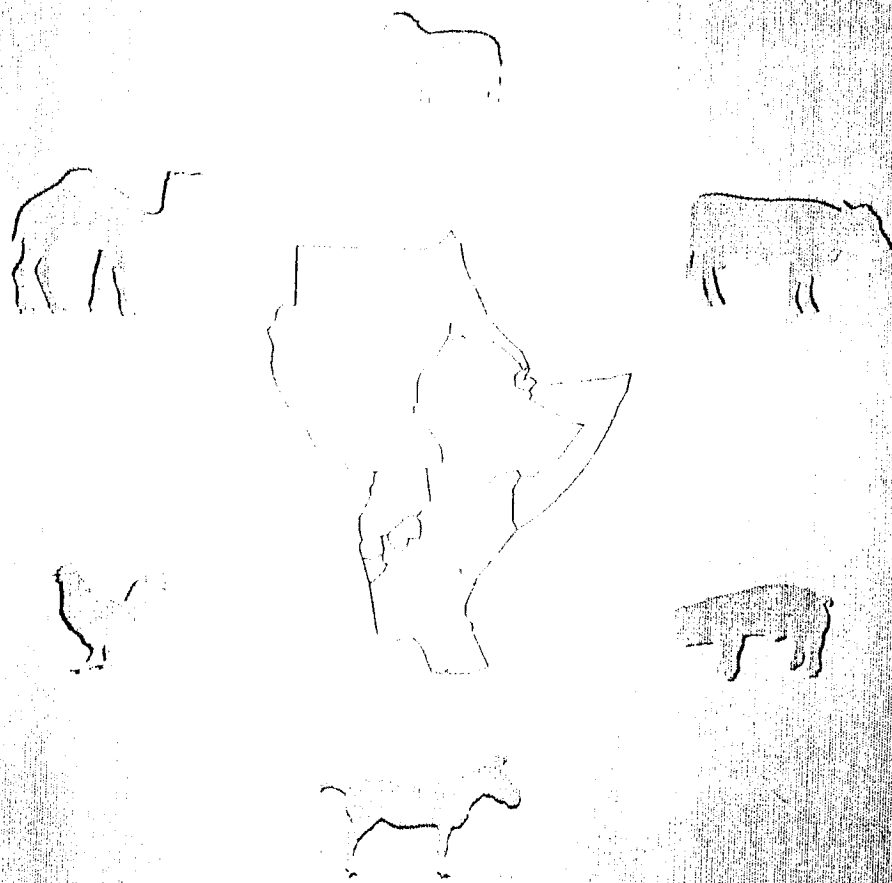


International Livestock Research Institute
ILRI

Formulation and Assessment Study for the Establishment of a Regional Livestock Development Programme for Eastern Africa



Revised Draft Final Report
Volume 2 - Project Profiles
June '99

**Establishment
of a
Regional Livestock Development Programme
for
Eastern Africa

(RLDP)**

**Revised Draft
Final Report
Volume 2 Project Profiles**

18 June 1999

RWA International

Acknowledgements

This report is based on the results of field visits, desk studies and discussions with a broad range of stakeholders in the Study for the Establishment of a Regional Livestock Development Programme for Eastern Africa (RELIDEPEA).

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Table of contents

List of abbreviations and acronyms	ii
Project 1 The Coordination, Policy and Livestock Information Unit	1
Project 2 Enabling the modernization of marketing and trade	18
Component 1 Livestock marketing management	20
Component 2 Livestock marketing information systems	24
Component 3 Adoption of uniform official standards (Livestock, meat and other livestock products)	29
Component 4 Livestock marketing training and credit	34
Component 5 Slaughter and processing training	40
Component 6 Harmonization of health and movement regulations and at harvesting site	45
Component 7 Establishment of animal health check points	49
Project 3 Enabling national veterinary services to respond to the opportunities of SPS	61
Component 1 Establishing an enabling environment for implementation of the SPS agreement	67
Component 2 Preparing for foot and mouth disease control	75
Component 3 Newcastle disease control	81
Project 4 Sustainable use of farm animal genetic resources, feed resources and land resources	92
Component 1 Livestock breed surveys and on farm phenotypic characterization	94
Component 2 Genetic distancing and assessment of genetic diversity at molecular level (Identification of unique breeds for development and conservation)	98
Component 3 Development of a data base (breed catalogue) on Eastern African farm animal genetic resources	102
Component 4 Economic valuation of indigenous animal genetic resources	105
Component 5 Breed comparisons and breeding objectives	108
Component 6 Development and rational use of the Region's farm animal genetic resources	112
Component 7 Feed inventory and livestock production data bank and information system	116
Component 8 Livestock production-environment-land tenure relationships in smallholder mixed farming systems	120

List of Figures

Figure 1 Linkages among CPLIU, IGAD, IBAR, Committees, Projects and collaborators	6
Figure 2 Proposed organizational structure of the CPLIU	7
Figure 3 Implementation procedures: preparation of work plans, examination for approval and authorization for release of operating funds	8

List of abbreviations and acronyms

A-AARNET	Animal Agriculture Research Network (ASARECA)
ACAPAPA	Eastern and Central African Programme in Agricultural Policy Analysis
ACP	Africa-Caribbean-Pacific (countries of the Lomé Convention))
ADB	African Development Bank
ARI	Advanced Research Institute
ASARECA	Association for Strengthening Agricultural Research in East and Central Africa
CAHW	Community Animal Health Workers
CBPP	Contagious Bovine Pleuropneumonia
CCPP	Contagious Caprine Pleuropneumonia
CBD	Convention of Biological Diversity
CCD	Convention to Combat Desertification
CPLIU	Coordination, Policy and Livestock Information Unit
DfID	Department for International Development ((United Kingdom technical assistance)
DRAO	Deputy Regional Authorizing Officer
DVS	Director of Veterinary Services
EAC	East African Cooperation
ECU	European Currency Unit
EU	European Union
EMI	Ethiopian Management Institute
EMPRESA	Emergency Prevention System for Transboundary Animal and Plant Diseases Programme
FAC	Fonds d'Aide et de Coopération (French Technical Assistance and Cooperation Fund)
FAO	Food and Agriculture Organization
FITCA	Farming in Tsetse Controlled Areas project
FMD	Foot and mouth disease
GDP	Gross Domestic Product
GIS	Geographical Information System
IARC	International Agricultural Research Centre
IGAD	Inter-Governmental Authority on Development
ISO	International Standards Organization
NARS	National Agricultural Research System
OAU/IBAR	Organization of African Unity/Interafrican Bureau for Animal Resources
OSS	Observatoire du Sahara et du Sahel
PACE	Pan African Control of Epizootics
PARC	Pan African Rinderpest Campaign
PPR	Peste des Petits Ruminants
PSC	Programme Steering Committee
PTC	Programme Technical Committee
QCL	Quality Control Laboratory
RADISCON	Regional Animal Disease Surveillance and Control Network
RAO	Regional Authorizing Officer
RELIDEPEA	Regional Livestock Development Programme for Eastern Africa
RIIS	Regional Integrated Information System
RVF	Rift Valley Fever
SPS	Sanitary and Phytosanitary Agreement of the World Trade Organization

TLU	Tropical Livestock Unit (of 250 kg live weight equivalent)
TTBDCP	Regional Tick and Tick-borne Diseases Control Project
US-AID	United States Agency for International Development
VLU	Veterinary Livestock Unit
WRL	World Reference Laboratory (for foot and mouth disease)

Project 1 The Coordination, Policy and Livestock Information Unit

1. Background

The proposed Regional Livestock Development Programme for Eastern Africa (RELIDEPEA) comprises a number of Projects which must be coordinated, facilitated, monitored and assisted, particularly with policy issues that constrain livestock development at the national and regional level. Resources at OAU/IBAR are insufficient to carry out these functions. Consequently an important aim of the Programme will be to build the needed capacity within OAU/IBAR and to establish a unit to:

- enable the organization to coordinate and manage livestock development programmes;
- monitor the policy environment within the region in order to identify policy constraints, particularly those affecting implementation of RELIDEPEA, ensure that these constraints are reported to IGAD (for action by the Council of Ministers), advise and assist donors and others to coordinate development efforts and generally to advise OAU/IBAR on livestock policy issues; and
- establish and operate a regional livestock information unit to support the activities described in the preceding point and to act as the source of livestock information and data for the Region.

A unit to facilitate Programme implementation, address livestock policy issues and serve as the livestock information centre for the region will be established (the logical framework is in Attachment A). It is intended that the unit will continue thereafter as the project coordination, livestock policy and regional livestock information unit as an integral part of OAU/IBAR. Reflecting these roles it is proposed that the unit be known as the Coordination, Policy and Livestock Information Unit (CPLIU).

The CPLIU will include an appropriate organizational structure and linkages to enable effective implementation of RELIDEPEA. Programme implementation must ensure that:

- priority is given to promoting selected regional policies aimed at developing the livestock subsector and using these as vehicles to improve the status of women, contribute to food security, increase rural incomes and welfare and protect the environment;
- IGAD is informed via OAU/IBAR of elements of national policy that constrain the development of the livestock subsector -- particularly in relation to RELIDEPEA -- and advise on policy changes required to remove or mitigate these constraints;
- there is effective continuous monitoring and evaluation and that independent external Mid-term Reviews and Final Evaluation of the Projects under this Programme and the Programme itself are carried out;
- Programme implementation has the flexibility to respond to changing circumstances and the performance of Projects including assessing at the Mid-term Review the continued relevance of each Project and of its Components;
- all stakeholders including donors, regional and international organizations, national governments, the private sector (livestock traders, processors and exporters, private veterinarians) and livestock producers participate fully in the Programme;
- coordination and assistance is provided in designing amendments as required and in implementation of the various Programme elements;
- transparent financial accountability is established and maintained;
- livestock policies within the region are monitored and that advice and assistance in optimizing these is provided as necessary; and
- a regional livestock information system is established and effectively operated.

The principles used in designing the CPLIU are that:

- IGAD is the "owner" of the programme and its Executive Secretary is the Regional Authorizing Officer (RAO);
- OAU/IBAR is the implementing agency responsible for day to day management of the Programme;

- a Memorandum of Understanding (MoU) will be set up between IGAD and OAU/IBAR for implementing the Programme that could include provision for a Deputy Regional Authorizing Officer (ORAO) being nominated within OAU/IBAR with delegated authority to release funds (up to an amount to be agreed) to Projects in accordance with agreed Annual Work Plans and Budgets (AWPB) without prior reference to the RAO in order to facilitate timely execution of the Programme;
- additional Memoranda of Understanding will be set up between OAU/IBAR and the agencies designated for direct implementation and supervision of Projects and Components;
- national policy issues that constrain implementation of the Programme will be reported to IGAD through OAU/IBAR for discussion and decision by IGAD's Council of Ministers for resolution at the national level;
- a tripartite meeting of representatives from IGAD, OAU/IBAR and the EU will be held annually or more frequently if required to consider Programme management issues;
- a Coordination, Policy and Livestock Information Unit (CPLIU) must be established within OAU/IBAR to assume overall responsibility for each Project that includes coordination and ensuring timely reviews, monitoring and evaluation;
- formal meetings will be held at intervals of three months of IGAD, OAU/IBAR and the Coordinator of the CPLIU to discuss issues arising from the quarterly reports and more frequent meetings as required between the Director of OAU/IBAR and the CPLIU Coordinator;
- Projects may be advised and directed by technical subcommittees comprising national and regional specialists; and
- the annual meeting of Directors of Livestock convened by OAU/IBAR will act as the Programme Technical Committee (PTC) and will be informed of all Programme activities.

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Project objectives

- a Regional Coordination, Policy and Livestock Information Unit (CPLIU) established within OAU/IBAR to coordinate the Projects included under RELIDEPEA; and
- CPLIU established and operating as the regional livestock policy monitoring and advisory body and regional livestock information centre.

2.3 Results

- effective coordination of the Programme's objectives and implementation;
- regional livestock policy optimized and development activities assisted and coordinated; and
- regional livestock information disseminated.

2.4 Activities

In respect of coordination:

- ensure timely preparation of annual consolidated Programme Annual Work Programmes and Budgets (AWPBs) based on Project AWPBs for approval by OAU/IBAR;
- advise IGAD as RAO that AWPBs have been approved to ensure timely release of funds to Projects in accordance with these

agreed AWPBs;

- ensure timely review, consolidation and submission of quarterly progress and financial reports;
- in close collaboration with the Director of OAU/IBAR organize meetings of the PTC;
- visit Project sites to assist in identifying constraints and bringing these to the attention of IGAD and the Director of OAU/IBAR;
- organize in collaboration with Project leaders study tours, workshops and other matters; and
- assist independent consultants with preparation of Mid-term Reviews, impact assessments and Project Completion Reports.

In respect of policy;

- use information collected by the livestock information unit and from other sources (country visits, policy documents) to establish and maintain a detailed understanding of national livestock policies;
- review policies from a regional perspective and identify any inconsistencies and deficiencies;
- through IGAD draw the attention of national policy makers to identified deficiencies; and
- advise and assist donors and Governments in coordinating development activities in order to maximize cost effectiveness and avoid duplication.

In respect of information:

- determine what information is requiring by potential users of the Livestock Information Unit;
- establish procedures to obtain all relevant livestock information; and
- establish and operate a computerized database management system to handle data, generate the required information and disseminate the output in close collaboration with IGAD's Regional Integrated Information System (RIIS) and other relevant information systems.

2.5 Verifiable indicators

- CPLIU established within OUA/IBAR and coordinating regional Projects, staff recruited and in post, equipment purchased and in use and subsequent performance of the Unit through progress and financial reports prepared by the unit;
- CPLIU operating as regional livestock policy centre through establishment of a policy monitoring and advisory capability with staff recruited and in post, equipment supplied and correspondence and reports demonstrating use of the centre; and
- CPLIU operating as the regional livestock information centre including physical establishment of the livestock information unit, staff recruited and in post, equipment supplied and in use as verified by inspection and generation of information for (potential) users as verified by quarterly and annual reports of the unit.

The major indicator for effective coordination of the Programme's objectives and implementation would be the performance of the Projects and the CPLIU as verified by Programme and Project AWPBs and with reference to quarterly and annual reports.

