultation with the MLFR and private livestock herders and traders. Primary elements of the PID were rehabilitation of the health quarantine system for Somali cattle, improvement of the private sector fodder production and livestock transportation industries and other market-related infrastructure, and a proposal to initiate private sector animal drug importation and distribution.

At the Executive Committee for Project Review (ECPR) meeting on February 15, the PID was approved, but the scope of the project was narrowed to include only elements designed to directly assist Somalia in meeting the Saudi conditions for the quarantine of cattle for export. (See PID review message, Annex A).

A design team was assembled by the Mission to prepare the PP under the foregoing guidance. It included a USAID Project Development Officer, Livestock Development Officer, Veterinarian, AID/W Economist, REDSO/ESA Livestock Economist, Engineer, Legal Advisor and Environmental Officer, MLFR representatives (the Director General, Assistant Director General, and Director of the Department of Animal Health of the Ministry of Livestock, Forestry and Range and Director of the Livestock Marketing Division of the National Range Agency) and contract experts in project design, animal health and sociology.

## B. Other Livestock Projects in Somalia

### 1. Earlier Projects

Six major projects have been carried out to improve livestock marketing and health in Somali. These are the British Veterinary Team (ODA: 1969-72), the Interriverine Development (EEC: 1969-78, JF-15 Vaccination Campaign (Pan-African Rinderpest Program: 1970-75), the Trans-Juba Project (IDA: 1974-81) the Northern Rangelands Development Project (Kuwait Fund: 1976-81), and the Veterinary Laboratory at Kismayo (GTZ: 1977-82).

Factors limiting or preventing success of many of these projects included dependence of the projects on large scale construction programs, poor management and supervision at field level, and the inability of the Somali Government to fund project activities after the end of external assistance. Another cause of failure was the attempt by some of the projects to intervene in traditional production patterns. The approach planned for this Project does not substantially alter the marketing system which existed before the ban on shipment of cattle to Saudi Arabia.

### 2. Ongoing Livestock Health Projects

Four projects are now in progress in Somalia providing assistance to livestock health. The Bay Region Agricultural Development Project is a multi-donor effort with a veterinary component funded by USAID designed to upgrade veterinary services in the Bay Region. To date, some progress has been made in reorganizing the veterinary service, distributing drugs, and initiating a vaccination campaign. The Bay Region Agricultural Project is scheduled to continue until September 1985.

The Tsetse Fly Control Project has received support from the ODA since 1977. Progress in brush clearing and spray trials indicate that eradication of the tsetse flies is possible in Somalia. The Tsetse Fly Control Project is scheduled to continue to 1986.

The Central Rangelands Development Project is another multi-donor project, with a veterinary component financed by the Federal Republic of Germany. The German Technical Assistance team of veterinarians will work in the regions of Galgadud, Mudug, and Hiran. The Central Rangelands Development Project will continue to 1988.

The Serum and Vaccine Institute is supported by the UNDP/FAO. Technical assistance and limited supplies are provided to the Institute. Present assistance will continue to 1986 on a somewhat reduced scale.

The Livestock Marketing and Health Project will supplement activities to existing programs. It will not duplicate any efforts presently being undertaken.

### 3. Proposed Projects

Two major projects have been proposed for aiding the Somali livestock industry. IFAD is preparing a project to provide livestock health services in the Northern Rangelands area as a follow-on to the veterinary component of the original Northern Rangelands Development Project. Estimated cost is \$12 million over its 4 year life. In addition, the ODA has expressed interest in rehabilitation of the Hargeisa Laboratory as a focus for outreach veterinary services in the area. The Livestock Marketing and Health Project will not duplicate any of these proposed activities.

#### C. Project Objective

The goal of the Project is to support the expansion of Somali livestock exports and foreign exchange earnings and to increase the income and welfare of the Somali people over the next decade. Project purposes in furtherance of its goal are (1) to restore the contribution of cattle exports to the Somali balance of payments and (2) to lay the conceptual basis for a broader approach to strengthening the Somali livestock industry. The major outputs of the Project will be (1) establishment of an effective quarantine system for export cattle, utilizing the quarantine and other facilities constructed under the Project, (2) provision by the private sector of trucking services and fodder adequate for exports of quarantined cattle, (3) execution of quarantine and marketing-related changes in policy, organization and finances by the GS DR, and (4) completion of the project-financed studies.

#### D. Project Elements

The project includes three major elements: 1) quarantine and animal health, 2) private sector trucking services and fodder production, and 3) surveys and studies for long-term planning.

##### 1. Quarantine and Animal Health

In order to address Somalia's immediate marketing concerns, the Project will concentrate on upgrading quarantine and related export

facilities to meet international trade requirements and on improving the health programs for cattle exports. A number of changes in earlier Somali cattle export practices will be included: 1) A major new requirement will be the pre-quarantine vaccination and health inspection of all cattle intended for export, the individual identification (eartagging) of these animals, and the issuance to their owners of a certificate of quarantine eligibility. 2) A second new requirement is the revaccination of export cattle upon their admittance to a quarantine holding station, their treatment for external parasites and other diseases, provision of water and fodder, and their isolation from other animals and animal products for a period of at least twenty-one days. 3) A third necessity is the movement of the animals to the port and to the carrier in a manner which avoid their exposure to animal diseases.

(a) Physical Facilities (\$2,965,000)

To meet these requirements, the Project will finance the construction of quarantine pens and related facilities at collecting areas within access of each of the country's three major livestock export ports - Mogadishu, Berbera and Kismayo. Each quarantine complex will be approximately one square kilometer in size and will have the capacity to hold and isolate up to 20,000 head of cattle. They will be equipped with watering facilities, isolation pens, shade structures, cattle dips, squeeze chutes, and staff facilities. In addition, selected improvements or additions will be carried out at the marshalling yards at the three ports themselves to facilitate the orderly movement of cattle prior to loading.

(b) Technical Assistance for Facilities Design (\$132,000)

Before construction of the facilities is undertaken, an engineer and quarantine specialist will be recruited to finalize their design. Later, the engineer will return to help USAID and the MLFR monitor construction.

(c) Animal Health Services Technical Assistance (\$1,482,000)

Technical assistance to the Somali animal health services will be required to make the new system work. A senior US veterinarian will be posted as advisor to the Manager of the proposed Livestock Quarantine Unit (within the MLFR Department of Animal Health) to advise on export-related animal health measures across the board. The advisor will especially focus on identifying the organization and management measures needed to implement the vaccination and quarantine system and to help senior Ministry personnel to monitor their execution. The senior veterinarian will be assisted by another veterinarian and an animal husbandman, both with strong, practical field experience. The second veterinarian will help implement new health procedures in the field and the animal husbandman will assist in the management of (and provide training for managing) the quarantine facilities. Both would assist the three quarantine station supervisors and their staffs with the operation and management of the three quarantine areas and port livestock facilities. Their arrivals will be coordinated with the schedule for the construction of these facilities.

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(d) Animal Health Supplies and Equipment (\$1,065,000)

The Project will furnish drugs, vaccines, supplies and equipment to the quarantine stations for implementation of pre-quarantine and quarantine vaccination of export cattle. Limited material support will be given to the Serum and Vaccine Institute (SVI) in Mogadishu to assure adequate supplies of rinderpest and other vaccines. Essential inputs of equipment and supplies will also be provided to the Kismayo Veterinary Laboratory and the Central Diagnostic Laboratory in Mogadishu to maintain their capability to provide diagnostic support for the quarantine system. (It is anticipated that other donors, particularly IFAD and ODA, will assist the Burao and Hargeisa Laboratories).

(e) Training (\$129,000)

Training will be an important aspect of the Project. A major responsibility of the animal health and quarantine advisors will involve on-the-job training of senior and regional officials of the proposed Livestock Quarantine Unit. Three in-country workshops will be held. A number of MLFR officials will also be sent abroad for academic training (e.g. agricultural management) or short-term specialized courses (e.g. quarantine systems). In addition, training in agricultural economics, management, marketing and export promotion will be made available to staff members of the MLFR's Department of Planning, Training and Research.

2. Livestock Investment Fund

(a) Financing (\$2,000,000)

A second major element of the Project is to help the private sector to adjust to the requirements of increased fodder production and increased use of truck transport. The Project will establish a Livestock Investment Fund of up to \$2 million which can be utilized for the purchase of equipment related to the export of quarantined cattle - e.g. cattle trucks, equipment for fodder farms, etc. To the extent possible, the USAID will utilize resources from U.S. Government Excess Property for commodities purchased with the Livestock Investment Fund. Project funds will be made available through an AID Bank Letter of Commitment with the Commercial and Savings Bank of Somalia as the approved applicant, to a representative cross section of farmers and traders at each of the three locations, using procurement and financing procedures already developed for the Commodity Import Program. For further details, see pages 35-36 in the Technical Analysis.

(b) Technical Assistance (\$315,000)

Guidance on the allocation of these funds among individual farmers and entrepreneurs and advice on the kinds of items to be ordered will be the responsibility of a private enterprise advisor who will be

located in USAID. In addition, this specialist will provide on-the-spot assistance to farmers and traders dealing with fodder production and storage. Another aspect of this advisor's assignment will be to monitor the utilization of the Livestock Investment Fund and the profitability of the investments made so that these data can be used subsequently in guiding the design of a possible longer term assistance program to the livestock sector.

### 3. Studies and Surveys (\$626,000)

The third element of the Project is a series of studies designed to gain a better understanding of the characteristics, trends and potential of the Somali livestock industry to serve as the empirical and conceptual base for a longer term program. As noted below, the data gathering program will include two marketing studies, an in-depth social analysis, a feasibility study, and a user fee study.

#### (a) Livestock Marketing Study

This will be a detailed survey on how the livestock system operates in Somalia. It will concentrate on how livestock is marketed, the role of credit, the effect of government regulations (including foreign exchange controls) and taxes, response of the system to drought, and the particular characteristics of the three major geographic regions. Particular attention will be paid to constraints (and opportunities) that might be addressed through future interventions, especially with the private sector. The study will be carried out in cooperation with the Department of Planning, Training and Research of the MLFR.

#### (b) Export Marketing Study

The study will be a six month appraisal of ways in which Somalia can improve its competitive position in existing markets and the potential for penetrating new markets in the Middle East and elsewhere. It would also examine Somalia's potential for diversifying into other livestock products, primarily frozen or processed meats.

#### (c) Social Dynamics of Somali Livestock

The study will involve a second in-depth analysis of the livestock system, this time from a social perspective. The study will describe the role of each major group of participants, particularly herders and traders. The analysis will investigate pastoralists' perceptions of, demand for, and participation in Government-sponsored animal health and marketing programs. In addition, the study will identify constraints to effective implementation of MLFR programs at the pastoralist level. As with the marketing study, the research will seek to identify problems that might be susceptible to project interventions.

(d) Feasibility Study

The study of 3-5 months will examine the marketing, economic and technical feasibility for a Somali drug formulation and packaging enterprise in the private sector. It will also examine the possibility of animal drug importation and distribution by the private sector and the potential regulatory role of the Government.

(e) User Fees Study

A study will be conducted by an economist and an official of the Ministry after tenders for construction of the quarantine facilities have been submitted. The study will determine an initial estimate of the costs of operating and maintaining the proposed quarantine facilities (including vaccines and medicines) and the schedule of fees that should be charged to traders to finance such costs based given assumptions as to volume of exports. In addition, procedures will be established for conducting periodic reviews and adjustments of the fee schedule. The study will also develop procedures for management of the revolving fund.

4. Other Project Elements

(a) Project Evaluations (\$63,000)

Two evaluations of the Project will be carried out. These are fully discussed in the Evaluation Plan (Section B.0).

(b) Commodities for Technical Assistance (\$115,000)

The technical assistance will require various commodities to carry out their work. These include vehicles, office supplies, a computer for data processing, and field equipment (e.g. camping equipment and weighing scales).

(c) Support for Technical Assistance (\$307,000)

The technical assistance will also require other types of support to carry out their work. These include funding for travel (\$107,000) and for logistics (\$200,000). The latter will be provided by USAID's Field Support Unit.

(d) The Project also includes funding for contingencies and inflation (\$1,801,000 - see Section 3.0).

### 3.0 COST ESTIMATE AND FINANCIAL PLAN

The Livestock Marketing and Health project involves an AID contribution of \$11 million and a GSDR contribution of \$5.5 million. The latter will be made available through local currency generations from the Commodity Import and PL-480 Programs.

AID grant funds will finance over twelve person years of long-term technical assistance at an estimated cost of approximately \$2.3 million. Of this investment, approximately 7.5 person years will be devoted to animal health, over two person years to field studies and 2 person years to private enterprise activities. An additional \$3.0 million will be used to finance the construction of the three quarantine stations (Berbera, Mogadishu, and Kismayo) as well as improvements for the marshalling yards at the ports themselves. (\$147,000 will also finance the final design of these facilities.)

\$2 million in AID funding will be allocated to the Livestock Investment Fund to assist traders and farmers to purchase transport and fodder production equipment and supplies. A total of \$1.1 million will be used for the purchase of drugs, vaccines and animal health supplies as well as equipment for the regional diagnostic laboratories and the Serum and Vaccine Institute. An amount of \$129,000 has been allocated for short and long-term training and \$194,000 for short-term studies and consultants. Finally \$1.8 million has been budgeted for inflation and contingency (estimated at 7% and 2% respectively, except for construction, where the contingency factor is 20%).

GSDR funding will be used to pay for local costs as well as "off the shelf" imported items that are available locally. \$2.3 million equivalent (at the current official exchange rate) will finance infrastructure (roads, shops, warehouses, offices) related to the quarantine stations and the Serum and Vaccine Institute. \$1.7 million equivalent will be devoted to equipment maintenance, the costs of fuel for running the vaccination and quarantine programs and for three vehicles, and for travel.

\$69,000 equivalent will finance the salary supplements and travel for the staffs at the three station while \$80,000 equivalent will be needed for office and laboratory furnishing. \$34,000 equivalent has been allocated for environmental and construction monitoring and \$360,000 equivalent for the housing of long-term experts. The balance (about \$1.8 million) has been set aside for inflation and contingency.

A detailed explanation of the procedures used to arrive at the cost estimates for the various components of the budget is contained in Annex I. A detailed budget of AID and GSDR contributions to the Project is contained in Annex K.

Table 1

SUMMARY COST ESTIMATE AND FINANCIAL PLAN  
(USAID- \$000, GSDR - \$000 equivalent)

<u>Source</u>	<u>AID</u> <u>(FX)</u>	<u>GSDR</u> <u>(LC)</u>	<u>Total</u>
<b>1. Technical Services</b>			
<b>A. Long-term Personnel</b>			
Senior Veterinarian	593		593
Junior Veterinarian	494		494
Quarant. Mgr/Trainer	395		395
Livestock Mktg Analyst	158		158
Social Scientist	315		315
Private Enterprise Adv.	315		315
Counterparts and Staff		46	46
Field Support Unit	200		200
Housing		364	364
<b>B. Short-term Personnel</b>	<u>285</u>	<u>44</u>	<u>329</u>
<b>Total</b>	<b>2755</b>	<b>454</b>	<b>3209</b>
<b>2. Quarantine Construction</b>			
Commodities	2405	1828	4233
Construction Contractor	560	60	620
Construction Labor		388	388
<b>Total</b>	<u>2965</u>	<u>2276</u>	<u>5241</u>
<b>3. Livestock Investment Fund</b>	<b>2000</b>		<b>2000</b>
<b>4. Commodities</b>			
Vehicle & Spares	90	54	144
Computer	11		11
Furniture Office Supplies	8	96	104
Field Equipment	6		6
Quarantine Operating Supplies	606		606
Lab Equipment	100		100
Quarantine Farm Equipment	359		359
<b>Total</b>	<u>1180</u>	<u>150</u>	<u>1330</u>

<u>SOURCE</u>	<u>AID</u>	<u>GSDR</u>	<u>TOTAL</u>
<hr/>			
5. Training and Evaluation			
Training	129		129
Evaluation	63		63
Total	<u>192</u>		<u>192</u>
6. Support Costs			
Fuel		736	736
Vehicle and Equipment			
Maintenance		900	900
Travel	107	23	130
Total	<u>107</u>	<u>1659</u>	<u>1766</u>
Total all components	9199	4539	13738
Inflation (7% cpd)	1144	711	1855
Contingencies	<u>657</u>	<u>229</u>	<u>886</u>
Grand Total	11000	5479	16479

Table 2

## COSTING OF PROJECT OUTPUTS/INPUTS

(\$1000 or equivalent)

Project Inputs	Quarantine Construction	Quarantine Operations	Drugs & Vaccines	Upgrading of Labs	Studies Priv. Sector Advisor	Total	%
AID							
Personnel Costs	302	1827			112	3241	29%
Equipment and Supplies	3175	416	752	116	18	4477	41%
Operating Expenses	598	252			204	1054	10%
Livestock Invest. Fund		2000				2000	18%
Training		144				144	1%
Evaluation	28	36	6	1	13	84	1%
<b>Total</b>	<b>4103</b>	<b>4675</b>	<b>758</b>	<b>117</b>	<b>1347</b>	<b>11000</b>	
%	37%	43%	7%	1%	12%	100%	
GSDR							
Personnel Costs	489	43		11	48	591	11%
Equipment and Supplies	2146	65				2283	42%
Operating Expenses		2169		72	436	2605	47%
<b>Total</b>	<b>2635</b>	<b>2277</b>		<b>83</b>	<b>484</b>	<b>5479</b>	
%	47%	42%		2%	9%	100%	
<b>GRAND TOTAL</b>	<b>6738</b>	<b>6952</b>	<b>758</b>	<b>200</b>	<b>1831</b>	<b>16479</b>	
%	41%	42%	5%	1%	11%	100%	

Table 3

PROJECTION OF EXPENDITURES BY FISCAL YEAR

(\$1000 or equivalent)

<u>AID</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>	<u>Total</u>
Personnel Costs	80	548	1149	767	354	2898
Equip. & Supplies	183	1137	1799	202	152	3473
Operating Expenses	65	274	258	33	6	636
Livestock Invest. Fund	125	562	750	563	0	2000
Training	18	68	39	3	1	129
Evaluation				16	47	63
<b>Total</b>	<b>471</b>	<b>2589</b>	<b>3995</b>	<b>1584</b>	<b>560</b>	<b>9199</b>
+ Inflation	25	217	495	246	161	1144
+ Contingencies	48	253	332	16	8	657
<b>Grand Total</b>	<b>544</b>	<b>3059</b>	<b>4822</b>	<b>1846</b>	<b>729</b>	<b>11000</b>
<b>GSDR</b>						
Personnel Costs	6	135	311	15	11	478
Equipment & Supplies	479	1463	90	4	2	2038
Operating Expenses	2	99	485	813	623	2022
<b>Total:</b>	<b>487</b>	<b>1697</b>	<b>886</b>	<b>832</b>	<b>636</b>	<b>4538</b>
+ Inflation	34	135	146	204	198	717
+ Contingencies	24	84	44	41	32	225
<b>Grand Total:</b>	<b>545</b>	<b>1916</b>	<b>1076</b>	<b>1077</b>	<b>865</b>	<b>5479</b>
Planned Obligation Schedule for AID	2000	4000	4000	1000		1000

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Table 4

METHODS OF IMPLEMENTATION AND FINANCING  
LI ESTOCK MARKETING AND HEALTH

Type of Assistance and Method of Implementation	Method of Payment	Amount (US \$1000)
<u>Technical Assistance</u>		
Long-term PASA	Direct Pay	1832
Other Long-term	Direct Pay	929
Short-term Contract	Direct Pay	331
Field Support PSC or Contract and Purchase Orders	Direct Pay	225
<b>Total Technical Assistance:</b>		<b>3317</b>
<u>Commodities</u>		
AID Procurement - PSA (Vehicles, Computer, Office Supplies and Equipment)	Bank and Direct L/Com	124
Host Country PSA Quarantine Supplies Lot Equipment	Bank and Direct L/Com	1495
<b>Total Commodities:</b>		<b>1619</b>
<u>Quarantine Construction</u>		
AID Direct Contract for Construction	Direct L/Com (Probably 941 source necessitating Direct L/Com)	
Quarantine Construction Materials through AID Direct Contract	Same as above	
<b>Total Quarantine Construction:</b>		<b>3919</b>
<u>Fraining</u>		
Placed by SER/IT or USDA		145
<u>Livestock Investment Fund</u>		
Host Country Procurement of equipment and trucks through CIP-type mechanism	Bank L/Com	2000
<b>Total Project:</b>		<b>11000</b>

#### 4.0 IMPLEMENTATION AND MONITORING PLAN

##### 1. Implementation Responsibilities

Overall responsibility for implementation of the Project rests with the Ministry of Livestock, Forestry and Range. Although various offices of USAID/Somalia and AID-provided technical assistance will certainly play a large role in assisting implementation, final responsibility must lie with the MLFR, since it is their Project.

As described in the Administrative Analysis, various offices within the Ministry will implement the Project, with overall supervision by the Director General. Since most of the Project deals with cattle quarantine, most implementation activities will take place within the new Livestock Quarantine Unit. Activities concerning the Livestock Marketing Analyst and Social Scientist will be implemented out of the Department of Planning, Training and Research. Limited procurement will be done by the Serum and Vaccine Institute.

In addition, the MLFR will have to work with other Somali government agencies to implement the Project. Most important is coordination with the Ministry of Finance to obtain shillings from the CIFL account for financing local currency costs. The Ministry will also have to work with the Special Committee to review applications for foreign exchange financed by the Livestock Investment Fund. Moreover, the Ministry will have to coordinate with the National University and Environmental Advisory Committee to monitor the environmental impact of the Project.

##### 2. Contracting

Since the MLFR's administrative capabilities are not yet at the requisite level for administering host country contracts, all contracting under the Project will be direct AID. USAID has determined that a FASA with the USDA will give access to the best-qualified candidates for the positions of the three long-term health advisors. These people should have a strong background and experience in the design of animal health regulations and management and operation of quarantine facilities in developing countries. Since quarantine system regulations and operation are primarily a government function, supervised in the U.S. by the USDA Animal and Plant Health Inspection Service, Mission feels that USDA employees will be best qualified for these positions. The other three long-term positions, as well as most short-term technical assistance, will be recruited by a contractor selected from firms qualifying under Section 8-A of the Small Business Administration Act. Individuals for all of the above positions will be selected from resumes received by the MLFR with the agreement of USAID/Somalia. Since it is essential that the final design of the quarantine facilities be undertaken as quickly as possible, contracting for this will be through either a FASA or IQC.

Since the Saudi ban on cattle imports is now in place and causing serious economic consequences, timely construction and operation of the quarantine facilities is the central thrust of the Project. Therefore, not only must the design be finalized quickly, but their construction must be done quickly and correctly. To accomplish this, the Project will fund construction of the facility on a turn-key basis (using a Direct Letter of Commitment) where the contractor takes charge of all procurement, hiring of local labor, and construction. AID will pay for the construction under a fixed price contract. A direct AID contract will be awarded to the firm selected by USAID with MLFR concurrence. Costs of construction will be developed in detail by the contract quarantine station design team and a locally-recruited Somali engineer in consultation with the MLFR. It is anticipated that advertising for the construction contract will be done in the U.S., Somalia and Kenya.

### 3. Procurement

Except for commodities necessary for quarantine construction, all procurement involving dollars will be done either directly by AID or through a procurement services agency from U.S. or 241 sources. Vehicles, tractors, drugs and vaccines must be procured from the U.S. MLFR procedures will apply to procurement paid from the GSDR shilling contribution. A procurement action schedule and illustrative commodity list in Annex F provide more detail on AID-funded procurement. Procurement of items purchased through the Livestock Investment Fund will be modeled on procedures used for the Commodity Import Program. That is to say, traders and farmers wishing to utilize Fund resources (or importers on their behalf) will prepare applications for letters of credit (including pro forma invoices from three or more suppliers) for review by a Special Committee similar to the one that serves the CIF. Upon approval, applicants will be required to deposit into a special account an amount equivalent to the value of the purchase. Thereafter, procurement will follow normal international commercial practices.

### 4. Project Organization and Management - Monitoring Plan

Overall responsibility for implementing the Project rests with the MLFR, although USAID/Somalia will play a large role in assisting the Ministry in supervising and monitoring the Project. A Project Officer (PO) in USAID's Agriculture Development Office will be appointed and will work closely with the Director General of the MLFR, the head of the Animal Health Department, and the chief of the new Livestock Quarantine Unit in coordinating the various Project components. With the help of an assistant, the Project Officer shall review all Project-related documents and reports, generally supervise the Project's progress, and keep Mission management apprised of Project developments. An important aspect of the PO's responsibility will be to monitor GSDR progress on the Conditions Precedent and Covenants included in the Grant Agreement.

Quarantine facilities will be designed by a contract team selected by USAID in consultation with the MLFR. A Somali engineer will also be contracted to work with the design team and later to supervise construction. The MLFR staff will work closely with the design team in site selection, planning the facilities and checking on progress. The Project will also draw upon the resources of USAID's Office of Engineering (ENG). At the PO's request, ENG will be available to assist the Somali engineer in working with the contract design team, selection of a contractor for construction, and monitoring and final approval of the constructed facilities. The MLFR will be a party to the final approval of the completed facilities.

Three animal health/animal husbandry advisors will be selected by the MLFR and USAID to advise the MLFR on establishing the new Livestock Quarantine Unit, designing quarantine policies and regulations, and management and operation of the quarantine stations. These people will work closely with their counterparts in the Livestock Quarantine Unit under supervision of the Director of the Animal Health Department and the Director General of the MLFR and will also look to the PO (through their chief of party, the Senior Veterinary Advisor) for guidance by USAID. The PO will assist them, as needed, on Project matters and will work with their counterparts and supervisors in the MLFR in monitoring and evaluating their performance.

The PO will work with the MLFR Department of Planning, Training and Research in designing and supervising the studies element of the Project which will include two long-term surveys and two or more short-term studies, all of which will be conducted under contract. USAID will select contractors in agreement with MLFR, and the Ministry will work with the contractors in designing and carrying out the studies. The contractors will work closely with their counterparts in the Department of Planning under general supervision of the Director General of the MLFR. They will also work with the SMO and FEA to coordinate studies with the private sector component of the Project. The PO will work with the Director General of the MLFR in monitoring and evaluating the performance of the contractors.

The Supply Management Officer (SMO) will have general responsibility for establishing and supervising the operation and functioning of the Livestock Investment Fund and for staying in touch generally with private sector developments as they apply to cattle exports.

The SMO will work with appropriate Somali agencies in establishing the Livestock Investment Fund. The SMO will see to it that the Fund operates in accordance with the procedures set forth in the Project Paper. The SMO will brief traders and farmers on the Fund and will visit various parts of the country to explain its purposes and procedures. The SMO will assist farmers and traders in preparing applications for the use of Fund resources. The SMO will serve as the USAID representative on the Special Committee and its subcommittees (see Annex H on Livestock

Investment Fund). The SMO will monitor the operation of the Fund and evaluate its impact on farmers and trader behavior. The SMO will keep the PO currently informed on Fund activities and on significant problems and accomplishments.

The Private Enterprise Advisor (PEA) will assist the SMO across the board on private sector activities related to the Project. Specific activities of PEA are included in Annex J.7.

With the assistance of the SMO and the Assistant Project Officer, the PO will prepare quarterly reports on the Project. The PO will use these materials as a means of checking actual implementation against that foreseen in the PP's implementation plan. The PO will supplement such information through site visits, meetings with Project participants, etc.

The Project Development Office (PDO) will provide general back-stopping services to the PO and will exercise an overall monitoring responsibility for the Project. The PDO will be responsible for arrangements relating to the evaluation of the Project. (See Section 8.0 on evaluation arrangements) and for heading up the evaluation exercise.

## 5. Implementation Schedule

Since it becomes more difficult to plan and forecast the future as the future becomes further off, the Project implementation schedule is developed in greater detail for earlier activities than later ones. Greater precision earlier on also has the advantage of tightening Project implementation over the life of Project, since later activities depend on timely execution of earlier ones.

The detailed implementation schedule in Annex F shows the timing of each Project activity, organized by component. It also indicates which GSDR or USAID (or AID/W) office is responsible for implementation of the activity. Given below is a scheduling of major Project activities.

SCHEDULE FOR MAJOR PROJECT IMPLEMENTATION ACTIVITIES

<u>Activity</u>	<u>Timing</u>	<u>Responsible Office</u>
1. ProAg	7/84	AGR, PROJ, MLFR
2. Initial CPs met	9/84	AGR, MLFR
3. Final design of quarantine facilities	10/84-12/84	AGR, ENG, MLFR
4. User Fees Study	12/85-2/86	AGR, MLFR
5. Revolving Fund established	5/86	AGR, MLFR
6. Private Sector Advisor on board	1/85-12/86	AGR, SMO, MLFR
7. Livestock Investment Fund established	10/84-12/84	SMO, MLFR, CSB
8. Equipment for quarantine operations ordered	3/85	AGR, LQU
9. Drugs, vaccines, lab equipment ordered	3/85	AGR, SVI
10. Quarantine facilities constructed	7/85-6/86	AGR, ENG, LQU
11. Senior veterinarian on board	7/85-6/88	AGR, LQU
12. Junior veterinarian on board	1/86-6/88	AGR, LQU
13. Quarantine manager/trainer on board	1/86-12/87	AGR, LQU
14. Livestock Marketing Analyst on board	7/85-6/87	AGR, PTR
15. Social Scientist on board	7/85-6/87	AGR, PTR
16. Domestic Marketing Study	10/85-9/86	AGR, PTR
17. Social Dynamics Study	9/85-8/86	AGR, PTR

18. Drug purchasing formulation distribution study	4/85-6/85	AGR, LQU
19. Market diversification study	4/85-9/85	AGR, PTR
20. Quarantine equipment arrives	3/85	AGR, LQU
21. Drugs, vaccines arrive	3/85	AGR, LQU
22. Quarantine system operational	7/85	AGR, ENG, LQU
23. Long-term participant training	1/85-12/85	AGR, PTR
24. Mid-term evaluation	7/86-9/86	PROJ, AGR, MLFR
25. Final evaluation	4/88-6/88	PROJ, AGR, MLFR

KEY

- MLFR - Ministry of Livestock, Forestry and Range
- SVI - Serum and Vaccine Institute
- LQU - Livestock Quarantine Unit
- PTR - Planning, Training and Research Department
- CSB - Somali Commercial and Savings Bank
- AGR - Office of Agriculture, USAID
- ENG - Office of Engineering, USAID
- SMD - Supply Management Office, USAID
- PROJ - Project Development Office, USAID

## 5.0 TECHNICAL ANALYSIS

The proposed Project is primarily directed at preparing cattle for export through vaccination, quarantine and certification of health to meet Saudi conditions for lifting the ban on importation of cattle into Saudi Arabia. In conjunction with this will be assistance to the private sector in fodder production and livestock transportation to support the quarantine system.

### Proposed Quarantine System

#### 1. Pre-quarantine Vaccination

The Somali Veterinary Service has recently initiated a nationwide vaccination program, primarily against rinderpest in cattle. Twenty-five new vaccination teams have been fielded, with the ultimate goal of vaccinating all cattle in Somalia. While progress is being made, the program is handicapped by fuel and equipment shortages, weather conditions which limit field work, and occasional refusal of stockowners to have their animals vaccinated. In addition, problems in field storage and transport facilities for vaccines sometimes raise the question of the effectiveness of the vaccinations.

As part of this Project, it is proposed that a pre-quarantine vaccination and inspection be done by teams from the quarantine stations. When a trader collects a group of cattle for export, he will notify the quarantine station supervisor. The supervisor will send a team led by a veterinarian, which will inspect the animals and reject for quarantine any which are in poor condition or showing signs of diseases. (Sick animals will be referred to the regional or district veterinary service for any treatment necessary). After inspection, animals will be vaccinated for rinderpest and other appropriate diseases, depending on the origin of the animals and season of the year, and each animal will be given a numbered, tamper-proof ear tag. A certificate of quarantine eligibility will be given the owner of the cattle, naming the owner, listing cattle ear tag numbers issued, vaccinations given, and the veterinary officer's signature and date. The cattle will then be moved by foot or truck to the quarantine station, preferably arriving within 7 to 21 days after vaccination.

Pre-quarantine inspection and vaccination is part of the quarantine process but is not part of the 21-day quarantine period. It serves two purposes: it provides an opportunity to observe animals and accept or reject them for quarantine, and it allows the animals time to build up immunity to diseases for which they are vaccinated while en route to the quarantine station. Since animals arriving at the quarantine station have already been inspected, vaccinated and identified, this reduces both the work and time necessary for admission at the station and the chances of an outbreak of disease in the quarantine station.

There are several reasons why the pre-quarantine vaccination should be done by teams which are part of the permanent quarantine station staff rather than leaving pre-export vaccination to the Regional Veterinary Service as is done now. First, vaccination teams will work under control of the quarantine supervisor, who will be responsible for training vaccinators in proper handling and administration of the vaccine and for monitoring the performance of the teams. As part of the Project, the MLFR will furnish fuel and transportation for the teams. Vaccination supplies and logistic support will be supplied by the Project. Priority will be given to the quarantine stations for receiving necessary vaccines from the Serum and Vaccine Institute, and the quarantine station personnel will be responsible for transport and storage of the vaccine to assure its potency. Quarantine station ear tags will be controlled only by quarantine station personnel and will be issued only on vaccination of the animals. Finally, scheduling of pre-quarantine vaccination and admission to quarantine will be under the direction of one person, the quarantine station supervisor.

Under the Project, the expatriate quarantine operations advisor, (feedlot advisor) and the quarantine health advisor will work with the quarantine station supervisor to establish vaccination procedures, including selection, handling and administration of vaccine, inspection and identification of animals, and scheduling of vaccination. A system will also be established for receiving supplies of vaccine from the central stores in Mogadishu.

The Serum and Vaccine Institute (SVI) in Mogadishu is responsible for production of rinderpest and most other vaccines needed for the quarantine station. Quarantine stations will be given priority in receiving necessary vaccines, and the quarantine station staff will have to coordinate with the SVI to assure that supplies of vaccines are produced at appropriate times. Delivery of vaccines to the quarantine stations will be done or monitored by the quarantine staff to assure the arrival of a viable product. It is anticipated that foot-and-mouth disease vaccine is the only biological which will have to be imported for the quarantine system.

## 2. Quarantine Program

(a) Present Situation: Until the ban on shipment of cattle to Saudi Arabia in May 1983, Somali law required that cattle be vaccinated against rinderpest, CBPP, and anthrax and wait for a 14-day "quarantine" period before export. While government-operated holding grounds exist, these are not designed to hold animals in strict isolation and do not meet International Zoo-Sanitary Code regulations. Also, since these holding grounds were not operated as quarantine stations and animals were not required to be in them for any specific period, many animals were simply vaccinated and held on the range until shipment.

In addition to the lack of a strict quarantine system, pre-export vaccination was often irregular, with animals being vaccinated with whichever vaccines were available at that time. Lack of transport for vaccination teams and problems with distribution of vaccines to regional veterinary offices contributed to unreliability of the vaccinations.

(b) Project Quarantine Facilities: Under this Project, a strict quarantine system will be established. New "feedlot" type quarantine stations will be constructed to replace the present large grazing-system holding grounds. The decision to build smaller units, which will require all feed to be provided from outside, was based on a number of factors. Adequate fencing for the grazing-type stations would be very expensive, and even with the large (10 x 20 km) area enclosed, calculations of potential forage produced in the stations vs. the number of animals passing through the stations showed that additional supplies of fodder would have to be brought in if the land were not to be denuded. In addition, the large area enclosed would be more difficult to patrol and more costly to maintain in terms of length of fence line and potential conflicts with stockowners over land use.

With drylot or feedlot type quarantine stations, initial capital investment is lower, and it will be easier to monitor the animals. The main problem anticipated is in providing adequate feed supplies, and the Project will be assisting the private sector in development of a fodder industry.

Development of a fodder industry would have potential benefits beyond operation of the quarantine station. Such a system would enable traders to space shipping of animals regardless of the season of the year, as feed could be stockpiled for use in dry seasons. It would enable traders to achieve a more uniform condition of animals being exported and would therefore provide incentive to improving the quality of animals.

In order to meet International Zoo-Sanitary Code conditions, animals in the quarantine station must be isolated from contact with any animals or animal products outside the quarantine group. Each quarantine station will be designed to accommodate up to 20,000 head of cattle in 100 pens of approximately 65,000 square feet and 200 head capacity each. This system will permit animals belonging to several traders or destined for different ships to be under quarantine at the same time. Pens will be double-fenced as necessary to prevent contact between animals in different stages of quarantine. Each pen will have shade areas and water and feed troughs.

Attached to the front of the quarantine yard will be an entry marshalling yard which will only be single-fenced and will be used to hold animals for dipping and vaccination prior to entering quarantine. In addition, the quarantine station will have an office, small laboratory facilities, garage and repair shop, warehouse, and other buildings as necessary for support of the staff. An isolation pen will also be built away from the quarantine paddocks to hold sick animals for evaluation and treatment. Moreover, dead animals will be disposed of in an area at least 500 meters away from the quarantine station in order to prevent contamination of healthy animals.

(c) Operation of Quarantine Program: On arrival at the quarantine station, the owner will present the Certificate of Quarantine Eligibility showing that the cattle have received pre-quarantine vaccination and inspection. Cattle will again be closely inspected by a quarantine station veterinarian for general health and condition and appropriate ear tags. They will be revaccinated for rinderpest, as required by Saudi demands, and treated for ectoparasites. Any animals which have lost their ear tags will be retagged. If desired, samples can be taken for laboratory analysis, such as testing immunity levels. Animals will then be assigned to the pens in the quarantine area.

Cattle will be inspected daily during the 21-day quarantine period by a staff veterinarian for signs of illness. Any which appear unhealthy will be removed to isolation for observation, further examination and/or testing and appropriate treatment. If necessary, animals may be treated again for ectoparasites during the quarantine period. Operation of the station will be under the direction of the quarantine station supervisor. Initially he will be assisted by the expatriate quarantine health advisor and feedlot advisor.

The quarantine supervisor will also control the pre-quarantine vaccination teams, which will be responsible for vaccination of animals during quarantine. Parasite treatment and daily observation of animals will be done by the quarantine station veterinarian and his staff of animal health assistants and laborers. The quarantine station supervisor will be responsible for care of the animals in quarantine, working with quarantine staff to maintain the facilities, including repair of fencing and maintenance of water systems and equipment. In addition, the supervisor will assure that manure and debris are cleaned from the pens between quarantine of each group of animals. As a Project covenant, the MLFR shall agree that this shall be done, with manure removed from the pens made available to private fodder producers supplying the quarantine stations. For this, the Project will supply livestock handling equipment, farm equipment for removal of manure and dead animals, and shop equipment and tools for maintenance of the station and its equipment. The MLFR will provide mechanics and technicians to service and repair this equipment.

Traders will be responsible for providing fodder for their own animals in quarantine. They will be encouraged to stockpile sufficient fodder for their animals for the quarantine period before the animals are admitted to quarantine. Feeding will be done by unloading feed into feed troughs from a truck or wagon passing through alternate feed lanes in the quarantine pens. Although the traders will supply the equipment and labor for feeding, this will be under the supervision of the quarantine station manager who will enforce appropriate regulations concerning types of feed, cleaning of trucks and equipment, etc. Traders will be encouraged to share feeding equipment, when practical, to minimize outside traffic into the quarantine station.

At the end of the quarantine period, a Certificate of Export will be issued by the quarantine station supervisor, specifying tag numbers, dates of vaccination and treatments, and dates of quarantine. Animals will then be loaded onto trucks which are supplied by the traders but are inspected and/or licensed by the quarantine system to transport animals under quarantine to the port.