The major indicators of an improved livestock policy environment within the region and better coordination of livestock development efforts would be fewer policy constraints to livestock development as verified by reports of constraints to IGAD and corrective action taken by Governments and use of the centre by donors and other development agencies as a policy unit as verified by correspondence and minutes of meetings.

The major indicator that regional livestock information is being disseminated would be that information is available to users as verified by the existence of a web site, newsletters, reports, broadcasts and other generated information in the progress reports produced by the Information Technology Specialist of the CPLIU.

3. Assumptions

3.1 Assumptions

- OAU/IBAR agrees to establish the CPLIU and from Year 3 makes increasing contributions to the costs of the unit such that all costs are covered by OAU/IBAR by the beginning of Year 6 in order to ensure continuity of the unit;
- the CPLIU will be established at the beginning of Programme implementation to ensure early procurement of equipment and recruitment of consultants and staff;
- the CPLIU will assist Project leaders in preparation of AWPBs and other required documentation to ensure timely presentation in standard formats;
- agreement is achieved on what information is essential by those requiring data on the regional livestock sector; and
- national and regional data sources on marketing, livestock movements, drought information, animal health and other related matters are available for use by the Programme.

3.2 Risks and flexibility

These will be the same as applied to the Programme as a whole.

4. Implementation

4.1 Detailed features

The staff (Terms of Reference for senior staff are in Appendix A) of the CPLIU which will be recruited through consultancy companies using normal EDF rules and tendering procedures will comprise:

- a regional scientist or manager to be the Coordinator of the Programme to be recruited or nominated by IBAR as this person would be an IBAR staff member;
- a counterpart international Programme (Management) Advisor to assist the Coordinator of the CPLIU;
- an information technology specialist;
- an economist to work in the OAU/IBAR Economics Support Unit to provide input to Projects and to supervise continuous monitoring;
- a policy specialist to head the livestock policy unit;
- short term specialist inputs as required by Programme elements including desktop publishing and communications specialists and experts in technical fields; and
- support staff including administrator, accountant, secretary, database management system operators and driver.

Inputs required to enable operation of the CPLIU include (see Attachment B Costs for details):

- a fully furnished 6-room office suite with all utilities located within IBAR;
- 2 saloon cars, 1 pick up and 1 motor cycle;
- 9 computers, 9 printers (including high capacity colour capability), 2 modems and 1 uninterruptable power supply unit linked through a local area network;
- licensed software including operating system, full "office suite", accounts package; database management system, network system, e-mail and internet package and desktop publishing application;
- scanner;
- high capacity photocopier;

- binding equipment;
- fax machine;
- office consumables; and
- operating funds for vehicles, utility and telephone charges, local and regional travel, training and meetings.

4.2 Organization and implementation procedures

Linkages within the organizational structure of the CPLIU and to other organizations and initiatives in the livestock subsector are shown in Figure 1 and the organizational structure and relationships of the CPLIU itself in Figure 2.

The CPLIU will:

- be responsible to the Director of IBAR and through him to the Executive Secretary of IGAD as RAO for coordination of RELIDEPEA and the successful implementation of each Project thereof;
- ensure that AWPBs are prepared and submitted by each Project;
- examine AWPBs for technical and financial relevance and, if approved, make recommendations accordingly to the Director of OAU/IBAR and the RAO for release of funds;
- ensure the timely release of funds as per approved AWPBs and monitor the use of funds;
- advise and assist in the recruitment of short term consultants;
- liaise with the EU for monitoring, Mid-term Reviews and final monitoring and evaluation of the Programme and its Projects by independent consultants;
- ensure successful establishment and implementation of the regional policy unit;
- ensure successful establishment and implementation of the regional livestock information system including information collection, storage, retrieval, report generation and dissemination;
- ensure that reporting obligations are fulfilled by each Project; and
- arrange and facilitate the organization of meetings of the PTC and other groups included in the AWPBs.

Procedures for designing and approving Component and Project AWPBs, their perusal by the CPLIU and subsequent release of funds are illustrated in Figure 3.

Implementation schedule

Activity	Year and quarter																				
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4	
Purchase vehicles and equipment	■																				
Provide international technical assistance ^a	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local professional staff ^b	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local support staff ^c	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Prepare National Management Plans																					
Prepare Regional Policy Document																					
Implement breed development plans																					
Workshops																					
Publish and distribute preliminary results																					

Notes: a) 12 months per year full time

b) equivalent of 2 full time professionals spread over 10 countries on part time basis

c) equivalent of 5 full time staff spread over 10 countries on part time basis

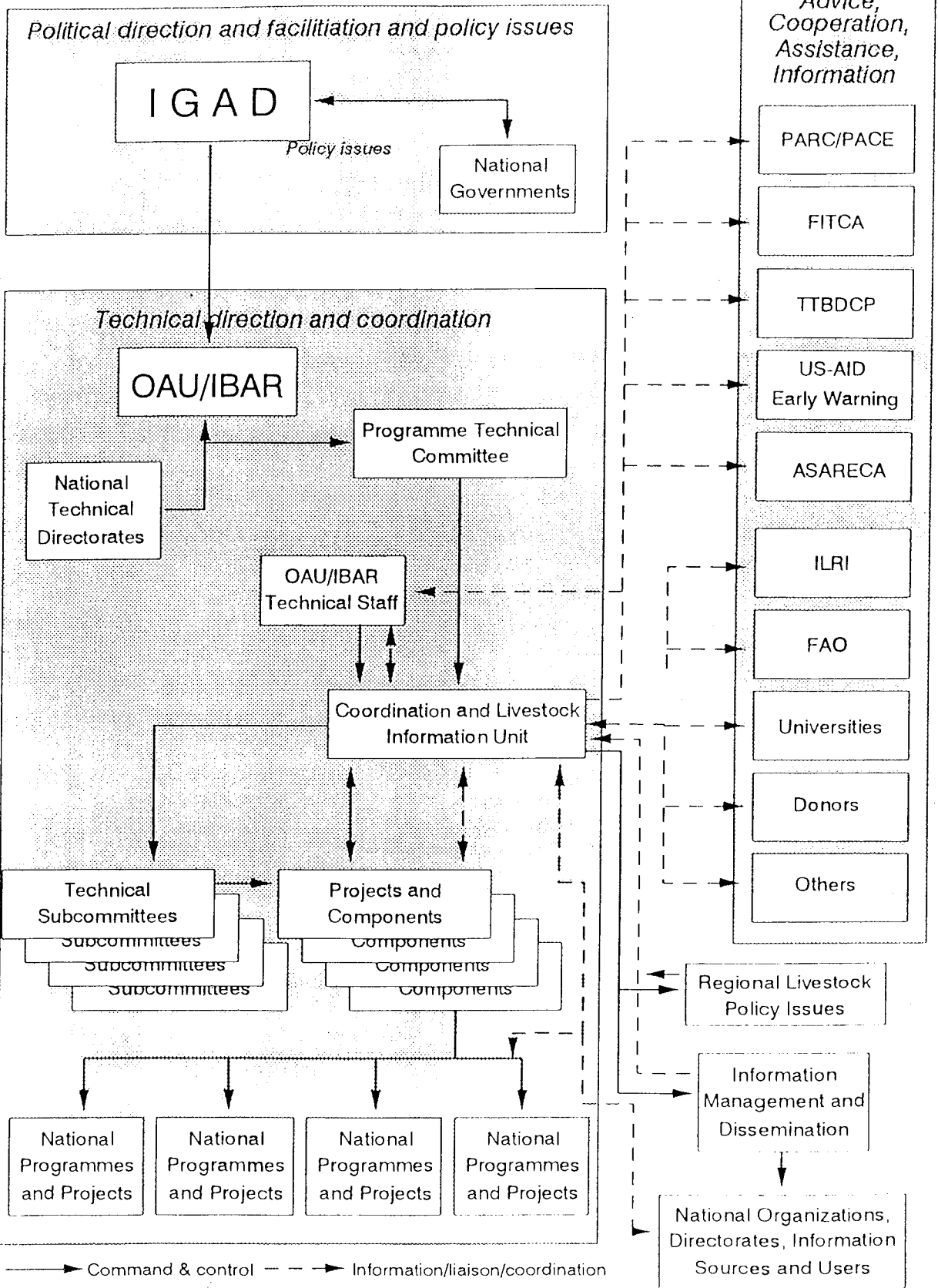


Figure 1 Linkages among CPLIU, IGAD, IBAR, Committees, Projects and collaborators

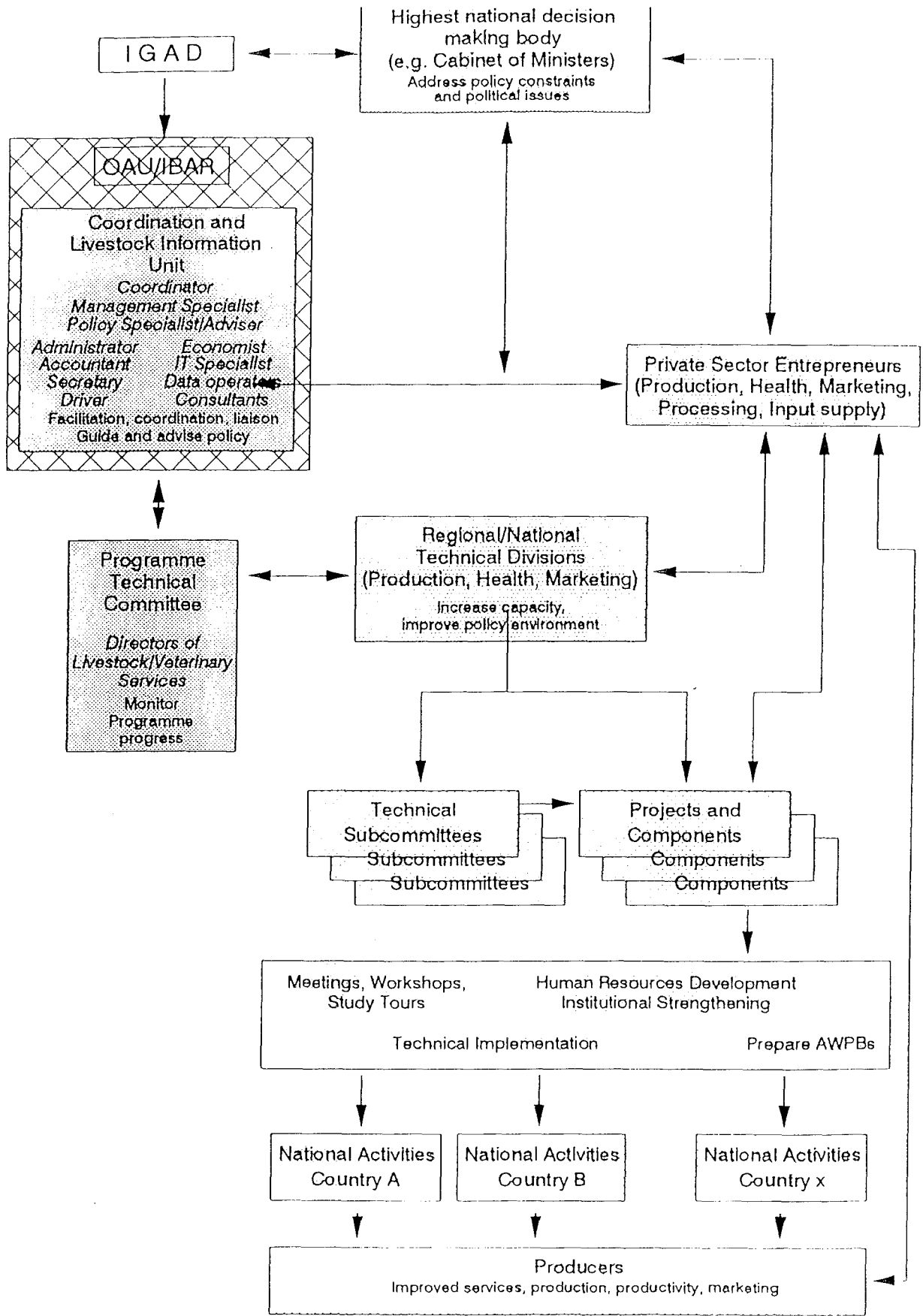


Figure 2 Proposed organizational structure of the CPLIU

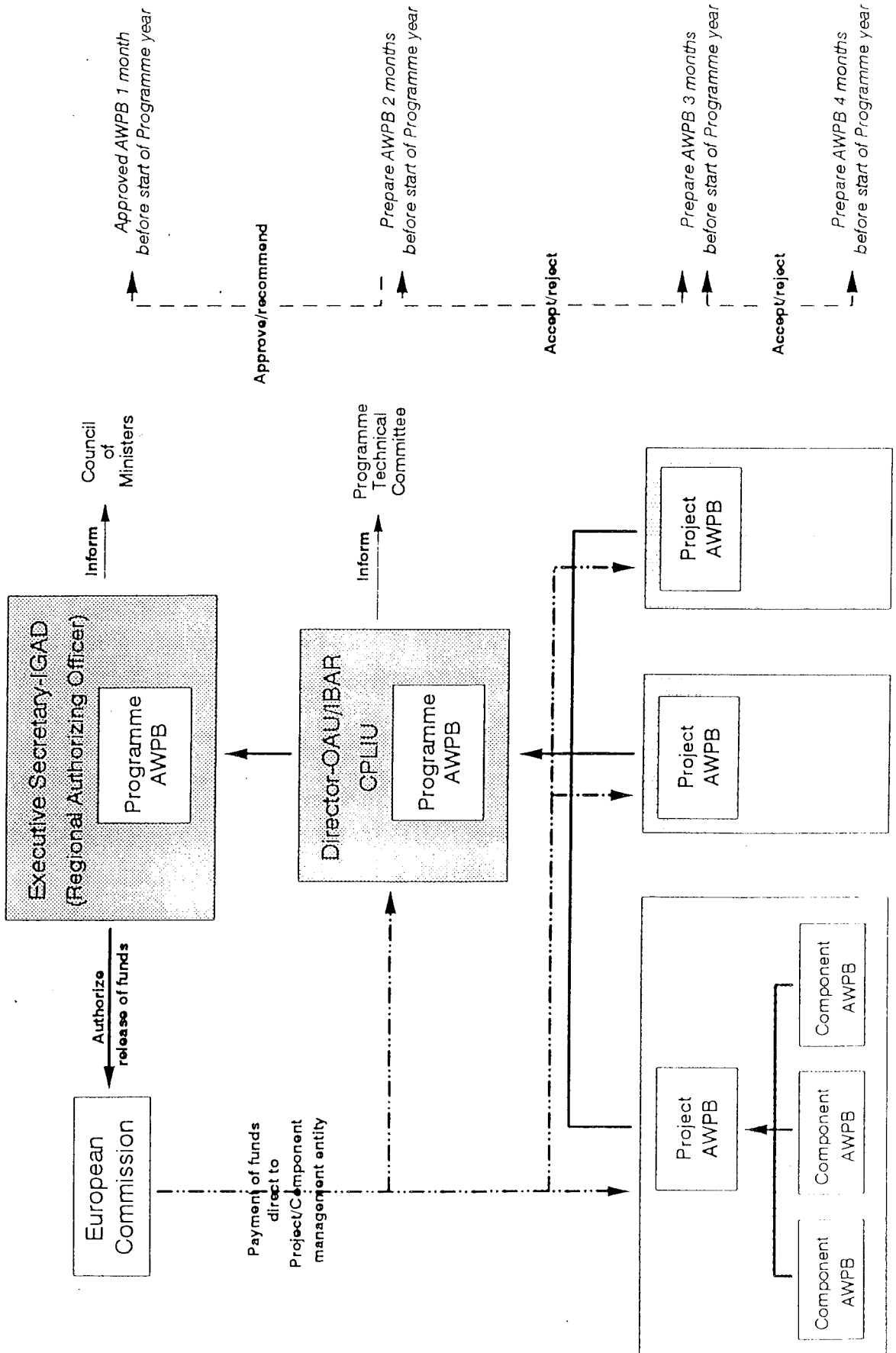


Figure 3 Implementation procedures: preparation of work plans, examination for approval and authorization for release of operating

4.3 Costs and financing

Total costs are estimated at Euro 2.933 million for the 5-year period of the Programme (see Attachment B). Financing will be by the Programme budget for the first two years of the Programme: OAU/IBAR will contribute 10 per cent of the cost of the CPLIU in Programme Year 3 and increase to 50 per cent in Programme Year 5 (preparatory to full financing after Programme completion).