(d) Operation of the Quarantine Stations: The Project proposes creation of a new Livestock Quarantine Unit under the Department of Animal Health in the MLFR. The Manager of this unit will supervise a field operations office which will be responsible for management of the quarantine services at the three ports. Each quarantine station will be under the direction of a quarantine station supervisor, whose responsibilities will include maintaining records inventory, supervising maintenance of the facilities, vehicles and equipment, supervision of the pre-quarantine inspection and vaccination teams, and management of animals during quarantine. The field operations unit will also oversee the Port Veterinary Service, which will be responsible for management and operation of the marshalling and preshipping yards. The Port Veterinary Officer will be charged with final inspection and health certification of all animals passing through the port quarantine facilities.

### 3. Transport of Animals to the Port

Until now, there has been no strict quarantine of animals, except for a 2-day "quarantine" (resting) period at the port facilities before loading. Many cattle were trekked to the marshalling yards, especially during the rainy season, and cattle were walked from the marshalling yards to the port.

In order to maintain quarantine, cattle must not come in contact with non-quarantined animals or animal products during movement to the port. Cattle will be loaded on trucks at the quarantine stations and hauled to the marshalling yards. Trucking will be arranged by the traders using privately-owned vehicles, but inspection and/or licensing of the trucks will be done by the quarantine station supervisor and staff. The Project will assist the private sector in providing vehicles for transport of animals and feed for the quarantine system through financing from the Livestock Investment Fund. Trucks will be cleaned and disinfected, with equipment provided by the Project, at the quarantine stations under the supervision of the station manager.

At the port, cattle will be unloaded into the marshalling yard facilities. They will be held for 2 days, during which time they will be counted, fees and taxes collected, and each animal will be inspected to assure it has a quarantine system ear tag. The Certificate of Export will be endorsed by the Port Veterinarian, certifying that the cattle are "free from evidence of communicable disease and exposure thereto". The Port Veterinarian will inspect the wharf and ship to assure the area is cleaned of manure and other debris and disinfected as appropriate. At Berbera where the animals must travel across the city, they will be moved by truck to the preshipping yard. Marshalling yard facilities are located close to the wharf at other ports, and animals will be walked to the wharf and loaded on the ship.

Marshalling yard and preshipping yard facilities are essentially complete at all three ports. Minor inputs for a water system and a general expansion of the facilities are needed at Berbera.

### Design and Construction of the Quarantine Facilities

Before the quarantine stations and marshalling yards can be constructed, final designs are necessary for determining exact specifications, materials, and costs. Included in this will be design of water drainage systems to control water run off. In order that the facilities permit compliance with the International Zoo-Sanitary Code, the facility design team will include advisors in animal health and feedlot operation in addition to an engineer/architect with experience in quarantine or feedlot design.

Since the two holding grounds held by the NRA in the North (at Aroori and Qoloday) are unsuitably located as sites for quarantine stations serving Berbera port, it will be necessary for the design team to recommend a more appropriate site along the Hargeisa - Berbera axis. In order that the new site be chosen with both technical (e.g. water availability and run-off) and social (e.g. potential conflict over land use) criteria, a locally-recruited social scientist will assist the team.

For the purpose of reinstating cattle exports, construction of suitable quarantine facilities is the central thrust of this Project. In order that these facilities be designed as quickly as possible, the facility and design team will be recruited through a quick-contracting mechanism -- probably through an IQC or PASA. To assure that the facilities are built with minimal delay to exact specifications, a contractor will be chosen competitively. The contractor will handle commodity procurement, primarily from non-Somali sources. Local labor costs incurred by the contractor will be paid by the GSDR shilling contribution to the Project. That contribution is being financed by CIPL generations.

### Fodder and Transport Requirements of Proposed Quarantine System

The decision to proceed with the establishment of a quarantine system based on the enclosure of cattle in a drylot facility must be based, at least partially, on the answers to a number of questions about the availability of feed inputs. This section deals with questions about: a) how fodder will be provided under the quarantine system; b) the availability of fodder to support the expanded cattle quarantine program; c) the ability of Somali farmers and traders to produce the additional fodder requirements; d) the support the Project will provide for the production of fodder; and e) the impact of the system on transport requirements.

#### 1. Current Export System

Under the current export system the trader was responsible for providing all of the fodder inputs for his export herds, from the point of purchase on the open range to the external market. The export system

usually begins with one or more days of trekking the cattle from range sites to pre-marshalling points where the cattle are held overnight on their way to the final marshalling point at the port. In some cases the cattle may be trucked from a pre-marshalling point to the final marshalling point. At the final marshalling point, the cattle are normally rested for one to two days and then loaded on the ship. It usually requires two days to load a ship. The final activity of the process -- sea transport -- generally requires an additional four to six days. For example, cattle exports from Central Somalia to Jeddah, via the Mogadishu port, usually requires an average of ten days.

During trekking, fodder supplies which the trader has either produced or purchased from farmers, may be trucked in to the pre-marshalling or overnight points, or the traders may make arrangement to have access to grazing on private grazing reserves or enclosures, which are often established along trekking routes. In any event, well in advance of the purchase and movement of an export herd, the trader will also have made arrangements to have timely inputs of fodder and water to include the requirements at the port for feed during the voyage.

## 2. Quarantine Requirements

Procedures under the Project will basically remain the same, with the exception of a quarantine requirement to be initiated at the final pre-marshalling point, which will be modified to become a quarantine facility. The quarantine requirement will add an additional twenty-one days of fodder requirements to the export process. In summary, fodder inputs per head will most likely be tripled. The additional fodder supplies will continue to be the responsibility of the trader.

## 3. Availability of Fodder

Assuming a daily maintenance diet of 9 kilograms of fodder per day and a 30 day quarantine-shipping period, each head of export cattle will require 270 kilograms of fodder to pass through the new process. If the requirement for export cattle fodder under the quarantine system is estimated on the basis of 1982 exports of 160,000 head -- the highest in Somali history -- then 43,200 tons of fodder would be needed annually. However, one-third of this requirement can be considered already in place, as the previous system required a ten day supply. Furthermore, as export cattle will now be taken off the range twenty-one days earlier, the net overall nutritional requirement changes only in form from forage to fodder. Such a change, in theory, will reduce the forage demand on the range and in turn may allow some of the additional rangelands to be managed or enclosed for the purpose of producing fodder for the cattle being held for quarantine and shipping.

## 4. Production of Fodder

Fodder production activities at present appear to be totally limited to rainfed conditions. Production is basically carried out by farmers who enclosed an area of land with a thorn bush fence. Harvesting takes place by hand clipping the grass two or more times a year. Storage of the fodder is by stacking in the field. However, at times it may move directly from the field to the export facilities.

Well in advance of their need traders alert farmers and send in their crews and trucks for harvesting and transport. As pointed out earlier, a limited amount of animal feed inputs are provided along trekking routes in the form of grazing reserves or enclosures. Maize fodder and/or other agriculture by-products may also be used by the trader, if they are available.

In order to meet the additional fodder requirements it is expected that the trader will work closely with the farmers to primarily expand the existing extensive system and secondarily may intensify fodder production activities through the addition of such inputs as fertilizer, seed, irrigation and mechanization. For the Northern and Central areas of Somalia such inputs would probably be limited to fertilizer and seed and perhaps light mechanization for harvesting. In the river areas of Southern Somalia, inputs could be expected to include irrigation. Storage and transport of the additional fodder inputs is not seen as a problem, since field storage is satisfactory with limited rainfall, and additional transport needs will be handled by the purchase of truck units. These trucks will be able to transport both cattle and fodder.

#### 5. Project Support to Fodder Production Activities

Although it is not clear at this time that the need for additional fodder inputs will require more than a simple expansion of the existing extensive system, the Project is including resources for the purpose of financing inputs such as those noted above to farmers and traders to support fodder production. In addition, the Project will also provide technical assistance by a Private Enterprise Advisor to assist the private sector on matters relating to fodder production. Such financing and technical assistance will help insure that there is an adequate supply of fodder to provide the additional fodder requirements necessitated by the quarantine system for as many as 160,000 head of cattle, the level reached in 1982.

#### 6. Project Support to Transport Services

The quarantine system will also necessitate changes in cattle transport procedures. Prior to the Saudi ban, cattle leaving the collecting grounds serving Kismayo and Mogadishu were trekked to the port areas for assembly prior to boarding. In the North, because of the distance between the collecting areas and the port of Berbera, and the intense heat and humidity along the coastal plain, cattle headed for Berbera were often transported to the port by truck. However, such transport has been complicated somewhat by shortages of large transport vehicles, many of which were reportedly lost or confiscated as a result of the 1977-79 hostilities.

Under the proposed system, cattle leaving the quarantine stations will be required to proceed to the ports free of contact with non-quarantined animals or animal products. Thus, traders will be required to truck their animals to the port marshalling yards for final assembly. In addition (as noted above) cattle assembled at the Berbera yard must also be trucked to the piers.

The net effect of the quarantine system will therefore be to increase the role of trucking as the method for the movement of cattle prior to export. The extent of the requirement will be mitigated by the relatively short distances to be traveled at Kismayo and Mogadishu and the fact that trucking is already practiced at Berbera. Nevertheless, in anticipation of the need for increased trucking services, the Project has earmarked resources of the Livestock Investment Fund for the import of cattle transport vehicles. The Private Enterprise Advisor will help truckers (or traders who do their own trucking) to evaluate their needs and how the Fund might help.

### Livestock Investment Fund

The Livestock Investment Fund will provide financing for cattle trucking and fodder production. It will be initially capitalized in the amount of \$2 million. The Fund will be used to help finance equipment and materials imports for the provision of transport services and fodder production necessitated by the quarantine and animal health procedures to be established for the export of cattle. Depending on circumstances and the availability of funds, Fund resources may also be used for other items related directly to the export of Somali cattle by the private sector.

The Fund will be administered by the Supply Management Officer (SMO) of USAID. The SMO will be assisted by a Private Enterprise Advisor who will be physically located in USAID. The advisor will report administratively to the SMO but will be responsible for maintaining close liaison with the Agricultural Development Office. One of the first tasks of the Private Enterprise Advisor (PEA) will be to formulate criteria (economic, social, geographic) for the use of Fund resources. Such criteria will be developed in consultation with USAID, the Project's social science and marketing experts, the Ministry of Livestock, Forestry and Range (MLFR) and Somali traders and farmers and their associations. Working with the SMO and one or more of the foregoing groups, the PEA will also develop the format and forms for making applications for the use of the Fund's resources.

Other initial tasks of the PEA will include: a) expanding USAID's commercial library on items likely to be purchased by the Fund, b) consulting with farmers and traders on fodder production and transport questions, c) providing technical assistance on applications for the use of Fund resources, d) facilitating the organization of a committee(s) to review such applications, e) participating in the review of applications, f) advising on equipment design and performance matters, g) providing technical assistance to fodder producers, h) monitoring the utilization of resources, and i) evaluating the return to farmers and traders on investment financed by the Fund and how such benefits have been distributed.

A guiding principle for the administration of the Fund will be to utilize to the maximum extent feasible the procedures already developed and being followed for the Commodity Import Program (CIPL). Accordingly,

AID's Standard Procurement and Financing Procedures, as set forth in AID Handbook 11, Chapter 3, will be followed. Dollar financing will be made available through a U.S. bank guaranty (letter of commitment) to the U.S. correspondent bank of the Commercial and Savings Bank of Somalia (CSBS), the approved applicant. Financing of all goods and services by the Fund will be effected by the issuance of letters of credit by the U.S. bank on behalf of importers who are purchasing imported items on behalf of farmers and traders. Suppliers will be paid for their sales upon presentation of the documentation stipulated in the letters of credit.

Importers acting on behalf of farmers and traders, or farmers and traders acting in their own right, will apply to the Ministry of Commerce for import licenses and approvals for the items which they wish to purchase. As part of their application, importers will need to provide pro-forma cost estimates from three or more suppliers. Importers will then apply for letters of credit to finance the transaction. As with the CIP, such applications will be made to a Special Committee made up of representatives of the Ministry of Finance, MLFR, USAID and representatives of the traders and farmers. To assure equitable geographic distribution of Fund resources, subcommittees of the Special Committee will be formed in Hargeisa and Kismayo and will be authorized to make preliminary reviews of applications from those areas. The Special Committee will carry out all final reviews. The Special Committee will give priority to applications for fodder production investments which propose recycling waste materials from Project quarantine facilities.

Upon approval of the letter of credit, purchasers will be required to deposit an amount in local currency equivalent to the value of the purchase (plus bank charges) into a special account at the CSBS which will be under the fiscal management of the CIFL Unit of the Ministry of Finance. These funds will be added to CIP and PL-480 generations to help finance AID's local currency program in Somalia.

## 6.0 SUMMARY OF ANALYSES

### 6.1 Administrative Analysis

The Ministry of Livestock, Forestry and Range (MLFR) is the agency of the GSDF responsible for certification of export livestock and will be the recipient of Project assistance in establishing an effective quarantine system for Somali cattle. The organization of the MLFR is shown in Table 1, Annex E.1. There are now two agencies within the MLFR which serve the livestock export industry: the National Range Agency and the Animal Health Department.

**NATIONAL RANGE AGENCY:** In 1966, the Livestock Development Agency (LDA) was formed as a parastatal agency to control livestock projects and marketing activities. The LDA was dissolved in 1981, and management of livestock export and marketing facilities was transferred to create the Livestock Marketing Facilities Division of another parastatal agency supervised by the MLFR, the National Range Agency.

**ANIMAL HEALTH SERVICE:** The Department of Animal Health presently controls veterinary activities in the 16 regions and 68 districts of Somalia. The Regional Veterinary Service is now responsible for vaccinating livestock, including that destined for export. Problems such as transportation and fuel shortages, unreliability of distribution and transport of vaccine, and poor morale of staff have in the past impaired the enforcement of Somali export regulations. The Port Veterinary Service is responsible for final inspection and certification of animals for export. This inspection and certification process is far from consistent. Regional veterinary laboratories at Kismayo, Mogadishu, Hargeisa, and Burao also provide occasional support to the export services.

**SERUM AND VACCINE INSTITUTE (SVI):** The other division of the Animal Health Department which services the export system is the SVI. This facility has operated since 1978 with assistance of the UNDP/FAO. Although there have been problems with shortages of spare parts and equipment, production is generally adequate for quality vaccines in quantities sufficient to meet present and future demand.

**PROPOSED ORGANIZATION:** The MLFR employs approximately 190 professional staff, including about 145 veterinarians. Top level administrative staff of the MLFR is generally well trained and qualified, and it is the purpose of this Project to draw upon personnel now with the MLFR and NRA who have had experience with the former LDA and the Regional Veterinary Service and who are now in positions of management in the livestock quarantine/export system to staff a proposed Livestock Quarantine Unit.

The Livestock Quarantine Unit will be responsible for preparing and certifying cattle for export and for final inspection and certification of other export stock. The Unit will be headed by a General Manager who will oversee a Management Unit and a Field Operations Unit. The Field Operations Unit will supervise operation of quarantine stations and marshalling yard and port facilities at the 3 major ports. Quarantine stations will be operated under direction of a supervisor and

his staff and will prepare cattle for export, including pre-quarantine inspection and vaccination, and quarantine for 21 days. Marshalling yard and port facilities will be the responsibility of the Port Veterinary Officer, as will final inspection and certification of export animals.

Assistance to the Livestock Quarantine Unit will be provided by a U.S. Senior Livestock Health Advisor. Additional Project TA will be field operations advisors to the quarantine stations, one in animal health and one for feedlot operations.

**STUDIES:** The Project will also provide TA for a series of studies designed to develop long-term health and marketing strategies and to collect data for an analytical foundation for the livestock industry in Somalia. Most of this TA will be located in the MLFR Department of Planning, Training and Research.

### 6.2 Summary of Economic/Financial Analysis

Using standard methodology, the economic analysis concludes that the Project appears profitable from an economic perspective. Economic rates of return (IRR) estimated with shadow prices are generally greater than 25 percent, indicating that the Project represents a productive investment for AID and Somalia. However, this indicator of economic viability is sensitive to assumptions made about: 1) user fees necessary to maintain the quarantine system, 2) the shadow exchange rate, and 3) the export price of cattle. As user fees necessary to cover recurrent costs rise, as the export price (c.i.f. Jeddah) of cattle falls, and as the shadow price of foreign exchange falls, the economic IRR falls. The assumptions made for these variables are quite conservative, but the analysis results are not final.

Likewise, the financial analysis is not totally conclusive. It strongly suggests that as user fees fall and export prices rise, incentives to cattle traders rise quickly. For traders from Southern and Central Somalia, reasonable assumptions about these variables lead to positive incentives for traders under this Project. Their margins appear to be greatly reduced by increased fodder costs and user fees imposed by the quarantine system set up by the Project, but they are still positive. For traders in the North, however, the results of the financial analysis are less promising. Only with high export prices do they have positive margins under the Project. This stems primarily from the much higher domestic price of cattle in the North than elsewhere in Somalia. The causes of this merit intensive investigation. Overall, the results of the financial analysis indicate that user fees and increased fodder costs imposed by the quarantine system will be disincentives for cattle exporters. A shilling devaluation to 26 So. Shs. per dollar, though, would allow traders in the North to break even and traders elsewhere to show a healthy profit. This suggests that in addition to more research on livestock marketing, increased policy dialogue with the GSDR on pricing and the exchange rate is called for.

### 6.3 Summary of Social Soundness Analysis

The groups in Somalia society most directly affected by the Project are the following:

1. Livestock producers who sell cattle to market;
2. Livestock exporters;
3. Small scale livestock traders;
4. Fodder cutters and producers;
5. Pastoralists and villagers living near the proposed quarantine facility sites.

Visits and interviews in all three of the major production and export areas indicated that all categories of beneficiaries -- with the possible exception of the fifth, which is discussed later -- appear eager to participate in the Project and see benefits from doing so. The general feeling throughout the country is that the Saudi ban is hurting producers, traders and the government alike.

In the near term, cattle raisers are expected to benefit. Cattle raisers in the south and central regions have been adversely affected by both the ban and by a limited drought, and cattle prices are lowest in those areas. In the north, where prices remain exorbitant despite the ban (a phenomenon that warrants further investigation) select herdsmen may already be doing nicely. By lifting the ban and increasing the demand for cattle and prices, the Project should have a positive impact on producers, particularly in southern and central Somalia.

Little evidence was found that producers are at a disadvantage or are being "exploited" by traders and exporters. The highly competitive and decentralized conditions that characterize the production and marketing facets of the industry tend to minimize opportunities for monopolistic or monopsonistic gains by traders. Higher export prices and returns will tend to get passed back through the system to middlemen and producers. The producers, in fact, report that most sales are undertaken on a cash up-front basis, thus further increasing the trade's profitability.

Lifting of the Saudi cattle ban would probably, in the short run, further benefit producers by increasing offtake and relieving grazing pressure on high production areas in all three zones (Southern Hargeisa, Gabilay, Borama, Bulo Burti, Jalalaqsi, Afmadow, and Badade Districts). Thus, cattle and sheep producers in these districts will benefit primarily.

On the other hand, an increasing export orientation by cattle producers in these areas could cause long-term problems. There is likely to be a tendency for an increasingly high proportion of young males to be held until "export" age (five or six years) rather than being sold or killed at younger ages as is often the case today. This will tend to put a long-term strain on range and veterinary resource. If cattle do turn into a widespread investment commodity, the impact on the range could become significant as herd composition shifts from browsing to grazing species. The long-term impact on grazing resources in high production areas could prove costly.

Small traders, commissioned collectors, and brokers would gain, especially in the south and central areas. The glut and depressed prices that prevail in these areas of the country (as a result of the ban and a recent drought) have affected their economic welfare, and a resumption of Saudi imports would have a positive impact.

In the north, a different situation prevails which is not fully understood. Apparently in response to the ban, a "parallel" export market, whose dimensions are unknown, has arisen. It consists of shipments to Middle East buyers, perhaps through the small ports of the north or via Djibouti. If true, this represents a substantial amount of export taxes forgone by the GSDR and could partially explain currently high price levels during a period of depressed demand. Further investigation of this possibility is warranted by the Somali authorities. The resumption of normal cattle exports would undercut the basis for any such trade, assuming such trade in fact exists, and would tend to reduce the allegedly high profit margins of parallel market traders and their pastoral suppliers.

Upon lifting of the ban, exporters as a group would join producers as major Project beneficiaries. Exporters in the south and center have been literally cut out of the market by the Saudi ban. Thus, they, along with pastoral producers, would benefit immediately.

Traders and exporters in all three areas appear eager to participate in the Project. Northerners already enjoy an organizational advantage which would give them the opportunity to make effective short-term use of Project inputs. Traders and exporters are open to any proposals which carry hope of opening cattle trade with Saudi Arabia. Cattle traders and exporters in Hargeisa would be willing to invest significant sums to improve their competitive position with their major clients.

It appears that fodder producers and cutters of fodder will also directly benefit from the increased fodder requirements that will result from the Project. Traders expressed confidence in their ability to provide sufficient fodder for the 21-day quarantine period. Since the cost of livestock and fodder is approximately 50-100% higher in the north compared to the central and southern regions, however, northern traders appeared considerably more concerned with the threat to their profit margins which increased fodder costs would entail.

In the south, traders complained of the existence of a government "cooperative" through which they were required to purchase fodder, a situation unknown to authorities in Mogadishu. This problem requires looking into.

The quarantine facilities planned for Warmahan (Mogadishu) and Lahaley (Kismayo) will be located on existing MLFR sites currently not used by pastoralists. These pose no new land use problems. The proposed site at Lafaruug (Berbera) does arouse apprehension among many of the residents in the area, particularly the community's elders. Strong concerns were expressed regarding (a) the risk of exposure of local animals to incoming

cattle and (b) the impact the new facility would have on the locality's grazing, watering and settlement patterns. Identification of an alternate site is recommended. Procedures for site selection are included in the Annex. Also included are several recommended studies which are indicated by the foregoing analysis.

#### 6.4 Summary of Environmental Analysis

An Initial Environmental Examination was submitted earlier with the PID. However, the Project at that time envisioned the use of very large enclosures in order to insure that adequate pasture would be available for holding large herds prior to export. The total area would have been approximately 45,000 hectares. Since that time the Project has been scaled down to exclude large enclosures, so that the present PP deals with facilities that cover only 443 hectares. Consequently, many of the concerns voiced by AID/W (in State 041630) no longer apply. In addition, the Environmental Review carried out by the Regional Environmental Officer (Annex E.4) recommends: 1) several design features to be considered during the construction and/or rehabilitation of Project facilities; 2) the recycling of manure and residual straw resulting from the livestock holding activities; and 3) an in-country monitoring program which will allow spot checks for groundwater contamination. This last activity will provide information to be passed onto to the MLFR and the NRA for remedial action and future design of marshalling yards and quarantine facilities.

On the basis of these changes in Project activities, the covenants incorporated in the PP and the recommendations in the Environmental Review, a revised IEE is enclosed (Annex E.4) which recommends a negative determination.

#### 6.5 Summary of Engineering Analysis

All sites, new and existing, have the same basic operating principles, which is to hold the animals in isolation, to separate sick animals from the healthy, then to transport the healthy animals to a marshalling yard for shipping.

Engineering is basically the clearing of brush for perimeter and paddock fencing; the installation of double fencing, 6 strand and 4 strand; the construction of shade buildings, feeder troughs, water troughs, support buildings as required; roads within the fenced areas and vehicular access to the existing major highways. Support infrastructure will be water supply and electricity for pumping and lighting.

It is proposed to have a qualified Agricultural/Civil Engineer layout the facilities at the two existing sites Waramahan and Lahilay in accordance with stated quarantine principles so as to best utilize the existing buildings, feed troughs, water system, support buildings and access road. For the new site Hargeisa-Berbera the layout would be done in relation to potential water supply and access.

Construction by contractor would probably begin at the Hargeisa-Berbera site followed by Waramahan, then Lahaley. Sequence would be clearing for fences, roads and building areas followed by fence construction, access and feed roads, water supply, buildings and feed troughs. Commodities would be paid for through foreign exchange as would be the contractor support costs and overhead. GSDR would pay for labor. Support costs would include vehicle and plant operations.

1. Fencing: This will utilize 7 foot treated wooden posts at 15 foot intervals with 2 lines of fence 15 foot apart, 6 strand barbed wire along the perimeter and center roads where animals might be in contact with infection and 4 strand elsewhere. Barbed wire fences at existing sites are in variable condition and should be ignored for quarantine purposes.

2. Feed and Access Roads: This could be done by the contractor or the GSDR with the feed roads constructed of hard murrum or stone surface and at elevation above the adjacent ground. Access roads between the facilities and the existing highway should withstand 7 to 10 ton trucks, should preferably have spray and stone surface and be above the level of the adjacent ground. Drainage ditches and culverts would insure the free flow of surface water.

3. Feed troughs would be located adjacent to the fences with central access. Troughs would be of reinforced concrete designed for 1 cow per 2 foot length. A concrete slab or rock masonry slab 10 foot long sloping away from the trough is necessary.

4. Shade buildings are open sided building with galvanized sheet roof generally constructed with the feeder troughs. Structural members would be of reinforced concrete or wood; roof widths 12 to 20 feet as required.

5. Water System: Water supply will be by ground water wells and above ground storage tanks for Waramahan and Lahaley where systems exist. For the Hargeisa-Berbera new site, consideration should be given to the same type of system ground water well and above ground storage tank or alternatively an infiltration chamber system with pump set at the side of a stream with sufficient recharge for the proposed water system. Where water supply systems exist, a detailed examination of the pump, motor, well capacity, and condition of the above ground tank should be made to determine the operational capability, repairs, useful life and/or necessary replacement. Budget figures shown will be on the high side because of the uncertainties of the existing system. All control systems will be replaced.

6. Electrical supply will be needed for water pumps and lighting. Small units may be used.

7. Support Housing: Permanent employees such as the veterinarians will not be housed on site but will find accomodation in adjacent cities or towns. Somali employees will be placed in existing housing or housing constructed by GSDR. In either case layout should be such that the housing is outside the quarantine area and any animals associated with that housing separately penned.

## 7.0 CONDITIONS PRECEDENT AND COVENANTS

The following conditions precedent will be met prior to the initial disbursement of funds:

1. A statement by the appropriate GSDR authority that the grant agreement represents a legally valid and binding commitment on the part of the GSDR.
2. A statement of the name(s) of person(s) who will be acting on behalf of the grantee together with specimen signature(s) of such person(s).
3. A letter from the Ministry of Finance confirming that personnel and commodities financed by AID under the Grant shall be exempt from all GSDR taxes and duties, including taxes on fuel purchased by project funds.
4. A statement indicating that the GSP Committee has reviewed the annual local currency requirements for the project and that such requirements will be included in the annual budget programming document.

The following conditions precedent will be met prior to disbursement of funds for construction:

1. Evidence of the establishment of a quarantine export revolving fund which will be the recipient of vaccination/quarantine user fees from owners of export cattle and which will finance the costs of (a) vaccination and quarantine of cattle for export, and (b) operating and maintaining the quarantine facilities.
2. Evidence of the establishment by the GSDR of a Livestock Quarantine Unit within the Animal Health Department of the Ministry of Livestock, Forestry and Range which will have the responsibility for implementing the vaccination, quarantine, animal health and certification programs called for in this Agreement and which will have the necessary authority and staffing to carry out its mission.
3. The MLFR will provide office space, office facilities and secretarial support within the Livestock Quarantine Unit for the three expatriate advisors who will be assigned to the Division. The MLFR will provide similar facilities within the Department of Planning, Training and Research for the expatriate advisors assigned to that Department.

The following condition precedent will be met prior to the disbursement of funds for the Livestock Investment Fund:

1. Presentation by the Ministry of Livestock, Forestry and Range of criteria for the selection of applicants wishing to make purchases with Fund resources, and the concurrence of AID to such criteria.

The following covenants will be included in the Grant Agreement:

1. The GSDR will review taxes currently being imposed on traders and exporters of livestock with a view to making adjustments to improve the competitive position of Somali livestock in foreign markets.

2. The GSDR will maintain an open market for fodder production and distribution with a view to allowing traders and exporters to procure their own fodder for feeding their animals in quarantine.

3. The MLFR will take steps necessary to assure that the three quarantine stations established by the Project will have an adequate supply of vaccines and other medicines.

4. The MLFR will take steps necessary to assure the removal of all waste materials from project quarantine facilities prior to the arrival of each new batch of animals.

5. The MLFR will periodically review (at least semi-annually) the financial status and schedule of fees for the revolving fund with a view to assuring that it is covering the costs for which it was established.

## 8.0 EVALUATION PLAN

Two evaluations will be conducted during the Project. The first will be a mid-term evaluation scheduled for July-September 1986. The second will take place approximately two years later.

Given the fact that the quarantine facilities are scheduled for completion in mid-1986, that the Livestock Investment Fund will have only been established in late 1985 and that most of the proposed technical assistance will have been of relatively short duration by the fall of 1986, it is not clear whether the Project's track record by then will be substantial enough to warrant an in-depth evaluation. Rather, it is probable that the first evaluation will be in the nature of an implementation review.

The review will involve a critical examination of the implementation status of the Project's major elements. It will include an assessment of the construction program, the quality and timeliness of the technical assistance being provided, the status of the Investment Fund and how it was operating and how the various studies were progressing. Procurement methods and disbursement records will be examined as will the manner in which USAID had organized itself to carry out the Project.

The review will also cover Somali participation in the Project. It will look at the state of preparation of the new Livestock Quarantine Unit, the organization, staffing, equipment and general readiness of its three field units, the establishment and organization of the user fee revolving fund and the cooperation being extended by the Ministry to the technical advisors financed by AID. It will further include an examination of the status of the Investment Fund, the performance to date, and trader/farmer reaction.

An evaluation along these lines would best be an "in-house" exercise. The review team will be headed by a project officer from the Project Development Office and would include the Livestock Officer, the Supply Management Officer, the Assistant Project Officer and the Private Enterprise Advisor. Specialists such as the Controller and the Management Officer will be called upon as needed. The review will include Somali inputs from the MLFR and from representative farmers and traders.

The evaluation report will include a series of recommendations for improving implementation performance. Another result will be a decision on the timing of the next evaluation. Much will depend on whether that evaluation is to be linked to the design of a broader, longer term project or whether it is to be limited to assessing the experience of the present Project, in which case it would take place in July-September 1988.

The second evaluation will have a dual purpose. First, it will assess in depth the progress of the Project, and of its individual elements. In this connection, it will examine implementation problems, the adequacy of inputs, the condition of the facilities, the performance of technical assistance, the quality of the studies that have been executed and how they were received, and the adequacy of the arrangement for the Livestock Investment Fund. Similarly, it will review Somali participation in the Project, particularly the organization and activities of the veterinary service, the management of the vaccination and quarantine systems, the work of the Serum and Vaccine Institute and the regional diagnostic laboratories, the functioning of the import financing mechanism and the record of its utilization by the private sector.

Second, at a broader and more judgemental level, the evaluation will look at the Project's goal and purposes and assess how well the Project is serving USAID's and GSDR's broader strategy. In that respect, the evaluation will assess the Project's present or likely impact on cattle exports, the effect to date of the Investment Fund on trader and farmer behavior and the adequacy and consequences of GSDR policy, regulatory or fiscal measures on the livestock sector. This aspect of the evaluation will draw heavily, as well, on the marketing and social studies funded by the Project and their implications for future USAID involvement in the Somali livestock sector.

Thus, the final evaluation will help to determine whether a broader, longer term follow on program is warranted. On the basis of Project experience by then and the results of the completed studies, it is expected that the evaluation will be able to make clear recommendations on the point. If a positive conclusion is reached, the report will include suggestions as to the timing and nature of the next design exercise.

The evaluation will be a joint GSDR/AID undertaking with participation by MLFR and private sector representatives on the Somali side. The AID evaluation team will be headed by a USAID project officer. REDSO will be expected to furnish an economist, a social scientist and perhaps a financial analyst. Experts in animal husbandry and veterinary management will be provided by AID/W or through personal services contracts. USAID's Livestock Officer, Private Enterprise Advisor, veterinary expert, and the Project's technical assistance team will serve as resource persons to the evaluation team.

# LIVESTOCK MARKETING AND HEALTH

(649-0109)

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PAGS:

SUBJECT: ECPR FOR SOMALIA LIVESTOCK MARKETING AND  
 HEALTH PID (649-0109)

1. SUMMARY: THE ECPR FOR THE SUBJECT PROJECT WAS HELD FEBRUARY 15, 1984, UNDER THE CHAIRMANSHIP OF DAA/AFR P. BIRNBAUM. THE ECPR APPROVED DEVELOPMENT OF A SCALED DOWN VERSION OF THE PROPOSED PROJECT DESIGNED TO ADDRESS LIVESTOCK EXPORT CONSTRAINTS IN THE NEAR TERM ONLY (PRIMARILY WITH RESPECT TO THE SAUDI MARKET) AND TO CARRY OUT STUDIES NECESSARY TO DEVELOP A LONG TERM STRATEGY, PLAN, AND INTERVENTIONS IN THE LIVESTOCK SECTOR ON THE BASIS OF A FIRM ANALYTICAL FOUNDATION. ISSUES AND RECOMMENDATIONS FOLLOW:

2. ISSUES:

A. BASIC STRATEGY: IN THE ABSENCE OF AN APPROVED COUNTRY STRATEGY AND THE PLANNED AGRICULTURAL SECTOR ASSESSMENT AND GIVEN THE WIDE RANGE OF ACTIVITIES IN WHICH THE USAID IS ALREADY ENGAGED, THE IDEA OF A MAJOR NEW COMMITMENT WITHIN THE LIVESTOCK SECTOR WAS QUESTIONED ON STRATEGY GROUNDS. THE USAID RESPONSE (REINFORCED BY THE CDSS UPDATE PAPER) STRESSED THE PREDOMINANT POSITION OF LIVESTOCK EXPORTS RELATIVE TO THE MACRO-ECONOMIC SITUATION IN SOMALIA AND THE FACT THAT SOMETHING ON THE ORDER OF 80% OF SOMALIA'S TOTAL POPULATION IS ASSOCIATED WITH LIVESTOCK PRODUCTION IN ONE FORM OR ANOTHER, THE MAJORITY OF WHICH IS IN THE NOMADIC PRODUCER COMPONENT. DESPITE THE FACT THAT THE AGRICULTURAL SECTOR ASSESSMENT CALLED FOR BY LAST YEAR'S CDSS REVIEW STILL HAS NOT TAKEN PLACE, IT APPEARS A SAFE CONCLUSION AT THIS POINT THAT THE RETURN TO PRUDENT INVESTMENTS IN LIVESTOCK MARKETING AND HEALTH WILL BE POSITIVE RELATIVE TO BOTH THE SHORT AND LONG TERM ECONOMIC SITUATION IN SOMALIA. THE QUESTION APPEARED TO BE MORE ONE OF DEGREE AND STRATEGY OF INVOLVEMENT RATHER THAN OF SELECTION OF LIVESTOCK WITHIN THE RANGE OF SECTORAL OPTIONS, ALTHOUGH A NUMBER OF STRATEGIC

CONCERNS REMAIN TO BE ANALYZED ADEQUATELY.

RECOMMENDATION: IT WAS AGREED THAT THE USAID SHOULD BE ALLOWED TO MOVE FORWARD WITH THIS PROJECT TO ADDRESS THE IMMEDIATE MARKETING CONSTRAINTS DETAILED IN THE PID. POSSIBLE LONGER TERM INVESTMENTS IN PRODUCTION, MARKET DIVERSIFICATION AND AGRO-INDUSTRY WERE CONSIDERED MORE PROBLEMATIC, HOWEVER, AND IT WAS AGREED THAT AUTHORIZATION OF SUCH ELEMENTS SHOULD AWAIT THE OUTCOME OF STUDIES SUGGESTED IN THE PID AND OTHERS TO BE DETERMINED IN FINAL DESIGN.

B. ANALYTICAL FOUNDATION FOR LONGER TERM ASPECTS OF THE PROJECT: LONGER TERM INTERVENTIONS PROPOSED BY THE PID WERE CHALLENGED ON THE GROUNDS OF LACK OF DATA AND ANALYSIS. THE PID MENTIONS A POSSIBLE AMENDMENT IN YEAR THREE, FOR EXAMPLE, WHICH WOULD COVER UNDETERMINED DOMESTIC DRUG PRODUCTION FACILITY COSTS AND LIVESTOCK TRANSPORTATION IMPROVEMENTS. ELEMENTS OF THE PROJECT RELATED TO SYSTEMIC AND INSTITUTIONAL DEVELOPMENT AND CHANGE (PRIVATIZATION) WERE QUESTIONED FOR THE SAME REASONS, I.E., LACK OF ANALYTICAL FOUNDATION. FURTHER, AN INVESTIGATION TO ANALYZE METHODS OF IMPROVING DRUG DISTRIBUTION AND USE AT THE FIELD LEVEL WAS NOT PROPOSED TO TAKE PLACE UNTIL THE THIRD YEAR OF THE PROJECT AT THE EARLIEST, ALONG WITH OTHER ANALYSES RELATED TO COMMUNICATIONS AND PRODUCTION. THERE APPEARED LITTLE REASON TO DELAY THESE STUDIES, HOWEVER, AS THE INFORMATION IS NEEDED AS EARLY AS POSSIBLE FOR LONGER TERM PLANNING PURPOSES.

RECOMMENDATION: IN LIGHT OF BOTH THIS ISSUE AND THE ABOVE STRATEGY QUESTION, IT WAS AGREED THAT THE PROJECT SHOULD BE RECAST IN A SHORT TERM (PHASE I OF A LONG TERM SCENARIO) MODE. AS SUCH, ONLY THOSE MEASURES DIRECTLY RELATED TO THE SHORT TERM EXPORT CONSTRAINT SHOULD BE INCLUDED, I.E., QUARANTINE/HOLDING FACILITIES AND AN ADEQUATE STOCK AND SHORT TERM DISTRIBUTION ARRANGEMENTS FOR KEY VACCINES AND DRUGS RELATED TO THE SATISFACTION OF EXPORT REQUIREMENTS. TO THESE MEASURES SHOULD BE ADDED THE PROPOSED STUDIES PLUS OTHERS TO BE DETERMINED IN FINAL DESIGN (IN EFFECT A SUB-SECTOR ANALYSIS) LEADING TO A LONGER TERM, FULLY JUSTIFIED AND WELL PLANNED PROJECT FOR LIVESTOCK MARKETING AND HEALTH. IN OTHER WORDS, THIS SHOULD BE A PROJECT TO DEVELOP A PROGRAM WHICH WOULD BE CARRIED OUT IN THE LONG TERM ON THE BASIS OF EXPERIENCE AND ANALYSES TO BE REALIZED IN THIS LINE. THE PROGRAM SHOULD BE APPROVED NEXT YEAR.

3 EQUITY, THE TARGET GROUP AND FLOW OF BENEFITS: THERE

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WERE A NUMBER OF UNANSWERED QUESTIONS ABOUT HOW BENEFITS WILL FLOW FROM TRADERS (ALMOST SURELY THE PRIMARY BENEFICIARIES OF BOTH MARKETING INFRASTRUCTURE AND THE PROPOSED VACCINE AND DRUG DISTRIBUTION SCHEME) TO HERDERS. NOTWITHSTANDING THE LACK OF DATA AND ANALYSIS AT THIS POINT, HOWEVER, IT SEEMS SAFE TO HYPOTHEZIZE THAT INCREASED EXPORTS WILL BENEFIT HERDERS THROUGH A) INCREASED OFFTAKE (VITAL FOR RANGE PRESERVATION AND POSITIVE IN TERMS OF PRICE AND VOLUME OF ANIMALS MARKETED) AND B) INCREASED COMPETITION AMONGST TRADERS GIVING HERDERS A STRONGER BARGAINING POSITION RELATIVE TO BOTH DRUGS BOUGHT AND ANIMALS SOLD. FINALLY, IF LIVESTOCK EXPORTS DRY UP, TRADERS AND HERDERS ALIKE WILL SUFFER AS WILL THE ECONOMY AS A WHOLE.

RECOMMENDATION: THE RCPR ACCEPTED THE ABOVE HYPOTHESES ON HERDER BENEFITS BUT AGREED THAT THE PP DESIGN TEAM SHOULD CARRY OUT AN ANALYSIS OF THE EXPECTED FLOW OF BENEFITS TO BOTH TRADERS AND HERDERS AND DEMONSTRATE HOW EACH WILL SHARE EQUITABLY IN THE SHORT AND LONG TERM PAYOFFS TO THIS PROJECT. THIS SHOULD BE DONE WITHIN BOTH SOCIO-CULTURAL AND ECONOMIC FRAMEWORKS. (IT IS FURTHER RECOMMENDED THAT THIS AREA SHOULD BE THE SUBJECT OF ONE OR MORE OF THE STUDIES TO BE CARRIED OUT DURING PROJECT IMPLEMENTATION TO ASSURE THAT HYPOTHESES FORMULATED DURING DESIGN ARE INDEED CORRECT.)

D DRUGS AND VACCINES: THE DRUG VACCINE COMPONENT WAS CHALLENGED ACROSS THE BOARD ON GROUNDS OF: (1) LACK OF DEFINITION OF THE DISTRIBUTION SYSTEM, (2) QUESTIONABLE NEED FOR FOREIGN EXCHANGE (WHY FINANCE PRIVATE SECTOR OPERATORS IF THEY ALREADY HAVE READY ACCESS TO FOREIGN EXCHANGE? IT WAS FURTHER EMPHASIZED THAT THIS IS REALLY A CIP COMPONENT AND IS PROPOSED TO BE HANDLED IN ACCORDANCE WITH CIP PROCEDURES IN ANY CASE.), (3) EQUIP - THE ABOVE ISSUE, AND (4) QUESTIONABLE LONGER TERM BUDGET ITEMS RELATED TO TRANSPORTATION AND THE DEVELOPMENT OF IN-COUNTRY DRUG FORMULATION AND

PACKAGING, AND THE DEVELOPMENT OF A FULL PRIVATE SECTOR PRODUCTION AND DISTRIBUTION SYSTEM.

RECOMMENDATION: IT WAS AGREED THAT THE DESIGN TEAM SHOULD ANALYZE AND PROPOSE IN THE PP ONLY THOSE ELEMENTS OF THE DRUG/VACCINE COMPONENT ESSENTIAL TO ATTACK THE SHORT TERM EXPORT PROBLEM WHILE CARRYING OUT STUDIES-NECESSARY TO JUSTIFY AND PLAN THE LONGER TERM SYSTEM BUILDING EFFORT.

F ENVIRONMENTAL: AT A MINIMUM A DETAILED ENVIRONMENTAL REVIEW WILL BE REQUIRED OF ALL EXPORT INFRASTRUCTURE ELEMENTS TO BE FINANCED. IF THIS DEMONSTRATES SUFFICIENT ENVIRONMENTAL IMPACT POTENTIAL IN THE ANALYSIS OF THE REDSO ENVIRONMENTAL OFFICER, A FULL ENVIRONMENTAL ASSESSMENT WILL BE REQUIRED. THE ENVIRONMENTAL REVIEW, THEREFORE, SHOULD BE CARRIED OUT AS SOON AS POSSIBLE. USAID MAY WISH TO CONSIDER THE ADDITION OF A CONTRACT ENVIRONMENTAL SPECIALIST TO THE DESIGN TEAM.

3. ADDITIONAL DESIGN GUIDANCE:

A. DURATION OF THE PROJECT AND MID-TERM REVIEW: IT WAS AGREED THAT THE REVISED PROJECT SHOULD BE NO LONGER THAN FOUR YEARS IN DURATION AND THAT THERE SHOULD BE A THOROUGH MID-TERM REVIEW, A REPORT OF WHICH SHOULD BE FORWARDED TO AID/WASHINGTON FOR MONITORING PURPOSES. IN ADDITION TO DETAILING AND EVALUATING PROGRESS TO DATE, THE REVIEW (TAKING INTO ACCOUNT THE AGRICULTURAL SECTOR ASSESSMENT AND COUNTRY STRATEGY STATEMENT TO BE APPROVED PRIOR TO THAT TIME) SHOULD DESCRIBE THE PROPOSED STRATEGY FOR THE REMAINDER OF THE PROJECT AND A POSSIBLE SECOND PHASE FOLLOW-ON EFFORT.

B. PRIVATE SECTOR, PRIVATIZATION AND POLICY DIALOGUE: THE PID DOES NOT DETAIL HOW THESE ELEMENTS WILL BE ADDRESSED. THEY SHOULD, OF COURSE, BE COVERED IN THE PP AND THE DESIGN EXERCISE SHOULD INCORPORATE APPROPRIATE ANALYSES AND SKILLS. LONGER TERM ANALYSIS AND PLANNING, HOWEVER, FOR THESE ELEMENTS, CAN BE CARRIED OUT AS PART OF THE STUDIES COMPONENT OF THE PROJECT ITSELF IN ACCORDANCE WITH THE PHASED APPROACH RECOMMENDED IN PARAS 2 A AND B ABOVE.

C. PARTICIPANT TRAINING: THE NEED FOR ADDITIONAL PARTICIPANT TRAINING SHOULD BE ANALYZED IN FINAL DESIGN, ESPECIALLY OF A SHORT TERM NATURE RELATED TO INTERNATIONAL EXPORT PROCEDURES AND CERTIFICATION.

D. TECHNICAL ASSISTANCE: TECHNICAL ASSISTANCE INPUTS AS PROPOSED IN THE PID SHOULD BE CAREFULLY REASSESSED IN LIGHT OF THE REVISED THRUST OF THE PROJECT.

E. USAID MANAGEMENT: AS IN THE CASE OF OTHER RECENTLY REVIEWED PROJECTS, THE PP SHOULD ANALYZE AND DETAIL THE

SUPERVISION AND MONITORING FUNCTIONS ON THE PART OF THE  
USAID. CONTRACT OR PASA ALTERNATIVES SHOULD BE

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CONSIDERED FOR ASSISTANCE ON MANAGEMENT AND COORDINATION OF THE EFFORT.

F. NEAR EAST MARKETS: A COMPLETE ANALYSIS SHOULD BE CONDUCTED DURING FINAL DESIGN TO DETERMINE WHAT THE EXACT REQUIREMENTS ARE FOR REGAINING AND MAINTAINING LONG TERM ACCESS TO THE SAUDI AND OTHER NEAR-EAST MARKETS.

G. ELEMENTS OF THE PID NOT TO BE INCLUDED IN THE REVISED PACKAGE: ACCORDING TO D/DIR. NELSON, ELEMENTS IN THE ORIGINAL PLAN TO BE DELETED UNDER THE NEW PROPOSAL INCLUDE THE PRIVATE DRUGS COMPONENT AND FA FOR THIS, MISCELLANEOUS ROAD AND RAVEE IMPROVEMENTS AND MOST OF THE PRIVATE SECTOR, FODDER AND TRANSPORTATION ELEMENTS. THIS WOULD CUT THE PROJECT ON THE ORDER OF APPROX DOLS 11 MILLION. IT WAS RECOGNIZED, HOWEVER, THAT A MODEST FODDER COMPONENT MAY HAVE TO BE MAINTAINED IN ORDER TO PROVIDE FOR AN ADEQUATE SUPPLY OF FEED FOR MARSHALLING YARDS AND QUARANTINE FACILITIES.

H. STUDIES: THE STUDIES COMPONENT OF THE PROJECT SHOULD BE STRENGTHENED AND INTEGRATED TO PROVIDE A COMPLETE BASIS FOR LONG TERM PROGRAMMING IN THE LIVESTOCK SECTOR. A SPECIAL EFFORT SHOULD BE MADE TO DEFINE AND DETERMINE INTERVENTIONS NEEDED TO FACILITATE GREATER LONG TERM PRIVATE SECTOR INVESTMENT IN AND MANAGEMENT OF THE ENTIRE OPERATION, I.E., PRODUCTION THRU MARKETING, INCLUDING AGRI-BUSINESS POSSIBILITIES DOWNSTREAM.

I. DESIGN TEAM: PRE/PPR, M NOVINS, ADVISES THAT PRE HAS AGRI-BUSINESS IDEAS WITH THE FOLLOWING GROUPS WHICH MAY PROVE USEFUL FOR PROJECT DEVELOPMENT INCLUDING: (1) DEVELOPMENT ALTERNATIVES, INC. AND COOPERS AND LYBRAND IN COOPERATION WITH ASLAND INVESTMENT SERVICES/BOYLE ENGINEERING CORPORATION OF WASHINGTON D.C., (2) IRI RESEARCH INSTITUTE OF NEW YORK, NY, AND (3) MASI, MULTINATIONAL AGRIBUSINESS SYSTEMS, INC. OF ARLINGTON, VA. PRE ALSO SUGGESTS THAT INPUTS BE CONSIDERED FROM SUCH PRIVATE SECTOR SOURCES AS THE YOUNG PRESIDENTS

ASSOCIATION, THE INTERNATIONAL EXECUTIVE SERVICE CORPS, THE AGRI-BUSINESS COUNCIL AND THE AMERICAN SOCIETY OF AGRICULTURAL CONSULTANTS.

IT WAS FURTHER SUGGESTED THAT THE USAID CONSIDER TWO EXPERTS IN ANIMAL HEALTH (ONE ON THE VACCINATION LAB AND THE OTHER ON THE DRUG DISTRIBUTION PROGRAM AND SYSTEM), TWO EXPERTS IN LIVESTOCK MARKETING (ONE ON TRANSPORT AND DISTRIBUTION AND THE OTHER TO EXAMINE ALTERNATIVE MARKETS FOR LIVE AND PROCESSED PRODUCTS), AND ONE EXPERT ON LEGAL AND ADMINISTRATIVE FACTORS TO ADVISE ON PUBLIC/PRIVATE SECTOR INTERFACE QUESTIONS. GIVEN THE RESTRUCTURED PHASING OF THE PROJECT, HOWEVER, IT WILL NOW BE POSSIBLE TO DO MUCH OF THE WORK RELATED TO LONGER TERM OPTIONS AS PART OF THE STUDIES COMPONENT OF THE PROJECT ITSELF THUS OBTAINING THE NEED FOR SUCH A HEAVILY LOADED OP TEAM. IN ANY CASE, PLEASE ADVISE ON HOW AFR AND PRE CAN ASSIST WITH ADDITIONAL INFORMATION, SELECTION, RECRUITMENT, COORDINATION ETC.

5. REGRET DELAY IN DISPATCH OF THIS CABLE. PRODUCTION AND CLEARING TOOK MUCH LONGER THAN EXPECTED. PLEASE ADVISE FEEDBACK OR NEED FOR CLARIFICATION AND ESTIMATED TIMETABLE FOR RP DEVELOPMENT AND AUTHORIZATION. THANKS VERY MUCH. SHULTZ

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P.OG	✓	
PROJ	✓	
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S&O	✓	
C.M	✓	
ACR		✓

LOGICAL FRAMEWORK MATRIX

Program Goal

To support the expansion of Somali livestock exports and foreign exchange earnings and to increase the income and welfare of the Somali people over the next decade.

Measures of Goal Achievement

Growth of Cattle export earnings by 15% per year over 1981/82 levels.

Means of Verification

Somali export records and Saudi import records.  
Somali balance of payments statistics.

Important Assumptions

1. Middle East market remains favorable for Somali cattle exports.
2. No major changes in consumer preferences or international supply conditions in the short run.

Project Purpose

1. To restore the contribution of cattle exports to the Somali balance of payments.
2. To lay the conceptual basis for a broader approach to strengthening the Somali livestock industry.

Measure of Purpose Achievements: End of Project Status

1. Saudi ban on Somali cattle exports is lifted. Over 130,000 head exported to Saudi Arabia.
2. Vaccination and quarantine procedures being followed. Physical facilities completed and utilized. Somali government effectively managing quarantine system.
3. Farmers and traders providing adequate fodder and trucking services under new quarantine system.
4. GSDR regulatory, organizational and tax measures in place.
5. Studies completed and used as basis for preparation of follow on livestock project.

Means of Verification

1. Somali export statistics and Middle East import statistics.
2. Record of Somali veterinary service.
3. Meetings with livestock traders and farmers.
4. Copies of regulations, decrees, etc.
5. PID

Important Assumptions

1. Saudi ban is based on health considerations and Saudis satisfied with effectiveness of Somali cattle vaccination and quarantine system.
2. Somali livestock/veterinary service has manpower, supplies, equipment and operational funds to implement vaccination and quarantine program.
3. Quarantine system provides incentives favoring truck transport and fodder production.
4. Absence of severe drought.
5. Project provides sufficient incentives to warrant self help measures.
6. Political stability; no worsening of economic incentives to the private sector.

Output

1. Effective quarantine system established utilizing completed quarantine facilities and marshalling yards.
2. Private sector providing trucking services and growing fodder necessary for exports of quarantined cattle.
3. GSDR has executed changes in policy, regulations, organization and finances.
4. Studies completed.

Means of Verification

1. Quarterly and annual project reports.
2. Project evaluations.
3. Somali export statistics and Middle East import statistics.
4. Visual inspection.

5. Records of livestock and veterinary service.
6. Import permits and letters of commitment.
7. Completed studies-

Important Assumptions

1. If quarantine measures for rinderpest are introduced, traders and farmers will respond by trucking export cattle to the ports and providing fodder during the quarantine period.

2. GSDR and other donors continue to provide support to labs and veterinary service.

5C(2) PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A. includes criteria applicable to all projects. Part B. applies to projects funded from specific sources only:  
 B.1. applies to all projects funded with Development Assistance Funds,  
 B.2. applies to projects funded with Development Assistance loans, and  
 B.3. applies to projects funded from ESF.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT? Yes Yes

A. GENERAL CRITERIA FOR PROJECT

1. FY 1982 Appropriation Act Sec. 523; FAA Sec. 634A; Sec. 653(b); Second CR FY 83, Sec. 101(b)(1).

(a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project;

a. FY 84 Congressional Presentation

(b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)?

b. Yes

(c) If the proposed assistance is a new country program or will exceed or cause the total assistance level for the country to exceed assistance amounts provided to such country in FY 83, has a notification been provided to Congress?

c. Not applicable

- (d) If the proposed assistance is from the \$85 million in ESF funds transferred to AID under the Second CR for FY 83 for "economic development assistance projects", has the notification required by Sec. 101(b)(1) of the Second CR for FY 83 been made? a. Not applicable
2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance? 2. Yes
3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance? 3. Not applicable
4. FAA Sec. 611(b); FY 1982 Appropriation Act Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973? 4. Not applicable
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's 5. Not applicable

capability effectively to maintain and utilize the project?

6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. 6. No.
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions. 7. Project will promote (a), (b), (e) and will have no impact on (c), (d), and (f).
8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise). 8. U.S. technical assistance and commodities will be supplied to this project.
9. FAA Sec. 612(b), 636(h); FY 1982 Appropriation Act Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, 9. The Cooperating Country is contributing 33 % of total project costs in local currency.

and foreign currencies owned by the U.S. are utilized in lieu of dollars.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? 10. No
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? 11. Yes
12. FY 1982 Appropriation Act Sec. 521. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? 12. No
13. FAA 118(c) and (d). Does the project comply with the environmental procedures set forth in AID Regulation 16?. Does the project or program take into consideration the problem of the destruction of tropical forests? 13. Yes
14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated there from)? 14. Not applicable

15. FAA Sec. 128; Second CR FY 83, Sec. 101(b)(2). Has an attempt been made to finance productive facilities, goods, and services which will expeditiously and directly benefit those living in absolute poverty under the standards adopted by the World Bank?

15. Yes

16. FY 84 Continuing Resolution. Is comparable American private enterprise funding available for the proposed project?

16. No

17. FY 84 Continuing Resolution. Has full consideration been given at each stage of project design to the involvement of small minority (including women-owned businesses) enterprises, historically black colleges and universities and minority PVO's?

17. Yes; Project Paper recommends 8(a) set-aside for studies component.

B.

FUNDING CRITERIA FOR PROJECT

1. Development Assistance  
Project Criteria

a. FAA Sec. 102(b), 111, 113, 281(a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives,

1a. Project will promote (a), (c), (d), and (e); will have no impact on (b).

especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used? b. Yes

c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)? c. Yes

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)? d. Yes, though an RLDC

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"?

e. No

f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

f. Yes

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in government processes essential to self-government.

g. This Project focuses on livestock which is the major source of employment and income in the Somali economy. By providing material inputs, technical assistance, and training, the Project will assist the sector of greatest concern to the Somali people and Government.

2. Development Assistance Project Criteria (Loans only)

2. Not applicable

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, at a reasonable rate of interest.

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan?

c. ISDCA of 1981, Sec. 724 (c) and (d). If for Nicaragua, does the loan agreement require that the funds be used to the maximum extent possible for the private sector? Does the project provide for monitoring under FAA Sec. 624(g)?

d. Second CR FY 83, Sec. 134. If the recipient country has an annual per capita gross national product greater than \$795 but less than \$1,285, will the loan be repayable within 25 years following the date on which funds are initially made available? If it has an annual per capita GNP greater than or equal to \$1,285, within 20 years?

3. Economic Support Fund  
Project Criteria

a. FAA Sec. 531(a). Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of FAA Section 102?

3. Not applicable

b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities?

c. FAA Sec. 534. Will ESF funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to non-proliferation objectives?

d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

e. Second CR FY 83, Sec. 101(b)(1). If ESF funds to be utilized are part of the \$85 million transferred to AID under the Second CR for FY 83 for "economic development assistance projects", will such funds be used for such projects and not for non-development activities including balance of payments support, commodity imports, sector loans, and program loans?

5C(c) - STANDARD ITEM CHECKLIST

Listed below are the statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? 1. Yes
  
2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him? 2. Yes
  
3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? 3. Yes
  
4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If offshore procurement of agricultural commodity or 4. Not applicable

product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.)

5. FAA Sec. 604(g). Will construction or engineering services be procured from firms of countries otherwise eligible under Code 941, but which have attained a competitive capability in international markets in one or these areas?

5. No

6. FAA Sec. 603. Is the shipping excluded from compliance with requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent that such vessels are available at fair and reasonable rates?

6. No

7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the

7. Both private enterprise and a Federal Agency will provide technical assistance. The Federal Agency is particularly suited for this and is not competitive with private enterprise.

fullest extent practicable? If the facilities of other Federal agencies will be utilized, are they particularly suitable not competitive with private enterprise, and made available without undue interference with domestic programs?

8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U. S. carriers be used to the extent such service is available?

8. Yes

9. FY 1982 Appropriation Act Sec. 504. If the U.S. Government is a party to a contract for procurement, will the contract contain a provision authorizing termination of such contract for the convenience of the United States?

9. Yes

B. Construction

1. FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services to be used?

1. U.S firms will be eligible, in addition to Code 941 countries.

2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?

2. Yes

3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP)?

3. Yes

C. Other Restrictions

1. FAA Sec. 122(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?

. Not applicable

2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights?

2. Not applicable

3. FAA Sec. 620(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the communist-bloc countries?

3. Yes

4. Will arrangements preclude use of financing:

- a. FAA Sec. 104(f); FY 1982 Appropriation Act Sec. 525: (1) To pay for performance of abortions as a method of family planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; (4) to lobby for abortion? a. Yes
- b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property? b. Yes
- c. FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? c. Yes
- d. FAA Sec. 662. For CIA activities? d. Yes
- e. FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? e. Yes

f. FY 1982 Appropriation Act, Sec. 503. To pay pensions, annuities, retirement pay, or adjusted service compensation for military personnel?

f. Yes

g. FY 1982 Appropriation Act, Sec. 505. To pay U.N. assessments, arrearages for dues?

g. Yes

h. FY 1982 Appropriation Act, Sec. 506. To carry out provisions of FAA section 209(d) (Transfer of FAA funds to multilateral organizations for lending)?

h. Yes

i. FY 1982 Appropriation Act, Sec. 510. To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields?

i. Yes

j. FY 1982 Appropriation Act, Sec. 511. To aid the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights?

j. Yes

k. FY 1982 Appropriation Act, Sec. 515. To be used for publicity or propaganda purposes within U.S. not authorized by Congress?

k. Yes



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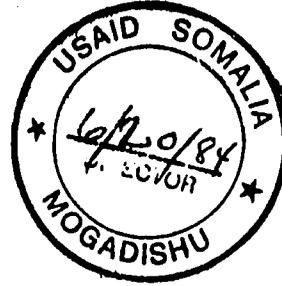
جمهورية الصومال الديمقراطية

وزارة الثروة الحيوانات الغابات والمراعي

MKD/14/19/2118/84

التاريخ

Mr. Louis A. Cohen  
Director, U S A I D  
Mogadishu



Dear Mr. Cohen:

The Government of Somali Democratic Republic requests financial assistance of approximately U.S.\$11.0 - million to help establish an effective quarantine program for Somali export cattle. This program will include construction and rehabilitation of quarantine stations and related facilities. It will also involve implementation of policies and procedures related to cattle quarantine, such those concerning vaccination and certification. The Somali Government's contribution will be approximately 5.5 million Somali shillings, depending on their availability from CIPL Funds.

We look forward to receiving a favorable response to our request.

Your Sincerely,

Abdirahman Haji  
Wasaaradda Xanaa. Xoolaha  
Dhirta iyo Daaqa

## ADMINISTRATIVE ANALYSIS

### Current Organization of GSDR for Livestock

The Ministry of Livestock, Forestry and Range (MLFR) is the agency of the GSDR responsible for certification of export livestock and will be the recipient of project assistance in establishing and management of an effective quarantine system for Somali cattle.

The MLFR was separated from the Ministry of Agriculture in the late 1960's. It is responsible for all livestock-related government services and consists of five departments under the supervision of the Minister, through the Director General. It also includes 2 semi-autonomous agencies directly responsible to the Minister. The organizational structure of the MLFR is shown in Table 1 and the structure of the National Range Agency Marketing Division is shown in Table 2.

The MLFR employs approximately 190 professional staff, including about 145 veterinarians, the majority of whom are graduates of the Faculty of Veterinary Science at the Somali National University. Approximately 25 of these have received post-graduate training abroad. At the sub-professional level are about 500 Veterinary Assistants, trained for 2 years at the National Institute of Animal Science in practical animal health. In addition, there are some 500 Veterinary Auxiliaries who have received short courses of 4-12 months. While top level administrative staff in the MLFR are generally well trained and qualified, much of the animal health staff are relatively young and lack experience.

The MLFR receives an annual budget from the Ministry of Finance. Within the MLFR, funds are distributed to the various departments in accordance with the Ministry's annual budget, with adjustments as necessary to correspond with funds actually received from the Ministry of Finance.

Department heads are authorized expenditures from budget line item amounts under So. Sh. 15,000 (about \$900). Invoices over this amount must be approved by the Director General before payment. A representative of the Ministry of Finance is assigned to the MLFR and approves all expenditures within budget line items. Any changes in line item amounts must be approved by the Ministry of Finance.

At present, all revenue from activities of the MLFR is transferred to the Ministry of Finance as part of the national budget. Exceptions to this include income from some project-related activities which are held in revolving or suspense accounts.

There are now two agencies or departments which serve the export and quarantine services; the National Range Agency and the Animal Health Department. Responsibility for preparing and certifying animals for quarantine rests with the Infectious Disease Division of the Animal Health Department, which oversees the Port Veterinary Services. Additional inputs to the system come from the regional laboratories and the Serum and Vaccine Institute.

National Range Agency (NRA): In 1966, the Livestock Development Agency (LDA) was formed as a parastatal government agency. Until 1974, it was in charge of the majority of livestock projects, as well as marketing activities, at which time the livestock development activities were transferred to the newly-created Department of Animal Production in the MLFR. Among its remaining duties were establishment of facilities for marketing of export stock, including stock routes, feedlots, holding grounds and quarantine facilities, and implementation of the IDA-financed Trans-Juba Project. Until February 1979, the LDA had franchise rights to buy and export cattle through Kismayo to assure adequate supplies to the Kismayo meat factory.

Under LDA management, four holding grounds (Goladay, Aroori, Gelib, and Kismayo) were constructed in the 1960's, but poor management and lack of maintenance led to deterioration of the facilities.

Until the ban on export of cattle to Saudi Arabia, cattle destined for export were required to wait a period of 14 days between the time of pre-export vaccination and their entry into the 2 day "quarantine" (resting) period at the port. The four holding grounds were used by some traders, with a grazing fee charged by the government, but the holding grounds were not designed for strict quarantine, animals were not required to pass through them before export, and many traders preferred to keep animals on the range instead of the holding grounds.

When the LDA was dissolved in 1981, much of the staff was transferred to another parastatal agency supervised by the MLFR, the National Range Agency. Holding grounds and market related facilities and functions, including management of the quarantine areas at the ports, were placed under the Livestock Marketing Facilities Division of the NRA, although pre-export vaccination, inspection and certification of livestock remained with veterinarians from the Animal Health Department.

LDA staff who have been assigned to the NRA express dissatisfaction with their position, saying that the focus of the NRA budget and manpower is on range-related activities, with marketing staff and activities receiving little attention or support. They assert that export marketing and quarantine services should be placed under the MLFR.

Animal Health Service: The Department of Animal Health employs 18 professional staff in Mogadishu, 25 in the field, and 10 in laboratories. These veterinarians are supported by about 1,000 veterinary assistants and auxiliaries. Field operations are conducted under the direction of 16 regional and 68 district livestock coordinators. All regional and most district coordinators are graduate veterinarians. Theoretically, field activities emphasize prevention of disease through vaccination and prophylactic measures. However, shortages of transportation, drugs and other necessities limit contact with stockowners and impair delivery of livestock health services to the producer level. Much of what is accomplished is on the basis of availability or in response to disease outbreaks or herder requests. Low salaries, lack of sufficient field allowances, and poor prospects for promotion or career development contribute to poor morale and performance on the part of many employees.

The Regional Veterinary Officer is now responsible for pre-export vaccination of livestock. In the past, pre-export vaccination requirements were often loosely enforced due to lack of vaccine or transportation on the part of the veterinary service or resistance to vaccination by the owner.

Although the Regional and District Veterinary Services are Divisions of the Animal Health Department, the Port Veterinary Service is now under the Infectious Disease Division of the Animal Health Department. The Port Veterinary Officer is responsible for final inspection and certification of animals for export and for inspecting and approving the ship before loading. Regional laboratories at Kismayo, Mogadishu, Hargeisa and Berbera are also under the supervision of the Infectious Disease Division and occasionally provide support to the export services.

Vaccination of animals on a nationwide basis for rinderpest and other diseases is now done by vaccinating teams working out of Regional Veterinary Offices. In response to the ban on exportation of cattle to Saudi Arabia and the Saudi demand for nationwide rinderpest vaccination, 25 new vaccination teams were formed and provided with new Land Rovers and vaccination equipment.

Vaccination teams have been assigned to each region of the country, and progress is being made toward the ultimate goal of vaccination of all Somali cattle against rinderpest. However, teams often are kept from the field by lack of petrol or camping equipment or weather conditions which make travel impossible in remote areas. In some cases, stockmen do not want their animals vaccinated, especially when they are in poor condition during the dry season or near term of pregnancy. Problems also occur in distribution and transport of vaccine, impairing the efficiency of the program and the reliability of the vaccinations.

Serum and Vaccine Institute: The other division of the Animal Health Department which services the export system is the Serum and Vaccine Institute (SVI). This facility opened in Mogadishu in 1970 and has been supported by a UNDP/FAO project since 1978. Although there have been problems with high staff turnover and occasional shortages of spare parts and replacements for equipment, production is generally adequate for quality vaccines in quantities sufficient to meet the present demand. The only important vaccine not produced by the Institute is foot-and-mouth disease vaccine, which requires a more complex process and stricter isolation procedures than those now made.

UNDP/FAO technical assistance to the SVI (through a contract with the Polytechnia Foreign Trade Corporation of Czechoslovakia) is scheduled to continue to 1986 on a somewhat reduced scale. In addition to on-the-job training and supervision by expatriate personnel, several of the laboratory and administrative staff have received both long-term and short course training abroad, and the Somali staff are adequately prepared to continue vaccine production at the end of the project.

The Livestock Marketing and Health Project will provide modest inputs of essential chemicals and equipment to assure the continued production of quality rinderpest and other vaccines by the SVI.

Proposed Organization: Under the project, a new Livestock Quarantine Unit will be created which will be responsible for preparation and certification of cattle for export. As part of its control of the port marshalling yards and pre-shipping yards, the unit will be responsible for final inspection, certification and loading of other livestock. However, vaccination and/or serological testing of animals other than export cattle will still be done by the Regional Veterinary Service. The new Unit will assume duties and select staff from the Livestock Marketing Facilities Division of the NRA, the Port Veterinary Service and the Regional Veterinary Service. It will thus bring together within a single unit all animal health services related to the export of cattle and it will draw upon the three existing units for the staff and other resources necessary for an integrated effort. It is unlikely that recruitment of additional staff will be needed to form this new unit. The project will also rely on the Animal Health Department for veterinary and laboratory services and supplies of vaccine, and on the Somali National University Faculty of Veterinary Science for assistance in training.

The proposed organization of the Livestock Quarantine Unit is shown in Table 3 and 3(A). The Unit will be a part of the Department of Animal Health. The Director of Livestock Quarantine's office will carry out policy and budget development, planning and supervision of field operations, and coordination with other departments and administration of the MLFR. The Director will be assisted by a Management Unit which will oversee personnel and records, procurement and distribution of supplies, and assignment of vehicles, and a Field Operations Unit which will supervise activities of the quarantine facilities at the three ports.

The Field Operations Unit will be responsible for carrying out policies and directives of the Livestock Quarantine. It will work in cooperation with the Somali National University Faculty of Veterinary Science to arrange training of quarantine station personnel, with the SVI to assure adequate supplies of vaccine, and with the Regional Veterinary Service, which will prepare sheep, goats and camels for admission to final quarantine. Apart from training, the field operations functions of the new Division will be divided into two areas: the three quarantine stations, which will be under the management of the quarantine station supervisor; and the port facilities, which will be under the direction of the Port Veterinary Officer.

Each quarantine station will have a supervisor who will be responsible for maintaining records and inventory, supervising maintenance of the facilities and vehicles, supervision of pre-quarantine inspection and vaccination teams and managing animals during quarantine. He will coordinate with traders in their arrangements to enter cattle into quarantine and to provide fodder and transport for quarantined animals.

It is anticipated that the quarantine station supervisors will be graduate veterinarians. Veterinarians will also be assigned to the stations to lead the pre-quarantine inspection and vaccination teams, supervise vaccinations and dipping at the station, monitor the health of the quarantined animals on a daily basis, and oversee the cleaning and disinfection of trucks and equipment brought into the yard for use in feeding or transporting animals.

The Port Veterinary Officer will be responsible for management and operation of the marshalling and pre-shipping yards. He will work with the quarantine station supervisor in coordinating transport of cattle from the quarantine station to the port facility by the traders. He will also admit sheep, goats and camels into the marshalling yards for final quarantine. This Officer will monitor the provision of fodder for animals in the marshalling yards and aboard the ship by the traders. He will also be responsible for final inspection and health certification of animals, for inspecting and approving the ship prior to loading, and for monitoring the loading procedure.

The MLFR now has personnel assigned to the Animal Health Department and Livestock Marketing Facilities Division of the NRA with experience in management of export operations, and problems in filling management and staff positions on this project are not anticipated. Areas where TA and additional training and initial supervision will be needed include:

- A. Design of quarantine stations to include necessary facilities for isolation of animals and for ease in handling animals in the stations.
- B. Design of quarantine regulations, including management of quarantine stations and port facilities, job descriptions and responsibilities for quarantine system personnel, and regulations governing the role of traders using the facilities.
- C. Design of policies regulating operation of the quarantine system, including assignment of personnel, establishing user fees, etc.
- D. Establishing appropriate record systems for the Livestock Quarantine Unit and individual quarantine stations.
- E. Design of training courses necessary for quarantine station personnel, including selection and training of instructors and development of appropriate curricula and materials.
- F. On-the-job training and initial supervision of quarantine station personnel to set up necessary records and operational procedures.

It is anticipated that assistance to the MLFR staff in the Livestock Quarantine Unit will be given by the Senior Livestock Health Advisor. The expatriate livestock quarantine/feedlot specialist and the second health advisor will assist at the field level on establishing and operating the quarantine stations and marshalling yards.

Under the project, the new Livestock Quarantine Unit will be given a greater degree of financial autonomy than Divisions in the MLFR. Provision will be made to simplify the clearance procedure for authorization of expenditures by the Division, at least for project funds, and to establish a system whereby project-generated income, such as user fees for the quarantine stations, is reserved for use on project related activities, such as maintenance of the facilities.

Once the quarantine system facilities are in place for about 2 years, expatriate training and supervision will be reduced or closed out. It should be noted that this project addresses primarily the problems on animal health at the level of quarantine and export and only indirectly concerns itself with animal health of the country as a whole.

Studies: Several studies will be done under the project to gain information which will be used to improve international and domestic marketing of Somali livestock and animal products and to serve as an analytical base for possible design of a follow-on project. Major studies will include domestic livestock marketing, export marketing, and social dynamics of Somali livestock. The project will provide two long-term advisors, a livestock market analyst and a social scientist, who will be in charge of these studies, and will work in the Department of Planning, Training and Research of the MLFR. They will draw on staff from the Marketing Division of the NRA to conduct these and other studies.

The project also provides for a study on user fees, on current and potential export markets, and on the feasibility of an in-country animal drug formulation and packaging project. This and other animal health-related studies will be under the direction of the senior project health advisor and the Director General of MLFR.

STAFFING PATTERN

LIVESTOCK QUARANTINE UNIT

Manager of Livestock Quarantine Unit

A. Assistant Manager in Charge of Management Unit

1. Personnel Section Supervisor
2. Supplies Section Supervisor
3. Motor Pool Supervisor

B. Assistant Manager in Charge of Field Operations Unit

1. Coordinator of Training Section
2. Quarantine Station Supervisor - Vet\*

a. Administrative Superintendent

- (1) 2 record keepers
- (2) 1 warehouse man
- (3) 1 bookkeeper
- (4) 1 secretary
- (5) 1 fodder/transport coordinator
- (6) 1 driver

b. Repair & maintenance superintendent

- (1) fence crew - 5 labor
- (2) 1 plumber + 1 aide
- (3) 1 welder + 1 aide
- (4) 1 mechanic + 2 aides
- (5) 1 carpenter/mason + 2 aides

c. Paddock superintendent

- (1) guards - 20
- (2) equipment drivers - 4
- (3) labor - 6

d. Cattle inspection & vaccination superintendent - vet

- (1) chief vaccination and inspection team - vet
  - 4 animal health assistants (AHA)
  - 4 labor
  - 1 driver

Note: a second team may be needed during peak months - would require 2nd vet as chief of team.

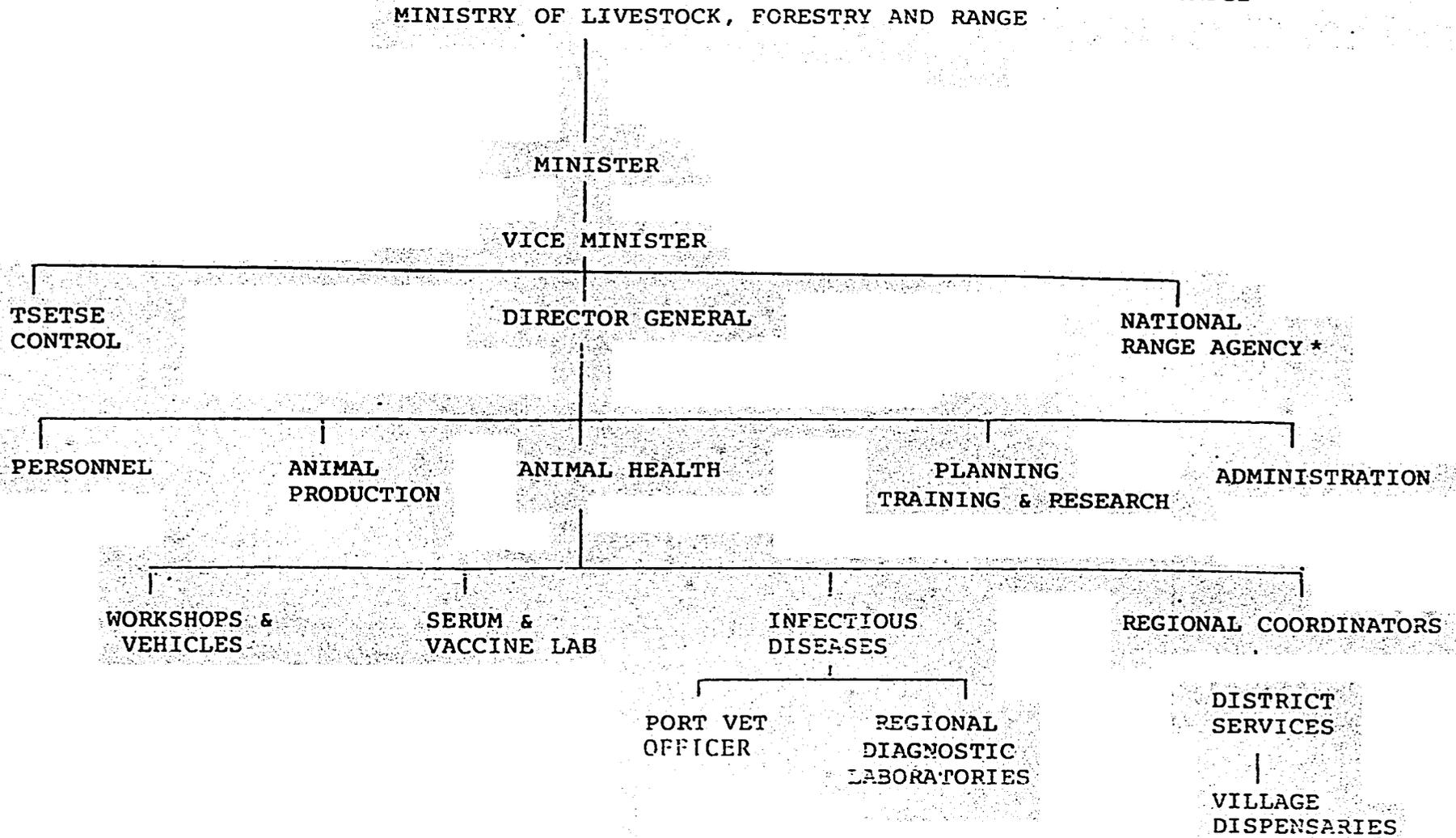
\* One for each of the three ports including all other positions below.