4.4 Special conditions

Peace, regional security and a continuation of the process of economic reform and market liberalization should prevail.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

5. Factors ensuring sustainability

5.1 Policy support

The CPLIU is established as the policy arm of the Programme and will be supported in this activity by the appointment of a policy specialist for the 5-year funding period. The unit will advise Governments on policy needs but will require continuing and active support from IGAD, OAU/IBAR and Governments of participating countries.

5.2 Appropriate technology

Modern and tested technology will be used by the CPLIU.

5.3 Environmental protection

The CPLIU will ensure that all Projects, Components and other elements of the Programme include actions to conserve and enhance the environment.

5.4 Socio-cultural aspects: women in development

Equal opportunity shall be a guiding principle in selection of staff. The CPLIU will ensure that AWPBs for Projects and Components take due account of gender issues where these can be addressed.

5.5 Institutional and management capacity

There will be a continuing role for the CPLIU on completion of the 5-year Regional Livestock Development Programme for Eastern Africa. It will, for example, continue to function as the regional livestock policy and information centre on a continuing basis and changing political, economic and social factors will necessitate continuing intraregional discussion and agreement to ensure that regulations remain compatible and that disease control policies are coordinated. Establishment of disease zones will be a continuing activity that must respond among other things to changing disease patterns and political environments. The envisaged establishment of a livestock trading bloc will necessitate discussion and interaction among participating states as will transborder issues of diseases and trade.

A management specialist will work very closely with the CPLIU Coordinator. This capacity building exercise will ensure the development of management capability and contribute towards continuation of technical activities. Were OAU/IBAR to establish an appropriate and sustainable structure the successful implementation of RELIDEPEA should lead to integration of the management capability of CPLIU into the IBAR institution in order to implement similar programmes in other regions of the African continent. The CPLIU should, therefore, be absorbed into OAU/IBAR and continue as an integral component of the institution. To this end OAU/IBAR should be required to contribute to the operational costs of the CPLIU starting in Programme Year 3 and fully fund the unit from the beginning of Year 6.

5.6 Financial and economic analysis

This is a facilitating and enabling Project whose benefits cannot be expressed directly in financial and economic terms. It is believed that the most cost effective structure and staffing for achieving Programme goals are recommended in this profile.

6. *Monitoring and evaluation*

6.1 Monitoring indicators

The Programme will be monitored on a continuous basis by the Economics Support Unit of OAU/IBAR by comparing actual expenditure against budgets and achievements against annual work plans. The Unit will conduct internal impact assessments but formal assessments will be carried out by independently contracted consultants as will periodic monitoring and terminal evaluation. An important objective of the monitoring exercise is to assess the flexibility of and need for changes to the Programme and its elements: this will be conducted by judging the continued relevance and performance of each Project and Component.

Monitoring indicators will be the objectively verifiable indicators listed in Section 2.1.

6.2 Reviews and evaluation

A Mid-term Review will be carried out by an independent group during Programme Year 3 and will concentrate especially on the progress achieved in each Projects and take into account the results of the monitoring exercises conducted by external consultants. The Programme should be sufficiently flexible for it to be adjusted in accordance with the findings and recommendations of the Mid-term Review. A Programme evaluation will be conducted on completion at the end of Year 5.

Appendix A

Qualifications and Terms of Reference for CPLIU Staff

The principle of equal opportunity shall be applied to all staff selection and appointment. Other things being equal preference will be given to candidates from within the Eastern Africa Region.

Coordinator, CPLIU

The qualifications of Coordinator of the CPLIU will include:

- experience as a senior livestock scientist with outstanding management and organizational ability;
- citizenship of an EU or ACP (Africa-Caribbean-Pacific) country;
- a relevant first degree and a postgraduate qualification in economics, project management or development studies;
- at least 15 years of experience at a senior level of livestock development in the Eastern African Region including successful management of large livestock development projects; and
- highly developed interpersonal and communications skills.

The Terms of Reference for this post include:

- being responsible to the Director of IBAR and through him to the Programme Technical Committee and through this committee, to the Programme Standing Committee. S/He shall:
- coordinating all Programme activities and ensure that they operate as a coherent whole without duplication within or without the Programme thus requiring effective linkages among the PSC, PTC, Projects, Components, other donor agencies and Programme stakeholders;
- working closely with, training and then handing over all activities to a counterpart;
- supervising the monitoring and evaluation activities of the Programme;
- ensuring that all reporting obligations are fulfilled;
- ensuring financial control;
- supervising the preparation of AWPBs and expediting approval of these by the PTC;
- ensuring that factors constraining the implementation of Projects and Components, including national policy issues, are identified and brought to the attention of the PSC and PTC;
- ensuring that meetings of the PSC, the PTC and other meetings of personnel involved in the Programme are properly organized;
- fostering discussion and interaction among livestock sector stakeholders at the regional level in order to resolve constraints and problems, identify opportunities and facilitate development of the livestock subsector; and
- supervising the collection and regular preparation and dissemination of information to stakeholders.

CPLIU Livestock Economist

The qualifications of Livestock Economist of the CPLIU will include:

- at least 10 years experience in advising and assisting in implementation of complex livestock development programmes;
- experience in monitoring, evaluation and impact assessment of livestock development activities; and
- experience in the economics of marketing of livestock and livestock products.

The Terms of Reference for this post include:

- reporting directly to the Programme Coordinator;
- providing advice to Programme and Project staff on economic issues;
- establishing systems to enable continuous monitoring and evaluation of activities after Programme completion;
- participating in Project implementation where necessary (for example in the Newcastle Disease Component of the Animal Health Project which will require inputs from an economist to determine a cost structure for I2 vaccine);
- supervising continuous monitoring of the Programme and Projects;
- assisting independent consultants in monitoring, evaluation and impact assessment; and
- facilitating and assisting the work of the external review specialists;

CPLIU Livestock Policy Specialist

The qualifications of Livestock Policy Specialist of the CPLIU will include:

- at least 10 years experience in policy analysis and advising and assisting in aligning policy to prevailing conditions, requirements and aspirations;
- experience in assessing national policy in relation to the prevailing economic, political and social environment and to stated national objectives; and
- experience in advising in policy issues at the regional and national levels.

The Terms of Reference for this post include:

- reporting directly to the Programme Coordinator;
- providing advice to IGAD, OAU/IBAR and Programme and Project staff on policy issues;
- developing, monitoring and updating a database of national livestock policies;
- in consultation with national authorities assigning priorities to livestock policy issues;
- developing a database of regional and national livestock development activities and analysing these data to identify any instances of duplication and priority areas that are not being addressed; and
- advising IGAD, OAU/IBAR, national governments, donors, NGOs and other stakeholders on identification of livestock development opportunities.

CPLIU Information Technology (IT) Specialist

The qualifications of the IT Specialist of the CPLIU will include:

- at least 10 years experience in designing and overseeing complex computerised data collection, management and dissemination systems;
- a relevant qualification in information technology at postgraduate level;
- experience in the development and operation of multipurpose computerised database management systems;
- experience in identifying, accessing and motivating sources of data and information;
- experience in generating reports, newsletters and information sheets targeted at various groups of stakeholders; and
- sound knowledge and experience of operation of networks, intranet and internet.

The Terms of Reference for this post include:

- working closely with the Programme Coordinator, other Programme and Project staff in identifying information requirements of stakeholders (livestock producers, traders, processors, animal health personnel, animal production personnel, the private sector, extension personnel, planners, emergency preparedness bodies, drought mitigation bodies, NGOs, donor organizations);
- working closely with the Communications Specialist of the PACE project;
- identifying the data needed to generate the required information and establishing appropriate data capture mechanisms;
- designing and developing database management systems to input, store, compile and analyse data and to generate the required output;
- interact with output recipients to monitor the quality, appropriateness and usefulness of the disseminated output and modify or amend as necessary;
- supervise and guide the activities of the database management operators; and
- liaise closely with IGAD's RIIS.

COORDINATION, LIVESTOCK POLICY AND INFORMATION UNIT PROJECT

Overall objective:

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection: livestock shown to be an integral part of agriculture and of social and economic development

Project purpose:

1 An established capacity within OAU/IBAR to manage, coordinate and facilitate programmes and projects, to monitor and advise on livestock policy issues, and to serve as the regional livestock information centre

Results:

- 1.1 Effective coordination of the Regional Livestock Development Programme for Eastern Africa
- 1.2 Livestock policies monitored and coordinated, project opportunities identified, and project duplication avoided
- 1.3 Regional livestock information disseminated

Activities:

- 1.1.1 Recruitment of Head of Unit and advisor
- 1.1.2 Organise and evaluate tenders for supply of all required vehicles, equipment etc. Install equipment
- 1.1.3 Recruit all support staff
- 1.1.4 Ensure timely preparation of AWPB by projects and components and approval by OAU/IBAR
- 1.1.5 In close collaboration with OAU/IBAR organise meetings of the PTC
- 1.1.6 In close collaboration with project and component team leaders organise required meetings, workshops, study tours, etc.
- 1.1.7 Assist independent consultants with preparation of mid term reviews, impact assessments, and project completion reports

Logframe for Project 1: Coordination, Livestock Policy and Information Unit

COORDINATION, LIVESTOCK POLICY AND INFORMATION UNIT PROJECT

- 1.2.2 Visit and establish contact with livestock policy formulators in participating countries. Obtain policy statements and papers, etc.
- 1.2.3 Maintain regular contact with national policy units in order to update policy database.
- 1.2.4 Analyse policies, identify deficiencies, duplications, etc and advise IGAD of these.
- 1.2.5 Assist programme and project formulators by identifying opportunities for livestock development preventing duplication of effort, etc
- 1.2.6 Advise and assist the Director, OAU/IBAR as required on livestock policy issues.
- 1.3.1 Recruit information technologist and database operators.
- 1.3.2 Organise workshop to determine information requirements of potential users of a regional livestock information centre.
- 1.3.3 Establish procedures to obtain livestock data and information on a continuing basis.
- 1.3.4 Develop database management system to accept incoming data and generate required output.
- 1.3.5 Collaborate with IGAD's Regional Integrated Information System and other relevant information systems.
- 1.3.6 Produce output through regular newsletters, website, and responding to requests for information and data.