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- (2) Chief parasite treatment team - AHA
  - 5 labor
- (3) Chief equipment disinfection team - AHA
  - 3 labor
- 4) Yard inspection chief - AHA
  - 2 AHA
- 3. Port Veterinary Officer - Vet
  - a. Inspection & certification team - 3 AHA
  - b. Facilities maintenance - 10 labor

PRESENT ORGANIZATION

TABLE 1



See Table 2

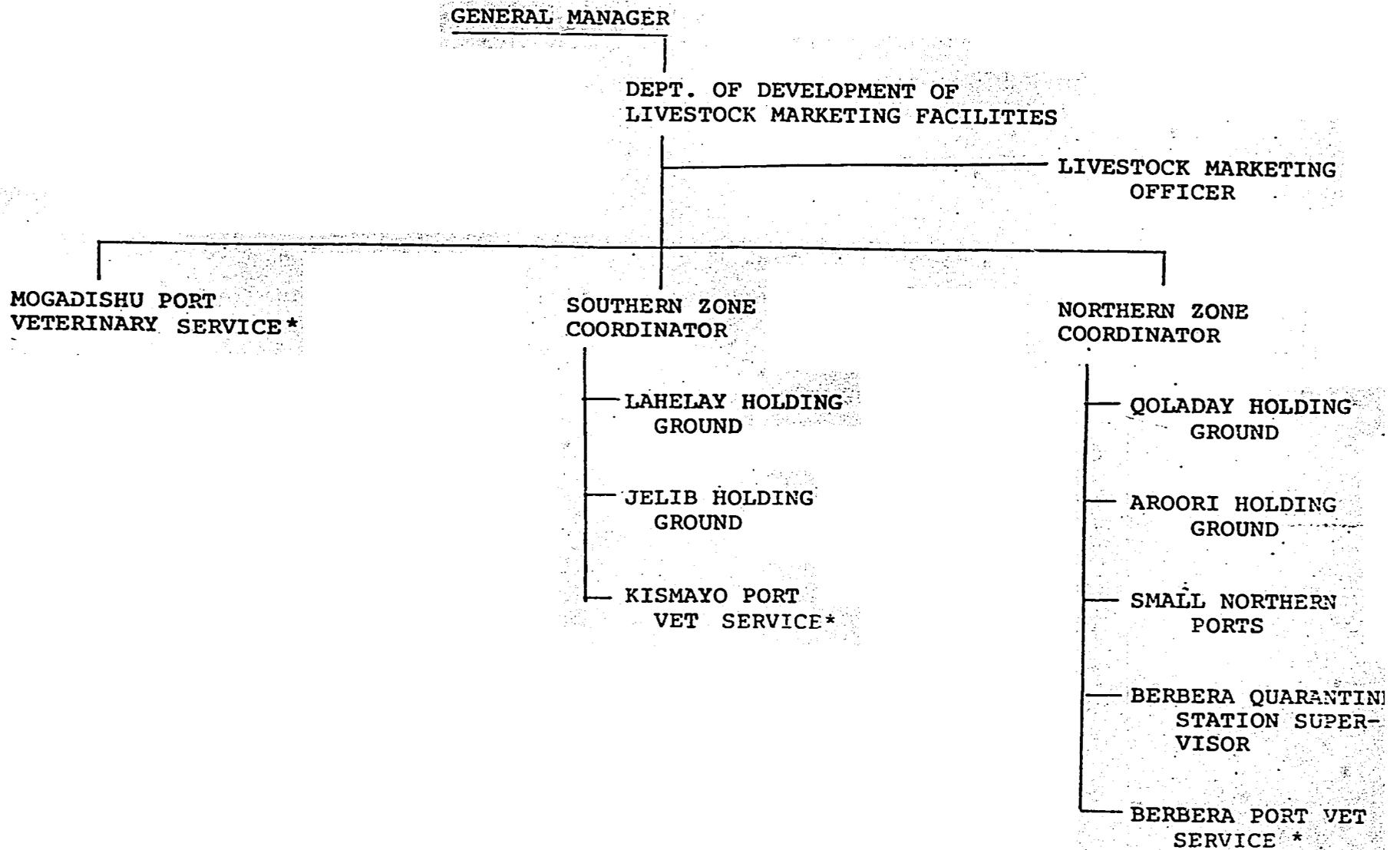
E.1

-81

x 68

PRESENT ORGANIZATION FOR THE  
NATIONAL RANGE AGENCY

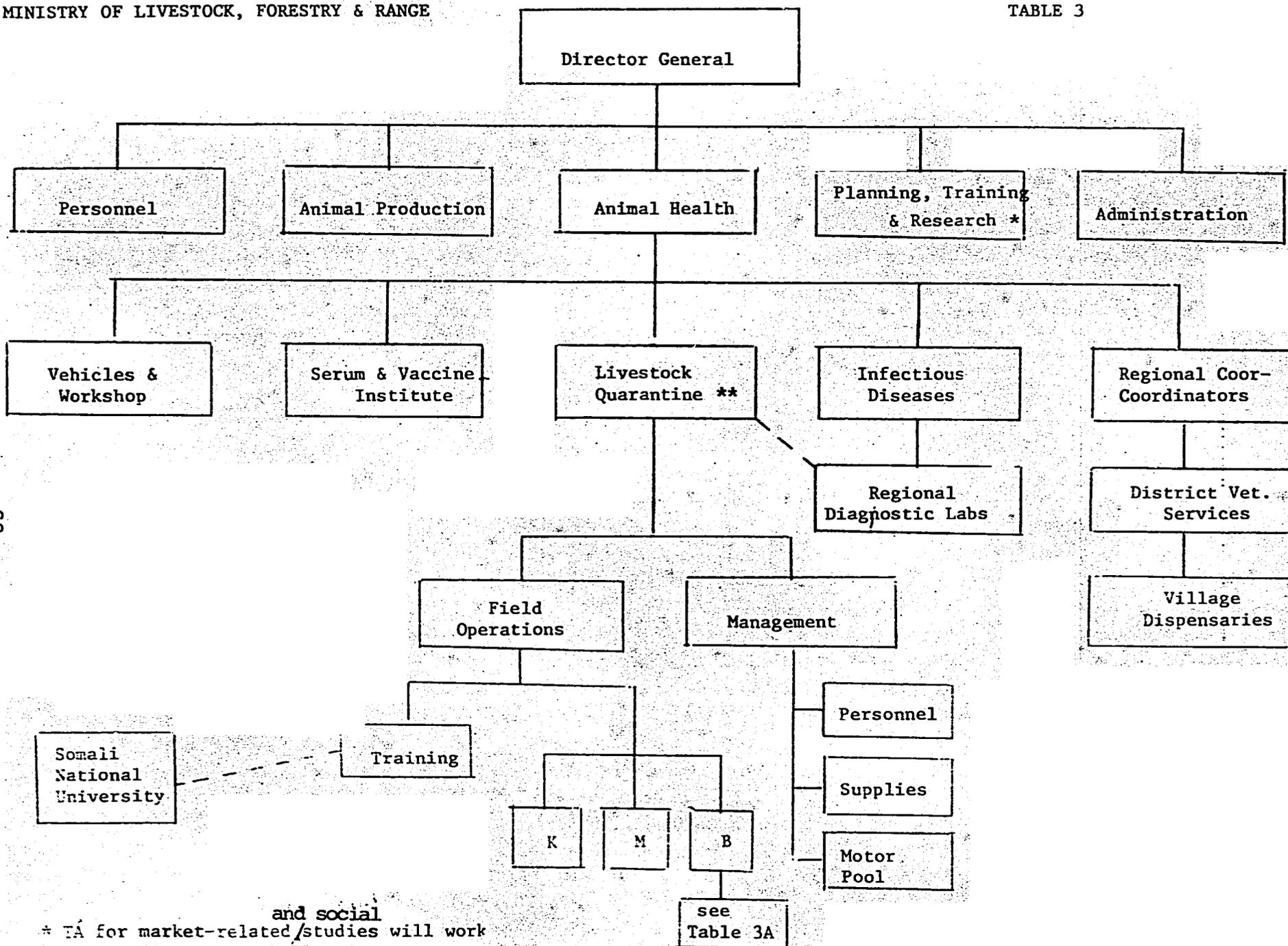
TABLE 2



\* The Port Veterinary Officer is assigned to the Infectious Disease Division of the Department of Animal Health, but the Port Veterinary Service and fees collected are part of the National Range Agency.

PROPOSED ORGANIZATIONAL CHART  
 MINISTRY OF LIVESTOCK, FORESTRY & RANGE

TABLE 3



and social

\* TA for market-related studies will work in coordination with Planning Department.

\*\* U.S. Sr. Livestock Health Advisor will be the first Quarantine Division General Manager

E.1

-83-

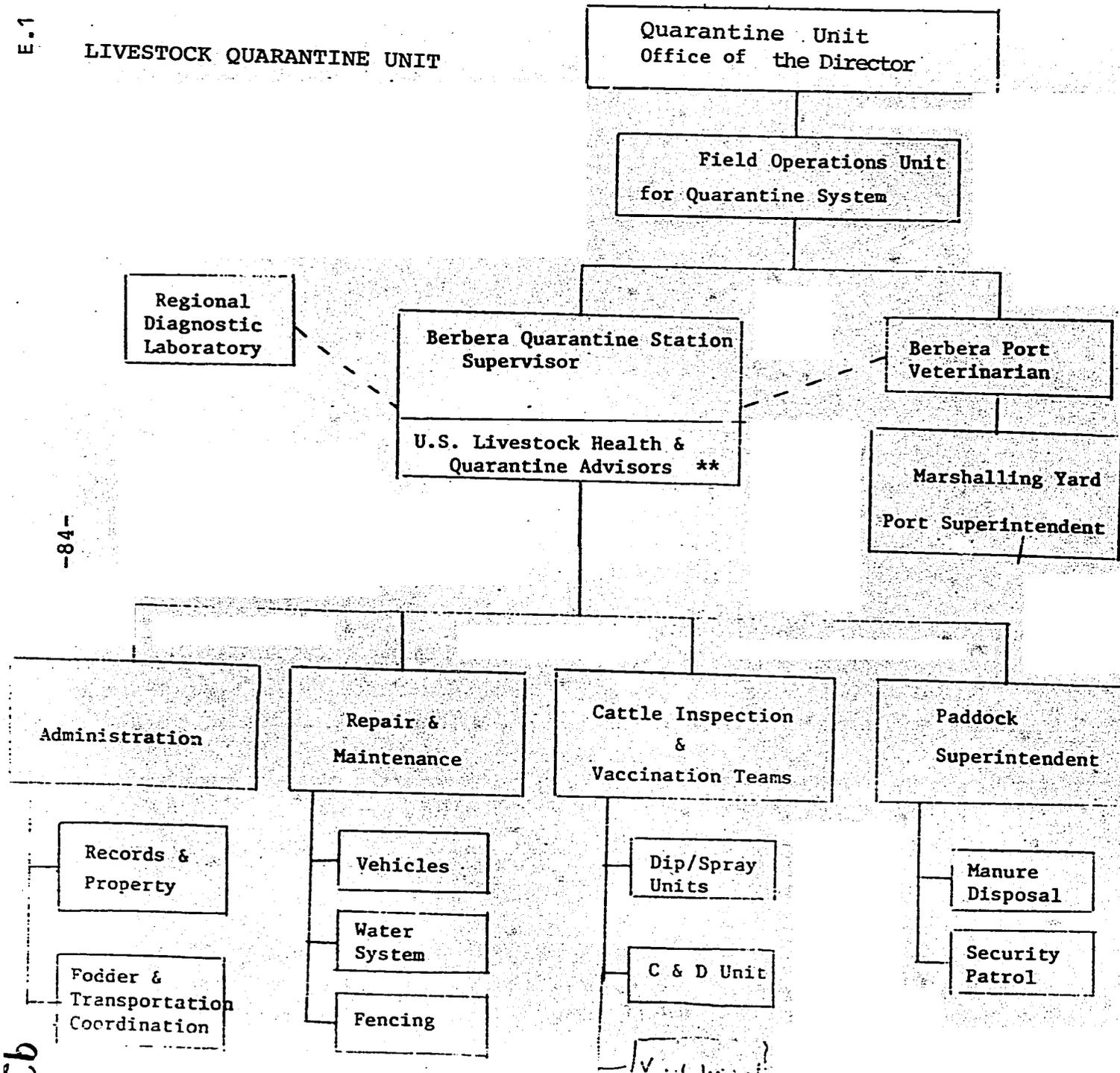
x/b

PROPOSED ORGANIZATIONAL CHART \*

TABLE 3 A

E.1

LIVESTOCK QUARANTINE UNIT



-84-

\* This Table uses Berbera as a model. Other quarantine stations would be similar.

\*\* U.S. advisors will provide service to all quarantine station and marshalling yard facilities for all ports.

Cb

ECONOMIC/FINANCIAL ANALYSIS

1. General Approach

This introductory section outlines the general approach taken in conducting the analysis, including the length of project period for economic analysis, economic versus financial analysis, recurrent costs, and constant vs. current prices. Section 2 deals with shadow prices and Section 3 & 4 detail the costs and benefits to derive an economic rate of return to the project. Section 6 looks at the financial rate of return to the project and incentives to traders.

a. Length of Project Period

The life of the project is four years. However, owing to the nature of the project, many benefits are expected to be realized after the AID contribution stops. Hence, rather than estimating the Internal Rate of Return (IRR) for just 4 years, it is estimated for a 15 year period. Since the net present value of \$1.00 15 years in the future discounted at 15 percent is only \$0.12, it would not make a great difference to the overall result if the analysis were carried beyond 15 years.

b. Economic Versus Financial Rate of Return

The financial rate of return to the project is based on an evaluation of costs and benefits at financial prices. These are prices which may be observed in the market or imposed by the government. Only if they reflect real opportunity costs are they considered to be economic or shadow prices, which are used to calculate an economic rate of return. Another difference between economic and financial rates of return is that the former does not consider taxes and subsidies, while the latter does.

Normally, financial analysis is useful for determining the viability of a project as perceived by the particular entity undertaking it, be that an individual, the "private sector", or a government institution. Economic analysis, though, examines what the project means for the country in terms of the real costs and benefits resulting from investing certain resources.

In Somalia, where the parallel ("black") market price for dollars is currently more than triple the official price and where livestock traders pay some obvious and some less-obvious taxes on exports, it is certain that the financial implications of this project will differ from economic ones. Hence, shadow pricing of certain resources, especially foreign exchange, is crucial.

c. Recurrent Costs

In order for project benefits to continue beyond the time when AID inputs stop, it will be necessary for the GSDR to continue to maintain the quarantine system. This will include considerable costs

associated with maintenance of physical structures, provision of drugs and vaccines, and even commodity replacement. In any economic or financial project analysis, these recurrent costs must be considered not only in order to assess the long run worth of the project, but also to gauge whether the project will place undue strain on the Government's resources.

By a not so neat trick, though, this analysis won't have to examine recurrent costs. This is because they will be better analyzed later, when the quarantine facility designs are finalized and the true recurrent costs can be better estimated. As part of the Project Agreement, the GSDR agrees to establish a revolving fund and set (and review) user fees so that the quarantine system can be maintained. These fees, though a transfer, will represent the real recurrent cost of the project. Rather than now taking time to estimate what these fees (recurrent costs) might be, they will simply be assumed to be \$20.00 per head of cattle. This seems a conservative assumption since if even only 100,000 head of cattle are exported per year, all project inputs (USAID and GSDR over the 4 year life of project) could be replaced in about 8 years. If 150,000 head were exported, the replacement period would fall to just over 5 years. Sensitivity analysis is used to test the importance of this assumption.

#### d. Constant vs. Current Prices

In general, the only reason for allowing for inflation in cost-benefit analysis is if some prices are likely to increase more rapidly than others. For the sake of simplicity, it is assumed that all prices increase at the same rate except that the c.i.f. Saudi price remains constant at the 1983 average level of \$360 per head. Clearly this is a most conservative assumption since cattle prices have risen gradually over the last several years and probably will continue to do so over the 4 project years when costs are inflated.

## 2. Shadow Prices

Since IRRs will be calculated, it is not necessary to estimate the shadow price of capital. Also, it will not be difficult to determine the shadow price of labor and staff devoted to the project. Rather, it is assumed to be equal to the figures given in the budgets (given in detail in the Project Description), since these figures were estimated to be the amounts necessary to attract labor to the project (e.g. for construction) or to give government employees sufficient incentive to stay on the job, which is indeed their real opportunity cost. In fact, these budget figures are either for new labor and personnel or salary supplements for already-paid personnel to be devoted to the project. Theoretically the current salaries of these already-employed personnel should be included in the analysis, though they are not in the budgets, but the salary supplements are sufficiently large and the total cost of salaries sufficiently low to make this omission inconsequential.

Estimating the shadow price of foreign exchange (U.S. dollars) is more difficult, however. Clearly it is greater than the official rate of 17.38 Somali Shillings per dollar. However, it is probably not as high as the parallel market rate, which has been in the 60-80 range in recent months. This is because those high rates reflect a certain amount of risk assumed by participants in that market. Also, that high range is due in large part to the scarcity of dollars resulting from the Saudi ban on cattle imports from Somalia. A major objective of this project is, in fact, to make foreign exchange less scarce by reinstating cattle exports. It is hoped that this project will help reduce the real scarcity value of dollars. Hence, for simplification purposes, it is assumed that the shadow (and long run) price of foreign exchange is a rough average of current and official rates, or 40 So. Shs. per dollar. The importance of this assumption is also tested with sensitivity analysis.

3. Estimation of Costs

Tables 1 & 2 below summarize the costs of project inputs provided by AID and the GSDR.

TABLE 1

Cost of AID Project Inputs (\$1000)

	Year-1	Year-2	Year-3	Year-5
Long-term TA*	193	990	1009	302
Quarantine Construction	855	1910		
Short-term TA Studies/Training	211	129	105	130
Quarantine Program, Other	600	1511	952	202
Total:	1859	4540	2066	634
+ inflation, contingencies:	290	1024	361	226
Grand-Total:	2149	5564	2427	860

\*Includes related commodities and travel.

TABLE 2

Cost of GSDR Project Inputs (\$1000 equivalent)

	Year-1	Year-2	Year-3	Year-4
Quarantine Construction	1908	388		
Vehicles, Fuel & Repairs		273	633	783
Wages, Salaries	21	21	21	21
Other	10	214	168	42
Total:	1938	895	822	846
+ inflation, contingencies:	231	173	225	305
Grand Total:	2169	1068	1047	1151

95x

However, the costs of these GSDR inputs were based on shillings converted to dollars at the official exchange rate. To estimate their real costs, they should be adjusted by a factor of 17.38/40 to account for the shadow price of foreign exchange. (This ignores the fact that these shillings will come from the CIPL account and represent artificially cheap dollars from the U.S., but that subsidy can be considered as already sunk for purposes of this analysis.)

For the financial analysis, another cost to be considered is taxes on cattle exports, which amount to 700 So. Shs. per head.

For both the economic and financial analyses, there are various other costs which are enumerated below.

TABLE 3

Costs for Exporting Cattle (per head)

Input	Estimated Cost
25.30 days of fodder	So. Shs. 1600
Trucking	200
Middlemen Commissions	100
User fee	US\$20
Shipping cost	\$70(1)
Head of cattle	So. Shs. 7000(2)

(1) a roughly weighted average of shipping costs from Berbera to Jeddah (\$39/head) and Kismayo or Mogadishu to Jeddah (\$85/head) (J. Holtzman, 3/84)

(2) a roughly weighted average of cattle prices (5 year old) in Mogadishu (So. Shs.5,000), Kismayo (So. Shs.5,000) and Hargeisa/Borama (So. Shs. 10,000) (from M. Brown survey, 5/84 - see Social Soundness Analysis)

4. Estimation of Benefits

The primary beneficiaries of the project are Somali cattle herders and traders, and the ultimate benefits are increased foreign exchange proceeds from cattle export sales. This benefit can be estimated as so many cattle sold at some export price to Saudi Arabia. Other cattle markets are not considered since Somali exports to them have continued after the Saudi ban was imposed. If those exports have increased as a result of the Saudi ban (e.g. getting Somali cattle into Saudi Arabia via North Yemen), their value is relatively very low and can be ignored in this analysis. It is also assumed that exports to Saudi Arabia only reach half of this peak (1982) level in the first year of operation of the quarantine system (year-3 of the project). After that, exports are assumed to stabilize at the 1982 level (146,000 head).

Since shipping costs are included in the analysis, the appropriate price to use for estimating benefits is the Jeddah c.i.f. price. In 1983 the average c.i.f. price was \$360 per head of cattle. For the financial analysis, though, the benefit to traders (not the GSDR) is less since \$260 of the export price must be exchanged with the GSDR for shillings at the official exchange rate. This is the so-called "LC price". The \$100 difference traders can use to purchase commodities which they then import into Somalia. Traders claim it is from these imports they derive the lion's share of their profit from cattle exports.

5. Economic Rate of Return

Table 4 below presents different IRRs for different assumptions about the shadow price of foreign exchange and the level of user fees necessary to maintain the system.

TABLE 4

Economic IRRs for Different Assumptions (%)

		<u>Shadow Price of Dollars (So. Sh./\$1.00)</u>		
		17.38	40	60
User fees (\$/head)	10	<0	50	>100
	20	<0	42	>100
	30	<0	34	90
	40	<0	25	90

At the initial assumptions of shadow price of foreign exchange equal to 40 shillings per dollar and user fee equal to \$20 per head, the Economic IRR is 42 percent. Even if the user fee were to double, the IRR would still be a respectable 25 percent.

If the shadow price of foreign exchange were to increase to 60 shillings per dollar, the IRR's are 90 percent or greater, depending on the level of the user fee. However, if the shadow rate is assumed equal to the official exchange rate, the IRRs are negative for any level of user fee (even \$0).

Assumptions about the shadow foreign exchange rate are clearly critical. However, the assumption that the exchange rate is 40 shillings per dollar is rather conservative and the economic viability of the project appears promising.

6. Financial Rate of Return

Estimating the financial rate of return to the project is straight forward. The only changes from the economic analysis are inclusion of the export tax on cattle and use of the official and parallel exchange rates instead of the shadow rate.

Since the economic IRR for a shadow exchange rate equal to the official rate was negative for all level of user fees, the financial IRR would have to be negative, too. This is because the cost of Somali inputs (that is, costs expressed in shillings) would be worth more in dollars if the exchange rate falls.

While this means that the project is not financially viable from the GSDR's perspective, this is not especially insightful since for the overall economy of Somali the official exchange rate is not really legitimate. Moreover, from the MLFR's perspective, the project is viable because its shilling contribution to the project costs it nothing.

More interesting to consider are the financial incentives this project offers to cattle traders. Since traders have been exporting cattle to Saudi Arabia in large numbers in the past, one would presume they were making a profit. However, under the project they will have to pay two additional costs: 1) for 25-30 days of fodder rather than for just 4-9 days, and 2) user fees.

Tables 5 and 6 below summarize the net return, in shillings, which the trader receives at various levels of user fee and cattle export prices. These figures were estimated with the assumptions that the trader receives \$360-\$400 per head in Jeddah but must convert \$260 with the GSDR to shillings at the official exchange rate. However, the difference (\$100-\$140) can be converted to shillings at the parallel rate (70 shillings per dollar).

TABLE 5

Financial Return to Traders (So. Shs.1000/head  
in Kismayo and Mogadishu Regions  
User Fee

		\$10	\$20	\$30	\$40
Export Price	\$360	-2.1	-2.5	-2.9	-3.3
	\$370	-1.4	-1.8	-2.2	-2.6
	\$380	.7	-1.1	-1.5	-1.9
	\$390	.0	-.4	-.8	-1.2
	\$400	.7	.3	-.1	-.5

TABLE 6

Financial Returns to Traders (So. Shs. 1000/head)  
in the North

	User Fee			
	\$10	\$20	\$30	\$40
Export Price \$360	-4.6	-5.0	-5.4	-5.8
\$370	-3.9	-4.3	-4.7	-5.1
\$380	-3.2	-3.6	-4.0	-4.4
\$390	-2.5	-2.9	-3.3	-3.7
\$400	-1.8	-2.2	-2.6	-3.0

Although these are very preliminary estimates, they do suggest a few points. First is that at an export price of \$360 per head of cattle, incentives to traders appear to be poor. Incentives improve considerably as the export price rises, which does in fact occur during certain periods of the year. The c.i.f. price in Jeddah now, for example, is over \$400 per head, and it is traditionally high during periods of relatively high Somali cattle exports (e.g. export volumes and prices are particularly high during the Hadj).

These figures also suggest that returns to traders in the North are less than in the South, even though shipping costs to the Gulf are lower from the North. This result stems from the much higher local prices of cattle in the North. This finding deserves much more investigation.

Other implications are that since the trader's margin does not appear to be large, user fees, taxes, and fodder costs are all significant costs and should be kept to the minimum necessary. Fodder costs are the largest of these, and it is hoped that the Project will reduce these by successfully promoting investments in fodder production. More significant than any of these factors, though, is the effect of the LC price and the official exchange rate on trader margins. If the Somali shilling were devalued to 26 So. Shs. per dollar and all other costs and the LC price were to remain unchanged, Northern traders would break even with a user fee of \$20 and an export price of \$400. Traders in the Southern and Central Regions would show a profit of 2,500 So. Shs. per head. Similarly, if the LC price dropped to \$240 and the official exchange rate remained at 17.4 So. Shs., Northern traders would break even and traders elsewhere would show a healthy profit.

While these results are only indicative, they strongly suggest that the current official exchange rate and LC price are disincentives for cattle exporters. Livestock marketing needs to be more thoroughly investigated and these disincentives need to be discussed with the GS DR.

1. The Somali Socio-cultural Context

The stereotypic image of Somalia in the Western world is one of a country composed of desultory nomadic livestock herders living in a state of entrenched poverty. This poverty is believed to be a function of an abusive climate which periodically devastates man and beast, together with a neolithic production technology which keeps the nomad rooted in minimal subsistence level poverty. The symbol of this devastation and antiquarian production system is the drought stricken nomad reduced to refugee status in a resettlement scheme. This, of course, has been coupled in recent years with the popularization of the political refugee crisis emanating from the disputed Ogaden territory.

As with most stereotypes, this one contains a limited degree of truth. Rainfall is sporadic in space and time, leading to periodic widespread drought. More commonly, localized drought over a small area (several thousand square kilometers say) is a yearly phenomenon somewhere in the country. The net result is that the material means of sustenance -- the forage, and to a lesser extent, the water resources upon which Somali pastoral nomads depend -- are depleted. And certainly, tense political relations have at times had a significant effect on the viability of pastoralists who traditionally graze in both Somalia proper and in the disputed Ogaden.

Where the stereotype falters is in its ignorance of certain salient transformations in social, economic and political structures which for centuries underpinned traditional Somali pastoral nomadic society. Neither theoretically nor in practice is it valid to speak of a "traditional nomadic sector" in "ideal-typical" terms. On the contrary, contemporary Somali society is characterized by an interdependency and at times fluidity between different categories of social and economic actors; undoubtedly, the pastoral sector which includes all categories of livestock raisers, still remains the linchpin of the entire National Economy. Furthermore, the particular social, cultural and economic factors relevant to the success of the Livestock Marketing and Health Project will only make sense once the framework linking the key above-mentioned categories of actors is identified.

The activities of the pastoral nomad, livestock exporter/commodity importer ("importer-exporter" hereafter), petty merchant, and government bureaucrat are becoming increasingly intertwined. So too are the technical limitations or "parameters" which give shape to the structure and function of different groups of actors within each of these socio-economic categories.

For example, the price of rice, tea, and sugar, which the petty merchant charges the pastoralist in his dukaan\* has direct bearing on the short-term sales strategy of the pastoralist and ultimately, his herd composition and structure. The policy one government minister may set regarding dispensation of export licenses, or the devaluation of the exchange rate by another minister may affect the kind, quality, and price of market goods which the merchant will sell as made available by the importer-exporter, along with the price and quantity of livestock the latter can sustain in export. This in turn will influence the quality and number of animals the pastoralist must sell to either the domestic or export markets.

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\* See Glossary for explanation of terms

Three forces can be identified as generating this intensifying interdependency between different categorical actors:

1. Increasing dependence by pastoralists on grains and cereals in the diet to supplement, and in some instances, replace milk and meat consumption from the family herd.
2. Increasing rural-urban migration (mostly in Northern and Central Somalia) with a diversification of intra-familial labor-supply across occupational categories with apparent rapid change in rural-urban demographic distribution.
3. Increasing participation of pastoralists in national bodies such as the military, primary and secondary education, village councils, and the recognition of specific pastoral elders (samadons and nabadons) to represent pastoralists' interests vis à vis the government at higher levels.

As government and commercial incursion into the pastoral sector continues, it is inevitable that a degree of social transformation would occur. It must be emphasized that this transformation process is by no means identical throughout the regions, districts, and degaans (traditional grazing areas) making up the country. In some districts at the lowest level, either market penetration or the development of elaborate linkages between pastoral producers, small merchants, brokers, commission agents, and import-exporters remains limited while production for subsistence remains paramount.

## 2. Pastoralists Perceptions of Production Constraints

There are several themes which pastoral nomads in northern, central, and southern Somalia continually revert to when asked to describe what the most significant constraints of factors influencing Somali livestock producers are today. First is inflation in the price of basic commodities, foodstuffs, and clothing which has been rising at mercurial rates over the past several years. Second is the perception that in the past ten years rainfall has tapered off to the point where shortfalls in subsistence milk and ghee production have become endemic. This is seen as forcing increased reliance on the marketing of livestock to obtain cash to purchase substitute food items, or at the least, supplementary food items, whose prices in turn has been rising. Third is the intensification of grazing pressure brought about through increases in absolute livestock numbers. These increases are believed generally to result from the burgeoning of man-made water sources coupled to increased availability of veterinary medicines over the past twenty years.

Depending on where and to whom one is talking, the constraints to improving either the quality or the quantity of livestock production will differ. This is because the ecological and economic resources available throughout the country vary enormously. This variability is crucial to note, for, it establishes particular contexts of constraint or opportunity within the greater social, economic and political context set by GSDR.

The latter's program is in turn very much influenced by external factors. These include the controversy with Ethiopia and the effort to obtain foreign exchange earnings or credits to fuel internal development.

### 3. Livestock Management, Herd Management, and Commercialization

Somali pastoral nomads, as is true of African pastoralists in general, attempt to increase the size of their individual herds within the technical limitations imposed by (1) available range and water resources, (2) available labor (3) disease morbidity/mortality rates (4) reproductive parameters as a function of particular herd composition and structure which in turn reflect points 1 and 3 above.

There are both positive and negative aspects to maintaining large Livestock herds. On the negative side, large herds demand considerable labor. This is particularly true for areas where water is hauled from deep wells, requiring several strong family members for the exercise. Herding requirements vary considerably depending on local topography, and a herd's species composition and structure. In areas where predators are no longer a factor, the existence of free-range (gefer) herds can be found, though watering here can also be a limiting factor on the management capability of large herds.

While it may be prestigious to possess a large herd, diminishing returns on labor may accrue since until recently, avenues for investment of surplus livestock production remained limited. If herds grow too large, the quality of management will also suffer.

Large mixed species herds present complex management problems; browsers and grazing species are usually split to exploit different forage production zones; "dry" camel and occasionally cattle herds - geel xer and lo'xer - are split from the core family unit consisting of mothers and young children, and soon-t6-be mothers and elders, where the majority of milch animals are kept.

On the other hand, large herds are most beneficial to have during either drought or epidemic times when herds are susceptible to disastrous losses. In this sense, the herd owner with few livestock is at a disadvantage vis à vis the larger herd owner. Surplus animals can be sold to meet either consumption needs or investment needs, or be used as redistributive mechanisms in the form of gifts to maintain the viability of agnatic, affinal, or even non-kin relations within the pastoral sector after serious herd losses have been incurred. Contrary to Swift (1979), this redistributive process (caawimo) or xoologoyo is reportedly still functional in the pastoral sector despite indications of increasing commercialization.

This increasing commercialization is evidenced by pastoralists' perceptions throughout Somalia particularly of (1) expansion in the size of individual livestock herds over the past twenty years (2) diminishing milk production from herds over the same period for human consumption (3) increasing "villagization" process within rural areas as well as growth in the larger urban centers (4) increasing sales of two year old sheep and goats for export which consume a significant proportion of the dam's milk production which otherwise could go for human consumption either as milk or ghee (5) increasing diversion of dam's milk to growing females to induce onset of conception. (6) decreasing production of ghee as a commodity given changing market preferences in Saudi Arabia and the internal Somali market (7) increasing numbers of pastoralists migrating from the pastoral sector (particularly the north).

Many pastoralists will deny that emigration is a significant phenomenon, pointing to large groups of young herdsmen still living in the bush to prove the point. Unfortunately, good demographic data at the hamlet and household level does not exist. There is reason to believe that such data established at a nation-wide level would evidence great regional variation, making generalization about a "Somali Condition" not overwhelmingly insightful.

As a generalization at a lower level of abstraction however, we can say that the production rationale (cf. Behnke, 1984) of Somali pastoralist is geared towards addressing both household subsistence as well as commercial concerns. Somali livestock producers need to maintain herds which are large enough to fulfill the biological reproductive needs of the herd itself, while allowing for reasonable levels of biological or commercial offtake (milk production for human consumption or sale, or sale of live meat). In parts of Somalia, offtake for investment in berkad construction or wars is becoming increasingly common, which has a synergistic effect on the growth potential of pastoralists possessing the material means to develop and "harvest" commercialized waters. To a more limited degree of importance, the purchase by wealthy pastoralists of forage in dry periods from agricultural producers in riverine areas in the southern or central parts of the country, or limited areas of irrigation in the north, is an increasingly common factor in the ongoing commercialization process.

More important perhaps, is the spread of small enclosed rangeland areas - 2.5 hectare averages in the central rangelands - throughout the country as a means ostensibly to produce a rainfed agricultural crop supplementary to pastoral production. These enclosures of some of the most productive rangelands - lowland water catchment areas are often first enclosed - provides a means for individual herders to secure dry season fodder for their own herds which the traditional communalized land tenure system can not guarantee. It is not clear however, at what rate these enclosures are becoming widespread. Nor is it clear whether this land consolidation process is geared to improve pastoralists subsistence capabilities directly through increases in herd or crop production, or secondarily through boosted sales revenues from livestock or grains. Furthermore, it is difficult to say whether individualization of rangeland areas is having a net positive or negative cumulative effect on productivity trends and condition of rangeland resources. This will surely prove to be one of the key issues on Somalia's research agenda in the years to come.

It is fair to say that Somali pastoral production rationales present a continuum from primarily subsistence orientation in parts of the Northern, Central, and Southern Rangelands, to comparatively more extreme versions of commercial rationales in the far south and north. Nowhere however could pastoral production be said to be exclusively commercially oriented. Rather, both production for subsistence as well as commodity production are important within individual production units in most areas, with more emphasis on subsistence production in agropastoral areas. "Subsistence" and "Commercial Production" are hardly distinct categories; gradations between the two extremes is at present the norm.

We simply do not have enough information available to definitively state, as some would like, that increasing levels of commercialization are hurting the adaptive ability of pastoral producers and making them more susceptible to disease and drought (cf. Swift, *Ibid.*) despite possible decreases in pastoralist milk and ghee consumption. From available terms of trade data (see Table 2), pastoralists seem to be maintaining livestock prices at levels comparable to withstand the recent effects of incessantly spiralling inflation rates.

Thus emigration from the pastoral sector may have as much to do with changing values as it has to do with economic or social breakdowns in pastoral communities' abilities to redistribute wealth and carry on appropriate collective management of the rangelands. These changing values result from the ease with which

family members cross over occupational categories and geographical boundaries.

The integral pastoral territorial management unit, the degaan, remains tremendously relevant in the lives of pastoralists regardless of enclosure developments or any commercialization of the livestock industry. Degaans provide a loosely conceptualized framework or structure within or around which pastoralists may improvise during times of stress. This structure may be said to have been generated on the basis of decades, or in some instances, centuries of movement by certain groups of pastoralists within relatively delimited areas. Thus the degaan system establishes a generalized logic for mobility.

Given any temporary shortfalls in grazing and water, the system is flexible enough to allow migration across degaan boundaries. This assures individual family's, and ultimately pastoral groups' survival. In an environment characterized by sporadic rainfall, and hence, scattered ecological resources in space and time, a system which fixes pastoralists rigidly to territorial units would prove fatal to pastoralists' long-term welfare. Hence traditional Somali land management is characterized by a patterned utilization of territorial units by pastoral groups (cf. Lewis, 1961, for an in-depth description of the system for northern Somalia). While the units remain well conceptualized collectively by tentative use rights to other degaans on an ongoing informal basis. This access rights to national rangeland and water resources as of 1970. Yet by virtue of familiarity with local resources, along with proximity to a core group of kin relations, pastoralists naturally prefer to remain closest to areas where their expertise and network of relations are most abundant and reliable.

This by no means precludes the possibility for "eccentric" pastoral movements during "normal" times. In fact, it is possible on rare occasion to meet the highly itinerant Somali who fulfills the often repeated maxim: "I can move with equal ease to Djibuti, Harar, or Kenya if I desire."

Yet even in the years of localized drought, movements within and between adjacent degaans occur with surprising regularity. Therefore indigenous land use management can be certainly said to exist in Somalia. This is one likely reason that within a project such as that of the Central Rangelands (CRDP), the concept of rotational grazing systems has met with initial approval and occasional enthusiasm among local pastoralists. Somali pastoralists are well aware that the viability of their individual production strategies is highly dependent on the condition of the ecological resource base.

Yet rangeland deterioration is often assumed by donor agencies as endemic to the Somali pastoral adaptation, at least as practiced at present in Central Somalia (cf. World Bank, 1979). In fact forage production may actually be sufficient for 1.8 times as many tropical livestock units (TLU) of 250 kg/head as were censused in the wet and dry seasons of 1979 (cf. RMR, 1979), this based on primary vegetative production figures drawn from seven "poor" to "fair" range sites in Hobbio District. This poses the question of whether the central rangelands are overstocked as often assumed, or actually under stocked (cf. Bunderson, 1984). If understocked as the Central Rangelands Livestock Survey and portions of the accumulating body of vegetative data may imply, the traditional degaan management systems must be performing appropriately, at least in many areas of the country. The most pressing management needs are, as pastoralists and expatriate

advisors will readily offer, around expanding village centers and newly established high-yielding water points.

Extrapolating further, the overall resource base which constrains pastoral production may not at present be threatened throughout many parts of Somalia by expanding commercialization. This is reflected by the fact that the integrity of the degaan system remains largely intact. Were this not the case, one would expect to encounter widespread breakdown of degaans with pastoral mobility patterns becoming highly irregular and haphazard. And try, as in certain rangeland areas traders may, to establish private reserve areas or fattening operations for export, if local pastoralists perceive this as threatening to their communal interests, they will often coalesce as a corporate group and make their objections publicly known. In many ways this highlights both the viability and potential vulnerability of the degaan system which provides the fundamental logic for individual pastoral Somali management strategies.

#### 4. Pre-Export Production and Marketing of Somali Cattle; Fodder Production

Small scale traders - jeeble or bayac mushtar - can either buy livestock upon notification from an exporter (ganacsatada waa weyn) that animals are needed, or else assemble animals over the course of time when prices are low, purchasing with their own private capital. They will resell to exporters or the urban market when prices rise in turn. Jeebles generally prefer the long term approach since the potential to maximize profits from shifting market trends is higher.

Brokers or dilaals are middlemen who bring exporters together with jeeble or pastoralists. They may also bring exporters' commissioned agents, wakiil, together with either the primary producers or jeeble. They make 50 -100 shillings for cattle or camel transactions, 5 shillings for shoats. Exporters utilize the services of jeeble and wakiils differently. Some traders have attachments to wakiils in numerous villages and deal through them primarily. These wakiils will send notification through the interior that certain classes and ages of animals are wanted. Pastoralists and or jeebles will bring livestock accordingly. Unless the two parties know each other, a dilaal will often mediate the sales process. The wakiils' commission depends on the price paid for the animals purchased.

Holtzman (1982) description of livestock collectors or jeeble is quite accurate, though the distinction between what he calls gedisley and "independent livestock traders" is not. The important categorical names (for these collector/independent merchants) throughout Somalia is jeeble or bayac mushtar. Sometimes jeeble serve as wakiil and get cash up-front to make livestock purchases. More often they operate off their own capital. While exporters are reverting more and more to using trucks to transport their animals from poor grazing areas to more plentiful areas averting fodder shortages, it does not appear to be commonplace for jeeble or gedisley to purchase fodder as Holtzman suggests for animal maintenance during the dry season. This may be a possibility in southern Somalia where fodder is cheaper and more readily available.

Essentially, in the gu and dayr rainy seasons the prices of stock rises as pastoralists and their livestock are more dispersed and purchased consumption needs are minimal compared to the dry seasons when jeeble and exporters have more leverage over prices. In Northern Somalia, these times are called gorogooray.

In the south, it is claimed that many jeeble are pastoralists, or are switching comfortably between occupational categories. One jeeble we met in Kismayo was a former pastoralist who lost his animals in the dabadheer drought of 1974. While preferring shoaat trade for its liquidity, he was now moving through assembly points in Badade and Afmadow Districts near the Kenyan border where prices have fallen for cattle due to onerous drought conditions through latter '83 to May '84. He bought 14 3-year old mature males for an average of 2,360 sh/head. Finding good quality 5 year old mature males was reportedly difficult as people were not selling weakened animals at lower prices offered by jeeble of 3,500 shillings in their interior points.

Fodder cutters in the north are hired by exporters from Hargeisa and transported to a cutting site which may either be granted by permit from NRA or may be the farm of an agropastoralist in the north. These cutters may be either pastoralists, agropastoralists, or urban laborers, while in Kismayo, they are part of a government sponsored cooperative called "Ururka Dhalinyarada". This cooperative is blamed by one of the major exporters in Kismayo for being a major constraint to exporters as delivery of fodder is always delayed. The cutters of the cooperative actually agree that the organization is poor, claiming that the

government intermediary between them and the merchants often requests double the load necessary and then never pays them for the grass. Many times they are paid a percentage up-front and then kept waiting for months in arrears. Both cutters and traders prefer to establish a direct relationship and eliminate the cutting cooperative. It is also reported that the state is responsible for setting prices. Officials in Mogadishu are said not to know that such a cooperative cutting arrangement exists.

If the demand for fodder cutting increases as a result of the 21-25 day quarantine period, both exporters in Kismayo and Hargeisa agree that there should be a sufficient fodder supply in normal rainfall years.

In Kismayo, approximately, 30 men cut grass; if demand is urgent, more people are added. On a ship by ship basis, they estimate that it takes 7 days of cutting to supply one ship; it takes 30 days if grass is not abundant, traveling as far as Jilib to cut.

Fodder production for export from Kismayo is based almost entirely on free range cutting; stover from a cultivated field is cut and sold in the Kismayo market for urban livestock. For export out of Berbera, most fodder is cut in the rangeland with small percentage reportedly coming from cultivated areas.

Fodder production for Mogadishu comes principally from the Shebelle alluvium areas where cropping is highest, and population densities are increasing rapidly. This indicates a further shift towards agropastoral production systems from primary pastoral production per se, with increasing individualization of enclosed lands and accompanying fodder production.

Traders from Mogadishu report that fodder is readily available year round, and that they anticipate no shortages with even a 3 fold increase in demand. Cutters come from either rural or urban centers. The current price for fodder is 1,300 shillings for 5-6 tons, variable of course-- as fodder is everywhere -- by season and level of demand.

When shipping, additives of busha or sorghum stover are included. Reportedly, quintal-size sacks are 500 shillings now. The economics of using sorghum stover as additive in maintaining weight levels for cattle in transit needs investigating.

It is suggested by members of the Northwest Region Development Project that many small farmers in the Northwest region could spontaneously become involved in fodder production if the market is good. There are also several plains areas where tug waters from seasonal water-courses percolate the subsurface, depositing significant groundwaters to potentially tap. The Tog Waheen plains northwest of Lafuruug towards Bulaxar is a major watershed area which barring land tenure complications, could be developed for fodder production. Laaso Dawaco east of Lafuruug now has irrigation and vegetable gardening with possibility for expansion.

To get more seriously into fodder farming, numerous inputs to small farmers will be needed. These would include oxen and ox-drawn implements, insecticides and fertilizers, provision of seed and small pumps at marketable prices. Cost recovery projections for small scale irrigated farms have been prepared by the Northwest Region Agricultural Development Project and could be used as a base for projecting the feasibility of different support programs that could be made available to small farmers (cf. Farouk et al., 1984)

Stockmen work for jeeble or exporters on a long or short term basis. They receive 100 shillings/day plus per diems in kind. The case of one of the biggest southern exporter is illustrative. He reportedly has 6000 bulls around Kismayo waiting for export which require some 60-70 workers, or 3 workers/100 cattle. He reportedly pays 150,000 shillings in salaries per month for these workers which totals 2,700,000 shillings

for an 18 month period. To this another 150,000 shillings a month was estimated to be spent on expenses such as water for animals, and drugs for which the MLFR vets provide expert advice in treatment.

With renewed exports of cattle, the activities of each of the above-mentioned categories should increase. The potential for jeebles making increasing profit margins throughout the country and northern fodder producers turning more to fodder production as demand increases, looks promising.

5. Establishment of Quarantine Facilities

A. Lafaruug (Berbera)

The Ministry of Livestock, Forestry and Range (MLFR) has suggested Lafaruug as the site of a new quarantine facility that would serve the port of Berbera. Lafaruug is located in a transition zone between the coastal plains and the interior highlands, sixty five miles from Hargeisa on the main road to Berbera. The site is ringed with hills and a quarantine station of one square kilometer in area/would represent a loss of at least one third of the eastern side's grazing resource.

Discussions with the community's elders and various pastoralists and residents indicated that, with some exceptions, there was considerable opposition to the location of the station at that site. Two main reasons were cited:

a. Informants claimed that many of the thousands of cattle originating from distant grazing lands and brought to the station could be harboring diseases, even if they have received prequarantine examinations and vaccinations, and could threaten the health of their local animals.

b. The pastoralists claimed that given the topographical features of their degaan, the area and water required for the new facility would have a strong negative impact on the area's grazing, watering and settlement patterns.

It is quite possible that these views did not represent the community's final opinion on the subject since the Nabadoon (community leader) was not present and he subsequently indicated support for the location of the station and the belief that the elders could be won over. On the other hand, there is a good possibility that acquiescence under pressure might lead to passive or active sabotage of the facilities by aggrieved residents with a resulting failure of the system.

For these reasons, an effort to select a substitute site is recommended. A team made up of a MLFR representative, a hydrogeologist and a Somali social scientist (or a Somali speaking expatriate) spend several weeks assessing alternative sites along the Hargeisa-Berbera road that best meet both water potential and social criteria. A preliminary ranking would be made by the hydrogeologist based on existing literature and LANDSAT imagery. Sites thus identified would be visited, using the following suggested methodology:

a. Contact with relevant Nabadons, Samadons and Suldans representing all pastoralist interest groups at those sites;

b. Explanation by MLFR of the quarantine plan and expected benefits to accrue to residents participating in the project;

c. Scheduling of follow up meetings with several days time in between for community meetings and exchanges of views. Open discussion at the follow up meeting to assure that all major views are represented and recommendations made;

d. Preparation by the team of an assessment and site recommendations based on:

(1) "Participation potential" as evidenced at the meeting;

(2) Degree of conflict with existing land use patterns;

(3) Evaluation of local authority structure. (where local leaders seem strongest and weakest);

(4) Probable impact of proposed tracts on local ecology and pastoral practices.

Selection would be made on the basis of the above considerations. If no site was entirely satisfactory, the selection committee would then examine sites along the Burao - Hargeisa road, or select the least unsatisfactory site along the road to Berbera. In the latter case, it would be advisable to have construction of the facility be accompanied by a number of additional inputs (see annex) to minimize potential for facility sabotage.

B. Warmahun (Mogadishu) and Lahaley (Kismayo)

Both of these sites would be located on existing MLFR holding grounds (cf. Holtzman, 1984) and no land use problems related to their use as a quarantine stations were identified. Apparently pastoralists have grown accustomed to not being able to let their animals use these sites.

## 6. Assessment of Participation of Beneficiaries in the Project

All categories of beneficiaries appear eager to participate in this project. The general feeling throughout the country is that the ban is hurting producers, traders, and government alike.

It is true as Holtzman has previously reported (1982) that traders are more organized in the north than in the south. Southern traders are inevitably more dependent because the industry is newer.

Traders in both north and south appear eager to participate in the project. Northerners because of existing management structures, already enjoy an organizational advantage which would give them the opportunity to make more effective short-term use of any acquired project inputs. Traders are open to any proposals which carry hope of opening cattle trade with Saudi Arabia, even though they are often not convinced that rinderpest is necessarily the real constraint on exportation.

Traders from Mogadishu and Kismayo expressed confidence in their ability to provide sufficient fodder for a 21 day quarantine period. The southern traders major request was to eliminate any government interference in the purchasing of fodder. This issue is a bit of a "red herring"; as officials in Mogadishu do not believe such government involvement exists. A further check need obviously be made for both traders and cutters in Kismayo believe such an arrangement exists.

Hargeisa traders would appreciate active donor assistance in the project, either on a direct arrangement between themselves and USAID or in conjunction with MLFR. For convenience, the former arrangement seemed preferable. They are mainly in need of heavy equipment and technical expertise, the former determined upon analysis by the latter.

On the basis of what they believe is a relatively well-organized cooperative structure which they describe in "company" terms, they feel their ability to procure, maintain, and export a major share of the northern market's exports to Saudi Arabia is excellent. They are reportedly willing to absorb any number of exporters, jeeble, wakiils, mechanics or individuals with particular expertise who want to join the cooperative. In addition, traders in Hargeisa will be willing to invest significant sums of money to create the correct "export content" to break the export ban. To elicit their participation, they are hoping to see concomitant USAID inputs leading the way where appropriate.

As the constraints to export seem greater in the north than in central or southern Somalia, the threat of negative economic rates of return for northern traders investing in this project is conceivable. Given the relative costs of livestock and fodder in the north, their eagerness to participate wholeheartedly in the project, together with MLFR and USAID, should be appreciated. As is true of the private sector, anywhere the more control they play over activities directly affecting them, the more secure they will feel. Given a long standing informal trading arrangement with Saudi Arabian traders and a "traditional" Somali purchasing exporting structure to deal with this trade, the Northern traders (and southern traders) repeatedly asserted the need to modernize their involvement in the livestock industry. If this project can provide them with an equitable means to do so, they will be willing to receive advice on any level as to how their business operations could be improved.

Therefore, while it is commonly felt by western donors that the private sector functions properly in Somalia and is best left to their devices, many actors in the Somali livestock sector voice the desire to receive any advice or training which will increase their effectiveness and output. This is certainly true for the northern traders and is true for pastoral producers throughout the country who perceive the lack of medicines and veterinary treatment as a major constraint on

their productivity.

The linkage between government and exporters is also seen as crucial. It is suggested that a committee be established including MLFR representatives and exporters to review on a periodical basis the efficiency of quarantine and export procedures. Participation of pastoralists and villagers living around the proposed quarantine stations is also believed to be important in any such committee, particularly so for the northern facility.

## 7. Animal Health in Somalia

As could be expected, the viability of Somali pastoralists as livestock producers depends on maintaining, or improving, the health of their animals. This is the Somali pastoralist's perspective.

A repeated assertion by the MLFR vaccination teams in the bush is that Somalis are often reluctant to allow their animals to be vaccinated or inspected for other maladies. Most pastoralists on the other hand, express disappointment over the MLFR's inability to provide medication to their livestock on a dependable basis. Pastoralists throughout much of Somalia for instance can tell you that Sanbab (CCPP) affects a major proportion of their goats and that oxytetracycline is used for treatment, or that caal (endoparasites) are debilitating their sheep and that a tablet called "Paruch" is used. After displaying their diagnostic and prescriptive ability, they continue by telling you that obtaining "oxy" is either impossible or so costly to procure as to make it impractical given herds where 70% of the animals may be debilitated at a single time. The common perception simply is that drugs are getting harder to procure, and that the MLFR is not effectively addressing the issue.

Pastoralists at the proposed quarantine station at Lafaruug near Berbera have a problem with predators. During the British occupation, poison was readily made available to kill foxes and hyenas which were responsible for considerable deaths in young sheep and goats. Now it is impossible to find poisons, while it is "just" extremely difficult to find drugs for Sanbab, caal and other serious maladies.

In the south, pastoralists coming from Kenya can receive treatment there; not all pastoralists in the the south go to Kenya, however. In many areas of the south, biting flies carry trypanosome strains as well as tse-tse bred trypanosomiasis is a major problem. But obtaining the Berenil or Naganol cost-effectively may be as great a problem.

The status of animal health in Somalia in a "macro sense" varies tremendously by region. Even at the micro degaan level there can be great variation of disease factors between herds. Only in the past year have the German funded GTZ team attached to the Central Rangelands Development Project begun work on identifying different disease parameters, and the incidence and distribution of disease vectors in the rangelands. Their goal is to develop the most appropriate animal health treatment package which can be designed and delivered.

Hard management practices and grazing patterns have an enormous impact on herd health. Animal condition, similar to plant vigor, is affected by how much rest the organism is given; condition and vigor are therefore directly affected by management techniques. Livestock which are improperly managed may become more susceptible to particular disease vectors than conversely. Improper management includes: over-extending watering intervals for livestock; overextending transhumant cycles so that unacceptable levels of tissue loss accrue; inappropriate grazing land use strategies subjecting animals to disease factors which may be avoidable; inappropriate application of purchased veterinary inputs; failure to utilize traditional veterinary techniques where appropriate; underutilization of available government sponsored services, etc.

All the above mentioned factors are inherently social in nature in that they involve active decisions on the part of the livestock owners to "manage" or "interact" with their animals in a certain way. The relevance of disease factors such as biting fly (ribi), typanosomiasis (gendi) or ticks (shillin) all bear enormously on land use patterns in terms of where and when livestock graze certain areas. Thus the potential to improve animal health can in certain instances be a function of modifications in land use patterns in addition to involvement in specific veterinary health programs.

Detailed information on particular land use patterns has begun to be collected in the central rangelands by the Socioeconomic and Extension components of the Central Rangelands Development Project. It is hoped that representative herds at producer level can be intensively sampled regarding movement, herd composition and structure, and disease parameters, so that particular interaction between variables can begin to be described. The goal of this exercise is to develop quantitative orders of magnitude for disease so that MLFR can assess the gravity of different disease problems and design appropriate health treatment packages accordingly.

It is straightforward to identify disease vectors in a particular area. It is far more complicated developing morbidity/mortality rates to determine the economic and social impact of disease factors, and determining whether veterinary health problems are exclusively a technical concern of veterinarians, or whether other management interventions involving changes in grazing patterns and particular management techniques is more appropriate.

In the Livestock Marketing and Health Project, the social scientist employed should focus particular attention on developing a data base for key production areas in the country. This data base will incorporate the following variables, from sample herds representative of different wealth strata within particular production systems:

1. Herd composition and structure
2. Detailed grazing patterns
3. Offtake rates for market or slaughter
4. Milk production
5. Kinds, quantities, and frequency of livestock medicines administered

6. Kinds and relevance of traditional veterinary techniques utilized and their impact
7. Attitudes towards increasing use of veterinary medicines

From this, a detailed report should be presented to the MLFR which outlines the order of magnitude of health problems as reported in the private sector. Suggestions regarding the structure and breadth of distribution networks to most effectively reach the pastoral livestock producer will be emphasized.

Research Issues

This section discusses several key issues having potential long-term impact on this and other donor funded livestock marketing and health projects in Somalia. Research needs are also identified.

Traders in Kismayo report that most cattle they purchase for export comes from Afmadow and Badade Districts of Lower Juba Region. Traders from Mogadishu report that most cattle comes to Mogadishu from the Lower Juba Region followed by the Bay Region and Gedo Region. Traders in Hargeisa and Burao say that their main cattle sources in Somalia are Allay Ballay and Tug Wajaale Markets in Wagooyi Galbeed Region.

Complete estimates of livestock, water, housing and cropping densities exist for all of Somalia (RMR 1979, 1981, 1984). Average between wet and dry season cattle densities for the four reported Regions of greatest sales activities along with other salient statistics are:

TABLE 1\* REGIONS

	<u>Lower Juba</u>	<u>Bay</u>	<u>Gedo</u>	<u>Hiraan</u>	<u>Wazooyi Galbeed</u>
1. Cattle densities/km	23.42	13.38	6.0	4.71	2.24
2. Weighted water source index	1.42	.42	.25	.78	3.73
3. All livestock enclosures	1.55	2.95	3.36	2.41	.70**
4. All non-urban Houses/km	.72**	2.42***	.85	.49	1.3
Ratio of cattle den. to housing density	32.53	5.32	7.1	9.60	1.7
Ratio of cattle den. to Water Sources	16.5	31.85	24.0	6.0	.6

\* Source material from Resource Management Research Northern, Central, and Southern Rangeland surveys

\*\* includes occupied enclosures only

\*\*\* includes only March 1984 census

Interesting comparisons and questions appear from these figures. Lower Juba appears to have the potential to service both Kismayo and Mogadishu's cattle needs as the Mogadishu traders suggest, given cattle to housing ratios 3.4-5.9 times that of Bay, Gedo and Hiraan Regions.\*

Interestingly, these latter figures do not correlate with relative water availability as Bay and Gedo actually have 1.45-1.9 times the cattle/water ratio as Lower Juba.

These figures also imply that subsistence needs are more readily met in Juba Region from cattle alone than is true elsewhere, as a figure of 10-20 females are mentioned as being the minimum requirement for a family of seven to subsist off cattle. This would allow for higher off-take rates in Lower Juba, as mentioned. It also suggests that water is not necessarily the constraining factor on cattle production, and that the producers' preferences for maintaining certain herd composition ratios may be important in any regional differentiation. Micro-level studies addressing herd composition/structure, off-take rates and producer production strategies are badly needed.

The figures for Waqooyi Galbeed meanwhile, the primary cattle supply region for Hargeisa and Burao traders inside Somalia, are surprisingly low considering the figures for weighted water index and ratio of cattle to housing. (If correct, the implications for the north are that much of the pastoral production phase with cattle occurs in the Ogaden, as inferences from technically feasible off-take rates given cattle population parameters also indicates). This may have long range implications for extension of veterinary services and the development of GSDR investment strategies in the north versus the central and south if there is less potential for control over cattle production phase. Research into the timing of pastoralists migratory patterns, (length and duration) in and out of Waqooyi Galbeed and the Ogaden are needed.

Considering that much of the cattle production in the north comes from outside Somali borders, one wonders why the price of livestock is so high given depressed external demands? Is it possible enough Somali cattle are passing either through Djibutian black-market or a Somali parallel market keeping producer prices high?

If this hypothesis is true-and there certainly is no data to substantiate it- then the producers still have an outlet for animals. So too would certain exporters and jeeble. Thus the system in the north in some flexible way would still be functioning to the detriment of "straight" exporters and government.

\* In other words, more surplus animals for off-take will likely be available from individual households in Lower Juba than the other regions.

The real sufferers in this scenario would be southern and central cattle exporters and producers who could not be benefiting from any parallel market activities. The southern Somali producers tried exporting through Kenya after the ban was imposed in Somalia but the Saudi's reportedly put a ban on all Kenyan cattle subsequently.

This could, on the other hand, put the conspirationally-flavored black market theory in disrepute, since if price is the issue, southern producers can far undercut their northern competitors, so that a black market may not be needed.

This issue is complex and poorly understood. Both the GSDR and the donor agencies could benefit from a more thorough understanding of the issues which properly speaking, involve trade networks between Saudi Arabia and Southern Somalia, Northern Somalia, Djibuti and the Ogaden.

Putting parallel markets aside, many basic production and animal health uncertainties persist. Using the RMR figures as a foundation, micro-level production figures for different degans within different regions are needed. Assembling a data base for key production, livestock production parameters in the context of current veterinary practice is important. So too is distinguishing between the ability and desire of livestock owners representing various wealth strata within different production systems to participate in MLFR veterinary programs.

Another important issue in many parts of the country is whether construction of cement lined water tanks (berkads) is leading to an everwidening polarity between traders and pastoralists. The gulf is evidenced, it is suggested by worsening terms of trade, deterioration of traditional rangeland management systems as described above, and in increasing pastoralists' susceptibility to drought and disease (cf. Swift, 1980)

As Holtzman (1982) points out, actual terms of trade do not seem to be deteriorating in favor of traders. If anything as this present report suggest, producers are for the most part maintaining farm-gate prices at levels commensurate with their own "internalized consumer price index".

The exception to this is situations such as in Lower Juba recently where drought conditions strike, market demand is depressed resulting in more biomass being maintained on a deteriorating rangeland, and prices drop accordingly. This is different, however, from the situation where the pastoralists versus traders is chronically degenerating.

Table 2 indicates in outline recent commodity price shifts, with evidence that pastoralists until now have maintained their position in the inflationary spiral. Clearly there will have to be a limit to how high livestock prices can rise. It is suggested that a socioeconomic study be undertaken to monitor throughout the regions the effect of price rises on pastoralists' sales strategies and herd management decisions. Without good time series data at

both the producer and market levels, the effect of inflation on modification of pastoralists' production strategies and specific management practices - veterinary included - will remain impressionistic.

**TABLE 2**  
**ROUGH ESTIMATE OF VARIOUS MARKET PRICES FOR AVERAGE QUALITY COMMODITIES**  
 (in Somali Shillings)

	BOORAMA			KISMAYO			MOGADISHU		
	1979	1983	1985	1979	1983	1985	1979	1983	1985
Cattle (5yr/m)	-	5,000	13,000	1,000	3,000	5,000	1,500	3,500	6,000
(3yr/m)	-	3,000	7,000	-	-	3,500	-	-	-
Sheep (3yr/m)	-	700	2,800	-	-	-	-	800	1,600
Camel (5yr/m)	-	-	14,000	-	-	12,000	-	-	12,000
Goat (2-3yr/m)	-	-	-	-	-	1,300	-	-	1,400
Sorghum/quintal	-	450	2,300	-	-	-	-	200	2,000
Maize/quintal	-	450	2,300	-	-	-	-	-	-
Ghee/liter	30	75	150	-	-	-	-	-	-
Sugar/kilo	-	-	-	12	40	-	-	26	40
Meat/kilo	-	20	65	-	-	-	20	50	80
Cooking oil/kilo	-	20	150	-	-	-	3	20	120

GLOSSERY OF SOMALI-ENGLISH TERMS

Balli	Natural surface depression capable of trapping rainwater
Bayac mushtar	Synonym for Jebble; small merchant
Beera leh	Fodder producers or farmers
Buusha	Sorghum stover
Caal	Endoparasites
Caawimo	Livestock gifts redistributed between kin or non-kin during times of stress
Cawska gooye	Fodder cutters
Dabadheer	"Long tail" drought of 1974-75
Degaan	Traditional grazing ground
Dibi	Male cattle
Dilaal	Broker or middleman between jeeble and livestock exporter
Dukaan	Small store
Ganacsatada waaweyn	import-exporter
Geel xer	"dry" non-milk producing camels split off from the household unit during the dry season
Gendi	Trypanosomiasis
Corogooray	Period subsequent to arrival of rains when pastoralists disperse and livestock prices rise
Jeeble	Lowest level of livestock trader
Lo'xer	"Dry" cattle herds split off from household unit in extreme times for grazing outside the <u>degaan</u>
Nabadon	Traditional "peacemaker"
Qoys	Family occupying one house
Reer	Extended family
Ribi	Biting fly
Samadon	Highest traditional leader representing what formerly was recognized as clan level
Sanbab	Contagious caprine pleuropneumonia
Shoat	Sheep or goat
Tug	Seasonal watercourse
Ugaas	Traditional leader at what formerly was recognized as clan level
Wakiil	Commissioned agent of exporter
Xooloqooyo	Same as <u>caawimo</u>

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REVISED

INITIAL ENVIRONMENTAL EXAMINATION

Project Country: Somalia

Project Title and Number: Somalia Livestock Marketing and Health (649-0109).

Funding: Development Assistance: Section 103 (ARDN)

IEE Revision prepared by: John Gaudet, <sup>9/12</sup> Regional Environmental Officer

Environmental Action Recommended:

Positive Determination \_\_\_\_\_

Negative Determination  X

Justification based on enclosed environmental review.

Action Requested by Edward W. Byrnes Date: 8 July 84  
 Project Development Officer, USAID/Somalia

Concurrence:  
 STATE 183987: "BUREAU ENVIRONMENTAL OFFICER CONCURS RECOMMENDATION IEE"

## ENVIRONMENTAL REVIEW

### I. Project Activities

The principal objectives of the project will be to assure that cattle selected for export are free of rinderpest and other diseases and will not thereafter infect other animals. To obtain this objective the project activities will be directed toward the following scheme:

- a) Vaccination of cattle for rinderpest and tagging to certify that they are vaccinated animals;
- b) Admittance to a quarantine facility;
- c) Revaccination upon admittance;
- d) Treatment for other diseases;
- e) Provision of water and fodder during an isolation period of 21 days;
- f) Movement to a marshalling yard in a port area prior to loading for export.

In order to carry out this project, USAID will finance:

1. Construction of quarantine facilities.
2. Expansion and/or rehabilitation of port marshalling yards.
3. Material support for GSDR livestock and veterinary services.
4. Private sector assistance (through CIP-like procedures) to help increase fodder production and transport of stock.
5. Technical assistance, advisors and training.
6. Programs to carry out associated studies and reviews.

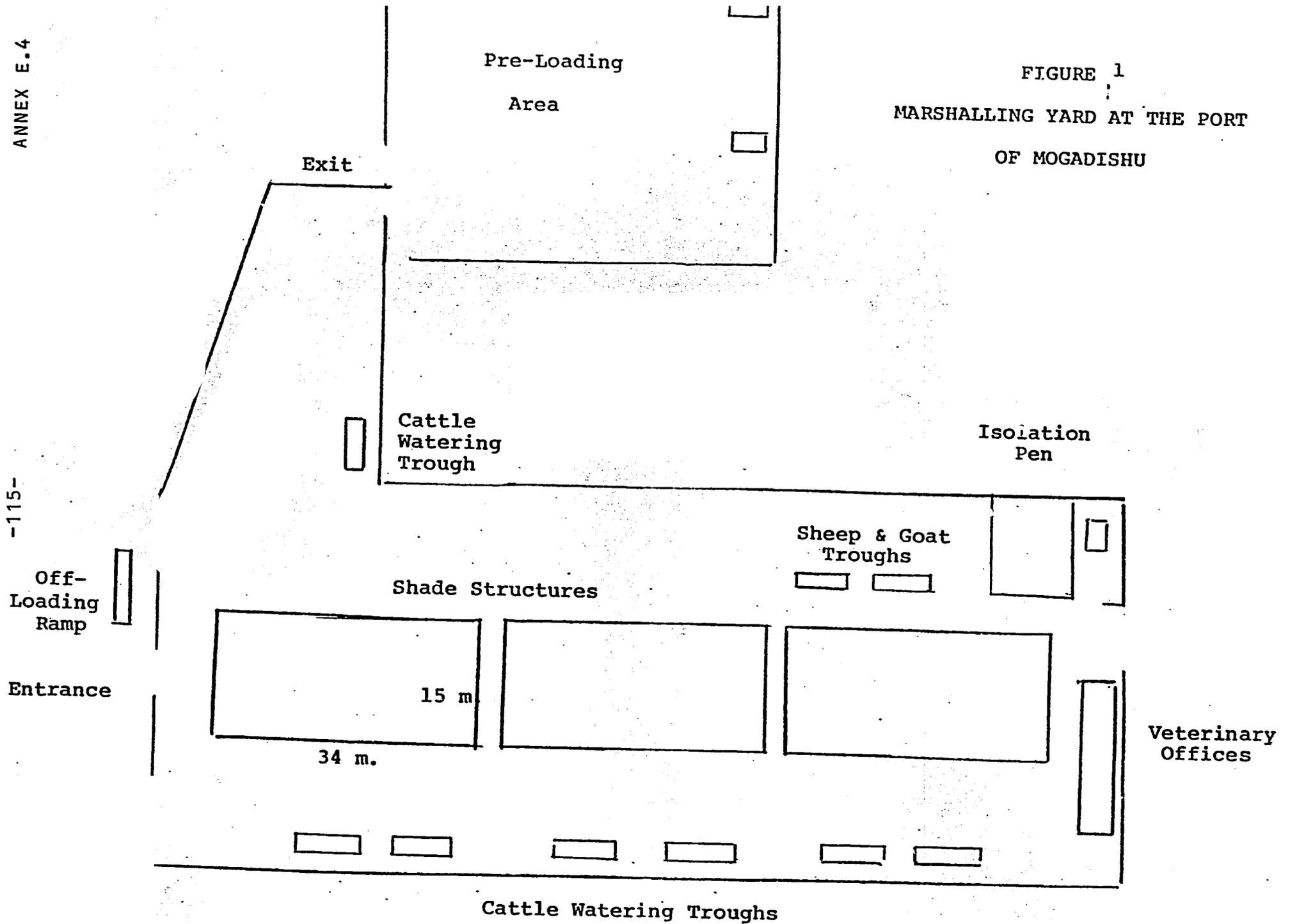
The present ER will concentrate on the environmental impacts expected as a result of the project activities.

### II. Observations Based on Site Visits

#### A. Marshalling Yards

The REO on previous visits to Somalia has briefly visited the marshalling yards at Berbera and Kismayo ports. For the present review the yard at Mogadishu port was chosen as an example and visited on two occasions; before and after a heavy rainstorm. This yard is laid out in a very efficient fashion (Fig. 1) and is designed to hold 2500 cattle over a 2 day period, based on the following estimates supplied by Dr. Omar Islaw Mahadalle, Port Veterinary Officer (Ministry of Livestock).

FIGURE 1  
MARSHALLING YARD AT THE PORT  
OF MOGADISHU



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TABLE 1

MARSHALLING YARD CAPACITY ESTIMATES

<u>Animal</u>	<u>Minimum Space (m<sup>2</sup>/animal)</u>	<u>Yard Capacity at Mogadishu* (Total Number)</u>
Sheep/goats	1.0	4500
Cattle	1.8	2500
Camels	2.8	1600

\*(Based on estimated available yard space 30 x 150 m, or 4500 square meters total).

It is a well-built facility with concrete covering approximately 40% of the surface area; the remainder being compacted soil.

During normal operations straw is spread over the whole area to prevent animals from slipping. After loading one shipment of animals, the empty yard is raked in preparation for the next batch. It is intended that the combined straw and manure will be transported to fields or farm areas. The yard has only been used intermittantly for two earlier shipments, but very little residual straw or manure was in evidence.

Over the course of a year there will not be much of a problem with drainage because of the low annual rainfall (Between 350 and 400 mm for Mogadishu with 400 mm at Kismayo and 100 mm at Berbera). However, there will be occasional problems due to storm events. The morning after a heavy rainstorm, in Mogadishu the REO noted that there was no standing water in the yard, most had infiltrated the soil or disappeared as runoff. To the eye it seems that the yard slopes eastward toward the entrance (Fig. 1). In the main road opposite the entrance, quite a bit of standing water had collected indicating that this is the low point of the area. With increasing use in the future it can be expected that compaction and sealing of the soil will occur. It would be worthwhile now to dig a simple ditch along the northern side of the yard to serve as a storm drain with a small rock-filled cesspit outside (Fig. 1). In the future, if the yard is extended eastward there will have to be a proper drainage system installed, as the area east of the yard is definitely lower than surrounding terrain.

Throughout the Mogadishu area little exists in the way of sewerage systems. Sanitary facilities throughout the region depend on cesspits. Fortunately, the Mogadishu city water supply originates from well fields at a distance from the city center. Urban planning does call for main sewer trunk lines and a new storm drain, but such structure will not reach the port area for some time to come. In the absence of city storm

drains and sewer lines, but prevalence of dry weather conditions, it is suggested that leaching effects in the marshalling yards can be kept to a minimum by enforcing the program for raking out and disposal of the manure and straw residue after each batch of animals.

### B. Quarantine Facilities

A typical layout for a quarantine facility, based on the Agricultural Analysis, is shown in Fig. 2. The REO visited the former dairy facility at Warmahan which will be converted into a quarantine facility along the lines shown in Fig. 2. The facility is about 60 km from Mogadishu on the road to Baidoa and was previously a government dairy farm. It is fenced and crossfenced with barbed wire which is in need of repair. Brush cover is heavy, although some clearing has been done in a few sections. Offices, staff and worker houses, storerooms, barn and mechanics workshop are there along with concrete-floored holding pens. Although several wells exist on the property none were functional at the time of the site visit. No cattle were present at Warmahan, as it no longer functions as a dairy, but the REO did notice that an extensive water supply and distribution system including water and feeding troughs had existed earlier. The concrete floors of the holding pens had previously been kept clear of dung during the early days of dairy operation. But the dung, rather than being raked out for disposal, had simply been cleared from the concrete, and spread out in the rear of the paddock where it was allowed to accumulate. A central drain runs down the length of each half of the facility, but is now in need of repair and cleaning.

The quarantine facilities planned for this project are much reduced in size compared to earlier proposals. The total area to be cleared for each facility is only 100 hectares (Table 2) with 400 hectares total for the whole project (Table 3). This will keep the impact of land clearance to a minimum, thus avoiding the earlier expressed concerns of AID/w (State O41630). Also, because each facility will be located away from settlement or urban areas no large leaching effects are expected on human water supplies. It is recommended however, that simple storm drains and rock-filled cesspits be incorporated in the design of each facility, as suggested previously for the marshalling yards. Also it is important that the manure removal program be strictly enforced. In the original IEE it was suggested that some of the dung would be recycled in local biogas generators. This should be encouraged, but the amount of dung that can be disposed of in this way, is very small compared to the total amount to be produced each month by 5000 cattle (monthly average in each facility). It would be more practical to encourage the use of this dung as a soil amendment in the forage production areas. This will be especially important as the private sector will be called upon to produce forage in large quantity on a regular basis.

It is also recommended here that a dead animal disposal area be demarcated at least 500 meters away from each facility. A disposal program should be encouraged which will utilize deep pit disposal methods with lime. In addition, there should be land set aside for future expansion of the disposal site.

TABLE 2

AREA OCCUPIED BY A TYPICAL QUARANTINE FACILITY  
(based on the Agricultural Analysis)

	Area (Square meters)
Entry Marshalling Yard One (220 x 220 m)	48,400
Isolation paddocks Ten (33 x 33 m)	10,890
Quarantine paddocks One hundred (43 x 16 m)	718,100
Space between paddocks, lanes, etc.	235,580
Total:	1,012,970 = 101.3 ha.

TABLE 3

TOTAL AREA OF ALL FACILITIES  
(based on the Engineering Analysis)

	Total Maximum Area (ha)
<u>A. Mogadishu Port Quarantine Area</u>	
1. Main Marshalling Yard (30 x 150 m)	0.5
2. Warmahan Quarantine Facility (See typical facility layout)	101.3
Sub-total:	101.8
<u>B. Berbera Port Quarantine Area</u>	
1. Main Marshalling Yard (presently 0.5 x 0.5 km, to be expanded to 1.0 x 1.0 km)	100.0
2. Supplemental Marshalling Yard (presently 70 x 70 m, to be expanded to 100 x 100 m)	1.0
3. Aoori Quarantine Facility (see typical facility layout)	101.3
Sub-total:	202.3
<u>C. Kismayo Port Quarantine Area</u>	
1. Main Marshalling Yard (150 x 250 m)	37.5
2. Lalehay Quarantine Facility (See typical facility layout)	101.3
Sub-total:	138.8
Grand-Total:	442.9

C. Animal Drugs and Vaccines

All livestock drugs, vaccines, and chemicals procured or used in this project will be subject to USAID Reg. 16.

D. Pesticides

Dipping facilities will be provided in the quarantine facilities. The supervisors of each facility should be made aware of the problems associated with the chemicals used in dipping. Since training will be one of the project components, it is recommended that during their training period in either the USA or in-country, the supervisors should receive at least some guidance in livestock pest control, especially: a) field training in actual application; b) methods of disposal of old dip; and c) new formulations and techniques available for pest management.

Regarding the general use of dip chemicals, it should be noted that Coopertex R is an acaricide that has been used in Somalia. However, in regard to this chemical the recommendations of Collier and Gaudet should be noted from the Environmental Assessment of USAID Agricultural Projects in Somalia, 1983. They pointed out that malathion is a safer and preferable alternative and should be evaluated locally perhaps by the MLFR. This is especially important since pending RPAR decisions by EPA on one ingredient, toxaphene, may preclude or modify future uses. The highly toxic organophosphate dioxathion (Delnav R) should not be used. No pesticides for livestock control should be dispensed to nonproject personnel, and the pesticide Coopertex R should only be applied under the direction of the quarantine yard supervisor.

E. Monitoring and Evaluation

Because of: 1) the decrease in size of the facilities (from the originally proposed large enclosures); 2) the removal of manure and waste straw for recycling as compost; and 3) a generally dry climate, groundwater contamination is not expected to be large. However, spot checks on the project facilities and yards can be carried out once they are in full operation. These spot checks would consist of brief, occasional site visits (e.g. once a year) and would include spot analysis of soil and water samples from selected sites. This work would be carried out by the Environmental Advisory Committee of the National University under the direction of Professor Ahmed Maye (Dean of the Chemistry Faculty).

The results of the site visits will be presented as a brief report to the MLFR, NRA, Project Manager and USAID Mission Environmental Officer. The report should include possible remedial actions, as well as suggestions on how to design future marshalling yards and quarantine facilities. These reports should also be made available for the mid-project (1986) and end of project (1988) evaluations.

F. Summary and Actions Requested

1. Covenants

a) Government of Somalia must guarantee the removal of manure, residual straw, waste fodder, etc. from the marshalling yards and from quarantine facilities prior to the arrival of each new batch of animals.

b) During the process of reviewing private sector grant application, priority will be assigned to those applications which propose recycling of the above waste material. Expenses for transport, composting and spreading of this waste will be considered to be a normal expense in proposal budgeting.

2. Recommendations for Design

a) The final design for construction, expansion and/or rehabilitation of all marshalling yards and quarantine facilities will provide some simple form of storm drainage.

b) A dead animal disposal program must be planned for in each quarantine facility.

c) Procurement or use of drugs, vaccines and pesticides must follow guidelines established earlier by USAID/Somalia and regulated by Reg. 16.

d) The private sector advisor will encourage the use of manure in forage production, especially on farms close enough to the project facility to make this practise economically possible.

3. Monitoring

a) Spot checks will be carried out by the EAC annually on project facilities (includes occasional soil and water analyses).

b) Brief monitoring reports will be copied to the MLFR, NRA, Project Manager and USAID Mission Environmental Officer.

4. Budget

a) Local currency will provide for the monitoring program (e.g. one person-month per year for a team of two university people for LOP).

### ENGINEERING ANALYSIS

All sites, new and existing, have the same basic operating principles, which is to hold the animals in isolation, to separate sick animals from the healthy, then to transport the healthy animals to a marshalling yard for shipping.

Engineering is basically the clearing of brush for perimeter and paddock fencing; the installation of double fencing, 6 strand and 4 strand; the construction of shade buildings, feeder troughs, water troughs, support buildings as required; roads within the fenced areas and vehicular access to the existing major highways. Support infrastructure will be water supply and to a very minor extent electricity for lighting.

It is proposed to have a qualified Agricultural/Civil Engineer layout the facilities at the two existing sites Waramahan and Lahilay in accordance with stated quarantine principles so as to best utilize the existing buildings, feed troughs, water system, support buildings and access roads. For the new site, Hargeisa-Berbera, the layout would be done in relation to potential water supply and access.

Construction by contractor would probably begin at the Hargeisa-Berbera site followed by Waramahan, then Lahilaya. Sequence would be clearing for fences, roads and building areas followed by fence construction, access and feed roads, water supply, buildings and feed troughs. Commodities would be FX as would be the contractor support costs and overhead. GSDR would pay for labor. Support costs would include vehicle and plant operations.

1. Fencing: Fencing and core contractors would probably be from neighboring Kenya utilizing 7 foot treated wooden posts at 15 foot intervals with 2 lines of fence 15 foot apart, 6 strand barbed wire along the perimeter and center roads where animals might be in contact with infection and 4 strand elsewhere. Barbed wire fences at existing sites are in variable condition and should be ignored for quarantine purposes.

2. Feed and Access Roads: This will probably done by contractor with the feed roads constructed of hard murrum or stone surface and at elevation above the adjacent ground. Access roads between the facilities and the existing highway should withstand 7 to 10 ton trucks, should preferably have spray and stone surface and be above the level of the adjacent ground. Drainage ditches and culverts would insure the free flow of surface water.

3. Feed troughs would be located adjacent to the fences with central access. Troughs would be of reinforced concrete designed for 1 cow per 2 foot length. A concrete slab or rock masonry slab 10 foot long sloping away from the trough is necessary.