Eastern Africa
Regional Livestock Development Programme
Table 1: Project 1: The Coordination, Policy and Livestock Information Unit (a)
Detailed Costs
(Euro)

Unit	Quantities						Base Cost (2000)						
	2000	2001	2002	2003	2004	Total	Unit Cost	2000	2001	2002	2003	2004	Total
A. Vehicles and Equipment													
Small car													
4wd pickup	2						15,000	30.0					30.0
Motorcycle	1						15,000	15.0					15.0
Computer	1						2,000	2.0					2.0
Printer	8						2,000	18.0					18.0
UPS	1						1,000	8.0					8.0
Modem	1						1,500	1.5					1.5
Scanner	2						250	0.5					0.5
Videocams	1						500	0.5					0.5
Photocopy	1						1,000	1.0					1.0
Telephone and fax machine	1						4,000	4.0					4.0
Report binder	1						250	0.3					0.3
Software	1						250	0.3					0.3
postage	8						750	8.0					8.0
Subtotal Vehicles and Equipment													
B. Services													
1. Technical Assistance													
Programme management	12	12	12	12	6	6	12,500	150.0	150.0	150.0	150.0	75.0	600.0
Short-term specialists	3	3	3	3			15,000	45.0	45.0	45.0	45.0		180.0
Setting up livestock information web site								5.0					5.0
Subtotal Technical Assistance													
2. Monitoring and Evaluation													
Mid-term review				3			15,000			45.0			45.0
Project completion review					3		15,000			45.0			45.0
Subtotal Monitoring and Evaluation													
3. Training													
IT and OBMIS Training	3	3	3				5,000	15.0	15.0	15.0			45.0
Subtotal Services													
C. Local Personnel													
Programme manager	12	12	12	12	12	60	4,500	54.0	54.0	54.0	54.0	54.0	270.0
Policy analyst	12	12	12	12	12	60	4,500	54.0	54.0	54.0	54.0	54.0	270.0
Information technologist	12	12	12	12	12	60	4,500	54.0	54.0	54.0	54.0	54.0	270.0
Economist	12	12	12	12	12	60	4,500	54.0	54.0	54.0	54.0	54.0	270.0
Office administrator	12	12	12	12	12	60	1,000	12.0	12.0	12.0	12.0	12.0	60.0
Accountant	12	12	12	12	12	60	1,000	12.0	12.0	12.0	12.0	12.0	60.0
Data base operator	24	24	24	24	24	120	1,000	24.0	24.0	24.0	24.0	24.0	120.0
Secretary	12	12	12	12	12	60	800	9.8	9.8	9.8	9.8	9.8	47.4
Driver	36	36	36	36	36	180	500	18.0	18.0	18.0	18.0	18.0	90.0
Subtotal Local Personnel													
D. Operational Inputs													
Office rent	12	12	12	12	12	60	1,000	12.0	12.0	12.0	12.0	12.0	60.0
Office supplies	12	12	12	12	12	60	500	6.0	6.0	6.0	6.0	6.0	30.0
Electricity and water	12	12	12	12	12	60	150	1.8	1.8	1.8	1.8	1.8	9.0
Telephone and email	12	12	12	12	12	60	160	1.8	1.8	1.8	1.8	1.8	9.0
Car operating costs	24	24	24	24	24	120	500	12.0	12.0	12.0	12.0	12.0	60.0
Pick-up operating costs	12	12	12	12	12	60	850	7.8	7.8	7.8	7.8	7.8	39.0
Motorcycle operating costs	12	12	12	12	12	60	100	1.2	1.2	1.2	1.2	1.2	6.0
Local airfare	10	10	10	10	10	50	900	9.0	9.0	9.0	9.0	9.0	45.0
Per diem	100	100	100	100	100	500	115	11.5	11.5	11.5	11.5	11.5	57.5
PTC meetings	1	1	1	1	1	5	12,000	12.0	12.0	12.0	12.0	12.0	60.0
Travel meetings /f	4	4	4	4	4	20	1,000	4.0	4.0	4.0	4.0	4.0	20.0
Clarity meetings /f	4	4	4	4	4	20	1,000	4.0	4.0	4.0	4.0	4.0	20.0
Meeting with data providers	1						5,000	5.0					5.0
Production of materials for dissemination	1						10.0	10.0	10.0	10.0	10.0	10.0	50.0
Subtotal Operational Inputs													
Total													
							886.7	594.7	839.7	504.7	504.7	504.7	2,303.5

(a) Responsible for programme coordination
(b) Undertaken by independent consultants
(c) Undertaken by independent consultants
(d) For project visit
(e) For project visit
(f) EC, IGAD and IFAB and GAO

Project 2 Enabling the modernization of marketing and trade

Overall background

Livestock are fundamental to human livelihoods throughout the Eastern Africa Region. The varying roles that livestock fulfil from powering the ploughs in cropping systems to being the means of survival itself in pastoral zones is spelt out in detail in each of the country background papers in Volume 3 of this report. In every country offtake of livestock and animal products provide subsistence for producers and their families, are the basis for trade and source of cash for external supplies, supply urban demand with animal protein, provide raw materials for industry and earn foreign exchange for national exchequers. Increased livestock and product offtake from the 330 million grazing animals in the Region in terms of numbers, weight and quality clearly carries the prospect of major economic growth and beneficial social impact for every country and for the Region as a whole.

Increasing the quantity and quality of offtake will only be achieved if livestock producers attain their twin priorities of maintaining herd and flock viability and enhancing food security. In practical and supply side terms this translates to better access to food grains and other consumables particularly in pastoral areas, improved access to animal health care and extension services, more reliable market information and much improved market services and market opportunities. All of these are lacking throughout the region. Were they to be met collectively and cost effectively these requirements would increase food security, promote healthier and younger and more productive herd and flock structures: they would also increase the need for cash. Satisfying the need for extra cash implies higher commercial sales at producer level and access to diversified markets for healthy livestock and clean and wholesome animal products. Growth in reciprocal trade at the national, regional and extraregional level is essential for sustainable development.

Interregional informal trade in livestock and animal products has been a fact of life in Eastern Africa since time immemorial. Pastoral and agropastoral systems span national boundaries and add to trading opportunities. Markets of a neighbouring country can often be the closest and most convenient. The ripple effect of informal trade is constantly in play throughout the region but carries with it the dangers of notifiable disease and dire consequences when it occurs. Informal trade does not provide a pathway to sustainable development so formal trade must be enabled to grow.

In this era of global trade harmonized animal health and movement legislation and the joint adoption of official standards covering subsector inputs and outputs is an essential and appropriate regulatory framework within which formal trade can develop. Creation of this missing framework and the necessary infrastructure and services to back up regulatory compliance will facilitate domestic, crossborder and export trade and will protect domestic markets from dumping and unfair competition and consumers from dangerous and inferior products. Regional countries must aim to compete on regional and export markets and develop the capacity to identify and constructively use their comparative advantages. In some cases this will involve the development of new skills, products and markets whereas in others recovery of former capabilities and strengths are needed.

Export of carcasses, meat cuts and other products is hindered and in most countries prevented by the degenerated state of former export standard plants. This problem is being tackled by rehabilitation or new construction as in the case of Sudan or as planned in Ethiopia, Eritrea and Tanzania: all of these involve private sector investment. In these countries and elsewhere abattoirs and slaughterhouses that are used for processing for domestic urban supply are well below acceptable levels. Matching the degradation of facilities is the dearth of skilled human resources for existing and future plants. Lack of training opportunities and trained human resources to rehabilitate the meat industry are clearly serious problems in all Eastern Africa countries. Meeting export demands and standards in terms of both live animal and product quality and with regard to processing facilities will also bring tremendous benefits for domestic consumers.

The Project and its Components will directly address identified marketing constraints, add impact and value to existing projects and programmes and promote new initiatives and entrepreneurial delivery of goods and services to the regional livestock subsector. At its heart is the modernization of marketing services and the retraining and empowering of qualified animal health, livestock production and extension workers and other professionals to lead the initiative.

It is often stated that livestock marketing is firmly in the private domain throughout Eastern Africa but this refers mainly to the licensed

traders who make up the marketing chain. It omits the servicing sector which remains very firmly a public reserve in the hands of local authorities. This is the missing factor in solving the conundrum of how sustainable delivery of livestock services outside urban centres can be achieved. Key words in the modernization and privatization of marketing and stock route services are therefore linkage, diversification, multifunctionality, acumen and competition.

Linkage and diversification refer to combining skills, professional disciplines and enterprise mix to gain synergy and the multiplier effect. Multifunctionality refers to infrastructure, sites and systems capable of interrelated utility in order to render the same multiplier effect and increase cash flow, split overhead costs, reduce risks and maximize returns on capital and resource investments. Acumen is the ability to identify needs and meet them in a cost effective manner. Competition refers to the free market environment where customer and client choice and commercial realities ultimately dictate product type, quality, delivery agent and terms.

Modernization of marketing services in the manner planned could effectively mobilize substantial existing donor funds. Privatization of veterinary services has not been very successful outside urban centres in many countries of the Region. Uptake of available loans dedicated to privatization from the EU and other donors has been disappointingly low where such funds have been available (11 per cent or thereabouts disbursement in Ethiopia under the Euro 1.2 million PARC facility). This is due to a variety of reasons including inability to meet loan criteria, difficulty in generating sufficient cash flow from rural practices and lack of commercial experience. Bundling health and veterinary services with others as part of a commercial enterprise delivering market and stock route based services to all in pastoral and agropastoral areas will allow many loan requirements to be more easily met. Access to these funds will substantially augment the Euro 2 million dedicated credit for marketing modernization under this project.

Component 1 Livestock marketing management

1. Background

The Project is made up of seven components, including this one, to address identified constraints which seriously inhibit domestic livestock marketing, input supply and the development of formal interregional and export trade in livestock, meat and other animal products. Activities are many and call for coordination, cooperation and implementation of work programmes involving existing organisations, institutions, programmes, projects, committees and structures within the public and private sectors of all member countries. The function of this component under the overall Programme Coordination and Management Unit is to facilitate efficient organisation and delivery of project inputs of a technical, financial and material nature

2. Intervention

2.1 Overall project purpose

Market led improvements in production and family incomes achieved through competitive and quality orientated commercial input delivery, livestock marketing, product processing systems and services that meet the needs of producers, processors and consumers and generates increased local and foreign exchange earnings on a continuing basis.

2.2 LMM objectives

An effective mechanism for the efficient organisation of project components to enable them to deliver technical, organisation and material services to participating countries within the framework of the programme's management structure.

2.3 Results

The effective coordination of the project's components.

2.4 Activities

- Prepare the project's annual work plans, budgets and progress reports and assist programme component staff in the preparation, planning and implementation of activities.
- Assist member countries' coordinating and technical committees in the implementation of work programmes;
- Cooperate with and provide technical assistance to livestock marketing projects within all member countries;
- Coordinate and liaise with technical committees regarding International Assistance from specialized agencies and International Authorities and Advisory Bodies.

2.5 Verifiable indicators

- Expenditure against budget;
- Delivery against work plan.

3. Assumptions

3.1 Assumptions

- The LMM will be established at the immediate beginning of Programme implementation to ensure early recruitment of staff and procurement of equipment.

3.2 Risks and flexibility

No particular risks apply to the LMM except as they apply to the Programme as a whole.

4. Implementation

4.1 Detailed features

- The LMM will be staffed by four regionally recruited professionals, one internationally recruited Chief Technical Advisor and nine support personnel, all funded under the Programme;
- Office equipment, consumables and office operational expenses will be met by the Programme as will the purchase of vehicles, maintenance and running expenses -- all as listed in the financial table;
- It is recommended the Project be located in Ethiopia. The recently constituted Marketing Development Authority, could and would be willing to provide adequate office accommodation in Addis Ababa.

Implementation schedule

Activity	Months, year 1												6-month periods years 2-5							
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Agree Location	■	■																		
Appoint Coordinator	■	■																		
Recruit Chief Technical Advisor	■	■																		
Obtain office	■	■																		
Recruit support staff		■	■	■	■															
Procure vehicles equipment – install		■	■	■	■															
Recruit professional staff		■	■	■	■	■	■	■												
Prepare work plans and budgets			■	■	■	■	■	■	■	■	■	■								
Implement activities																				
Arrange protocols loan administration																				
Monitor loan disbursement/recovery																				

4.2 Organization and implementation procedures

Responsibilities of the LMM

- Prepare and submit for approval Project annual work plan and budget;
- Ensure delivery of Project inputs to the activities appearing in the work plan;
- Advise and assist in the recruitment of consultants as required;
- Prepare terms of reference for short term inputs, provide support and act as facilitators of regional cooperation; and
- Responsible for monitoring component activities and the timely preparation and submission of all reports.
- Monitoring of loan disbursement and recovery

4.3 Costs and financing

Total base line cost of LMM establishment, staff funding, overhead and operational expenses for five years are Euro 2.1 million all of which will be met from the Programme budget.

4.4 Special conditions

Peace, regional security and continuation of economic reform and market liberalisation are precursors for project implementation throughout the region.

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

5. *Factors ensuring sustainability*

- There is no continuing role for the LMM on completion of the Programme unlike the institutions set up and the change brought about by the Project.
- National and Regional Technical Committees will be permanent features and play major roles in harmonizing policy and regulations, resolving disputes and promoting interregional trade and commercial development into the future.
- Regional Centres of Training Excellence will continue, sustained by cost recovery and by virtue of their multifunctionality. Cost recovery will gradually replace government funding in Management Information Systems (MIS) systems as privatization of marketing and input supply services proceed and become progressively more competitive.
- Human resources developed by the project will have enduring influence and impact in the livestock production, marketing and trade servicing fields and in the revitalised abattoir and processing industries.

5.1 Policy support

- Continuing commitment to privatization and market led policy reforms by Governments of member countries will be required to support Project implementation.

5.2 Appropriate technology

- Appropriate technology will be employed in performance and discharge of LMM functions and responsibilities.

5.3 Environmental protection

- Environmental protection will be fully taken into account in the component planning and budgeting process.

5.4 Socio-cultural aspects: women in development

- Recruitment of professional and support staff will be on a gender blind basis and will be based on qualification, experience and proven ability in the relevant fields.
- Training opportunities funded by the programme will be open to participants of both sexes.

5.5 Institutional and management capacity

The LMM, both directly and indirectly, will contribute to strengthening institutional capacity and managerial skill at both national and regional levels.

5.6 Financial and economic analysis

The contribution of the LMM to project implementation will be crucial to the success of component delivery.

6. Monitoring and evaluation

The LMM will be subject to internal monitoring on a continuous basis by the CPLIU.

6.1 Monitoring indicators

- Expenditure against budget.
- Achievements against work plans
- Financial Statements
- Purchase and delivery notes

6.2 Reviews and evaluation

The LMM will be subject to a Mid-term Review by outside evaluators when the progress achieved by each component will be critically evaluated. Adjustments will be made in line with the findings and recommendations of the Mid-term Review.

Component 2 Livestock marketing information systems

1. Background

Accurate market information is universally essential for efficiency in production, trade and commerce at local, national, regional and international level. Marketing information on livestock and animal products is not readily available within the East African region and is concentrated in the hands of those who have access through the every day course of business. This gives tremendous one sided advantage to those in possession.

Information affects competition and price levels within free markets and attracts new entrants to the marketplace. The need and priority at national level within the region is, as expressed during country visits, to make reliable marketing information as widely available as possible. The beneficiaries of this will be the producers, especially the smaller scale; traders, both existing and potential; butchers, processors and consumers. All will be served and placed on a more equal footing and market led production, competition and market size will be boosted in the process. Governments' need for accurate information for input into soundly based policy formulation, fair budgetary allocation and effective social interventions will also be met thus making the public sector an important beneficiary also.

The position regarding national needs and priorities for marketing information, access and exchange applies equally at the interregional level. Market transparency through free flow and exchange of crossborder market conditions, supply, price and product specification is a prerequisite for any significant growth in formal interregional trade to occur.

This component will enable the set up of functional and harmonized MIS systems for livestock and animal products which is required by member countries and the region. Achievement will be through training opportunities in Tanzania and providing appropriate hardware, software, training material and back up technical assistance to each member country. Management of the MIS could be as a government core function, by the private, competitive marketing servicing sector or a combination of the two. Linkage of national MIS systems with the regional Information System, to be established under DAU/IBAR, will cater for interregional needs and combine marketing news with livestock health information.

The Marketing Development Bureau in Tanzania was selected to provide the training due its comparative advantage in the field. The comprehensive MIS system used by the Marketing Development Bureau (MDB) was developed over many years with technical assistance and programmes from the Food and Agriculture Organisation. The MIS covers animal products (and crops) and livestock. A live animal grading and classification system is integral to the livestock MIS – these are based on the Tanzania Live Cattle Grading System, developed with assistance from Texas A and M University and supported by comprehensive training material. Terminal market infrastructure in Dar es Salaam is functional in design, conducive to teaching the system and will serve as a working example for all member countries. Details of the MIS system and the livestock grading and classification scheme are provided in the Tanzania country report. Adoption of uniform livestock and meat grading standards is a crosscutting issue linked with the MIS component.

2. Intervention

2.1 Overall project purpose

Market led improvements in production and family incomes achieved through competitive and quality orientated commercial input delivery, livestock marketing, product processing systems and services that meet the needs of producers, processors and consumers and generates increased local and foreign exchange earnings on a continuing basis.

2.2 Component objective

Functional national and regional marketing information networks providing continuous, accurate, accessible, commercially valuable reports that contribute to increasing domestic, regional and export trade in livestock and livestock products.

2.3 Results

- The Marketing Development Bureau operates an improved MIS and provides comprehensive training to participants from member countries.
- Uniform MIS systems enabled and established in all member countries.
- Member country's MIS linked to an integrated regional Information System established and operating under CPLIU.

2.4 Activities

- Recruitment of TA to Upgrade software and support programmes and train MDB staff
- Develop an appropriate training programme for market information specialists
- Provide MDB with computers, associated equipment and software, transport, training materials.
- Provide a computer, support programmes and MIS teaching materials to each participating country.
- Provision of support by MMU at national and regional level for establishment of MIS systems
- Exchange of information and provision of data to the OAU/IBAR CPLIU

2.5 Verifiable indicators

- Centre of training excellence established
- 200 participants trained by the Centre.
- 10 systems established (1 in each country)
- Regional information system established;
- Weekly country marketing reports broadcast and published for purposes of trade and data used by government and other agencies.

3. Assumptions

3.1 Assumptions

- MIS in Tanzania remains as a core government function;
- Compatibility and comparability of reports will be achieved through adoption of uniform classification and grading criteria and terms throughout the region;
- The Sheep and Goat Market in Dar es Salaam is Completed and Commissioned under FAO Assistance; and
- Tanzania Livestock Marketing Project (TLMP) provides maintenance and running costs for the Dar es Salaam cattle market and MIS service.

3.2 Risks and flexibility

- Some or all of the Assumptions prove incorrect – in which case
- EU Budgetary expenditure on items and overall programme are adjusted to cater for change and allow implementation to proceed.

4. Implementation

4.1 Detailed features

- Technical assistance will be provided by project specialist staff throughout the planning and implementation phases;
- The project will fund one long term subject specialist, two short term international consultant visits and mobilize Marketing Development Bureau MIS trained personnel as lecturers;
- Infrastructure used for livestock marketing information training will be the government owned Dar es Salaam cattle and small

ruminant terminal markets;

- The project will fund purchase of MIS related equipment (computers, printers, copier, fax, overhead projectors) and consumables to supplement MDB's present inventory, a rented lecture hall and two vehicles;
- Computers and printers, together with programmes and soft ware and training material will be provided to each member country's for establishment of national systems; and
- Travel and living allowance will be met for selected trainees from member countries. Technical assistance will be provided by the long term subject specialist and other specialist project staff to establish the MIS in member countries MIS and the regional system.

4.2 Organization and implementation procedures

Organisational responsibility will rest with:

- The Project Coordinator for ensuring implementation proceeds fully, efficiently and on schedule and that the training given meets the expectations and needs of Programme members;
- The MDB appointed Head of the MIS Training Unit for day to day decision making and for ensuring course delivery is according to the highest standards of quality and efficiency;
- The Information Technologist for training, national implementation, the linkage with the Regional system and monitoring of progress; and
- Appointed Heads of MIS for the establishment of MIS in member countries.

Implementation schedule

Activity	Months, year 1												6-month periods years 2-5							
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
IT: Mobilize International Consultant	■																			
Consultant on duty		■	■	■											■					■
Consultant: Update System		■	■	■																
Order Hardware & software		■	■	■																
Order Livestock grading training materials		■	■	■																
Order vehicles		■	■	■																
Develop training programme			■	■	■															
Consultant: train trainers				■	■	■	■	■												
Test run system					■	■	■	■	■											
IT: Selected Country visits						■	■	■	■											
Consultant Install equipment				■	■	■	■	■	■											
Select participants							■	■	■	■										
Run initial training course								■	■	■	■									
Diagnostic workshop									■	■	■	■								
Run training courses										■	■	■	■							
Country systems: Install equipment and assist in trials											■	■	■	■	■	■	■	■	■	■

4.3 Costs and financing

- Total costs to strengthen the capacity of MDB to fulfil a regional training role, meet the costs of training selected participants from member countries, provide each member state with hardware, software, teaching material and back up support to establish its MIS system is Euro 1.06 million over five years. This total will be from EU sources;
- Government owned and maintained livestock markets in Tanzania will be used for livestock MIS and grading training as a country contribution while all other member countries are expected to contribute to the establishment costs of their national MIS system.

4.4 Special conditions

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

5. Factors ensuring sustainability

5.1 Policy support

Continuation and commitment to privatization and creation of enabling environments for national regional and extraregional trade development through supportive policy measures are essential underpinnings. Privatization of marketing services as promoted by the Project, the power of advertising and the use of marketing information as a ready made vehicle to deliver other promotional messages will see commercial funding generated from various sources to sustain the systems (manufacturers and distributors of animal health products, animal feed and grain companies are obvious potential subscribers and cofinanciers of MIS systems).

5.2 Appropriate technology

Most modern and appropriate technologies will be employed and taught in the collection, collation, analysis and dissemination of reports. Appropriate techniques will be developed for the collection of accurate market data under difficult or remote situations.

5.3 Environmental protection

Market reports will assist in raising marketed offtake and effecting beneficial change in herd and flock compositions, thus contributing to reduced range and grassland pressure. The data generated will also be used for government planning and policy purposes and will directly feed in to the decision making process with regard to environmental issues.

5.4 Socio-cultural aspects: women in development

Market reports will greatly enhance market transparency, raise awareness of price, quality and grade correlation and thus strengthen the bargaining position of each and every producer down to the smallest and poorest— into which latter categories most women producers fall. The raising of edible livestock product quality and quantity will be of direct benefit to all consumers and of especial importance to women and children.

5.5 Institutional and management capacity

Institutional and management capacity will be strengthened at regional training level by direct Programme investment. Output of national and regional information systems set up through the activities of the Programme will act to raise institutional effectiveness and managerial capacity through the provision of accurate, current and important information on commerce and trade -- inputs essential in the decision making process.

5.6 Financial and economic analysis

Seed investment by governments to assist the development of national MIS systems can be variously justified. MIS will accelerate the process and success of privatization of marketing services; it will increase competition and widely disperse the rewards, encourage the producer and protect the consumer, including the poorest. Beneficial impact on economies at large by national and regional MIS systems will therefore be high and touch every product and facet of trade. Training by the MDB at programme end will continue to be available on a full cost recovery basis (as it will throughout Programme implementation) and so carries no government budgetary implications.

6. *Monitoring and evaluation*

6.1 Monitoring indicators

- MIS computer data handling programmes updated, enhanced and installed in MDB, new computers and training equipment installed and tested and MDB staff training completed (consultant's report)
- All Training course material and national sets (products and livestock) prepared (MDB and TA specialist reports)
- 200 national trainers and operatives trained under the Programme (MDB and TA specialist progress reports)
- Uniform MIS system operational in each of the 10 countries (TA specialist progress reports)
- Frequency and quality of reports and target audiences reached:
- Regional combined MIS System established

6.2 Reviews and evaluation

Monitoring and evaluation will be a continuous function carried out by the LMM. The Mid-term Review will provide an external evaluation and a mechanism for major adjustments if these are advisable.

Component 3 Adoption of uniform official standards (Livestock, meat and other livestock products)

1. Background

Liberalized global trade is presenting opportunities, problems and threats to member countries. Complaints are bitter and widespread regarding heavy importation and sale (dumping) of alleged inferior and suspect products on local markets – including animal feeds, veterinary medicines and animal health products and agricultural inputs. Producers are thus being poorly served while local manufacturers and importers of good quality products are facing unfair competition. On the other hand, local manufacturers, particularly of animal feeds are also under strong criticism regarding inferior quality products. Inferior inputs impact negatively across the entire livestock subsector and is particularly damaging to intensive dairy, poultry and fattening activities within the region.

Development and adoption by member countries of internationally acceptable quality standards and descriptions and the means to enforce them are the only methods of protection against substandard products, both local and imported, entering the market. With standards as benchmarks imports of inferior goods can be prevented and quality of local manufacture monitored and raised. This is realized and the three members of the prospective East African Community are actively developing and harmonizing standards for joint adoption (Burundi and Rwanda have also applied to join). As the process proceeds, import control will progressively be enabled and local manufactured products, without a Bureau of Standards stamp of approval, will encounter increasing marketing difficulties internally, regionally and outside; products carrying the stamp of approval will of course enjoy a marketing advantage over those that don't.

The Component will enable the adoption and use of official standards for a prioritized list of livestock sector input and output products of regional importance. It will also assist to establish Bureaux of Standards or arrange access to Bureau services where these do not exist and to identify regional reference laboratories for purposes of quality control.

Livestock and meat grading is not standard marketing practice in the region and this will be addressed. Development and adoption of uniform livestock classification, grading criteria and descriptions are essential to the MIS system and for the promotion of domestic and interregional trade. Grading terms create a common language that allows accurate communication to take place and enables trade transactions based on description and specification to be made. Grade and price linkage in market reports transmit consumer preferences back to producers and provides guidance and encouragement for them to produce and sell more valuable animals.

Meat grading is of equal importance and linked to that of livestock. Official carcass grade roller marks makes for simple and cost efficient trading, provides consumers with a guarantee of quality and confers a marketing advantage to the graded product. Differential pricing based on grade (official or informal) is normal in meat trading at all levels throughout the world. These differentials must be transmitted back to the producer in price premiums in order to render livestock fattening and investment in selection and breed improvement viable. This does not occur over much of East Africa, the reward for animal quality accruing largely to butchers with access to premium markets.

2. Intervention

2.1 Overall project purpose

Market led improvements in production and family incomes achieved through competitive and quality orientated commercial input delivery, livestock marketing, product processing systems and services that meet the needs of producers, processors and consumers and generates increased local and foreign exchange earnings on a continuing basis.

2.2 Component objective

Livestock and meat classification grading system in place that provides an accepted quality assurance throughout the region. Domestic markets, producers, local manufacturers and consumers protected from below standard imports: locally manufactured goods and products

of a certified standard competing on the regional and world markets.

2.2 Results

- Harmonized classification and grading standards for live cattle, sheep, goats and meat developed and adopted by member countries;
- Official standards for an agreed prioritized range of livestock input/output products adopted or being developed by every member country -- including livestock feeds and ingredients, health and veterinary products, dairy products.
- Abattoirs and processing industries of animal products and inputs meeting or engaged in the process of meeting ISO 9000 standards and criteria.
- Capability developed to ensure that prioritized locally produced and imported inputs/outputs conform to official standards.

2.4 Activities

- Establish national technical committees (following EAC model) to review formal and informal national classification and grading systems.
- Recruit international and regional consultants as required
- Prioritize and adopt list of outputs/inputs to be standardized: these to include
 - live cattle, sheep and goats,
 - red carcass meat,
 - dairy products,
 - animal feeds (and ingredients),
 - veterinary drugs and animal medicines.
- Review present coverage of official standards by national technical committees (bureaux of standards where they exist)
- Prepare submissions based on specific national requirements for submission to a regional panel of experts for comparison and evaluation.
- Hold regional panel meetings (assisted by international advisors if needed)
- Agree on internationally acceptable classification and standards to be adopted
- Publish the agreed standards for formal adoption by the participating countries
- Where necessary assist countries to establish or share Bureaux of Standards and identify regional reference laboratories
- Prioritization of inputs/outputs not presently covered by official standards for future development
- Develop standards according to regionally accepted priorities
- Support the UNIDO HACCP regional project to enable industries to attain ISO 9000 standards and criteria

2.5 Verifiable indicators

Common livestock classification/descriptions and grade standards adopted for live cattle, sheep and goats

Official grade standards adopted for beef, sheep and goat carcass meat and for dairy products.

Official standards adopted for animal feeds, veterinary and animal health products.

Abattoirs and meat and milk processing plants attained or attaining ISO 9000 standards.

3. Assumptions

3.1 Assumptions

- Governments are committed to the adoption and use of official standards and trade descriptions of international acceptance as a means of quality assurance and control.

3.2 Risks and flexibility

Ability and capacity of individual country's to adopt and apply standards at the same pace may be constrained for a variety of reasons. To overcome this and allow implementation to proceed following agreement, the principal of geometric variability will apply (dual track approach) in which those able to go ahead will do so leaving others to conform when able.

4. Implementation

4.1 Detailed features

- Technical assistance will be provided by project specialist staff throughout the planning and implementation phases;
- The project will fund assistance by ISO, FAO, WHO and ARSO and one by ISO.
- Funding will be provided for the formation of national and regional technical committees and the organisation of material. The project will meet the rental cost of a regional venue, secretarial assistance and utility costs while regional committee meetings are in session; and
- Travel, sitting allowances and subsistence allowance of members and publication of the agreed standards will be met.

4.2 Organization and implementation procedures

- Overall responsibility for programme involvement will rest with the project coordinator who will ensure input delivery proceeds, fully, efficiently and on schedule;
- Chairpersons of national committees will be fully responsible for implementation of country programmes;
- Chairperson of the Regional Panel of Experts will be responsible for coordination of country submissions, calling and holding of Regional Forums, chairing of meetings and release of statements; and
- The Standards and Legislation Specialist will provide advice, guidance and assistance on all matters of national and regional issues and provide advice to Project Management.