4. Shade buildings are open sided buildings with galvanized sheet roof generally constructed with the feeder troughs. Structural members would be of reinforced concrete or wood; Roof widths 12 to 20 feet as required.

ANNEX E.5

5. Water Systems: Water supply will be by ground water wells and above ground storage tanks for Waramahan and Lahilay where systems exist. For the Hargeisa-Berbera new site, consideration should be given to the same type of system ground water well and above ground storage tank or alternatively an infiltration chamber system with pump set at the side of a stream with sufficient recharge for the proposed water system. Where water supply systems exist, a detailed examination of the pump, motor, well capacity, and condition of the above ground tank should be made to determine the operational capability, repairs, useful life and/or necessary replacement. Budget figures shown will be on the high side because of the uncertainties of the existing system. All control systems will be replaced.

6. Electrical supply will generally not be needed unless security lighting is required and/or lighting for existing support housing. Small portable units may be used.

7. Support Housing: Permanent employees such as the veterinarians will not be housed on site but will find accomodation in adjacent cities or towns. Somali employees will be placed in existing housing or housing constructed by GSDR. In either case layout should be such that the housing is outside the quarantine area and any animals associated with that housing separately penned.

Cost Estimates Construction Materials

A. <u>Berbera Port Quarantine Area:</u>	<u>US\$</u>
1. Main Marshalling Yard 0.5 km x 0.5 km Rehabilitation is complete with exception of water. Rehabilitation water supply and storage	125,000
2. Expansion of Main Marshalling Yard by 1 km x 1 km Wire Fence and Wood Posts	25,000
10 Shade Areas 40' x 200' each	40,000
Misc. supplies and tools	<u>5,000</u>
	70,000
3. Supplemental Marshalling Yard 70m x 70m Rehabilitation complete Allow	10,000
4. Expansion of Supplemental Yard 100m x 100m Wire Fence and Wood Posts	2,000
2 Shade Areas 40' x 200'	8,000
Water System	5,000
Misc. Supplies and Tools	<u>5,000</u>
	20,000

ANNEX E.5

5. Aoori Quarantine Ground		
Wire Fence and Wood Posts	370,000	
Misc. Supplies and Tools	10,000	
Rehabilitation of existing well	50,000	
2 new wells complete plus water system	300,000	
Misc. construction incl. dips, crushes	<u>20,000</u>	
		750,000
Total BERBERA:		<u>US\$965,000</u>

B. Mogadishu Port Quarantine Area:

1. Marshalling Yard 0.5km x 0.5km		
Rehabilitation is complete except for water hookup		
Allow		15,000
2. Warmahan Quarantine Ground		
Wire Fence and Wooden Posts	160,000	
Rehabilitation of existing well	50,000	
Paddock water supply lines and trough	25,000	
Misc. Supplies and Tools	10,000	
Misc. Construction	<u>20,000</u>	
		265,000
Total MOGADISHU:		<u>US\$280,000</u>

C. Kismayo Port Quarantine Area:

1. Marshalling Yard 150 m x 250 m		
Rehabilitation is complete except for additional fence		
Allow		10,000
2. Lalehay Quarantine		
Wire Fence and Wood Posts	370,000	
Rehabilitation of 2 wells	100,000	
Paddock water supply lines and trough	25,000	
Misc. Supplies and Tools	10,000	
Misc. Construction	<u>20,000</u>	
		525,000
Total LALEHAY:		<u>US\$535,000</u>

Total three (3) Port Areas	US\$1,780,000
Estimated insurance and freight 25%	<u>445,750</u>
Total:	US\$2,225,000
Say:	<u>US\$2,300,000</u>

Support Costs (AIL)	Allow	\$270,000*
Labor Costs (GSDR)	Allow	\$140,000
Contractors overhead and profit, mobilization, demobilization		\$170,000

\*Could be low, dependent on length of access road.  
If need to be increased take from commodities total.

ANNEX F

I M P L E M E N T A T I O N

S C H E D U L E

IMPLEMENTATION SCHEDULE

Responsible Office	ACTIVITY	1		2		3		4		5		6		7	
		July		December 1984		January		June 1985							
		Week: 4	8	12	16	20	24	28	32	36	40	44	48	52	
	1. Initial Actions														
AGR/MLFR	A. ProAg signed *														
AGR/MLFR	B. Initial CPs met														
	2. Quarantine Facilities Construction														
AGR/DLQ	A. PIO/T for Facility design prepared														
SER/CM	B. IQC work order iss.														
AGR	C. Design team mobiliz														
AGR/ENG	D. Team prepares draft design														
AGR/ENG/DLQ	E. Mission + MLFR review design														
AGR	F. Team finalizes design														
AGR/ENG	G. Mission prepares PIO/T, RFP														
AGR/ENG	H. Design Team helps Mission prepare PIO/T, RFP														
SER/CM	I. RFP finalized														
SER/CM	J. CBD notice publish. Advertizing in Kenya														
AGR/ENG	K. Top firms short-listed, proposals submitted														

**KEY**

MLFR Ministry of Livestock, Forestry and Range

SVI Serum and Vaccine Institute

DLQ Division of Livestock Quarantine

PTR Planning, Training, and Research Dept.

CSB Somali Commercial and Savings Bank

NU National University

AGR Office of Agriculture, USAID

ENG Office of Engineering, USAID

SMO Supply Management Office, USAID

PROJ Project Development Office, USAID

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Responsible Office	ACTIVITY	1		2		3		4		5		6		7	
		July	December	1984		January		June		1985					
Week:		4	8	12	16	20	24	28	32	36	40	44	48	52	
1 AGR/ENG/ML	L. Contractor chosen														
2 AGR/MLFR	M. CP necessary for construction met (on-user fees)														
3															
4															
5	3. Long Term TA														
6 AGR	A. PIO/T for vets + quart. mgr. prepared (PASA)														
7															
8 SER/CM	PASA negotiated														
9 AGR	Sr.Vet.mobilized														
10 AGR/PTR	B. PIO/T for analysts prepared (PSC)														
11															
12 AGR	Analysts recruited														
13 AGR	Analysts mobilized														
14 AGR/SMO/MLFR	C. PIO/T for private sector advisor prepared (PSC)														
15															
16															
17 AGR/SMO	Advisor mobilized														
18 AGR/SMO	Advisor on board														
19 AGR/MLFR	D. PIO/C for household effects prepared														
20															
21 AGR/MLFR	PIO/C for vehicles prepared														
22															
23 AGR	Housing preparations for Sr.Vet., Analysts completed														
24															
25 AGR	Vehicles delivered														
26 DLQ/PT	E. Office preps. completed														
27															

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Responsible Office	ACTIVITY	1		2		3		4		5		6		7	
		July		December 1984		January		June 1985							
		Week: 4	8	12	16	20	24	28	32	36	40	44	48	52	
	4. Short Term TA														
AGR	A. PIO/T for user fee analyst prepared (PSC)	→													
AGR	Analyst recruited		→												
AGR	Analyst mobilized			→											
AGR	User fee study compl.					→									
AGR/MLFR	reviewed														
AGR /MLFR	USAID/GSDR negotiate fees							→							
AGR/DIR/MLFR	Revolving Fund established									*					
AGR/SMD	B. Private Sector Advisor on board														→
	5. Livestock Investm. Fund														
SMD/AGR	A. Private Sector demand study							→							
SMD/AGR/MLFR	reviewed								→						
SMD/AGR/MLFR	B. Develop criteria for fund participant selection									→					
SMD/MLFR/CSB	C. Develop procedures, agreements for Fund														→
SMD/CSB	D. Fund established												*		
SMD/MLFR	E. Investors identified														→
	Investors selected														→
AGR/DL	6. Quarantine Program														
	A. PIO/C for quarantine equipment prepared														→

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Responsible Office	ACTIVITY	1		2		3		4		5		6		7	
		July		December 1984		January		-		June 1985					
		4	8	12	16	20	24	28	32	36	40	44	48	52	
1 AGR/DLO	B. PIO/C for drugs, vaccines prepared														
2															
3 AGR/DLO	C. PIO/C for lab equipment prepared														
4															
5 SVI	D. SVI Isolation Unit														
6	1. designer select.														
7	2. design complete														
8	3. contractor sel.														
9	4. construct. comp.														
9 DLQ	E. Pre-quarantine vehicles procured														
10															
11 NU	F. Environmental monitoring														
12															
13	7. Training/Evaluation														
14 AGR/MLPR	A. Trainees identified														
15 AGR/MLPR	B. PIO/Ps prepared														
16 AGR/DLO	C. Overseas training														
17	long term														
18															
19															
20															
21															
22															
23															
24															
25															
26															

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Responsible Office	ACTIVITY	1		2		3		4		5		6		7	
		7/85 YEAR		4/86		7/86 YEAR		4/87		7/87 YEAR		4/88			
		Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4		
	2. Quarantine Facilities														
AGR/ENG/DLO	0. Facilities construct														
	1. Commodities procur														
	2. North facil. compl.														
	3. South " "														
	4. Mogadishu " "														
	3. Long Term TA														
AGR/DLO	A. Sr. Vet. on board														
	1. Monitors quar. facilities constr.														
	2.a. Develops policies procedures.														
	b. reviews w/ GSDR, revises														
	3. Drafts SOW for drugs study														
	4. Monitors health system, policy advice, training														
	5. Drafts SOW for another study														
AGR/DLO	B. Jr. Vet mobilized														
	" " on board														
	1. Trains for quarant.														
	2. Monitors "														

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Responsible Office	ACTIVITY	1		2		3		4		5		6		7	
		7/85 YEAR		4/86		7/86 YEAR		4/87		7/87 YEAR		4/88			
		Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4		
1 AGR/DLO	C. Quar.Mgr./Trainer mobilized		→												
2	" " on board														
3															
4 AGR/PTR	D. Livestock Mktg. Analyst on board				→										
5	1.Orders comput.equip. →														
6	2.Comput.equip.arrive →														
7	3.Drafts SOW for mkt. diversific.study →														
8	4.Domestic mktg.study - reviewed														
9															
10															
11															
12															
13															
14															
15															
16 AGR/PTR	F. Soc.Scient.on board														
17	1.Soc.implics.study - reviewed														
18															
19															
20															
21															
22 AGR/DLO	4. Short Term TA														
23	A. Drug Pkg.Distr.stud.														
24	1.PIO/T prepared →														
25	2.Analyst recruited →														
26	3.Study prepared →														
27	4.Study reviewed →														

Responsible Office	ACTIVITY	1		2		3		4		5		6		7
		7/85 YEAR		4/86		7/86 YEAR		4/87		7/87 YEAR		4/88		
		Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	
1 AGR/PTR	B. Mkt. Diversif. Study													1
2	1. PIO/T prepared		→											2
3	2. Analyst recruited			→										3
4	3. Study prepared				→									4
5	- reviewed					→								5
6 AGR/MLFR	C. Other Studies													6
7	1. PIO/Ts prepared							→						7
8	2. Analysts recruited								→					8
9	3. Studies prepared									→				9
10	- reviewed										→			10
11	5. Livestock Invest. Fund													11
12 SMO/AGR	ML E. Invest. ident./select.											→		12
13 SMO/AGR	F. Investments made												→	13
14 SMO	G. Monitoring												→	14
15														15
16 AGR/	6. Quarantine Program													16
17 DLQ	A. Facility equip. arriv.			→										17
18 "	B. PIO/C for drugs, vaccines prepared				→				→					18
19														19
20 "	C. Drugs, vaccines arrive			→				→				→		20
21 NU	D. Envir. monitor.					→				→			→	21
22 AGR/SMO	7. Training/Evaluation													22
23 /MLFR/CSB	A. Trainees identified											→		23
24	B. PIC/Ps prepared		→			→				→				24
25	C. Overseas training													25
26	1. Long term		→											26
27	2. Short term					→		→		→				27

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Responsible Office	ACTIVITY	7/85 YEAR 2		4/86		7/86 YEAR 3		4/87		7/87 YEAR 4		4/88	
		Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4
1	AGR/MLFR D. In-country workshops		→				→				→		
2	PROJ/AGR E. Evaluation												
3	/MLFR 1. Mid-term					→							
4	2. End of project											→	
5	AGR/PROJ F. Begin design of									→			
6	/MLFR follow-on project.												
7													
8													
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PROCUREMENT ACTION SCHEDULE

Livestock Marketing and Health Project 649-0109

Action No.	Description of Goods + Services	Est. Cost \$1000	Origin(0) Source(S)	Contract Mode	Auth. Agent	Date C&S Needed	Date of Solicit.	Date of Contract	Completion Date	Method of Financing	Waivers Required
1.	Pre-implementation workshop (?)	2.5	941	PO	AID	7/84	6/84	6/84	7/84	Direct payment (check)	
2.	Quarantine Facility Design	103	941	IQC	AID	10/84	8/84	9/84	12/84	Direct L/Com	
3.	Long-term TA-health	1383	941	PASA	AID	7/85	8/84	11/84	6/87	Dir. Reim.	
4.	Private Sector Advisor	315	941	PSC PSC	AID AID	7/84 1/85	6/84 7/84	6/84 7/84	12/84 12/86	"	
5.	Long-term TA-analyst	630	941	PSC	AID	7/85	8/84	11/84	6/86	"	
6.	Household Effects	-	941	PIO/C	PSA	7/85	8/84	8/84	7/85	Direct, Bank L/Com	
7.	Vehicles	90	000	PIO/C	PSA	7/85	8/84	8/84	7/85	"	
8.	User Fee Study	14	941	PSC	PSA	11/84	8/84	10/84	1/85	Dir. Reim.	
9.	Quarantine Equipment	336	000 941	PIO/C	PSA	3/86	3/85	3/85	3/86	Direct, Bank L/Com	
10.	Drugs, Vaccines	199 199 199	000 000 000	PIO/C " "	PSA	3/86 3/87 3/88	3/85 5/86 5/87	3/85 5/86 5/87	3/86 3/87 3/88	" " "	
11.	Construction of quarantine	2765	941	RFP	AID	7/85	1/85	6/85	6/86	Dir. L/Com	
12.	Computer + Software	6	941	PO	AID	9/85	7/85	7/85	9/85	Direct payment	
13.	Weigh scales, Camping Equipment	6	941	PO	PSA	9/85	7/85	7/85	9/85	Direct, Bank L/Com	

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Action No.	Description of Goods + Services	Est. Cost \$1000	Origin (O) Source (S)	Contract Mode	Auth. Agent	Date C&S Needed	Date of Solicit.	Date of Contract	Completion Date	Method of Financing	Waivers Required
14.	Drug Packing Study	24	941	PSC	AID	4/86	9/85	12/85	6/86	Dir. Reimb.	
	Market Diversification St.	30	941	PSC	AID	4/86	9/85	12/85	9/86	"	
	Other Studies	96	941	PSC	AID	10/87	3/87	6/87	12/87	"	
15.	Long-term Training	28	941	PIO/P	AID	1/85	9/84	2/84	12/85	MDA	
16.	Short-term Training	187	941	PIO/P	AID	4/86	11/85	11/85	6/86	Dir. pay't	
	"			"	1/87	8/86	8/86	3/87	"		
	"			"	11/87	6/87	6/87	2/88	"		
17.	Workshop	2.5	941	PO	AID	12/85	10/85	11/85	12/85	Dir. pay't	
	"			"	12/86	10/86	11/86	12/86	"		
	"			"	12/87	10/87	11/87	12/87	"		
18.	Evaluation	63	941	PSC	AID	7/86	4/86	6/86	9/86	Dir. Reimb.	
		63		"	"	7/88	4/88	6/88	9/88		

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ILLUSTRATIVE LIST OF COMMODITIES TO BE PROCURED BY THE PROJECT

	<u>\$1000</u>
<u>Vehicles (\$1000)</u>	
5 4-wheel drive @ \$16	80
5 sets spare parts @ \$2	10
<u>Commodities for QA (\$1000)</u>	
1 photocopier	3
3 air conditioners @ 1.5	4.5
Misc. camping equipment	1
Weigh bridges scales	5
1 microcomputer	5
Computer software	1
<u>Commodities for Quarantine Facilities Construction (\$1000)</u>	
1995 rolls (1320 feet/roll) barbed wire @ 46	91.8
41,784 wood posts (15 feet/post) @ 2.5	104.5
198 wood posts (8" x 9'/post) @ 5	1
690 " " (6" x 9'/post) @ 4	2.8
1320 " " (3" x 6'/post) @ 2	2.6
9000 14' posts @ 7.8	70.2
370,000' 2" x 6" lumber @ .20/ft	54
450,000' 2" x 4" lumber @ .13/ft	58.5
360,000' 1" x 4" lumber @ .06/ft.	21.6
36,000 sheets of 12' galvanized roofing @ 6.75	243
Misc. nails and bolts	60
236,100 sacks cement (11,100 tons) @ 68/ton	754.8
7.500' reinforcement wire (6" x 6" mesh) @ .5/ft	

Cement price is c.i.f.; all others should be increased by 25%

Quarantine Supplies

1. Drugs - estimated 370,000 cattle (50,000 2nd year + 160,000/year x 2)			
	<u>Per Animal</u>		<u>Total</u>
Acaracide (tick dip)	0.50	185,000	
Antibiotic & misc. medicine for 1% of animals	0.50	<u>1,850</u>	
TOTAL DRUGS		186,850	186,850
2. Foot & mouth vaccine	1.00	370,000	370,000
3. Expendable Supplies for Prequarantine vaccination & Quarantine station			
	<u>Per Station</u>	<u>For 3 Stations</u>	
Vaccinating equipment	2,000	6,000	
Portable corrals	2,000	6,000	
Ice boxes, sterilizers, etc.	500	1,500	
Ear tags	10,000	30,000	
Disinfectant concentrate	333	<u>1,000</u>	
TOTAL SUPPLIES		44,500	44,500
TOTAL QUARANTINE SUPPLIES			600,350

Quarantine Farm Equipment

For each station	<u>No.</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Squeeze chute	1	1,500	1,500
Pressure spray rig for disinfecting	2	1,000	2,000
Water truck w/ spray	1	25,000	25,000
60 HP tractor w/ scraper	1	22,000	22,000
Bucket loader	1	25,000	25,000
Dump trailer	1	10,000	10,000
Flatbed trailer	1	2,500	2,500
10 kv generator	1	7,500	7,500
Shop equipment			4,000
Tools			5,000
Spare & misc. parts			15,000
TOTAL FOR ONE STATION			119,500
TOTAL FOR 3 STATIONS			358,500

Veterinary Laboratory & SVI

<u>SVI</u>	<u>No.</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Electrical wire			10,000
Large animal post mortem table			10,000
Overhead rail track for carcasses			4,500
Septic tank for waste disposal			5,000
Cold room			30,000
Deept freezer	2	750	1,500
Air conditioning units	5	800	4,000
Autoclave	1		4,000
Sterilizer	1		4,000
Ice maker	1		4,000
Laminar airflow unit	1		10,000
Media & reagents			3,000
		<b>TOTAL</b>	<b>90,000</b>

Kismayo Veterinary Laboratory

Deep freezer - gas	2	1,000	2,000
Deep freezer - electric	2	750	1,500
Refrigerator	2	750	1,500
Water distiller	1		900
pH meter	1		600
Misc. glassware			2,500
Chemicals & reagents			1,000
		<b>TOTAL</b>	<b>10,000</b>

HOUSEHOLD EFFECTS

Schedule A: Furniture, Drexel Catalog, 1983

<u>Item No.</u>	<u>Qty.</u>	<u>Description</u>
i.	5 sets	<u>Drexel Francesca/Cameo Dining Room C or Equivalent</u> <u>Each set to include the following:</u> 1 each 793-872 Table, Dining, seats 12 fully extended, 64 x 44 x 29' w/ 3 20" leaves 2 each 793-878 Arm Chair, 21 x 21 x 30 1/2" 6 each 793-877 Side Chairs, 19 x 21 x 38 1/2" 1 each 564-424 China Cupboard, 58 x 16 3/4 x 80 1/2" 1 each 564-134 Credenza Cupboard, 63 x 18 x 30"
2.	5 sets	<u>Drexel Francesca/Cameo Family Room/Den</u> <u>Each set to include the following:</u> 1 each 777-821 Loveseat 62 x 33 x 29 1/2" 1 each 777-746 Chair 31 x 33 1/2 x 32 1/2" 1 each 777-701 Ottoman 26 1/2 x 21 x 15 1/2" 1 each 793-882 Sofa Table 60 x 15 x 26" 1 each 793-883 Oval Lamp Table 22 x 27 x 21" 1 each 582-762 Desk 48 x 24 x 30" 1 each 793-877 Desk Chair 19 x 21 x 30 1/2" 2 each 793-818 Open Bookcase 31 1/2 x 17 3/4 x 81" 1 each 640-F Table Lamp 35" high 1 each 2135 Floor Lamp, Brass, 5' high
3.	5 sets	<u>Drexel Francesca/Cameo Living Room C</u> <u>Each set to include the following:</u> 1 each 777-841 Sofa 78 1/2 x 33 x 29 1/2" 1 each 777-736 Wing Chair 32 1/2 x 33 1/2 x 41 1/2" 1 each 793-879 Occasional Chair 24 x 26 x 29" 1 each 777-821 Loveseat 62 x 33 x 29 1/2" 1 each 793-818 Open Bookcase 31 1/2 x 17 3/4 x 81" 1 each 793-880 Accessory Table D18" H18" 2 each 193-334 End Tables, Wood Shelf. 26 x 26 x 22" 1 each 793-881 Oval Commode 24 x 18 x 22 1/2" 1 each 193-147 Cocktail Table, Glass Top 45 x 30 x 17 3/4" 1 each 514-210 Mirror 27 x 49" 1 each 793-893 Hall Chest 35 x 12 x 27 1/2" 1 each 2135 Floor Lamp 5' Brass 2 each 846P Lamps, Matching, Brass 34"

Schedule A: (cont)

<u>Item no.</u>	<u>QTY.</u>	<u>Description</u>
4.	5 sets	<u>Drexel Francesca II, Bedroom, Master Bedroom</u> <u>Each set to include the following:</u> 1 each 514-512 Bed w/ frame, Queen-size 1 each 791-505Q Queen-size Mattress and Box Springs w/ Cover 2 each 514-630 Night Stand 1 each 514-210 Mirror 1 each 514-120 Dresser 1 each 514-410 Chest 1 each 793-891 Small Upholstered Chair 32 x 25 x 25" 2 each 342 Lamps, Matching (beige) 32" high 1 each Bedspread, Queen size 2 each Bed Pillows
5.	5 sets	<u>Drexel Accolade II, Bedroom #2</u> <u>Each set to include the following:</u> 2 each 904-563 Twin-size Beds w/ frames 2 each 791-505T Twin-size Mattress and Box Springs w/ Cover 1 each 904-620 Night Stand 26 1/2 x 18 x 22 1/4" 1 each 904-210 Mirror 28 3/4 x 46 3/4" 1 each 904-410 Chest 37 1/2 x 19 x 48 1/2" 2 each 124 PW Lamps, Matching 27" high (white w/ beige) 2 each Bedspreads, Twin-size 2 each Bed Pillows
6.	5 sets	<u>Drexel Weatherwood, Bedroom #5, Student's Bedroom</u> <u>Each set to include:</u> 2 each 703-553 Panel Bed, Twin-size w/ frame 2 each 791-505T Twin-size Mattress and Box Springs w/ Cover 1 each 703-620 Night Stand 24 x 18 x 21 1/2" 1 each 703-471 Bachelor Chest 32 x 18 x 29 3/4" 1 each 703-210 Mirror, overall size 24 1/2 x 47" 1 each 703-481 Door Chest 32 x 18 x 29 3/4" 1 each 703-471 Bachelor's Chest 32 x 18 x 29 3/4" 1 each 703-301 Student Desk 48 x 18 x 29 3/4" 1 each 793-875 Desk Chair 19 x 21 x 38 1/2" 1 each 703-284 Open Desk 48 x 14 x 19 1/4" 2 each 134 Lamps, Matching (rust) 2 each Bedspreads, Twin-size 2 each Bed Pillows

Schedule B:

<u>Item no.</u>	<u>Qty.</u>	<u>Description</u>
1.	5	G.E. IBF19D 19.0 Cu. Ft. Two-door Top Freezer no-frost, 220 Volt, 50 Cycle (extra compressor unit, circulating tubes, freon)
2	5	G.E. CAF16D, no-frost Freezer, upright 15.7 Cu. Ft., 220 Volt, 50 Cycle (extra compressor unit, freon)
3	25	Fridgidare Air Conditioner, 14,500 BTU, 220 Volt, 50 Cycle (extra compressor unit, freon)
4	20	Fridgidare Air Conditioner, 18,000 BTU, 220 Volt, 50 Cycle (extra compressor unit, freon)
5	5	G.E. Electric Range, JBS034 Four-burner, 30" wide hi-speed, 220V/50 Cycle
6	10	Bradford G.E. Electric Water Heater, Quick recovery, 30 gal. (extra pressure relief valve, heating elements)
7	5	G.E. WWA5411 Filter-Flo Automatic (50 Cycle) Clothes Washer, 220V/50 Cycle
8	5	G.E. DDE5211 Fully-Automatic 50 Cycle Clothes Dryer, 220V/50 Cycle
9	10	G.E. Step-down Transformer T-60834, 1000 Watts, 220V to 120V.
10	10	G.E. Step-down Transformer T-53063, 3000 Watts, 220V to 120V.
11	5	Hoover U7073 Commercial 220V/50 Cycle Vacuum Cleaner, Commercial Upright (extra 12" belts)
12	5	Hoover U4903 9-piece Attachment Set for use w/ above Vacuum Cleaner
13.	10	Kelley Trash Can, Hot-Dipped Galvanized T-4026, 40 gal.
14	5	16-inch, 3-speed fan, similar to Sears 34K 8016C (p. 868, Spring-Summer '82), 220V/50 Cycle
15.	10	Portable (internal) water filters, 3 candle-type
16	50	Filter candles for above filters

Schedule B: (cont)

<u>Item no.</u>	<u>Qty.</u>	<u>Description</u>
17.	5	Ironing boards w/ cover, portable, approximately 4' length, metal legs
18.	5	Small Waste Paper baskets, metal, 3 ft. high, 16" diameter
19.	5	52" ceiling fans, w/ three speed control, wall-mount 220V/50 Cycle
20.	5	Garden Hose, 3/4", 100 ft.
21.	5	Aluminum Step Ladder, 10'
22.	5	Centrifugal water pumps equivalent to McMaster cata 89, page 1020 P.O. Box 4355, Chicago Ill. 60680 Model No. 8249K31 Max. Head 51 ft. Connections FPT. 1 1/4 inches Discharge 1 inch Motor: 3/4 HP
23.	5	Portable generator, equal or equivalent to ONAN (of Milwaukee, Wis.) 10KVA, 3-phase, diesel drive 380/220V/50 Cycle
24.	5	Plastic In-line Water Filter, Equivalent to McMaster Catalog 89, page 1047. P.O. Box 4355, Chicago Ill. 60680 Model No. 4422K3, pipe size 3/4" 8 GPM, 12 3/4" length.
25.	100	Replacement Cartridge for above filter, (McMaster Model No. 4422K6
26.	5	Jerry cans, heavy plastic, 5 gal. capacity, for holding diesel fuel.

25% spare parts on above equipment

TOTAL COST \$412.5 Thousand

### Description of Quarantine Facilities

Assuming a maximum monthly shipment of 20,000 cattle from each port area (1982 maximum in September), a quarantine yard of approximately 198 acres (80 hectares) would be required for each port. For Mogadishu and Kismayo, facilities would be constructed on existing but defunct GSDR livestock holding grounds, utilizing existing physical facilities such as staff housing, dips, wells etc. A new facility would be required to serve Berbera.

Based on space accommodation of 200 square feet per head of cattle and service lanes, each facility would enclose an area of 1,670 by 5,135 feet. The facility would be divided into 100 paddocks of approximately 65,000 square feet each to hold 200 head of cattle each. To minimize fencing costs, it is assumed that the facilities would be designed to contain ten rows of ten units each (see diagram).

The perimeter double fence would consist of six strands of four barb galvanized wire supported by treated four inch wood posts at 15 feet intervals with wire stays between the posts. Corner, gate and brace posts would be of six to eight inch wooden posts, treated to resist termite infestation. The six strand perimeter fence would keep out sheep, goats and large domestic animals. Service lanes of 20 feet width would separate the paddocks lengthwise and lanes of 15 feet would separate the paddocks crosswise. All interior fences would be the same barb wire and wood post design, but would only have four strands of wire. Paddocks would be designed 500 by 130 feet.

The long side of the paddock on one side would accommodate 500 feet of feeding trough space at 2.5 feet per head of cattle. Feeding troughs would be partitioned to prevent fighting and feeding competition. Feeding would be accomplished by transferring feed from a truck passing through alternate feeding lanes (see diagram). Water troughs would be provided for each paddock also. Water should be provided by the quarantine yard but cattle owners would be required to provide forage for their livestock. Each paddock would have a shade structure 150 by 14 feet. Shades would be constructed of galvanized roofing supported by a series of six to eight wooden posts, treated to resist termite infestation. Every other lane would also serve as an entry/exit lane. Such lanes, however, would require a double fence for each side of the paddock system to allow separate lots of cattle to move in and out of the facility on a lot basis.

Manure accumulation and disinfecting would be accomplished by

removing the manure and raking the paddock yards and allowing the full effect of sunshine on the facility for two to three days before adding the new lot of cattle. Manure would be made available to fodder producers and user fees would provide traders an incentive to haul away for fodder or for other agricultural purposes.

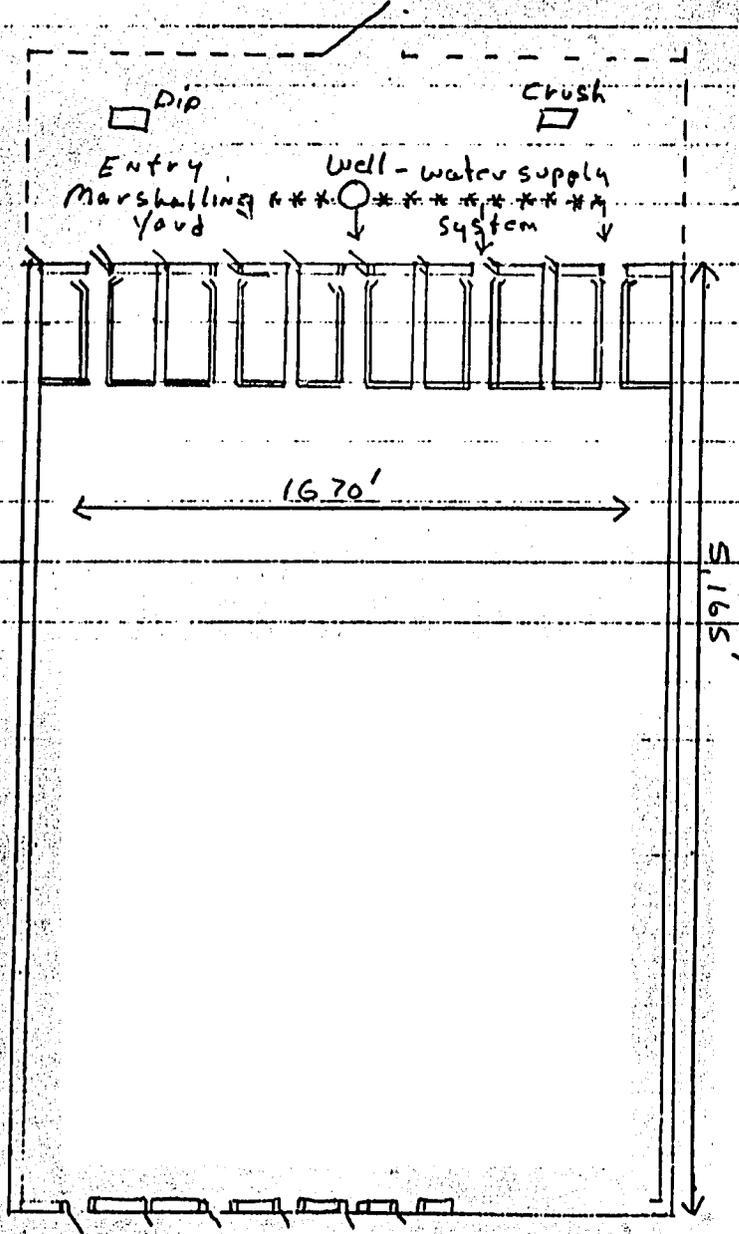
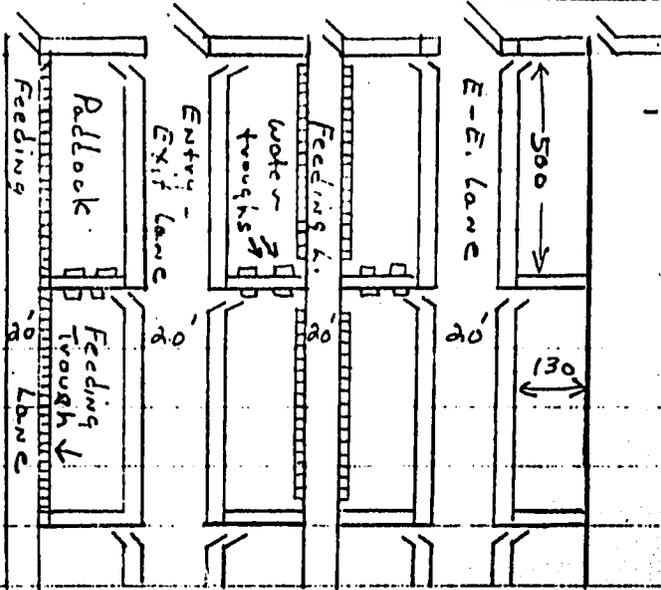
In addition to the 100 quarantine paddocks, it is expected that each quarantine yard would have an entry marshalling yard that would accommodate from 1,000 to 2,000 head of cattle at a time. Such a facility would only require single fencing and would be used temporarily to carry out the vaccination, dipping, testing and tagging process.

In addition to the entry marshalling yard, each facility should have an isolation paddock with separate sub-divisions for sick animals outside but near the quarantine area. It is estimated that an area of 100 by 100 feet, separated into 10 paddocks would be adequate to take care of the sick animals initially. Should it be necessary, additional paddocks could be added to the isolation units. Fencing, feeding and water requirements would be as described for the quarantine paddocks.

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ANNEX C

15' between double fences



### LIVESTOCK INVESTMENT FUND

The Livestock Investment Fund will be initially capitalized in the amount of \$ 2 million. It will be financed from the grant of Section 103 Development Assistance funds made available to implement the Livestock Marketing and Health Project. It is intended that the fund will be used to help finance the imported (from Code 941 countries) equipment and materials requirements of farmers and traders for the provision of transport services and fodder production related to the quarantine and animal procedures to be established for the export of cattle. Depending on circumstances and the availability of funds, Fund resources may also be used for other items related directly to the export of Somali cattle by the private sector.

The fund will be administered by the Supply Management Officer (SMO) of USAID. He will be assisted by a Private Enterprise Adviser (personal services contract) who will be physically located at USAID. The adviser will report administratively to the SMO but will be responsible for maintaining close liaison with the Agricultural Development Office, particularly its Livestock Officer. One of the first tasks of the Private Enterprise Adviser (PEA) will be to formulate criteria (economic, social, geographic) for the use of fund resources. Such criteria will be developed in consultation with USAID, the project's social science and marketing experts, the Ministry of Livestock, Forestry and Range (MLFR) and Somali traders and farmers and their associations. Working with the SMO and one or more of the foregoing groups, he/she will also develop the format and forms for making applications for the use of Fund's resources.

Other initial tasks of the PEA will include (a) expanding USAID's commercial library on items likely to be purchased by the Fund, (b) consulting with farmers and traders on fodder production and transport questions, (c) providing technical assistance on application for the use of Fund resources, (d) facilitating the organization of a committee (or committees) to review such applications, (e) participating in the review of the applications, (f) advising on equipment design and performance matters, (g) providing technical assistance to fodder producers, (h) monitoring the utilization of resources and (i) evaluating the return to farmers and traders on investments financed by the Fund and how such benefits have been distributed.

A guiding principle for the administration of the Fund will be to utilize to the maximum extent feasible the producers already developed and being followed for the Commodity Import Program (CIP). Accordingly, AID's Standard Procurement and Financing Procedures, as set forth in AID Handbook 11, Chapter 3 will be followed. Dollar financing will

be made available through a U.S. bank guaranty (letter of commitment) to the U.S. correspondent bank of the Commercial and Savings Bank of Somalia (CSBS), the Approved Applicant. Financing of all goods and services by the Fund will be effected by the issuance of letters of credit by the U.S. bank on behalf of importers who are purchasing imported items on behalf of farmers and traders. Suppliers will be paid for their sales upon presentation of the documentation stipulated in the letters of credit.

Importers acting on behalf of farmers and traders, or farmers and traders acting in their own right, will apply to the Ministry of Commerce for import licenses and approvals for the items which they wish to purchase. As part of their application, importers will need to provide pro-forma cost estimates from three or more suppliers. Importers will then apply for letters of credit (l/c) to finance the transaction. As with the CIP, such applications will be made to a Special Committee made up of representatives of the Ministry of Finance, MLFR, USAID and representatives of the traders and farmers. To assure equitable geographic distribution of Fund resources, subcommittees of the Special Committee will be formed in Hatgeisa and Kismayo from those areas. The Special Committee will carry out all final reviews.

Upon approval of the l/c, purchasers will be required to deposit an amount in local currency equivalent to the value of the purchase (plus bank charges) into a special account at the CSBS which will be under the fiscal management of the CIPL Unit of the Ministry of Finance. Local currency generations accruing through purchases financed by the Fund will be available to finance the costs of AID's local currency program in Somalia.

COST ESTIMATE AND FINANCIAL PLAN METHODS

Cost Projections

The budget projections for the project reflect the estimated cost of the inputs required to achieve the outputs described in the project description. All budget items are shown at current prices. Contingency and inflation factors are calculated separately. For each component a 2% contingency factor is added and the US inflation factor is assumed to be 7%, compounded annually. In dollar equivalents Somali inflation and contingency are estimated to be 7% and 5%, respectively. However, no adjustments are made to the levels for the Livestock Investment Fund. Also, for construction, a 20% contingency factor is employed for the AID contribution since the quarantine facilities design is not yet finalized. In converting local expenditures from Somali Shillings to dollars, an exchange rate of \$1 = So. Shs. 17.4 is used. Details on the cost factors used for major categories, where not itemized, are provided below:

US Technical Assistance (\$1000)

	<u>3 months</u>	<u>6 months</u>	<u>1 year</u>	<u>2 years</u>
Personal Services Contract	21	37	115	315
FASA	27	48	146	395
Profit Making Firm	34	61	175	450
IQC	41	77	214	538

Participant Training

Long-term Training \$28,000/year  
USDA-type short courses \$ 8,000/month

Construction

Costs for construction of the facilities are based on c.i.f. Mogadishu prices, less duties and taxes. They reflect the fact that the facilities will be built on a turn-key basis, with shillings covering local labor costs. These estimates are taken from the engineering analysis but will need to be revised when the facilities designs are finalized during the first phase of project implementation. This is the reason for the contingency factor being relatively large.

Equipment and Commodities

Costs in this category of expenditures are based on c.i.f. Mogadishu prices, less duties and taxes. The quantities and prices of commodities and equipment to be purchased are shown in the Procurement Plan,

(ANNEX F). In most cases, the price of each item was estimated individually. For a few major categories of commodities, however, standard factors were used to estimate the cost components.

These are as follows:

Small jeep-type vehicle (4-wheel drive)	\$16,000 + 2,000 spare parts
Fuel for vehicles	\$350/month per vehicle (from GSDR Shillings)
All-weather road construction	\$57.5 thousand/km (from GSDR Shillings)

#### Local Personnel

The local personnel costs under this project are GSDR contribution. Their costs have been estimated on the basis of salary information available to the Mission for the different categories of GSDR personnel. These estimates include only salary supplements provided by the project to encourage better job performance and salaries for new personnel.