Implementation schedule

Activity	6-month periods									
	1	2	3	4	5	6	7	8	9	10
Constitute regional and national committees	■	■								
Recruit technical assistance		■	■							
Review prioritized list			■	■						
Committee review existing standards of listed items				■	■					
Evaluation of standards					■	■				
Prioritize items not covered by existing standards						■	■			
Develop standards on basis of priorities							■	■	■	■
Assist in establishment of bureaux and identify reference laboratories								■	■	■
Support ISO 9000 initiative									■	■

4.3 Costs and financing

Total base line costs are Euro 1 475 000 for the component and this amount will be funded by the EU programme.

4.4 Special conditions

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

National specialist committees will be formed to gather and consider all relevant information documentation and to make detailed submissions to the Regional Panel of Experts. It is suggested the experience and *modus operandi* of the Specialist Committees of the East African Community be used in this and other similar harmonization and standardization exercises.

5. Factors ensuring sustainability

5.1 Policy support

The adoption of uniform standards as Official Standards governed by regulation by each member country will play a crucial role in promoting livestock production and enabling growth in formal interregional trade. The rewards of marketing advantage bestowed on products meeting official standards will greatly encourage compliance and act in support of legal powers of enforcement.

5.2 Appropriate technology

Technology

5.3 Environmental protection

The adoption and use of uniform, market oriented, grading and classification criteria, in combination with other project and programme initiatives, will influence the production and sale of better quality, younger animals at premium prices. This in turn will fuel and be reflected in improved management of feed resources and impetus for integration of animal production systems – linkage of range production of store and immature stock with growing out and fattening enterprises. These developments will be of environmental benefit both through lowering pastoral numbers in favour of quality and changes in herd/flock structure due to increased demand and lowering of the age at offtake. Destocking in time of drought, under this scenario, will be achieved through the routine operation of the commercial marketing channels and free market price mechanisms.

Adoption of official standards in regard to animal feeds, veterinary products and animal health remedies will greatly reduce the risk of contaminants in livestock inputs and output products. Adherence to ISO 9000 standards by abattoirs and processors of animal products will address environmental pollution and safety at all levels of the industrial process and in the wider social and community context.

5.4 Socio-cultural aspects: women in development

Adoption of uniform official standards for livestock and prioritized livestock input and output products will be a powerful influence for good and to the benefit all producers and consumers. Even the smallest scale producer, into which group women headed households mostly fall, will gain from the known quality and efficacy of bought in inputs and awareness of the market worth of animals for sale. Increased production and availability of meat and milk of better quality and higher nutritional standard will be of important benefit to women and children, especially nursing mothers and growing infants. Improvements in environmental conditions and safety at places of work and in the areas surrounding them will have a high impact on female employees within industry and families living around industrial sites. And finally, increased opportunities for business and trade gained by the formal access to regional markets through standardization will be open to women on an equal basis. The material rewards of trade expansion will be increased employment, cash flow and empowerment of social development reaching right back to the rural economies.

5.5 Institutional and management capacity

Institutional and management capacity is demonstrably adequate in the three member states of the proposed EAC, all of which have

established Bureaux of Standards (Burundi and Rwanda have also applied to join). Managerial capacity is backed up by support from the Arusha based Secretariat in all matter involving adoption and harmonization of standards which is already well under way. Bureaux of Standards are also established in Ethiopia and Eritrea. Other member countries of the programme do not have bureaux, various government agencies handling questions of quality assurance and compliance with country standards. Adopting the principle of geometric variability, as is the case with the EAC, will allow development and adoption of harmonized standards to proceed between countries and allow for introduction and enforcement at variable pace in step with national capability. Assistance to establish or have shared use of bureaux of standards will be extended to countries without by those already established.

5.6 Financial and economic analysis

The impact and benefits adoption of harmonized official standards and descriptions will have will be widespread at national and regional level. It will positively affect production of livestock and animal products -- increasing both quality and quantity, enable expansion of trade regionally and internationally, reduce marketing costs, protect internal markets from inferior products and dumping.

6. *Monitoring and Evaluation*

6.1 Monitoring indicators

- Details of appointment of national and regional committee and chairs
- Adopted prioritized list of livestock inputs and outputs to be standardized
- Notification of political will to proceed
- Assembled national standards existing of prioritized inputs and outputs
- Details of deliberations of regional standards committee
- Publication of draft standards for circulation
- Notification of adoption of draft as official standards by all member countries.
- Established number of bureaux of standards
- Notification of reference laboratories selected for quality assurance

6.2 Reviews and evaluation

Progress and performance of the component will be kept under constant review by the project coordinator through the activities and reports of the Standards and Legislative Specialist. Following the adoption of a prioritized list of standards to be adopted, the political will of all members to proceed will be ascertained. Following this evaluation and major adjustment will be by Mid-term Review.

Component 4 Livestock marketing training and credit

1. Background

Although it is often stated that livestock marketing is firmly in the private domain throughout Eastern Africa, this is strictly in reference to the primary, secondary and interregional traders who make up the marketing chain. It leaves out the entire servicing sector, which remains firmly a public reserve. Privatization of marketing services could, under enlightened and dynamic management, be the major engine for change needed throughout the livestock economy. It is the missing factor in the privatization equation of government livestock services. Included, it will provide the vehicle to render the other services viable and sustainable. The component is aimed at achieving this result.

Local governments throughout the region are responsible for livestock markets and services in the districts they administer and they rely on the collection of taxes and marketing fees for much of their revenue. Marketing fees and taxes bear little or no relationship to the level of service (always passive) or the standard of infrastructure provided (generally meagre or nonexistent). Indeed, avoidance of marketing fees and taxes for which no perceived benefits accrue or services are rendered is responsible for the formal system being frequently bypassed and the importance of informal trade. Government services in the form of stock route systems are also seriously degraded throughout the region. Although projects to rehabilitate government marketing infrastructure are under implementation or planned in many member countries how sustainability thereafter is to be achieved is far from clear and largely neglected.

An appreciation of dynamic, as opposed to passive, livestock marketing services and who could and should provide them in a liberalised environment is needed within the region. When acceptance is gained that such marketing services can be combined with others and with enterprises of an interrelated nature, the possibilities and practical solutions for development and sustainability quickly present themselves. Enabling the entry of private enterprise to manage and develop the sector is necessary so that the marketing and wider input output needs of livestock producers can be competitively met. In doing so, wide and varied employment opportunities will be created in the restructuring economies of the region.

The component will provide livestock marketing training opportunities and experience for veterinary and animal health personnel, extension officers, trade development staff and others suitably qualified in the servicing sectors of the livestock economies of Southern Africa. This experience will fit them to diversify, increase their employability and play a principal role in the privatization of marketing services in the countries of the region.

Southern Africa was selected for the training venue due to the importance there of the commercial sector in providing diverse livestock marketing services and options, the success of animal health control at country level and of interregional trade in livestock and the importance and influence exerted by the international export of meat on the livestock economies of each individual country.

Privatization of marketing services in countries of the region, it is envisaged, will be launched initially through the leasing of markets from local authorities by those suitably qualified to run them. Where applicable, management and service contracts for sections of government stock route passing through and connecting the secondary markets leased will be negotiated. Type and minimum level of services will be subject to contract terms and government monitoring. Services above these minima will be at the discretion of the lessees. Commission based returns, competition and commercial management will ensure all legitimate methods of increasing business and market share will be actively pursued. Freely available marketing information is a natural spin off from competitive systems. Combining activities and services by the private operators will be assisted by the following considerations.

Well planned and well run secondary markets, stock route night stops and check points have many requirements in common (holding pens, drinking water, stock handling and inspection facilities, management and inspection services). Sharing infrastructure and service between regular stock route traffic and intermittent market day use makes sound economic sense through savings in initial capital cost and the spread of overhead, managerial and maintenance expenditure. Vaccination campaigns and routine animal treatment could also be accommodated and catered for through joint facilities. Finally, should the mode of livestock movement change from trekking to road transport, investment in stock route infrastructure will not be lost, as would be the case in a mono use system

Markets attract the population from surrounding areas (not only actual buyers and sellers). This affords easy and cost effective access to local rural communities and livestock producers for the supply of all types of inputs and services through establishment of a presence at livestock markets. This applies particularly to veterinary practice, the supply of animal health products and livestock extension. Diversification and multifunctional use of infrastructure as proposed will ensure delivery of services and inputs to producers, traders and stock in transit and ensure the effectiveness and sustainability of the system through cost recovery and the multiplier effect.

Given changes in attitude, appreciation of what is possible and the right environment, development of vibrant industries based on livestock marketing services will occur. In the process, employment opportunities across a wide spectrum will be created and up to date marketing technology introduced and kept abreast of.

The programme will provide funds for dedicated lending through commercial banking and lending institutions to qualified borrowers (partnerships, cooperatives, companies, whatever form the service provider/market operator takes) towards establishment cost of setting up livestock marketing and related services in pastoral and agropastoral areas. Funds lent will be used for the purchase of basic market place and office equipment, costs of office and stores and initial stocks of veterinary drugs, animal health products and other commodities to meet pastoral producers' needs.

2. Intervention

2.1 Overall project purpose

Market led improvements in production and family incomes achieved through competitive and quality orientated commercial input delivery, livestock marketing, product processing systems and services that meet the needs of producers, processors and consumers and generates increased local and foreign exchange earnings on a continuing basis.

2.2 Component objective

Livestock marketing, stock route and input supply services privatised and commercially and competitively delivered with markets and marketing services forming the base and core of combined, sustainable enterprise in livestock producing areas.

2.3 Results

Professional, trained and multidisciplinary marketing staff available to spearhead commercial delivery of marketing and stock route services and input supply in each member country

Policy in place allowing privatization and commercialisation of marketing services to occur and the servicing needs of all stakeholders to be competitively met.

Markets and stock route services progressively privatised.

2.4 Activities

Formulate appropriate sandwich courses of practical experience, study tour and theoretical study in Southern Africa (Zimbabwe, Botswana, South Africa and Namibia);

Selected prequalified professional and technical candidates from both the public and private sectors of each member country

Monitor course implementation and revise if needed

Advise member countries on the introduction of commercial livestock marketing, stock route and quarantine services

Advise member countries on the adoption of policies conducive to the commercialisation of marketing services.

Provide a dedicated credit through commercial channels to assist with establishment costs of operators germane to privatization of marketing services

Promote the formation of professional associations to develop the industry and provide client protection through adoption of standards and codes of practise.

2.5 Verifiable indicators.

100 participants trained in Southern Africa (in combination with meat training)

Policy change enacted in all countries allowing privatization of marketing services

20 District marketing systems privatised and competing in each livestock producing country of major importance within the region system consists of secondary markets with planetary primary feeder markets connected to terminal markets). 5 systems establish in all other countries.

Privatization of stock route services linking all privately run secondary markets in each country

Associations of livestock marketing agencies formed in each country to promote self regulation and growth of the privatised service industry and its operational and professional standards (Chamber of Commerce affiliated)

Regional association formed for purposes of promotion and development of interregional and export trade (Chamber of Commerce affiliated)

3. Assumptions

3.1 Assumptions

- The private, cooperative and government sectors in Southern Africa will be willing to participate in the design and delivery of the training and study tour programme; and
- Governments of member countries are willing to put marketing, stock route and quarantine services out to the private sector and make the necessary legislative changes to allow this to take place

3.2 Risks and flexibility

- The assumptions above prove to be incorrect in total or in part;
- Design the training programme wide enough to ensure skills and experience acquired do increase employment opportunities and career prospects for course participants and contribute to increase in regional trade; and
- Prepare contingency plans to make training available within the Region through utilisation of subject experts and marketing specialists from Southern Africa and elsewhere in the world with similar systems.

4. Implementation

4.1 Detailed features

- Technical assistance will be provided by the specialist project staff during all planning and implementation phases. The Programme will meet the cost, from LMM funds, attendant on setting up the training opportunities in Southern Africa countries;
- Travel cost of selected participants from member countries together with training expenses will be met by the project; and
- A contingency for 10 consultant visits by relevant subject experts are provided to assist where necessary with the introduction of privatised marketing services and improvements to abattoir and processing standards and practices in member countries.
- A loan facility will be available and subject to stringent borrowing conditions and limits will assist with establishment cost incumbent on market and stock route privatization and the financing of initial stocks of veterinary drugs and animal health products for use and sale by market lessees.

4.2 Organization and implementation procedures

- Overall responsibility will rest with the Project Coordinator for monitoring and ensuring implementation proceeds efficiently and on schedule. The coordinator will also take the lead role in designing, in unison with Southern African companies and other players and with advice from the Chief Technical Advisor the content and range of marketing courses deemed

necessary; and

- At national level, responsibility for component implementation will rest with the chairperson of the individual marketing technical subcommittees specifically set up for the purpose.
- Responsibility for loan disbursement and recovery will be through the lending institutions' normal management procedures. Lending criteria will be according to that agreed and laid down by programme management and the lending institution.

Implementation schedule

Activity	Months, year 1												6-month periods years 2-5							
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
TA: Develop training programmes	█																			
Zimbabwe	█	█	█	█	█	█	█	█	█	█	█	█								
Botswana		█	█	█	█	█	█	█	█	█	█	█								
Namibia			█	█	█	█	█	█	█	█	█	█								
South Africa				█	█	█	█	█	█	█	█	█								
Confirm programme arrangements					█	█	█	█	█	█	█	█								
Publish programme and discuss						█	█	█	█	█	█	█								
Select students/arrange logistics							█	█	█	█	█	█								
Conduct first programmes								█	█	█	█	█								
Programme evaluation workshop									█	█	█	█								
Report and fine tune as needed										█	█	█								
Training programmes continues													█							
Consultancies as required										█	█	█								
Privatization and loan disbursement													█							

4.3 Costs and financing

Total base line costs of Euro 640 000 for training (shared between processing and marketing) will be met by the Programme budget. There are no budgetary implications after the life of the programme.

The credit line of Euro 2 million will be established by the programme for dedicated, onward lending through commercial banks to qualified borrowers setting up in business as livestock marketing and related service providers in pastoral and agropastoral zones. Normal lending criteria will apply and administrative costs will be met from interest. The fund will accrue and revolve as loans are repaid and will continue after the life of the programme but with no government budgetary implications.