SCOPE OF WORK

SENIOR VETERINARY ADVISOR

The Senior Veterinary Advisor shall serve as chief of party for the project technical assistance component and shall be a counterpart to the Director of the Livestock Quarantine Unit of the MLFR. He shall assist the Director in design and implementation of policies and procedures for management and operation of the quarantine service. Specifically, the incumbent shall:

1. Advise in development of the Livestock Quarantine Unit, including clarifying the authority and responsibility of the unit within the MLFR, its table of organization, relationships to other units, designing staffing patterns, job descriptions and responsibilities for unit personnel, and budget development for the unit. He/She shall advise on preparations for the activation of the Unit and its field offices.

2. Advise on development of livestock quarantine regulations, including policies regulating pre-export vaccination and operation of the quarantine stations and port veterinary service, and design of appropriate records systems.

3. Assist in establishing policies and procedures for operation of the quarantine stations, including assignment of personnel and regulations governing the role of traders using the facilities.

4. Advise on management of the Livestock Quarantine Unit, including overseeing field operations and coordination with other units of the MLFR, such as the SVI and Regional Veterinary Service, in preparing livestock for export.

5. Assist in selection of overseas training participants and in designing in-country and on-the-job training and in identifying studies in the area of livestock health and marketing.

6. Serve as liaison between the Project Officer, MLFR, and other members of the technical services component of the project. Serve to coordinate activities of other animal health technical assistance and components of the project.

7. As time permits, advise other departments of the MLFR on animal health related issues.

8. Report on a regular basis to the Project Officer on the status of the health/quarantine component of the project, including input from the quarantine station advisors.

Education and Experience: Applicants for this position shall have a doctor of veterinary medicine from a school approved by the American Veterinary Medical Association. They must have at least 5 years veterinary professional experience with not less than 3 years professional experience in such disciplines as public service animal health or animal quarantine, feedlot animal medicine, or bovine and/or small ruminant medicine of which not less than 2 years in a developing country, preferably in Africa. Experience in a management or supervisory position is highly desired. Background or experience in commercial livestock production and a working knowledge of livestock husbandry and production are also desirable.

SCOPE OF WORK

VETERINARY OPERATIONS ADVISOR

The Veterinary Operations Advisor shall work under the supervision of the Senior Veterinary Advisor to assist the MLFR in operation of the quarantine system. Specifically, the incumbent shall:

1. Serve as advisor to the three (3) quarantine station supervisors at the quarantine stations serving each of the three ports, in coordination with the feedlot advisor.
2. Assist the quarantine station supervisors in carrying out policies and directives of the Livestock Quarantine Unit.
3. Advise the quarantine station supervisors in day-to-day management and operation of the quarantine station, especially with regard to health-related issues, including health inspection, vaccination and parasite control.
4. Work with the quarantine station supervisor to establish procedures for pre-quarantine and quarantine vaccination, including assignment of vaccination teams, selection, procurement and handling of vaccines, administration of vaccination, and monitoring the work of the teams.
5. Work with the Livestock Quarantine Unit, quarantine station supervisor, feedlot advisor, and Somali National University Faculty of Veterinary Medicine to organize and supervise on-the-job training and in-country training of quarantine service personnel, especially in health-related subjects.

6. Advise the Port Veterinary Officer in operation of marshalling yard and port facilities and certification of export animals.

7. Coordinate with the Regional Veterinary Service in preparing small ruminants and camels to enter final inspection and quarantine at port facilities.

Education and Experience: Applicants shall have a doctor of veterinary medicine from a school approved by the American Veterinary Medical Association. They shall have a strong background in quarantine station service, feedlot animal medicine, or bovine and/or small ruminant medicine. They shall have had three (3) years of practical experience of which at least two has been in developing countries, preferably in Africa. Supervisory experience is desirable. Applicants must be advised that this is a field position which involves frequent travel and extended periods on assignment in remote locations. Single marital status is highly desirable.

FEEDLOT MANAGEMENT ADVISOR

The Feedlot Advisor shall work under the supervision of the Senior Veterinary Advisor to assist to MLFR in operation of the quarantine system. Specifically, the incumbent shall:

1. Serve as advisor to the quarantine station supervisor at the quarantine stations serving each of the three ports, in coordination with the feedlot advisor.
2. Assist the quarantine station supervisor in carrying out policies and directives of the Livestock Quarantine Unit.
3. Assist the quarantine station supervisor in establishing record and inventory systems and procedures for maintenance of the facilities and equipment.
4. Advise the quarantine station supervisor in day-to-day management and operation of the station, including staff assignments, supervising and monitoring of quarantine staff, and coordination with traders in arranging for feeding and transporting animals in quarantine.
5. Work with the Livestock quarantine Unit, quarantine station supervisor and junior veterinary advisor in organizing and supervising on-the-job training for quarantine station personnel in station operation and management.
6. Advise the Port Veterinary Officer on efficient management and operation of the marshalling yards and port facilities.

Qualifications: Applicants must have a strong background and experience in management of a feedlot or quarantine station or similar large-scale cattle operation, preferably involving drylotting. Applicants must be advised that this is a field position which involves frequent travel and extended periods on assignment in remote locations. Single marital status is highly desirable. He/She should have had at least three years of practical experience of which at least two have been in developing countries, preferably in Africa.

SCOPE OF WORK

SOCIOECONOMIST

1. Objective

Together with a Somali counterpart in the Ministry of Livestock, Forestry and Range, the socioeconomist will serve Ministry officials as a resource to learn more about pastoralists' behavior and desires concerning livestock marketing and health. In particular, this researcher will provide information to Ministry policymakers on pastoralists' perceptions of, demand for, and participation in Government-sponsored animal health and marketing programs. In addition, the socioeconomist will identify constraints to effective implementation of MLFR programs at the pastoralist level, and he will make recommendations to MLFR policymakers on what kinds of animal health and marketing programs should be undertaken in the future.

2. Research Topics for Livestock Health

A. Livestock Health Problems - What are major animal health problems from the point of view of the pastoralist? What are the orders of magnitude for diseases affecting livestock?

B. Livestock Health Treatment - How are livestock currently treated for health problems? Describe current drug distribution and use: 1) What proportion of pastoralists use medicines purchased from the MLFR and elsewhere? 2) Do livestock traders provide pastoralists with health services? 3) What medicines are in greatest demand? Describe the state of traditional veterinary practices: 1) What proportion of pastoralists use traditional curative means? 2) Are modern animal health practices more economical or effective than traditional practices?

C. Livestock Health and Management - What are the impacts of traditional and modern animal health practices on herd maintenance, off-take, milk production, and grazing strategies? Investigate the relationship between timing and location of migratory patterns and animal health practices.

D. Constraints - What are the constraints to improved animal health at the herder level? Are there shortages of drugs, vaccines, or MLFR veterinary services which are viewed as constraints by pastoralists? Which constraints can be most easily attacked by project interventions? Which interventions are most likely to improve animal health and off-take rates?

### 3. Research Topics for Livestock Marketing

A. Market Involvement Strategies - What criteria do herders use to evaluate market opportunities? Why, when, where, to whom and under what circumstances do pastoralists sell their livestock? Which animals are sold at different times? What impact of the Saudi ban do herders perceive? What are the relative weights given by pastoralists to investments in livestock versus other activities?

B. Livestock Pricing - What factors affect formation of livestock prices in pastoral zones? Do pastoralists attempt to maintain their purchasing power or are they price takers? Are there instances of traders abuses of monopsony or oligopsony powers? Have the pastoral terms of trade deteriorated over the short, medium and long run?

C. Social Organization of the Livestock Trade - Describe the individuals and enterprises and their links in the marketing chain (including hierarchies and types of traders, bulking or holding enterprises, fodder suppliers, transporters).

D. Constraints - What are the constraints to increased marketing of livestock? Will increased marketing of certain types of livestock reduce the carrying capacity of the range, causing supply constraints in the long run? Which constraints are most amenable to Government intervention?

#### 4. Other Responsibilities

In addition to carrying out research on livestock marketing and health, the socioeconomist would be available to Ministry officials for other tasks they deem important. These activities could include: 1) training of Somali researchers in field survey methodologies and data analysis, 2) making recommendations or plans for future research activities, and 3) helping Ministry officials resolve in the field difficulties that arise in implementing particular aspects of the quarantine program

SCOPE OF WORK

Long-Term Study of Somalia Livestock Marketing

Objectives:

A study of selected issues and topics in livestock marketing should be conducted by a livestock economist in collaboration with a Somali counterpart and several Somali researchers from the MLFR, Faculty of Veterinary Medicine and Animal Husbandry, Somali Academy of Arts and Sciences, or Faculty of Economics) and enumerators. The objectives of the survey would be to:

1. Improve understanding of selected marketing issues and topics (see below), which were identified as key problem areas in earlier short-term studies.
2. Examine critical marketing constraints.
3. Examine the feasibility of selected interventions to reduce marketing costs and improve performance of the livestock trade.
4. Review the effect of livestock sector policies on livestock marketing and export and propose policy reforms, where necessary.
5. Identify key variables for which data need to be collected regularly and systematically in order to monitor the performance of the livestock trade, the effects of livestock project interventions and policy reforms on the livestock trade, and shifts in international market opportunities.

The study should focus on the following research issues and topics:

1. Livestock producers' sales strategies, with particular

attention to the location, timing and frequency of sales, relations with different types of buyers (butchers, buying agents for exporters, independent assemblers, other producers), and terms of exchange (sale in cash, on credit, in exchange for other livestock, grain, consumer goods).

2. An analysis of livestock price trends including relevant factors in pastoral zones; whether pastoralists attempt to maintain their purchasing power (ability to buy grain, cloth, tea, sugar, water, etc.) in setting livestock prices; whether producers set prices, or are they price takers. Are there any instances of trade abuses of monopsony or oligopsony powers? Have the pastoral terms of trade deteriorated over the short, medium and long term? Determine FOB and CIF livestock prices. Trace the livestock prices for herders, traders, and exporters and determine value added at various levels in the marketing chain.

3. Sources, distribution, reliability and uses of market information by producers, butchers, traders, and exporters. Market participants are reported to be well-apprised of marketing opportunities, but this area needs further study.

4. Sources, distribution channels, availability, sellers, and uses of livestock production inputs, including veterinary drugs, vaccines, salt, agricultural by products and crop residues, fodder and other inputs.

5. Sources, distribution, availability, terms and uses of livestock marketing credit. The lack of credit appears to be a constraint to expanding exports. The analyst should look at credit institutions to see how credit for livestock exports may

be expanded, and the analyst should make recommendations on if and how USAID can strengthen credit institutions to promote livestock exports.

6. An examination of the quality and condition of export stock at selected points in the marketing chain, particularly at key assembly markets, at the principal ports and, in foreign markets. Such an examination may point to the need for improvements in marketing infrastructure and increased provision of fodder, water and veterinary inputs at particular points in the marketing chain. It may also suggest that trucking more livestock to the ports at certain times of the year would be economically viable and would improve the quality of exported stock. Finally, the examination may show that livestock shipping needs to be better coordinated to enhance the quality of export stock.

7. An analysis of the economics of fodder production and how it relates to livestock marketing. Determine the costs and benefits of fodder production in the southern south central, and northern areas of the country. Make recommendations on where and how fodder production might be established or upgraded. Attention should be paid to public versus private ownership and management of fodder production.

8. An analysis of the organization, operation and performance of the livestock trade. What are exporters' standard operating procedures for acquiring, transporting, shipping and selling livestock (and livestock inputs) at different times of the year? How do traders finance livestock purchases, negotiate letters of credit, and settle final prices in foreign markets?

What are the most constraining aspects of export organization and management? In what ways could the system be improved? How do exporters learn about and respond to marketing opportunities? In what ways does the GSDR facilitate (or fail to facilitate) this process? How could information about marketing opportunities be improved and alternative markets tapped?

9. The effectiveness of existing institutional arrangements, coordinating mechanisms and pricing policies which regulate the shipping of Somali livestock to foreign ports.

Methodology:

A livestock economist with field research experience in agricultural marketing and trade would lead the research team. He/she would work closely with a Somali counterpart and three to four recent graduates of the Faculty of Veterinary Medicine and Animal Husbandry (FVMAH) or the Faculty of Economics. They would complete the study within one year of its inception.

The Study would begin with a thorough review of the existing literature. It would be followed by discussions in Mogadishu with officials in the Ministry of Livestock, Forestry and Range (MLFR), Ministry of National Planning (MNP), and Ministry of Commerce (MOC), researchers at the Somalia's Academy of Arts and Sciences (SOMAC) and the National University, expatriate technicians and researchers working on livestock projects or serving as advisors to various ministries, livestock traders and butchers, the Somali-Hellenic Shipping Company, and slaughterhouse, livestock market and port officials.

second phase of two months duration would involve development, pre-testing and refinement of formal and informal survey instruments, and possibly initiation of data collection activities at the principal ports, selected livestock markets and slaughterhouse. Enumerators would be trained to do data collection. Where appropriate and feasible, the research team could graft elements of the formal survey onto ongoing data collection activities. Examples of grafting formal survey elements onto ongoing data collection exercises would include supplementing data collected by the NRA Marketing Division at the ports and data gathered by FVMAH researchers at the Mogadishu slaughterhouse.

The data collected at both the ports and Mogadishu slaughterhouse would improve understanding of regional sources of supply of different types of livestock for slaughter and export and the seasonality of the prices, weights, and condition of different types of livestock.

By the end of the second phase, one or more producing areas would be selected for detailed study of pastoralists' livestock marketing strategies, marketing infrastructure, marketing channels and flows, and the overall organization, operation and performance of the livestock trade. Alternatively, it may be desirable to trace backwards the marketing channels from one or more of the principal ports. It is recommended that supplementary data be collected at each of the three ports. At this point it is suggested that detailed study of the livestock marketing system be undertaken either in Southern Somalia, using

Mogadishu as a base and tracing marketing channels from Mogadishu and Kismayo to their hinterlands, or in Northern Somalia, using Hargeisa as a base and focussing attention on the export triangle and trade stock inflows from Ethiopia and the Central and Northern Rangelands.

The livestock marketing study will combine informal and formal interviewing strategies and data collection techniques. In order to understand producers' sales strategies, mixed structured and open-ended interviews will be used. The interview will be structured in that data about the age, sex, price and condition of individual animals sold will be collected. More open-ended discussion will be required to probe reasons for sale, timing of sales, terms of exchange, and relations with buyers (kinship or otherwise). Interviews with butchers, traders, brokers, buying agents and exporters will also combine formal data collection (about costs and sales prices) with informal discussions (about problems, possible areas for improvement, livestock flows, relations with buyers and sellers, etc.).

The study will also rely heavily on direct observation of livestock markets, stock routes, holding areas (and other enclosures), slaughterhouses, marshalling yards and loading facilities at ports, and the condition and handling of livestock at points along marketing channels. Installation of scales at key assembly markets (e.g. Baidoa, Burao, Hargeisa, Tug Wajale, Alaybaly) and at terminal markets/ports would permit analysis of tissue losses in transit.

Data collected at livestock markets, slaughterhouses and ports would be tabulated monthly or perhaps weekly during

periods of rapidly changing marketing conditions (e.g., before the Moslem holidays). The data should be stored and processed on a microcomputer in Mogadishu.

The field research (phase three) will be completed in a four to six month period. Analysis of the data should be ongoing as outlined above. Final analysis and writeup of the study results will require three to four months. Alternative interventions and policy options for improving performance of the livestock marketing system should be proposed and analyzed in detail. The probable consequences of these interventions also need to be anticipated. Sufficient copies of the final report should be reproduced and distributed to knowledgeable and interested individuals in the GSDF, development projects, donor agencies, research organizations and private sector. Several weeks after distribution of the report a full or half day seminar should be held during which the principal findings and policy recommendations are critically discussed. Further research needs and future policy directions can be determined as well.

**Resources:**

The team leader would be an expatriate livestock economist with a Ph.D. or M.Sc. in agricultural economics and previous field research experience. Three to four Somali team members would be drawn from the MLER, the NRA (Marketing Division) or the ranks of recent graduated (or students nearing completion of their programs) of the FVMAH or Faculty of Economics.

One driver/mechanic and Land Rover would be required for the fieldwork. The field researchers would require camping

equipment, field allowances, and several hanging scales (for weighing carcass quarters and small ruminants). Weigh bridges or platform scales (for weighing large stock and lots of small ruminants) would be installed at selected assembly markets, holding grounds and ports. As many as five or six enumerators might be hired, depending on the selecting of survey instruments. Alternatively, presently employed enumerators or market, slaughterhouse and port officials would receive salary supplementation, pending acceptable performance, for collection of additional data. One microcomputer, software, printer and supplies would be purchased for the study. (Apple IIs or IBM PCs are recommended. Servicing capability in Nairobi or Jeddah needs to be examined). One microcomputer would be used as a backup. Living quarters for the team leader and office space for the team would be provided in Mogadishu.

#### WORK PLAN

1. Review literature and hold discussions with USAID and GSDR officials (one month)
2. Develop, pre-test and refine formal and informal survey instruments, initiate data collection, and train enumerators (two months)
3. Conduct field research and detailed marketing study of selected producing areas (six months)
4. Complete analysis and draft final report (three months)

## SCOPE OF WORK

### Study on Export Marketing Opportunities

In conjunction with the livestock marketing study, it is appropriate to undertake a survey of present and likely future export marketing opportunities for Somali livestock. This survey would identify opportunities for export diversification in order to reduce Somalia's heavy dependence upon one market, Saudi Arabia. Somalia has shipped most of its exported live animals to Jeddah in the past quarter century. From the late 1960s through 1977 unproductive female and immature male cattle were slaughtered at the meat processing plant at Kismayo, and the beef was canned for export to the Soviet Union. This market has been lost and the meat factory, installed by the Russians, has fallen into disrepair. Operating at low and uneven capacity since 1977, the Kismayo Meat Factory has produced tinned meat for export to Western Europe and domestic consumption (by the military and refugees).

The uncertain restoration of the Saudi market for cattle and the loss of markets for canned and tinned meat call for exploration of alternative markets, which might include:

1. Markets for live animal exports up until 1970 or 1975, which are no longer important, such as South Yemen, Oman, Kuwait, and Egypt.

2. Potential markets for quality cuts of beef and lamb, such as Saudi Arabia, Kuwait, the UAE, Egypt and other possible importers.

3. Potential markets for lower grade tinned meat in Western Europe, Eastern Europe, or perhaps in Asia countries, such as Singapore, Hong Kong, Thailand.

4. Potential African markets such as Kenya, whose exportable surplus will decline to zero by 1990. With an overall population growth rate of 4.0% per annum and rapid urban population growth, Kenya may represent an important market in several years.

Such a survey should only be conducted under the guidance of a senior applied marketing researcher with broad knowledge of international livestock and meat markets and special knowledge of the Middle Eastern market. The expatriate applied researcher, in collaboration with Somali counterparts, should visit livestock markets in the Gulf States, particularly Saudi Arabia, North Yemen and the United Arab Emirates, where they would:

1. Inspect livestock receiving and marketing facilities, including ports, livestock carriers (ships and trucks), livestock holding and reconditioning facilities, animal health facilities, wholesale and retail markets, slaughterhouses and cold storage facilities.

2. Interview government officials in Ministries of Commerce, Animal Production and Planning, managers and officials at ports, slaughterhouses, and markets, private firms and importers, wholesalers, retailers, shipping companies, bank officials, consumer, producers and other individual involved in livestock marketing. Contact should also be established, where possible, with representatives of firms from other supplying

countries, to learn of their business practices, livestock products and marketing strategies.

3. Collect available data in livestock production, imports, CIF, wholesale and retail prices, slaughter volume and weights, the size comparison and growth rate of the human population, and other matters necessary for carrying out market research and analysis.

4. Establish ongoing contacts and relations with importing firms and government officials supervising, collecting data about, or having knowledge of livestock importation.

If the GSDR negotiates exportation of Somali cattle to Egypt, then one or more visits to Egypt are also recommended.

The expatriate researcher and/or Somali counterparts should also, where feasible and appropriate, visit countries which compete with Somalia in supplying Middle East markets, such as Sudan, Turkey, Australia and Romania. They would interview representatives of exporting firms and parastatal organizations to learn about their livestock production and procurement practices, product mix, export procedures, marketing intelligence, sources and uses of investment capital, and marketing facilities would be inspected. It would also be useful to review government economic policies, regulations affecting export of livestock and livestock products, and export, investment and tax incentives.

Finally, potential markets for Somali livestock and chilled, frozen or tinned meat could be visited in order to establish

contacts with potential importing firms and government officials. This would be part of a program of market intelligence and export promotion.

#### WORK PLAN

1. Review of literature and hold discussion with GSDR and USAID officials (three weeks).
2. Develop Livestock Marketing Survey methodology (four weeks).
3. Conduct field research (eight weeks).
4. Analyze research findings and draft final report (six weeks).
5. Brief USAID and GSDR officials (three weeks).

**SCOPE OF WORK FOR PRIVATE ENTERPRISE ADVISOR**

- A. The Advisor will work under supervision of the USAID Supply Management Officer (SMO) and inclose liaison with the MLFR and the USAID Project Officer of the Livestock Health and Marketing Project to assist the private sector in developing necessary fodder production and livestock transportation capabilities and other investments to supply the needs of the export quarantine system under the Livestock Health and Marketing Project (649-0109). Specific duties will include:
1. Making an initial assessment of the needs of the private sector for fodder production and livestock transportation equipment and identification of potential areas for fodder production. Assess as to other possible private investment opportunities in support of the export quarantine system.
  2. Establishing in consultation with USAID, private associations, and the MLFR; a list of criteria (economic, social, geographic) as to priorities among farmers and businessmen for the allocation of foreign exchange for investments in support of the quarantine and export program.
  3. Identification of entrepreneurs interested in fodder production, livestock transport and related investments at each of the 3 quarantine areas. Advisor will be available to assist entrepreneurs to prepare proposals for foreign exchange financing under the project and shall assist the SMO in evaluating these and other proposals.
  4. Working with the SMO and Somali Commercial and Savings Bank to develop a system for financing and procurement similar to those used in the CIP.
  5. Advise potential applicants as to equipment items appropriate to their proposals and Code 941 sources of such equipment.
  6. Upon request, assisting individuals in obtaining proformas, and opening L/C's for purchase of equipment and monitoring procurement and delivery of equipment.
  7. Monitoring use of equipment procured under the project and providing field assistance to fodder producers in production, harvest, storage and transport of fodder for quarantine stations.
  8. Working with the Senior Livestock Health Advisor and Ministry of Livestock officials in determining regulations for livestock transport for the quarantine system and assisting private entrepreneurs in compliance with such regulations.

- B. At the request of the Project Officer of the Livestock Health and Marketing Project, contractor shall assist in design and evaluation of construction of quarantine stations.
  
- C. Contractor shall submit quarterly reports to the MLFR and to the USAID Project Officer on status of Private Sector component of Livestock Health and Marketing Project and shall prepare additional reports and briefings as necessary.

LIVESTOCK MARKETING AND HEALTH PROJECT -- BUDGET  
GSDR CONTRIBUTION -- LOCAL CURRENCY COSTS (\$1000 equivalent)

ANNEX K

DETAILED PROJECT  
BUDGETS

BUDGET ITEM	YR1	YR2	YR3	YR4	TOTAL
<b>1. CONSTRUCTION/REHAB FOR QUAR.</b>					
OFFICES/LABS	275.9				275.9
WAREHOUSE	344.8				344.8
GARAGE/REPAIR SHOP	344.8				344.8
ALL WEATHER ROADS					
Wamahan (2 km)	114.9				114.9
Lahaley (5 km)	287.4				287.4
Berbera (8 km)	459.8				459.8
LABOR FOR QUAR. CONSTR.		387.9			
<b>Total</b>	<b>1827.6</b>	<b>387.9</b>			<b>2215.5</b>
<b>2. OFFICE/LAB FURNITURE, SUPPLIES</b>					
STATIONS	53.7	2	2	2	59.7
MOGADISHU	30.7	2	2	2	36.7
<b>Total</b>	<b>84.4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>96.4</b>
<b>3. VEHICLES, FUEL &amp; REPAIRS</b>					
3 VEHICLES & SPARES		54			
PETROL					
Vehicles		69	69	69	207
Farm equipment			149.4	149.4	298.8
Generators			114.9	114.9	229.8
MAINTENANCE		150	300	450	900
<b>Total</b>		<b>273</b>	<b>633.3</b>	<b>783.3</b>	<b>1689.6</b>
<b>4. STAFF &amp; COUNTERPART SALARIES</b>					
SALARIES	11.5	11.5	11.5	11.5	46
TRAVEL	5.8	5.8	5.8	5.8	23.2
<b>Total</b>	<b>17.3</b>	<b>17.3</b>	<b>17.3</b>	<b>17.3</b>	<b>69.2</b>
<b>5. ENVIR., ENGINEER. MONITORING</b>	<b>3.5</b>	<b>23.5</b>	<b>3.5</b>	<b>3.5</b>	<b>34</b>
<b>6. CONSTRUCTION OF SVI ISOLATION UNIT</b>					
ENGINEERING DESIGN	10				10
CONSTRUCTION		60			60
<b>Total</b>	<b>10</b>	<b>60</b>			<b>70</b>
<b>7. HOUSING FOR LONG TERM TA</b>		<b>154</b>	<b>168</b>	<b>42</b>	<b>364</b>
<b>TOTAL ALL COMPONENTS</b>	<b>1942</b>	<b>919</b>	<b>826</b>	<b>850</b>	<b>4538</b>
+ 7% inflation (compounded)	135	133	185	264	717
+ 5% contingency	97	45	41	42	225
<b>GRAND TOTAL</b>	<b>2174</b>	<b>1097</b>	<b>1052</b>	<b>1156</b>	<b>5479</b>

LIVESTOCK MARKETING AND HEALTH PROJECT -- BUDGET

USAID CONTRIBUTION (\$1000)

BUDGET ITEM	unit p	YR1		YR2		YR3		YR4		TOTAL UNITS	TOTAL COST
		#	cost	#	cost	#	cost	#	cost		
<b>I. LONG TERM TECH. ASSIST.</b>											
<b>PERSONNEL</b>											
<b>HEALTH</b>											
Sr. Vet (PASA)	197.5			1	197.5	1	197.5	1	197.5	3	592.5
Jr. Vet (PASA)	197.5			.5	99	1	197.5	1	197.5	2.5	394
Quar. Mgr./Trainer (PASA)	197.5			1	197.5	1	197.5			2	395
<b>ANALYSTS</b>											
Livestock Mktg. (PSC)	157.5			1	157.5					1	157.5
Soc. Scientist (PSC)	157.5			1	157.5	1	157.5			2	315
PRIV. SECTOR ADVISOR (PSC)	157.5	.5	78.75	1	157.5	.5	78.75			2	315
		.5	78.75	5.5	966.5	4.5	829	2	395	12.5	2270
<b>COMMODITIES</b>											
<b>VEHICLES</b>											
4x4	16	5	80							5	80
Spares	2	5	10							5	10
<b>COMPUTER</b>											
Hardware	5	1	10							1	10
Software	1	1	1							1	1
Photocopier	3	1	3							1	3
Air conditioners	1.5	3	4.5							3	4.5
Camping Equipment	1	1	1							1	1
Weigh bridges, scales	1	5	5							5	5
		22	114.5	0	0	0	0	0	0	22	114.5
<b>TRAVEL</b>											
Health - domestic	3	0	0	2	6	2	6	1	3	5	15
- international	2	0	0	2	4	2	4	1	2	5	10
Analysts - domestic	3	0	0	2	6	2	6			4	12
- international	4	0	0	1	4	1	4			2	8
Priv. Sec. Adv. - domestic	3	0	0	1	3	1	3			2	6
		0	0	8	23	8	23	2	5	18	51
<b>Total Long Term Technical Assistance</b>	<b>22.5</b>	<b>193.25</b>	<b>13.5</b>	<b>989.5</b>	<b>11</b>	<b>852</b>	<b>4</b>	<b>400</b>		<b>51</b>	<b>2435</b>

**2. QUARANTINE FACILITIES**

**COMMODITIES**

Berbera Marshalling Yard									
rehab water supply, str.		125							0
expand main yard		70							125
misc. supplemental yard		10							70
expand supplemen. yard		20							10
									20
North Quarantine Station									
fencing, posts		370							370
water supply		350							350
supplies, tools		10							10
misc. construct.		74							74
Mogadishu Marshalling Yard									
water supply		15							15
Warmahan Quarantine Station									
fencing, posts		160							160
water supply		25							25
water lines, troughs		25							25
supplies, tools		10							10
misc. construction		73							73
Kismayo Marshalling Yard									
fencing	10								10
Lahelay Quarantine Station									
fencing, posts	370								370
water supply	100								100
water lines, troughs	25								25
supplies, tools	10								10
misc. construction	73								73
		588	0	1337	0	0	0	0	1925
plus 25% cif		735		1670		0	0		2405
<b>CONTRACTOR COST</b>									
Personnel	40		80						120
Overhead	56.7		113.3						170
Support costs	90		380						270
	186.7	0	575.7	0	0	0	0		760
<b>Total Quarantine Facility</b>	922		2043		0	0			2965

181x

3. SHORT TERM TECH. ASSIST./STUDIES/TRAINING

Facilities Design											
Engineer 3 pm (IQC)	41	1	41		41					1	82
Health Adv. 3 pm (IQC)	41	1	41							1	41
Domestic travel	3	2	6		3					2	9
Secretary pm	2	3	6							3	6
Office supplies	1	0	0							0	0
Vehicle rental	3	3	9							3	9

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 10 103 0 44 0 0 0 0 0 10 147

USER FEE STUDY

Analyst 2 pm (PSC)	14	1	14								14
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MARKET DIVERSIF. STUDY

Mktg. specialist 6 pm (PSC)	37			.5	18.5	.5	18.5			1	37
Travel - domestic	3			.5	1.5		1.5			.5	3
- international	20			.5	10		10			.5	20

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 0 0 1.5 30 .5 30 0 0 2 60

DRUGS STUDY

Drug specialist 3 pm (PSC)	21			1	21					1	21
Travel - domestic	3			1	3					1	3

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 0 0 2 24 0 0 0 0 2 24

OTHER STUDIES

Specialists 3 pm (PSC)	21	0	0	1	21	2	42	1	21	4	84
Travel	3	0	0	1	3	2	6	1	3	4	12

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 0 0 2 24 4 48 2 24 8 96

EVALUATION

Final 3 pm	21							3	63	3	63
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TRAINING

International											
Mktg. management py	28	1	28	0	0	0	0	0	0	1	28
Ag. management pm	8	3	24	6	48	0	0	0	0	9	72
Quar. Stat. Study tour	10	2	20	0	0	0	0	0	0	2	20

In-country workshops	3			1	3	1	3	1	3	3	9
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 72 7 51 1 3 1 3 15 129

Total Short Term TA/Studies/Training 189 173 81 90 533

4. QUARANTINE PROGRAM, PRIVATE SECTOR FUND, FSU

QUARANTINE SUPPLIES

Drugs	0	62	62	61	185
Foot and Mouth Vaccine	0	123	123	124	370
Expendible supplies	0	17	17	17	51
	0	0	0	0	0
	0	202	202	202	606

LAB EQUIPMENT

Serum/Vaccine Institute	0	90			90
Other labs		10			10
	0	0	0	0	0
	0	100	0	0	100

FARM EQUIPMENT

	0	359			359
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Livestock Inv. Fund

	500	750	750	0	2000
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FIELD SUPPORT UNIT

	100	100	0	0	200
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Total Quar. Prog./PSF/FSU

	600	1511	952	202	3265
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TOTAL ALL COMPONENTS

	1904	4717	1886	692	9199
--	------	------	------	-----	------

+ 7% inflation (compounded) (1)

	98	575	256	215	1144
--	----	-----	-----	-----	------

+ contingencies (2)

	191	438	17	11	657
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GRAND TOTAL ALL COMPONENTS

	2193	5730	2159	918	11000
--	------	------	------	-----	-------

(1) except no inflation for Livestock Investment Fund

(2) no contingency for Livestock Investment Fund  
 20% contingency for quarantine facilities;  
 2% contingency for all other costs

LIVESTOCK HEALTH AND QUARANTINE IN SOMALIA

REPORT BY CONTRACTOR:

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Contract Number:  
698-0510.49-S-00-4019-00

Mogadishu  
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SUMMARY  
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In order for Somali cattle to meet the health requirements for export to Saudi Arabia strong Somali Government initiatives will be necessary. The following initiatives are recommended:

- (1) Declaration that an economic emergency exists because of the loss of livestock sales to the Saudi Arabian market and actions are being taken to regain the market.
- (2) Establish a new Government Agency for livestock quarantine and export with all necessary authorities and resources assigned to it.
- (3) Construct new and/or renovate existing quarantine and marshalling yard facilities.
- (4) Initiate and operate a soundly designed livestock quarantine system in compliance with the International Zoo-Sanitary code.
- (5) Expand the current field vaccination of cattle against rinderpest to 65-70% of the national cattle herd. All newly born calves should be vaccinated. Cattle intended for export should receive both pre-quarantine and quarantine rinderpest and other appropriate vaccines.
- (6) Transport cattle from quarantine stations to marshalling yards and from marshalling yards to ship, when indicated.
- (7) Develop and implement a plan for more effective use of Somali veterinarians especially in disease monitoring and reporting to meet long-term livestock health requirements.
- (8) Initiate in-country training program for animal health technicians, veterinarians and others especially those involved in export of livestock.
- (9) Conduct short-term study to develop quarantine station policies staffing, and health related design features of the quarantine stations. This study should be conducted in conjunction with the design phase of construction.
- (10) Conduct short-term studies on the policy for animal drug importations and distribution including a plan to increase importations by the private sector.
- (11) Provide hard currency for increased importation and broader range of drugs and vaccines through marketing services.

from livestock export or other parts of the private sector.

(12) Initiate a comprehensive training program for the quarantine system and field program personnel.

This analysis of the health component of the livestock project addresses two basic issues. First, the short-term health initiatives are described which deal with the immediate problem of qualifying livestock for the Saudi Arabian market. This is covered in considerable detail in descriptions of a model livestock quarantine system, a model government organizational table to administer the system, and a strategy for implementation.

The long-term initiatives describe ways to improve livestock health outside the quarantine system and addresses some of the broader problems. Actually, the two issues are interrelated and solving problems associated with one issue will help with the other. Nevertheless, a model quarantine system can be implemented independently of the long-term initiatives and meet requirements of the International Zoo-Sanitary Code, and, if managed correctly, should qualify Somali cattle to Saudi Arabia and other countries.

## I. INTRODUCTION

New livestock\* health requirements for Somali livestock to qualify for export to Saudi Arabia make it essential that the Somali Government take certain actions and initiate policy changes if there is to be any hope of regaining that market\*\*. Such actions include realigning of program priorities and personnel staffing patterns and operating procedures of the animal health delivery system and establishment of a new livestock quarantine health and export system that will be technically sound, based on the minimum standards of the OIE International Zoo-Sanitary Code for the international movement of animals and animal products. Also construction or renovation of new or existing quarantine stations and marshalling yards will be necessary.

### A. Declaration of Economic Emergency:

Since livestock export is such a large part of Somalia's hard currency foreign exchange, the Government needs to call public and private attention to this fact, state that an economic emergency exists because of the loss of livestock exports, and that the Government is making a special effort to direct substantially more of its resources including funds, personnel, facilities, and expatriate assistance to qualify its livestock to meet world market demands. This action will be helpful in two ways: first it will alert existing Somali Government agencies of the high priority of the task to be undertaken and second notify potential customer countries of Somalia's serious intentions.

\* For purposes of this paper "Livestock" means cattle but the quarantine system outlined here would have general application to most species of food animals.

\*\* See Annex #1 - A letter of May 25, 1983 to Dr. A. B. Sulaiman, Minister of Commerce of Saudi Arabia from Mohamed Omar Jama, Minister of Commerce of Somalia acknowledging measures to be taken on Somali cattle exports to Saudi Arabia, Annex #2 (Health requirements for all livestock).

B. Establish Office of Livestock Health Quarantine and Export  
(or other appropriate title)

In support of the above declaration a new Government Agency should be authorized\*. This unit will need the consolidated authorities and funding which now exist in at least three Government units, i.e. Department of Development of Livestock Marketing Facilities of the National Range Agency; Port veterinarian, and Regional Diagnostic laboratories of animal health; and Regional Coordinators of the field staff of animal health. It is proposed that the new Office of Livestock Quarantine Health and Export be established on a level equal to the TseTse Control Agency and National Range Agency and assigned the the necessary authorrities, personnel and funds associated with export livestock now held by the other units. The new agency would report to the Minister or Vice Minister of MLFR. It is very important that the new agency be given all necessary authorities and funds to establish and operate a modern livestock quarantine and export system so that it can meet the International Zoo-Sanitary Code. (See Annexes #3 and #4 for proposed Tables of Organization).

C. Establish and Operate a Livestock Quarantine System to Meet Short-Term Health/Quarantine Requirements

The existing Somali quarantine system for export of livestock does not meet the International Zoo-Sanitary Code. In the short-term to meet the above code it is essential that substantial investments be made in facilities; personnel training, expatriate technology transfer; and the introduction of modern management techniques into the livestock quarantine system. Longer term, other increased investments and changes in the basic livestock health delivery system in Somalia are needed.

This paper will address both short-term and long-term needs with emphasis on short-term.

\* This recommendation is consistent to MLFR thinking and aspirations. My conclusion on this point was made before I was aware of MLFR plans.

## II. GENERAL LIVESTOCK HEALTH IN SOMALIA AND EFFECTIVENESS OF EXISTING LIVESTOCK HEALTH PROGRAM

There is a long list of infectious diseases and internal and external parasites which deplete and ravage the livestock of Somalia. Estimates of annual disease caused losses vary widely because factual and accurate data is not always available.

According to the "Zoo-Sanitary Position and Methods of Control of Animal Diseases" for 1982 published by FAO/OIE/WHO Somalia reported rinderpest as suspected but not confirmed. Kenya reported the last case of rinderpest in 1975. Ethiopia reported rinderpest as "Present now". Saudi Arabia reported six outbreaks in 1982. In January 1982 two of the outbreaks in Saudi Arabia were in cattle reported as imported from Somalia for slaughter and two outbreaks were in native and Friesian animals. In October 1982 rinderpest occurred in cattle in Riyadh. (Although not stated, the implication is that these outbreaks all originated from cattle importations from Somalia.)

Based on the above epidemiological data and other reports and talking to people in Somalia, it does not appear to me that rinderpest (if it is present) is not widespread in the livestock population throughout the country. Circumstantial evidence strongly suggests that if rinderpest does exist in Somali cattle its occurrence may be associated with livestock movements across the Ethiopian border in the extreme northern part of the country. There is no evidence to suggest that clinically obvious rinderpest exists in other parts of Somalia. However, statistically based testing surveys of animals to prove this point do not exist at this time.

Somalia acknowledges the existence of contagious bovine and small ruminant pleuropneumonia, anthrax, black quarter, and sheep and goat pox all of which may be controlled by conscientiously applied vaccination program.

Currently the GSDR guarantees a job to all graduates of the Somali National University Faculty of Veterinary Medicine in Mogadishu. However, the pay is disastrously substandard and job encouragements through potential promotion, periodic pay increases, or other incentives are nonexistent.

There are approximately 150 field veterinarians in Somalia, all employed by the government. Their work involves both export activities and disease control programs in livestock in the bush. It is my observation that the veterinary resources are not being fully utilized, especially in preventing disease problems rather than trying to deal with outbreaks and losses after they occur. Existing skills are not fully used and techniques for systematic identification of disease outbreaks, including observations on morbidity and mortality, and specimen collection for laboratory

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examination. In addition, statistically based sampling and monitoring of livestock is not being done could be initiated to build up a data base. I have heard it said that Somali veterinarians will not do this type of field work when they are paid their low salaries whether they do anything or not. Perhaps this is true, but if the pay scale was raised and the reporting system updated, including training, many of the above cited problems would be eased.