4.4 Special conditions

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

5. Factors ensuring sustainability

5.1 Policy support

Continuation and commitment by governments to privatization and creation of a conducive environment for formal regional and extraregional trade to develop are essential for benefits to be achieved. Changes in policy, legislation and regulations may be entailed in some countries to allow privatization of livestock marketing and stock route services to occur. Failure to make necessary changes will obviously prevent privatization taking place and the core objective being achieved.

5.2 Appropriate technology

Privatization of livestock marketing and stock route services will result in the increased use of more and improved technologies in both the communications and marketing field. The exact form these will take and the speed of introduction will depend on the degree of imagination and innovation with which methods and technology learned outside are adopted, adapted and made practical use of.

5.3 Environmental protection

Livestock markets, stock routes, holding and quarantine grounds can pose serious environmental risks. These can be mitigated through enlightened management and protective measures. Under a privatised system, ensuring maintenance charges associated with routine environmental control are included in service recovery cost calculations and that the money is spent on maintenance should form part of operational agreements. Commonly faced environmental problems and recommended courses of action include

- Erosion caused by concentration of animals and trekking damage. This is the most intractable problem faced given the present state of development in many of the member countries. It can only be completely resolved by the use of roads and road vehicles for animal movement; development of road networks is a precursor to this remedy being applied. Repair of damage as it occurs and introduction of improved measures against such damage recurring is the only workable policy;
- Overstocking of holding grounds. This is a management problem to be addressed through adequate acreage, good husbandry practise, block grazing and sufficient, reliable and well distributed water points;
- Pollution of streams, natural water courses and the general environment through animal waste accumulation around market areas. This is universally common and can be controlled through site selection, safe and adequate drainage, removal of manure for crop use and provision of adequate rail and truck washing facilities; and
- Public health risk through debris and accumulation of biodegradable and non biodegradable waste, human and animal, around market areas should be addressed through provision of latrines, clean water, burial or incineration of trash and dead animals.

5.4 Socio-cultural aspects: women in development

Training will be offered on a non discriminatory basis. Privatization of marketing services carry no adverse socio-cultural implications. The beneficial effect increases in offtake, better prices, improved level of service and increased availability of goods and consumables that privatization and diversification will bring about will be widely spread. Women will share in the general economic and social improvement thus engendered and work opportunities arising will be open for their participation.

5.5 Institutional and management capacity

Strengthening managerial skill and capability are prime purposes of the training component, across the public and private sectors. Collaboration with other livestock marketing projects and related country and regional programmes will also serve to strengthen institutional capacities and ability to introduce and manage change, identify and create opportunities for privatization and cost recovery and take positive legislative and policy action.

5.6 Financial and economic analysis

Privatization of livestock marketing services, which is at the heart of project's integrated package of policy, animal health and movement initiatives, will result in the natural growth of a progressive industry -- as exists in the livestock and meat exporting countries of Southern Africa and elsewhere in the world. This will have far reaching economic impact through the generation of varied employment opportunities, better servicing of primary producers, more efficient livestock marketing channels and more reliably supplied domestic markets and processing sectors with animals of better quality.

Pastoral and agropastoral producers will be particular well served and will be enabled to contribute more effectively to national and regional development. It is estimated that average offtake will be raised above present rates by some 12 per cent due to introduction of privatised services (say from 9 per cent to 10 per cent on cattle and from 20 per cent to 23 per cent on small ruminants) with the bulk

of this increase being traded commercially. In the pastoral situation, increased livestock sales and price will finance better animal health care and family needs with inputs made available through privatization. More equitable transmission of price differentials for quality back to producers will raise the proportion of traded livestock in good condition at time of slaughter. This is conservatively estimated for cattle at 10 per cent (say from 32 per cent of the total traded to 35 per cent) with a consequential lift in live weight of 12 per cent (say from 230 kg to 260 kg).

6. Monitoring and evaluation

6.1 Monitoring indicators

- Development and quality of marketing course programmes;
- Number and quality of course participants;
- Number of courses, study tours and hands on experience and training delivered;
- Legislative change enacted to allow privatization of marketing services;
- Number of markets privatised in member countries; and
- Lengths and number of stock routes provided with privatised services.

6.2 Reviews and evaluation

- Component activities will be under constant review and evaluation by the LMM and the Project Coordinator in particular. Regular reports covering the effectiveness of component activities will be prepared and distributed based on quantifiable results and consensus of member states as relayed through country committees; and
- Mid term review by outside agencies will provide the opportunity to thoroughly evaluate the component's programme and results and to recommend any adjustments in focus deemed necessary to increase effectiveness.

Component 5 Slaughter and processing training

1. Background

Livestock and meat grading is not standard marketing practice in the region and this will be addressed. Development and adoption of uniform livestock classification, grading criteria and descriptions are essential to the MIS system and for the promotion of domestic and interregional trade. Grading terms create a common language that allows accurate communication to take place and enables trade transactions based on description and specification to be made. Grade and price linkage in market reports transmit consumer preferences back to producers and provides guidance and encouragement for them to produce and sell more valuable animals.

Meat grading is of equal importance and linked to that of livestock. Official carcass grade roller marks makes for simple and cost efficient trading, provides consumers with a guarantee of quality and confers a marketing advantage to the graded product. Differential pricing based on grade (official or informal) is normal in meat trading at all levels throughout the world. These differentials must be transmitted back to the producer in price premiums in order to render livestock fattening and investment in selection and breed improvement viable. This does not occur over much of East

Throughout the region, technical and hygienic improvements in livestock slaughter, carcass handling, meat cutting and processing is in need of significant improvement to match any upgrade in facilities. Lack of training opportunities and trained human resources in the industry was recognised and emphasised as a serious constraint during country visits.

The component will address the regional need for trained personnel in both local and export abattoirs and slaughterhouses. The Austrian supported Arusha Municipal Abattoir and meat training school, chosen for its well developed infrastructure and training programme, will be strengthened to meet this challenge and, in cooperation with Tengeru Institute, offer courses for meat inspectors. Southern Africa will be used to provide training and experience in industrial abattoir and processing plants of export standard being extremely well placed to fulfil this need. Participants will be drawn from both the public (municipal) and private sectors.

The beneficiaries will include domestic consumers in all countries of the region from clean meat, livestock producers through expansion of markets and demand from export opportunities, exporters and users of hides and skins through improved raw product quality, country exchequers from improved foreign exchange earnings. The component is closely linked with those dealing with livestock marketing training, the adoption of official standards and ISO 9000, the harmonization of health and movement legislation and of public health regulations at harvesting site.

2. Intervention

2.1 Overall project purpose

Market led improvements in production and family incomes achieved through competitive and quality orientated commercial input delivery, livestock marketing, product processing systems and services that meet the needs of producers, processors and consumers and generates increased local and foreign exchange earnings on a continuing basis.

2.2 Component objective

Strengthened regional capacity to provide training of international standard for the privatised and public abattoir and processing industries of member countries.

Abattoirs and processing facilities of high standard, staffed by highly trained and motivated staff producing quality output for the domestic, regional and international market.

2.3 Results

- Regional capacity to provide international standard training for staff of the abattoir and processing industries and meat

inspectories of member countries;

- A cadre of trained staff in positions of responsibility and influence at all levels of the abattoir and meat processing industries and training institutions of each member country

2.4 Activities

- Extend the training facilities of the Arusha abattoir's training school (building and equipment)
- Adapt the school's curricula and Tengeru Institute's meat inspection course to meet the training objectives
- Arrange for training and experience in Southern Africa (Botswana, Namibia, Zimbabwe and South Africa)
- Select suitable candidates from both the private and public sector.
- Monitor course implementation and revise if needed.
- Encourage and assist meat training institutes in other member countries to incorporate the courses developed (Sudan Uganda)

2.5 Verifiable indicators

- Quality of course curricula
- 200 participants trained in Arusha
- 100 participants trained in Southern Africa (combined total meat and marketing)
- Positions held by graduates on return to home country
- Abattoirs operating to export standard in Tanzania, Kenya, Ethiopia and Eritrea and Somaliland.

3. Assumptions

3.1 Assumptions

- The Austrian Government supported Arusha Municipal Abattoir and Training School and Tengeru Institute agree to participate in the programme;
- The private, cooperative and government sectors in Southern Africa will be willing to participate in the design and delivery of the training and study tour programme.

3.2 Risks and flexibility

- The assumptions above prove to be incorrect in total or in part; in which case
- Prepare contingency plans to make training available elsewhere within the region (Sudan and Uganda) and through more utilisation of subject experts and marketing specialists from Southern Africa and elsewhere in the world with similar processing and marketing systems.

4. Implementation

4.1 Detailed features

- Technical assistance by project specialist staff will be provided during all phases of planning and execution;
- The project will fund classroom and accommodation extension (if necessary) to the Meat Training School in Arusha;
- Essential training equipment and training aids will be provided by the project to bring inventories up to required levels. The project will also fund the purchase of two minibuses – one for the Meat Training School and one for Tengeru Institute; and
- Travel, training and living costs of selected students from member countries will be paid for by the project.

4.2 Organization and implementation procedures

- Overall responsibility will rest with the project coordinator for annual work plans and budgets;

- Course development will be between the institutions identified and the LMM and delivery will be the institution responsibility;
- Ensuring implementation proceeds on schedule and that training meets the needs and expectations of member countries will rest with the LMM; and
- Coordination at national and regional level will be through committees/subcommittees made up of appropriate appointees from private and public industry and institutions.

Implementation schedule

Activity	Months, year 1												6-month periods years 2 – 5							
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Prepare and order training equipment and vehicles	■	■																		
Assess need and extend classroom if needed	■	■	■																	
Develop and approve course programme	■	■	■	■																
Distribute course programme				■	■	■														
Select course participants						■	■	■	■	■	■	■								
Conduct training course													■	■	■	■	■	■	■	■
Arrange Southern African training programme ^{a)}	■	■	■	■	■	■	■	■	■	■	■	■								
Carry out Southern African courses													■	■	■	■	■	■	■	■
<i>Southern African evaluation workshop^{b)}</i>																				

Notes: a) In common with Livestock marketing Component
b) Joint workshop with marketing

4.3 Costs and financing

Total base costs are Euro 840 000 for the 5-year support to the component and this will be financed from the Programme budget. The Tanzania Government's contribution will be in the provision of existing staff, abattoir and training institutions. Vehicle running expenses have not been included under Programme funding as participants' fees are being paid.

4.4 Special conditions

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

Agreement must be reached with the Arusha Abattoir and Tengeru before implementation can go ahead. The same proviso applies to the Southern African programme. Training possibilities in Sudan and Uganda should be considered as a contingency.

5. Factors ensuring sustainability

5.1 Policy support

Enforcement of public health and hygiene legislation and regulation as apply to animal health, humane slaughter, slaughterhouse standards and meat safety is essential for sustainability. Harmonization and adoption of common legislation and regulation by all member countries will impact strongly on this component.

5.2 Appropriate technology

All forms of training and extension will focus strongly on the use of appropriate technology across the spectrum, from small scale butchery to abattoir and meat processing industrial plant, in order to significantly uplift present standards in the first instance and meet international levels in the latter.

5.3 Environmental protection

Environmental protection in the widest sense and within the workplace context will be very well served by the purpose and output of this component. The sector is a prime cause of much environmental degradation and health risk and the programme followed will address these issues directly.

5.4 Socio-cultural aspects: women in development

There are no negative socio-cultural implications attendant on the component activities. The needs of women in development will be met through training and other opportunities being offered on a gender blind basis. Creation of a sustainable, regional and extraregional competitive industry, the ultimate objective, will be of benefit to all sectors and divisions of society through job creation, uplift in economic activity and standards of living. Women headed, livestock owning households will gain from the general increase in livestock demand attendant on improvements within the meat industry. Clean meat will be of direct benefit in reducing health risks and lifting nutrition of women and children.

5.5 Institutional and management capacity

- Institutional and management capacity will be directly and significantly strengthened at regional training level by direct programme investment; output in the form of trained personnel will immediately raise capacity and managerial competence level in individual member countries, across both the public and private sectors; and
- Study tours and interchange of ideas and experience at regional level will also serve to sensitise and educate policy makers and decision makers regarding the needs of a modern export industry and urban consumers. Back up, extra curricular support and extension provided by the LMM will actively expand the process.

5.6 Financial and economic analysis

Upgrading technical and management skills to international parity in the slaughter and processing areas is equally important as providing facilities of export licensed standard. Both are essential before entry onto wider markets, in any sustainable way, will become possible. Putting these in place and ensuring health requirements can be met are three essential pillars needed for an export based economy. In doing so, the welfare of domestic consumers will also be met. Provision of training will, it is envisaged, continue after the programme ends on a full cost recovery basis and so therefore carries no budgetary implications for government.

6. Monitoring and evaluation

Monitoring will be a continuous and structured process involving the LMM, participating training institutions and industries, Country and Regional Committees.

6.1 Monitoring indicators

- Content and quality of course and study tour curricula;
- Standard of training facilities and equipment;
- Number of courses delivered;
- Number of Students and level of achievement;

- Positions held or attained on return to home country by course graduates; and
- Number of export standard abattoirs operating.

6.2 Reviews and evaluation

Monitoring and evaluation will be a continuous process carried out in a programmed and structured manner by the LMM. Mid term review will serve to comprehensively evaluate the component and make any necessary changes in approach, content or focus.

Component 6 Harmonization of health and movement regulations and at harvesting site

1. Background

Crossborder movement of livestock and products is a fact of life throughout East Africa, mostly informal and hence not inspected and unrecorded. Formal, non tariff control of livestock movement across frontiers is through enforcement of animal health and movement regulation enacted by the country of destination. Protection of human population against animal transmitted disease is via national public health legislation.

Relevant legislation of individual countries of the programme region is not uniform either in coverage or detail, and knowledge of other country regulatory requirements is imperfect. Legislative review and amendment is under way in several countries of the region. Harmonization in accordance with OIE FAO/WHO guidelines would be very much in the interests of the region. It is needed to promote the growth in formal interregional and extraregional trade in clean animals and help prevent the introduction and spread of notifiable disease within and between member countries. It is an essential precursor to the establishment of transboundary disease free regions.

The task will entail a thorough evaluation of national legislation and regulation by the competent authorities of each member state, the submission of findings to a regional panel of experts for comparison and evaluation; and the drafting, after exhaustive consultation, of regulations acceptable to each member state and internationally. The final act will be formal adoption and ratification of identical regulations by the legislature of each respective country.