In support of better utilization of veterinary resources, officials should approve and encourage government employed veterinarians to conduct limited private veterinary medical practices during off duty hours. This and other similar incentives need further study. Finally, the current system of animal drug importation and distribution is inadequate to meet the needs of the national Somali herd. Permitting the private sector to enter this field, and be allowed to make a satisfactory profit, could relieve many of the current problems created by government operation of the animal drug importation system. Of course, there is the constraint of hard currency which is not always available to bring in the needed drugs. Potential sources of hard currency for drug importation could be by earmarking a larger part of the hard currency received for the exported livestock or allowing the use of private hard currency which will appear if the rate of profit is attractive.

Certainly there are many other factors affecting the better utilization of the veterinary resources of the country. Some factors are controllable, such as improved work planning and implementation of programs to integrate the field services to the regional laboratories. For example, the excellent Regional Laboratory at Kismayo (developed in collaboration with GTZ) is underutilized by the field service. Last but not least are the work assignments of the veterinarians. Including the use of some simple field tests to support field diagnosis of disease, and treatment of animals.

Uncontrollable factors are the lack of job incentives and poor pay, the absence or shortage of drugs, and erratic availability of transport.

Of most immediate concern to the current livestock health export problem and also the general livestock health is the need to build up a Somalia cattle population that is vaccinated against rinderpest\* and other important livestock diseases\*\*. I estimate that a goal of attaining and maintaining vaccination of

\* See Annex #5 for a brief non-technical description of rinderpest disease in cattle.

\*\* Foot and mouth disease has the potential to be equally or more destructive to the export of cattle as rinderpest because of the numerous strains of FMD virus that have different antigenic characteristics. Also FMD vaccine is less effective than rinderpest vaccine.

65-70% of the cattle population will effectively bring about reliable field control of rinderpest. In addition, diligent effort should be exerted to vaccinate 75-85% of the newly arrived calves. This level of vaccination will not necessarily assure complete freedom from rinderpest, but will be a substantial improvement the existing uncertain situation and would provide a cattle population that could reasonably be relied upon to be resistant any new outbreak of the disease. The JF-15 Rinderpest Program in 1960-75 was effective in achieving the vaccination of a substantial part of the national cattle herd and resulted in fairly effective field control of the disease. But the level of vaccination after JF-15 was not continued in the newly arrived calves, and a new susceptible population exists today in Somalia except for the most recent vaccination efforts in 1983-84.

### III. Quarantine of Livestock

#### A. Quarantine/Holding Facilities needed to Meeting The International Zoo-Sanitary Code for Export of Livestock:

The purpose of quarantining livestock is that it provides a means to select certain animals, observe them in isolation for signs of disease, subject them to test and/or vaccination and treatment, and at the end of the quarantine period be able to certify to their health status. The foundation of a health quarantine system for livestock is to make every effort to bring healthy animals into the system, maintain them in strict isolation separate and apart from non-quarantined livestock from the beginning of quarantine period to the end. If strict isolation is violated the integrity of the quarantine is null and void. Examples of quarantine violation include: direct contact (usually nose to nose) with non-quarantined livestock, or indirect exposure or contact to animal by products (i.e. hides, bones, tissue, viscera), and carcasses of animals that may die of unknown cause. If isolation is broken at any time during the quarantine period it must begin again as if starting from day one to maintain the integrity of the system. Many export/import quarantine periods are for 30 days; however, shorter periods may be adequate such as 21 days in the case of rinderpest.

#### B. Construction Features of A Model Quarantine Facility:

The existing facilities will require major construction or renovation to meet the international code.

This section is not intended to deal with renovation or types of construction, selection of materials, or infrastructure needs of a quarantine facility. These factors will be dealt with in the engineering section of this PR. Instead this section will deal only with construction features as they may affect the health of animals.

A model livestock quarantine facility, which meets the minimum standards of the International Zoo-Sanitary code and generally accepted sound livestock health practices should contain the following:

1. Double row outer perimeter fencing of sufficient strength to prevent penetration by cattle or small ruminants. The inner row of the double fencing should be of distance not less than 15 feet inside the outer row and the area between fences kept clear of undergrowth.
2. Squeeze-chute facilities to restrain animals for inspection, ear tag identification, vaccination of livestock; and collection of specimens for laboratory examination. These facilities should have roof coverage.
3. Isolation paddock located outside the quarantine station for holding or treating sick or injured animals.
4. Water troughs and feeders constructed of impervious material to permit cleaning and disinfecting.
5. Operable cleaning and disinfecting equipment and solutions.
6. Facilities, equipment, and drugs for external parasite treatment.
7. Sanitary burial pit for disposing of livestock carcasses that may die in quarantine, located not less than 100 meters outside the quarantine fenced area and the isolation paddock.
8. Each paddock in the quarantine zone should be separated from other paddocks by double fencing.
9. Cattle loading chute to permit easy loading of quarantined animals onto trucks.
10. Quarantine station employee's livestock - It is preferred that station employee's livestock not be housed within the quarantine station. If this is not practical, such animals should be confined to a specified area of the quarantine station and not permitted in contact with livestock in quarantine.
11. Sufficient alley ways gates, and fencing should permit easy handling and movement of each group of animals to and from squeeze chutes and spray/dipping areas without coming into contact with other animals.

#### IV. MOVEMENT OF CATTLE INTO AND THROUGH THE QUARANTINE STATION

There are certain basic steps that are essential to effectively move cattle through a quarantine system. This section will briefly explain the steps recognized by the International Zoo-Sanitary code.

##### A. Pre-Quarantine grouping and vaccination of livestock:

1. Livestock selection - Traders normally sort and group livestock prior to export. This selection is to eliminate unthrifty animals that may sicken or die before reaching the importing country and for group uniformity of animal size and quality.

2. Pre-Quarantine Vaccination - After animals are selected by traders for quarantine the MLFR veterinarians should conduct a visual inspection looking for obviously sick cattle. If there are sick animals the group should be rejected. If the group appears healthy, the cattle should be vaccinated against rinderpest and other appropriate diseases. Also they should be individually identified by a numbered, tamperproof ear tag and a certificate of quarantine eligibility issued. A certificate of quarantine eligibility will show the animal's ear tag numbers, vaccination, information and accompany the livestock to the quarantine station. Cattle will not be permitted into the quarantine station unless they are accompanied by a certificate of eligibility. The cattle then are moved by foot or truck to the quarantine station for entry processing.

Pre-quarantine inspection and vaccination is part of the quarantine process but is not part of the 21-day quarantine period. This step is important for at least two reasons: first, it is the first opportunity to observe the livestock for signs of illness, and if necessary, reject them; second, the livestock are identified and vaccinated with a viable product and have time to begin to build up immunity against disease(s) while on the way to the quarantine station. Through this procedure, potential outbreaks of disease during the 21-day quarantine period are greatly reduced and many difficult decisions can be avoided.

B. Quarantine Station - Cattle are in quarantine not less than 21 days. During this period they are closely inspected by a veterinarian, revaccinated against rinderpest and other diseases and ear tagged again, if tags have been lost. This indoctrination process should be completed during the first two days of quarantine. The cattle are inspected daily by a veterinarian for signs of disease or other illness and treated for internal parasites. Those appearing unhealthily are removed to an isolation pen for further examination and/or testing and treatment. Each animal's number is recorded to its respective owner in the quarantine station records. When the 21 day

quarantine is over and the cattle are determined to be healthy, a certificate of export is issued by the quarantine station supervisor for each group of cattle. The certificate should comply with International Zoo-Sanitary Code specifications. Cattle are then eligible to be transported by truck to the marshalling yards. Cattle in transit or in the marshalling yards, until on board the ship, are still within the quarantine system and must not be exposed to non-quarantined animals or animal products.

C. Marshalling Yards - The purpose of the marshalling yard is to serve as holding areas within the quarantine system in preparation to boarding ship. While at the marshalling yards, cattle are counted, fees and taxes collected, and animals are checked again to be certain that each has a quarantine system ear tag. The certificate of export is stamped and/or otherwise endorsed that the cattle are "free from evidence of communicable disease and exposure thereto" by the Port veterinarian. The certificate should also include the dates of quarantine and list the vaccinations and parasite treatments given.

D. Ship Inspection - Prior to loading of cattle, the ship hold for livestock should be inspected. All manure, hay straw, and other debris should be disposed of in a sanitary manner and all exposed surfaces of pens, walls, floor, etc., thoroughly cleaned and disinfected. The cleaning and disinfecting procedure should be completed before loading the cattle.

#### E. Quarantine Stations' Status: Re: Livestock Health

All proposed livestock quarantine stations will require either extensive renovation or total construction of the facilities. When quarantine facilities are designed, provisions should include squeeze chutes, stockages, dipping or spraying equipment, expendable supplies (i.e. syringes and instruments) or other necessities to carry out the health functions.

Marshalling yards, on the other hand, are in much better condition. With substantially less renovation, all three of them can be made operational and meet health requirements quite readily.

It must be understood that patience and diligence will be required, especially on the part of the expatriate advisors, in the design and implementation of the quarantine stations under this project since this system is new to Somalia. The greatest hazards to establishing an effective quarantine system will be the temptations to compromise on the basic principle of isolation of the livestock while in quarantine.

## V. EXPATRIATE TECHNICAL ASSISTANCE

Three full time expatriate positions have been identified for placement at critical locations on the table or organization for the Office of Livestock Health Quarantine and Export. Annexes #3 and #4 show the levels at which the expatriates will function. The expatriate positions are designated:

- A. Senior U.S. Livestock Health Advisor
- B. U.S. Livestock Health Advisor
- C. U.S. Livestock Quarantine Facilities Specialist
- D. U.S. Agricultural Engineer (TDYs)

An example of a statement of work of one of the expatriate positions is shown in Annex #6. Additional statements of work will need to be prepared.

## VI. LONG-TERM LIVESTOCK HEALTH PROGRAMS

In the case of Somalia it is difficult to separate short-term and long-term health problems because the cause and effect of each are interrelated.

For example along the roads of Somalia, whether paved highway or back road, the areas along the birm are littered with the carcasses of animals that died on the spot. The cause(s) of the deaths are not known for certain. Undoubtedly some animals become weakened because of starvation or lack of water; they lie down - never to get up again. On the other hand the cause of death could be an infectious disease. Their carcasses are left to decompose on the spot or to be torn apart by buzzards, dogs, or other scavengers and their tissues and juice to be scattered along the ground. To allow the carcasses to decompose on the ground surface is unsanitary at best but from an animal disease control standpoint it constitutes a very real threat to disease spread especially to livestock being trekked to a quarantine station. Essentially it could be the same as allowing animals with an infectious disease to mix among healthy animals. The tissues and juice of animals that die along the roadways because of infectious disease could be sources of the disease agent to non-sick or unexposed animals. One possible solution would be for the Somali Government to establish a policy that the owner of an animal that dies is responsible for burying the carcass of that animal within 4-8 hours after finding it. This may, however, be impracticable in some circumstances.

An alternative method of disposal would be to pay a worthwhile amount of money to persons bringing carcasses to a central point. From there they could be buried or rendered into tankage or fertilizer.

Another area with implication for both short and long term livestock health programs is employee development. (This is discussed in more detail in section IX). There is a need to design and implement training programs for personnel in both the livestock export program and animal health field programs. Some personnel are lacking certain skills, while other skills must be updated. Most of the training can be given in-country and trainees should include a broad range of positions in both the existing animal health organization for field programs and for the new livestock health quarantine and export system.

I have mentioned already that the skills that livestock health people now have are not fully used. Because of the importance of disease investigations and livestock monitoring and specimen collection, training and refinement in these activities would provide a way for the veterinarians to have more hands-on experience with livestock, and the officials would know what diseases they have to deal with.

#### VII. ROLE OF THE GOVERNMENT AND PRIVATE SECTOR IN UPGRADING ANIMAL HEALTH

Currently the role of government is predominant and the private sector is subservient in maintaining or upgrading livestock health. While the government's role could be reduced and the private sector expanded in livestock health, it is doubtful that this can be changed dramatically over the short-term. However, there are some steps that could be taken to begin to reverse these roles. Since country to country health certification on international movement of livestock is a function reserved by all federal governments, the Somali government will remain dominant in the quarantine system for livestock export. This is accepted as government's role by countries around the world. On the other hand, there is good reason to make the quarantine system self-sustaining through collection of user fees paid by the exporter of livestock. Proper use by the government of a portion of these fees, in hard currency, for more and better drug and vaccine importations, and allowing Somali veterinarians to engage in limited private enterprise practice are some steps that will help reverse these roles and could help upgrade livestock health in general over the years.

#### VIII. LIVESTOCK DRUGS AND VACCINES

##### A. Current situation:

There is currently an inadequate drug importation and distribution system. The system does not get the job done satisfactorily, and there is frequently a complete absence of needed products. Annex #7 provides an estimate of drug needs to treat 10% of the population one time annually. This totals \$12.6 million, while the annual importation is approximately \$1.0

million. Coupled with this is the government involvement in all drug distribution as shown in Annex #8. So, the problem is twofold: the lack of drugs generally because of shortage of hard currency, and a cumbersome government - operated distribution system. These two problems could be solved in one of two ways. First, allow the private sector to import some or all drugs profitably under license using their own hard currency, or, earmark a small part of the hard currency received for livestock export for livestock drug importation.

#### B. Importation and Distribution of Human Drugs:

Official importation of drugs for use in human medicine is controlled by the government parastatal agency, ASPIMA, working in conjunction with the Ministry of Health. Human drugs are imported for sale through private pharmacies and for use in government and private hospitals.

Each year the Ministry of Health submits to ASPIMA a list of drugs which need to be imported. ASPIMA receives an annual foreign exchange currency budget from the Ministry of Finance, part of which is for purchase of drugs supplied to government agencies and hospitals, with the rest for drugs which are imported and sold to private pharmacies for resale to the public. In addition, private importers are occasionally given approval to import additional drugs which are in short supply or not available through the government imports. In this case, the private importer provides the hard currency, and the drugs are then purchased from him in Somali Shillings at a moderate profit for resale by ASPIMA. At the same time, pharmacies and other sources often sell drugs brought in through unofficial sources.

Although sales to consumers are allowed by private pharmacies in the distribution of human drugs, their importation is still essentially government controlled, and the system does not work remarkably better than that for importation and distribution of animal drugs. The primary problem is the same: a shortage of hard currency available to the government. In spite of the fact that private importers may legally bring in human drugs (with government approval) there are still many shortages and an uneven supply of critical drugs.

#### C. Vaccine Production Capacity:

There is ample capacity at the Serum and Vaccine Institute (SVI) to produce all the rinderpest vaccine that may be needed in Somalia. (See Annex #9 for existing and potential vaccine production capacities.)

Based on these figures, there is adequate vaccine production capacity to service 180,000 cattle exports for all other diseases, but far short to service caprine exports.

#### D. Recommendations:

There are funds in the PP budget to cover cattle vaccine and drug needs and applications associated with the quarantine system, plus additional funds to increase vaccine production capacity at the Institute. This support is very much needed, because vital equipment has reached the end of normal usage and could cease functioning any time. In addition, the laboratory needs major improvements in electrical wiring, major changes in the necropsy facilities, expansion of laboratory animal room facilities, and construction of animal disposal facilities. Since funds allotted to this component of the project will be inadequate to cover all these needs but will be sufficient to make the most vital equipment repairs and replacements, it will be necessary to carefully evaluate present equipment and use project funds to meet the most critical needs.

The SVI does not currently have the facilities to produce foot and mouth disease vaccine. Production of this vaccine is more complicated than the vaccines now produced by the Institute, as there are numerous antigenically distinct strains of the virus, and production requires strict isolation facilities. For this reason, Foot and Mouth Disease vaccine used under this project will have to be imported.

### IX. TRAINING AND STUDIES

#### A. Training:

All training under this project related to animal health should be job oriented. Objectives of each type of training should be clearly defined. Priority should be for in-country training, with out-country training only when clearly indicated. Training could be done under a contract with OICD/USDA or other contractor.

Recommendations for in-country training include:

1. The veterinarians and animal health technicians associated with the quarantine stations should receive a short in-service course on disease identification and control, vaccination procedures, and certification standards to assure uniformity between inspectors and stations. The course could include such things as collection of laboratory samples, restraint of animals, quarantine station regulations, and record-keeping.

2. Management personnel at the quarantine stations should receive on-the-job training from the Agriculture and Livestock Technician assigned to the station. This would include administrative procedure, management techniques, operations, and record-keeping.

It is further recommended that the person in charge of

administration and management of the quarantine station system be given a 3-4 month study tour to visit quarantine stations and feedlot operations in the U.S., to talk with health inspections personnel and to examine the U.S. import/export system.

#### B. Drug and Vaccine Needs Study:

The GSDR has expressed interest in reviewing its current policy on animal drug importation and distribution. This issue has become very confused. The current animal drug situation is not satisfactory and needs to be studied and revised as necessary to support a viable livestock industry.

Objectives of the study would include:

1. Develop an estimate of the total annual drug and vaccine needs in Somalia.
2. Identify the type, amount, and cost of drugs and vaccines needed.
3. Establish priority on the type and amount of drugs to be imported to meet all drug and vaccine needs.
4. Study the current in-country drug distribution and marketing system and recommend appropriate changes.
5. Study alternative conditions of import, including licensing arrangements and the involvement of the private sector.
6. Investigate the potential for in-country drug formulation and packaging.

The above study could be conducted in approximately 30 days by one person.

#### C. Livestock Quarantine System, Policy, Staffing and Design TDY:

Objective of this study:

1. To develop uniform policies, practices and health standards for quarantine stations and marshalling yards to comply with the International Zoo-Sanitary Code and meet Saudi Arabia requirements including types and timing of vaccinations, parasite treatments, and construction design taking into consideration health activities needs.
2. To develop a headquarters and field staffing plan for the system. This would also include job descriptions and/or statements of work.

A TDY is recommended for this study because many of the decisions involving policies, headquarters and field staffing, and construction of the quarantine stations will be made before the long-term expatriates arrived. This TDY should be conducted in conjunction with the design phase of the quarantine stations' construction.

The above studies should be done in close collaboration with Somali counterparts who should be involved in every step.

The above study could be conducted in 45-60 days by one person.

Review of Livestock Marketing and Livestock  
Marketing Facilities in Somalia  
John Holtzman March, 1984  
Summary and Policy Conclusions

1.1 In the short to medium run, Somalia's comparative advantage in livestock marketing lies in export of live animals to Middle East markets. The GSDR must strive to upgrade existing marketing facilities and meet international animal health requirements for export stock so as to recapture Somalia's share of the Saudi market. The traditional markets of Saudi Arabia and North Yemen offer continued potential for expansion. Minor and occasional markets such as the UAE, Oman, Qatar and Kuwait offer limited and irregular market opportunities. Egypt represents a potential market of significant magnitude (60,000 head of cattle per year), provided the GSDR and the Egyptians are able to settle on an FOB price for Somali cattle. Potentially important markets such as Iran and Libya are excluded for political reasons. Kenya could become an important outlet for Somali cattle by 1990, but the Kenyans will probably be unable to pay in hard currency, which will prevent exploitation of this potential opportunity.

1.2 There may be limited scope for export of tinned beef from Kismayo if the GSDR and potential investors such as the Romanians or West Germans can reach agreement on renovation of the Kismayo Meat Factory and distribution of the benefits from export. Eastern Europe is a potential market, but limited

hard currency reserves on the part of potential buyers could limit development of that markets. In order to penetrate the Western European market Somalia must improve animal health in Southern Somalia, ensure hygienic meat processing, and negotiate entry into protected EC markets (obtaining an annual quota of 5,000-10,000 metric tons beginning in 1986). World prices for canned meat are low and competition is intense, which casts the economics of operating a meat processing plant in Somalia into question, at least over the short term.

1.3 There may be limited potential for exporting chilled and frozen carcasses of high quality cuts of red meat to high price Middle East markets. Turkey is beginning to ship chilled meat in place of live animals to Saudi Arabia, Kuwait, and Libya in order to capture more of the value added from slaughter, butchering, and cold storage. Somalia does not yet have the meat processing and cold storage infrastructure to expand exports of chilled or frozen meat. This should not be promoted unless the Kismayo Meat Factory is renovated and additional cold storage capacity is installed. If these conditions are met and adequate refrigerated transport can be provided, then chilled meat could be exported on an experimental basis. In the short to medium run, however, Somalia should exploit market opportunities for live animals before promoting export of tinned or chilled meat.

1.4 USAID needs to assist the GSDR in completing upgrading of

existing MLFR/NRA managed facilities to comply with international requirements for exporting live animals. Improvements to the holding grounds at Laheley, Aroori and Warmahun and the quarantine station at Berbera are the highest priority.\* Additional upgrading of the holding ground at Jilib and the marshalling yards at all three major ports should receive second priority. It is recommended that the holding ground at Qoolcaday not be improved, given the poor location of the facility and the continual land use conflicts with pastoral producers.

1.5 Selection and development of a new holding ground near Hargeisa or between Hargeisa and Berbera also deserves immediate attention. MLFR and NRA officials in Northwest Region are surveying possible sites, but little attention is being paid to potential land use conflicts or to range management and ecology criteria. The GSDR requires technical assistance in identifying a new site.

1.6 Exporters in Southern Somalia are unwilling to develop and manage holding grounds and quarantine facilities. This is probably due to their relatively small numbers, the massive resources required to develop facilities for holding cattle 21 days prior to export, and limited technical and management capability. The MLFR must take the lead in upgrading marketing facilities in Southern Somalia.

1.7 The Livestock Exporters' Association (LEA) of Northern

Somalia has expressed interest in developing and managing live-  
\* Design team note: subsequent discussions with the Ministry of Livestock, Forestry and range (MLFR) have led to the conclusion that it would be preferable to build a new holding ground between Hargeisa and Berbera (see paragraph 1.5) rather than rehabilitating the station at Aroori. The reason for this change is that the principal cattle markets in the region are to the west of Hargeisa and Aroori is therefore poorly situated for to serve as a cattle quarantine station. The MLFR is considering upgrading the Aroori holding area for sheep and goat vaccination purposes.

stock marketing facilities which would complement the GSDR run facilities, providing additional capacity during periods of peak export volume. Groups of exporters or prominent individual exporters would develop privately owned and managed facilities. The LEA recognizes the need for pooling individual exporters' resources and for technical and financial assistance. While USAID's priority for Northern Somalia in the Livestock Marketing Project should be upgrading of existing public facilities, USAID should assist the private sector in the North in the development of new facilities, experimental introduction of mechanical baling, and acquisition of <sup>New trucks</sup> trucks, /designed to carry greater numbers of animals or rehabilitation of the existing fleet would lower transport costs. The CIP is probably the best means of providing the necessary foreign exchange for importation of vehicles, spare parts, balers, fencing materials, materials for construction of shade structures, and other durables. The Somali Development Bank should assist exporters in developing proposals for funding, appraise the proposals, and help exporters to meet So.Sh. requirements.

1.8 The MLFR needs technical assistance in carrying out applied research and analysis of livestock marketing and trade trends, opportunities and requirements, as well as the effect of livestock sector policies on livestock exportation. An agri-

cultural economist or specialist in livestock marketing, exportation and export promotion should help create and guide a Division of Livestock Marketing within the MLFR. This division should combine the present NRA Department of Livestock Marketing Facilities with new departments of marketing research and analysis, as well as export promotion. Alternatively, the livestock exporters' associations could hire analysts/fulfill <sup>to</sup> under private contract the functions of the marketing research and export promotion departments. The marketing advisor in the MLFR would systematize collection and analysis of livestock sector data relating to marketing and trade, advise the MLFR and exporters' associations on marketing and policy matters, and undertake a program of livestock marketing research. Marketing intelligence obtained through visits to existing and potential markets and to other countries supplying the Middle East market would help the Somalis to exploit marketing opportunities. Short and long term training of several Somalis in agricultural economics, management and marketing and export promotion is envisioned. Trained researchers, analysts and managers could return to employment in the MLFR, the Ministries of Commerce or Planning, the Somali Development Bank, or the private sector.

1.9 The consultant did not have the time to analyze the economics of using mechanical balers to bale fodder, which is fed to export stock at quarantine stations and on board live-

stock carriers. Potential transport cost savings are greatest in the North, where fodder delivered to the port of Berbera costs 7,000-10,100 So.Sh. per truckload. A pilot component for testing the utility of balers is recommended, for which USAID should provide technical assistance. Data should be collected during this experimental phase which will permit better analysis of financial and economic returns. If returns are favorable and private fodder producers in Northern Somalia are able to maintain and use the machinery, additional loans or foreign exchange for importing greater numbers of balers could be provided under a second phase of the project.

Somali Livestock Exports and Foreign Exchange Earnings Through 1983

1.0 Volume and Species Composition of Live Animal Exports

1.1 live animals, expressed as  
More/total livestock units (TLU), were exported from Somalia in 1982 than in any previous year, as shown in Table 1. While recorded small ruminant exports in 1982 (1,449,590 head) were lower than in 1972, 1975, 1978 and 1980, cattle exports increased by over 41,000 head from the previous high year of 1981 (116,003 head) to 157,295 head in 1982. The rapid expansion in cattle exports in 1982 more than offset any shortfall in small ruminant exports relative to earlier years, making 1982 the best year for live animal exports on record.

1.2 Cattle exports in 1983 (43,763 head) were only 28% of 1982 exports, due to Saudi Arabia's imposition of a ban on imports of cattle from East African countries in May 1983. Only 22,144 head of cattle were exported to Saudi Arabia before the ban in 1983, as compared with total exports of 146,066 head to the Kingdom in 1982. (see Table 3).

1.3 The Saudis reported that cattle imported from East Africa were not adequately vaccinated and treated for rinderpest. They have invested heavily in imported cattle to expand dairy production in recent years and are trying to avoid rinderpest outbreaks which would decimate the costly imported herd.

Table 1. Recorded Livestock Exports from Somalia, 1980-1983

	Cattle		Camels		Sheep	Goats	Total Small Ruminants		Total Livestock Units <sup>b</sup>
	No. Head	% TLU	No. Head	% TLU	No.	No.	No.	% TLU	
1975	39,883	14.2%	34,223	15.2%	892,702	691,759	1,584,461	70.5%	224,576
1976	58,385	29.4%	33,502	21.1%	406,961	380,106	787,067	49.5%	158,917
1977	54,956	25.5%	33,296	19.3%	491,503	461,268	952,771	55.2%	175,538
1978	76,982	26.9%	21,580	9.4%	738,848	714,771	1,453,619	63.6%	228,528
1979	67,886	26.0%	12,508	6.0%	716,907	705,268	1,422,175	68.0%	209,034
1980	94,151	31.3%	17,245	7.2%	747,078	734,110	1,481,188	61.5%	240,685
1981	116,003	38.0%	14,725	6.0%	685,046	679,995	1,365,041	56.0%	244,031
1982	157,295	43.4%	15,368	5.4%	730,232	719,358	1,449,590	50.7%	286,163
1983 <sup>a</sup>	43,763	22.7%	7,535	4.9%	558,793	557,287	1,116,080	72.4%	154,153

Source: NRA, Department for the Development of Livestock Marketing Facilities (1982-83)  
Livestock Development Agency (1975-1981)

<sup>a</sup>The figures for 1983 do not include exports from the small ports.

<sup>b</sup>Total livestock units are calculated as follows: 1 camel = 1.0 TLU; 1 head of cattle = 0.8 TLU, 1 small ruminant = 0.1 TLU.

An FAO/OIE team visited Somalia in 1983 and reported that Somalia was free of rinderpest. Rinderpest is believed to be prevalent in parts of Ethiopia and Sudan, however. There are no indications that the Saudis intend to lift the ban on cattle imported from East Africa in the near future.

1.4 Cattle exports to North Yemen expanded from 10,619 head in 1982 to 21,419 head in 1983. Some of these animals may have been reexported to Saudi Arabia in order to evade the cattle import ban. If no reexport took place, then it is possible that the North Yemen market may be reaching saturation.

1.5 Small ruminant exports also declined in 1983 to 1,116,080 head, down 23% from 1982. This was due to another Saudi ban on imports of small ruminants from East African countries imposed in late September 1983, after the peak export period. The Saudis accused the Somalis of exporting brucellosis infected stock and did not agree to lift the ban until the Somalis were able to test all exported small ruminants for brucellosis prior to export. Small ruminant exports to Saudi Arabia resumed on February 18, 1984, as the Veterinary Service in Northern Somalia has undertaken a crash program of serological testing for brucellosis in order to ensure that exported sheep and goats are brucellosis-free. All of the 67,813 sheep and goats were tested for brucellosis prior to export from Berbera to Jeddah from February 18 to March 6, 1984. The incidence of brucellosis in export stock was discovered to be less than 0.1%.

1.6 While no restrictions were imposed on the export of camels, fewer camels were exported in 1983 than in any year since 1959. Camels are shipped on Somali-Hellenic livestock

carriers and on chartered cargo vessels.

which ship livestock from Berbera to Jeddah, are fitted out for carrying cattle and small ruminants but not camels. The exporters in Northern Somalia prefer to ship livestock on the Saudi carriers, which offer the lowest freight rates and, according to the exporters, the fastest and best service.

This has contributed to the decline in camel exports in recent years. Most of the Saudi liners, increasing domestic slaughter of Camels for Urban consumption in Somalia may also have contributed to the decline in exports. Finally, some exporters report that Saudi consumers prefer more tender the meat of

young camels (under four years) to the tougher meat of the camels of at least five years which are exported from Somalia. It is also alleged that the mutton of Australian sheep is similar in taste to camel meat. Since Australian sheep cost far less than Somali camels on a per kilogram basis, the former are being substituted increasingly for the latter in the diets of some Saudi consumers.

1.7 Finally, it is important to note that Somali livestock unloaded at Jeddah, Qatar, Kuwait and the U.A.E. are transshipped to other markets, typically in Saudi Arabia. This is particularly true of the Gulf markets, where local populations are low, potential for expanding consumption is limited; given high levels of per capita income and red meat consumption at present, and merchants have long experience in transshipping foodstuffs to the Saudi market.

2.0 Foreign Exchange Earnings from the Livestock Trade

2.1 Foreign exchange earnings from export of live animals reached an all-time high in 1982, principally due to the expanded cattle exports. As shown in Table 2, official foreign exchange earnings, i.e., hard currency remitted through Somali banking channels, reached \$106 million in 1982, but fell to an estimated \$84 million in 1983. Estimates of actual foreign exchange earnings, which are calculated in Table 2, were probably at least 20% higher. Actual earnings may have been as high as \$145 million in 1982 and were probably about \$94 million in 1983. The foreign exchange earnings above required remittances are held principally in foreign banks by livestock exporters. An unknown quantity of foreign exchange is remitted illegally and converted to Somali Shillings at the parallel market rate, which was \$1.00=45-50 So.Sh. up to March 1984. / Some exporters import goods bought in hard currency legally by using funds from "external accounts" held by the Somali Commercial/Bank and Savings Bank. It is alleged that some traders also import goods illegally which are purchased outside Somalia with foreign exchange.

2.2 Whatever the exact foreign exchange earnings, there

Table 2 Estimated Value of Foreign Exchange Earnings from Export of Live Animals, 1981-1983  
 (figures in millions of dollars U.S. unless otherwise indicated)

	Cattle		Camels		Small Ruminants		Total Estimated FE Earnings	Official FE Earnings	Ratio of Official to Total Estimated Earnings
	Total FOB Value	% Estimated FE Earnings	Total FOB Value	% Estimated FE Earnings	Total FOB Value	% Estimated FE Earnings			
1981	31.9	26%	4.6	4%	86.2	70%	122.7	98	.80
1982	46.5	32%	5.6	4%	91.4	64%	143.5	106	.74
1983	13.5	14%	3.1	3%	74.5	80%	93.6	84	.90

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Notes: 1. FOB prices used in calculating total FOB foreign exchange earnings were obtained from interviews with livestock exporters in 1982 and 1984. Exporters reported C&F prices at Jeddah from which Somali-Hellenic Shipping Company (SHSC) freight rates were subtracted to arrive at FOB prices from each port. The number of animals of each species exported from each port was multiplied by the FOB prices, and then summed across ports for each species, to calculate total FOB earnings in dollars by species.

2. C&F prices for Jeddah are used in all the calculations, although C&F prices in North Yemen, the UAE, and Qatar were not necessarily the same. Exporters report that the prices in the other markets are similar to Jeddah prices, so it is assumed, for computational simplicity, that all prices received in foreign markets were the same as the Jeddah prices. The C&F prices at Jeddah used in the calculations are:

Year	Cattle	Camels	Small Ruminants
1981	340	450	70
1982	350	500	70
1983	360	525	70

Prices vary in Jeddah in response to market conditions. During the month or two before the hadj, prices are typically higher. After the peak export period and during jilaal C&F prices are often lower than these used in the calculations.

3. Some livestock were shipped from Berbera and the small ports via dhows at different cost (typically lower to North Yemen and higher to the UAE and Qatar). Higher freight rates were also paid by exporters shipping livestock from Mogadishu and Kismayo to the UAE and Qatar. Finally, exporters from the three major ports also paid higher freight rates than those charged by the SHCO in order to ship livestock via chartered vessels during the pre-hadj period. The lower freight rates to North Yemen are assumed to be offset by the higher rates to the UAE and Qatar and to Jeddah before the hadj. For the sake of simplicity, the SHSC rates are used. The rates were \$6.50 per small ruminant, \$39 per head of cattle, and \$65 per camel from Berbera to Jeddah from 1981 to 1983. Rates from Kismayo and Mogadishu were \$14.50 per sheep or goat, \$85 per head of cattle, and \$174 per camel from 1981 through February 1982, after which freight charges were lowered to \$13 per small ruminant, \$78 per head of cattle, and \$156 per camel.

4. The official foreign exchange earnings for 1983 are preliminary and were calculated by USAID. Actual official earnings may be somewhat lower if the ratio of official to estimated total earnings in 1983 is no higher than in 1981 and 1982. Official earnings in 1983 would be about \$75 million if this ratio were 0.80 as in 1981.

is little doubt that Somalia depends heavily on livestock exports as a source of hard currency and as a means of importing essential and non-essential goods. Given Somalia's resource base and limited potential for expanding exports of bananas, hides and skins, tinned meat and other commodities in the short run, this is unlikely to change during the next decade.

### 3.0 Continued Dependence on the Saudi Market

3.1 Since 1971 over 85% of Somalia's recorded exports of small ruminants were shipped to Saudi Arabia in every year except 1973. Recorded exports of sheep and goats were sent predominantly to Saudi Arabia in 1982 (90.4%) and 1983 (95.2%), as shown in Table 3. Ninety percent or more of Somalia's cattle exports have been shipped to Saudi Arabia since 1975, with the exception of 1983, when only 50.6% of cattle exports were reported as destined to the Kingdom. All of Somalia's recorded camel exports were sent to Saudi Arabia since 1975 as well.

3.2 Somalia's dependence on the Saudi market became painfully obvious when Saudi Arabia banned imports of East African cattle and small ruminants in 1983. The Somalis were able to shift some cattle exports to North Yemen, but some of these animals may have been transshipped to Saudi Arabia to evade the ban. North Yemen had a population of 7.0 million in 1980, which is significantly greater than the populations of Kuwait (1.4 mill) and the UAE (1.0 mill). There may still be effective demand for Somali livestock, but gauging of this demand requires further

Table 3

## Cattle and Small Ruminant Exports by Country of Destination, 1980-83

	CATTLE EXPORTS								
	Saudi Arabia		North Yemen		United Arab Emirates		Qatar		Total Exports
	No. Head	%Total	No. Head	%Total	No. Head	%Total	No. Head	%Total	
1980 <sup>a</sup>	53,397	95.3%	2,425	4.7%	-	-	-	-	56,022
1981 <sup>b</sup>	104,308	90.2%	10,852	9.4%	440	0.4%	-	-	115,600
1982	146,066	92.9%	10,619	6.8%	585	0.4%	25	Nil	157,295
1983 <sup>d</sup>	22,144	50.6%	21,419	48.9%	200	0.5%	-	-	43,763

	SMALL RUMINANT EXPORTS								
	Saudi Arabia		North Yemen		United Arab Emirates		Qatar		Total Exports
	No. Head	%Total	No. Head	%Total	No. Head	%Total	No. Head	%Total	
1980 <sup>a</sup>	1,293,763	91.9%	112,059	8.0%	2,500	0.2%	-	-	1,408,322
1981 <sup>b</sup>	1,344,318	89.8%	78,856	5.3%	71,472	4.8%	1,800 <sup>c</sup>	0.1%	1,496,446
1982	1,310,907	90.4%	88,926	6.1%	48,057	3.3%	1,700	0.1%	1,449,590
1983 <sup>d</sup>	1,062,768	95.2%	52,312	4.7%	1,000	0.1%	-	-	1,116,080

Source: NRA, Department for the Development of Livestock Marketing Facilities.

<sup>a</sup> 1980 data are for exports from the port of Berbera only. Export data by country of destination are unavailable for the other parts. The export statistics reported in the Foreign Trade Returns, 1980, Ministry of National Planning appear incomplete for cattle (86,000 cattle exported to Saudi Arabia, 5,389 to the U.A.E., none to North Yemen) and exaggerated for small ruminants (1,565,004 head).

<sup>b</sup> 1981 data are taken from the Foreign Trade Returns, 1981, Ministry of National Planning.

<sup>c</sup> The 1,800 small ruminants appearing in the "Qatar" column were actually exported to Kuwait in 1980.

<sup>d</sup> The figures from 1983 do not include exports from the smaller ports.

analysis. The fact that the Yemeni pay somewhat higher prices for Somali cattle than the Saudis implies that there may be possibilities for additional cattle exports.

3.3 Alternative markets for Somali livestock are limited in potential at this time. The United Arab Emirates absorbed 5,389 head of cattle and 139,696 small ruminants in 1980, but imports of Somali stock have been far lower since 1980 (see Table 3). Qatar is a market of minor importance, while former markets in the Gulf States such as Oman, Bahrain, Kuwait, the PDR of Yemen, and Egypt have ceased importing Somali stock.

3.4 At first glance Kenya appears to be a promising future market. Kenya had a population of 16 million, an urban population of 2.2 million, an overall population growth rate of 3.4%, and an urban population growth rate of 6.8% in 1980. Kenya has exported livestock in the past, including 5,790 head of cattle to Saudi Arabia in 1982, but the country will move quickly from a modest surplus in red meat at present to growing deficit by the late 1980s. Despite likely increases in demand, Somali exporters will not send large numbers of cattle to Kenyan markets unless they are able to procure hard currency as payment or goods such as foodstuffs, cloth, spare parts, construction materials or khat. Given the poor condition of the roads between Somalia and Kenya, Somali exporters will probably be unlikely to procure goods near the border or to incur

the high transport costs of moving goods acquired at Mombasa or Nairobi to Somalia.

3.5 Egypt and Somalia are presently negotiating importation of Somali cattle. Egypt imported 8,020 head of Somali cattle in 1971, 2,100 head in 1972, and 400 head in 1973, but none since 1973. In recent negotiations held in Somalia in early February 1984, the Egyptians proposed to buy 60,000 head of Somali cattle in 1984 for \$1,020/metric ton (C&F price on a liveweight basis) but the Somalis refused to accept less than \$1,316/ton. The Somalis were receiving \$1,275-1,500 per ton in Saudi Arabia before the export ban, which represents a significant premium above the world market price. The Egyptian offer is closer to the current world market price (\$400/ton). If Somalia does not regain its market share in the Saudi cattle market or reach agreement with the Egyptians, then it will be forced to accept reduced foreign exchange earnings for cattle exports. This will worsen the balance of payments position of Somalia, as well as lowering imports and the overall standard of living. Negotiations between the Somalis and the Egyptians were resumed in Cairo in early March 1984.

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