Adoption of harmonized regulations governing animal health and movement by member states will open the window of opportunity on development and adoption of an internationally acceptable East African Animal Health Certificate and Movement Permit. This will entail codification of health requirements and agreement on the criteria to be met for the issuance of the regional document and settlement on an acceptable livestock identification system. Implicit in this will be mutual acknowledgement and acceptance by member countries of the competence of each other's veterinary department. If adopted, the measure will give strength through regional unity in negotiations with importing countries on meeting entry requirements on matters of animal health under WTO agreement. This will have direct relevance in resolving situations similar to that created by the present Saudi Arabian blanket ban on small ruminant imports from the whole of East African due to isolated RVF outbreaks in 1987 in two countries.

The direct beneficiaries of these and other related measures will include all those involved in the livestock economies of the region. This will be through better protection of herds and flocks against the occurrence and spread of disease; savings on expenditure, national and international, presently spent on emergency action; increased demand and monetary returns from enabling access to regional and export markets. Domestic meat consumers and the general public will benefit from cleaner product and better environmental control, while country economies and development at large will benefit from the generation of increased foreign exchange earnings through trade.

2. Intervention

2.1 Overall project purpose

Market led improvements in production and family incomes achieved through competitive and quality orientated commercial input delivery, livestock marketing, product processing systems and services that meet the needs of producers, processors and consumers and generates increased local and foreign exchange earnings on a continuing basis.

2.2 Component objective

Enable formal cross border movement and export of clean livestock to be unhindered by non tariff health barriers and human populations in the region to be protected by harmonized public health regulations at harvesting site.

2.3 Results

- Adoption by member States of harmonized legislation covering animal health and livestock movement; an internationally recognised health and movement permit; and veterinary public health regulations at harvesting site;

2.4 Activities

- Prepare detailed terms of reference
- Select regional meeting venue, arrange for support services
- Identify and appoint members of national and regional committees
- Review existing national legislation and regulation and prepare submissions for consideration at regional level (assisted by international advisors as needed)
- Hold regional meetings (assisted by international advisors if needed)
- Agree on legislation and regulations to be adopted
- Publish agreed drafts for formal adoption by the participating countries.

2.4 Verifiable indicators

- Agreed animal health, livestock movement and public health legislation enacted
- Agreement on the issuance of East African Animal Health Certificate and Movement Permit

3. Assumptions

3.1 Assumptions

Member governments remain committed to privatization and harmonization of national legislation and regulation in the interest of promoting safe formal channels of trade throughout the Region.

3.2 Risks and flexibility

- Member Countries are unable to implement or ratify changes necessary at the same pace for particular reasons;
- Flexibility to meet this situation will be through the adoption of the principle of 'variable geometry' which, quoting from the Draft Treaty of the EAC, allows for progression in the cooperation among groups within the Community.

4. Implementation

4.1 Detailed features

- Technical assistance will be provided by the specialist project staff throughout all planning and implementation phases;
- The project will fund 10 international and regional consultant visits: these will be from ISO (and ISO 9000); OIE; Codex Alimentarius;
- Funding will be provided for the formation of national and regional technical committees and the organisation of material; and
- The project will meet the cost of a regional venue, secretarial assistance and utility costs while regional committee meetings are in session, travel, sitting allowances and allowances of members and the publication of the agreed regulations and legislation.

4.2 Organization and implementation procedures

- The LMM will be responsible for drawing up overall procedures, outline work plans and time frame for submission to

individual member countries for their acceptance and guidance;

- Formation and appointment of members to national committees will be the responsibility of individual governments as will the election/selection of the regional committee.
- Detailed terms of reference for national committee execution will be drawn up by the regional committee with assistance from the LMM and international expertise as required (DIE);
- Implementation of national programmes of work will be the responsibility of the respective national committees; and
- Convening of regional committee meetings, agendas and reporting will be the responsibility of the committee chairpersons.

Implementation schedule

Activity	Months, year 1												6-month periods years 2-5							
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
Establish national and regional committees																				
Prepare work plan and term of reference																				
Expert review of national legislation																				
Prioritized submissions to Region																				
Review national submissions																				
Formulate and circulate draft proposals																				
Prepare final draft and submit																				
Adoption of harmonized regulations																				
International and regional consultants when required																				

4.3 Costs and financing

Total base line costs are Euro 531 000 and this will be met from Programme budget funds. Governments are expected to meet the minimal expenses not covered by the Programme in relation to in country meetings and travel.

4.4 Special conditions

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

Formation of national technical committees and regional committees, all procedures and reporting format it is suggested will follow the EAC model to ensure uniformity for this and subsequent cooperation and harmonization.

5. Factors ensuring sustainability

5.1 Policy support

Continuation, commitment and political will by member countries to privatization measures and establishment of a conducive and enabling environmental and legal framework for widening regional trade opportunities and management of risk is of paramount importance.

5.2 Appropriate technology

Appropriate technologies will be employed in pursuing the national and regional agendas necessary to achieve legislative and regulatory standardization and harmonization within member countries. Thereafter, benefits to regional trade, animal health and human safety made possible by standardization and compliance with regulations, will depend for success on the use of the most efficient technologies applicable.

5.3 Environmental protection

- Harmonized animal health and movement regulations will increase opportunities for livestock sale which will translate into higher overall offtake rates and thus act to reduce rangeland pressure; and
- Enforcement of effective, standardized public health regulations will decrease serious environmental damage and health risk attendant on the low standards prevalent in the animal slaughter, meat, dairy and livestock product processing industries

5.4 Socio-cultural aspects: women in development

- The beneficial effects of harmonization and standardization will be equally spread throughout society. Increase in food safety and improvement in environmental conditions brought about by compliance with public health regulations will be of direct help to the lot of women and children; and
- Enhanced opportunities for regional commerce and trade will also provide women in business and primary production with favourable prospects of expansion and the creation of jobs,

5.5 Institutional and management capacity

Programme investment and involvement in enabling the process of legislative harmonization will contribute directly to a build up of institutional capacity and managerial experience in planning, cooperation and management of change at the Regional level.

5.6 Financial and economic analysis

Increase in crossborder trade in identified clean livestock brought about by harmonization, adoption and enforcement of regulations in common – in combination with functional quarantine stations and border checkpoints – will contribute greatly to economic growth. Of equal importance and significance in the longer term will be the savings accruing from the drop in the incidence of serious disease presently spread by crossborder movement of unscreened animals.

6. *Monitoring and evaluation*

6.1 Monitoring indicators

- Draft programme of work;
- Formation of National & Regional Committees;
- Production of Terms of Reference;
- Submission of reports and recommendations;
- Copy of draft pieces of legislation; and
- Adoption of harmonized legislation and regulation by member countries.

6.2 Reviews and Evaluation

Monitoring and evaluation of progress will be a continuous function of the LMM and a particular responsibility of the Standards and Legislation Specialist. The mid term review will provide the opportunity for external evaluation of progress and for making any changes deemed necessary.

Component 7 Establishment of animal health check points

1. Background

Rehabilitation of marketing and movement infrastructure is under way or planned in most countries with large livestock producing or trading based economies. Linking up national serviced stock route systems and quarantine developed under individual country projects with those of neighbouring countries and to ports of exit is necessary for the growth and development of formal interregional and export trade. The component aims to supply this link through the facility and trained resources to certify only trade stock proved healthy cross into a neighbouring stock route system. Facilities at export ports are at best poor and at worst completely absent. The component will provide health check points at all ports used for formal livestock export, in particular those of Eritrea, Somalia, Djibouti and Sudan. These will also fit into existing systems to add value and render service to the regions' exporting hinterland.

Crossborder livestock migration and movement for grazing purposes, traditional and common in the pastoral systems throughout the region, presents problems of transboundary health and disease control that can only be tackled on a regional basis. The programme addresses this in a related project which deals with establishing an enabling environment for implementation of the Sanitary and Phytosanitary Agreement (SPS) of the World Trade Organisation. SPS allows for the declaration of regions for the purposes of disease control. Adjacent countries, or parts of adjacent countries, which have the same health status and similar disease controls can be treated as a region. The region must be clearly demarcated by natural, artificial or legal boundaries that must be effective. The region must have a common control policy for specific disease. In the event that transboundary disease free regions are established during the life of the programme, health check points will be installed at the exit and entry points of these regions.

2. Intervention

2.1 Overall project purpose

Market led improvements in production and family incomes achieved through competitive and quality orientated commercial input delivery, livestock marketing, product processing systems and services that meet the needs of producers, processors and consumers and generates increased local and foreign exchange earnings on a continuing basis.

2.2 Component objective

Strengthen national and regional capacity to comply with and benefit from harmonized legislation and regulation on animal health and movement and assist the establishment of national and transboundary disease free zones under the programme

2.4 Results

- Established animal health check points which are an integral part of functioning quarantine, disease free zone and stock route systems at national borders, entry and exit points to disease free zones (national and transboundary) and ports of livestock embarkation.

2.4 Activities

- Design animal health check point facilities
- Identify border crossing routes (interstate and transboundary disease free areas) and ports used for livestock embarkation in member countries
- Verify that quarantine stations, disease free zones and stock route connections are or are about to become functional.
- Make final selection of animal health check point sites
- Tender and let contract for prefabrication and construction of check points and the supply of equipment
- Inspect and hand over the facilities to national authorities and train staff
- Monitor effectiveness and efficiency of the system.

2.5 Verifiable indicators

Health check points established at all ports of livestock embarkation (known ports in Eritrea, Djibouti, Somalia, Sudan)

Check points established at all border crossing points for trade stock on functional stock routes (number can only be ascertained after survey is complete)

Check points established at entry and exit points to transboundary disease free zones when designated.

3. Assumptions

3.1 Assumptions

Governments will remain committed to the development of interregional formalised trade in livestock and the facilitation healthy trade stock movement across national boundaries and for export.

Disease control and surveillance internally will be addressed through rehabilitation and maintenance of effective screening and quarantine systems and through the establishment of national and transboundary disease free zones.

Compliance with regulations by animal owners will be achieved more through ensuring that real material benefits routinely accrue to those following the system than the threat of Draconian penalties for infringements.

3.2 Risks and flexibility

If one or more of the assumptions prove incorrect, crossborder movement of unscreened trade stock will continue because of no functional method of control or through owners, traders and trekkers benefiting from bypassing the system.

Flexibility is through the proviso that animal health checkpoint installation will be an integral part of existing and functional internal health control systems and services. The border checkpoint is the final link in the disease control chain of an exporting country, the first in that of an importing state and the first and the last of a disease free zone -- it is not a stand alone item.

4. Implementation

4.1 Detailed features

Technical assistance during all planning and implementation phases will be provided by project specialist staff. Training/familiarization of checkpoint personnel regarding procedures will be met by the project; and

The cost of design and prefabrication of checkpoint handling facilities, office/lab and housing, together with transport and erection costs, will be met by the project. Means of communication via linkage with existing systems will be provided along with basic operational equipment.

4.2 Organization and implementation procedures

The LMM in cooperation with crossborder national technical committees will be responsible for planning, designing and installation of checkpoints and for monitoring results;

Prefabrication, transport and construction of facilities and structures will be carried out on contract to national companies;

Training will be arranged and coordinated by the LMM; and

Staffing and operation will be a national responsibility which could be by contract service agreements to the private sector and delivery will be on a cost recovery basis (and include cost of repair to environmental damage)

Implementation schedule

Activities	6-month periods									
	1	2	3	4	5	6	7	8	9	10
Design of facilities (offices/laboratories/housing)	■									
Identify export ports		■								
Tender and let contract for prefabrication			■							
Construct port facilities				■						
Identify main border crossing points					■					
Certify quarantine functional, select and build at border points/disease free zone						■	■	■	■	■
Inspect and hand over to government							■	■	■	■
Train staff								■	■	■
<u>Monitor system</u>									■	■

4.3 Costs and financing

Total base line costs are Euro 1.9 million over the 5-year life of the component and this amount will be met from the Programme budget. The checkpoints will form part of already functioning stock routes and quarantine systems. Provision of services will be on a full cost recovery basis.

4.4 Special conditions

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

Activities must be aligned and integrated with those of current and planned livestock marketing projects and the newly privatised marketing sectors in various countries (say, ADB Livestock Marketing Project, Eritrea; ADB/TLMP Tanzania; ELFORA, Ethiopia; Government stock route initiative Djibouti; FAO 'Quality Mark' proposed project, Somalia; Animal Resources Bank Abattoir projects, Sudan). It will also be closely involved with the establishment of disease free zones addressed under the Programme.

5. Factors ensuring sustainability

5.1 Policy support

Harmonization and standardization of animal disease and livestock movement control and enforcement by member countries is essential for the intervention to serve any purpose.

5.2 Appropriate technology

Appropriate technology will be installed in all checkpoints and employed to deliver effective service to livestock owners and maintain communications with outside support, crossborder checkpoints and on line quarantine stations.

5.3 Environmental protection

Concentration of livestock, especially in arid and semiarid areas, does pose environmental risk from erosion due to hoof damage and overgrazing. The potential erosion problem around checkpoints from heavy traffic must be addressed through regular maintenance and repair of damage as it occurs. Calculation of full cost recovery must take the expense of this into consideration.

5.4 Socio-cultural aspects: women in development

Animal health checkpoints as part of the overall package of measures for the improvement to animal health, disease control and public health aspects will benefit women who are producers, traders and in the meat and catering trades. All women and children will benefit from the increase in meat safety and lift in nutritional value.

5.5 Institutional and management capacity

The component will contribute to increased institutional capacity within the respective veterinary departments of member countries, enhance managerial strength in restricting the spread of disease and contribute to crossborder cooperative capacities.

5.6 Financial and economic analysis

As part of an integrated animal health and livestock movement control programme, the check points will contribute to economic growth and commercial benefits. Cost recovery for services, including environmental maintenance charges, will ensure economic sustainability of the operation.

6. Monitoring and evaluation

Monitoring and evaluation will be a continuous process of the Project Technical Committees and LMM and country authorities.

6.1 Monitoring indicators

- Number of checkpoint sites evaluated;
- Number of checkpoint sites selected;
- Number of checkpoints established; and
- Numbers of livestock screened.

6.2 Reviews and evaluation

The Mid-term Review will provide the opportunity for in depth evaluation of progress made and the effectiveness of the intervention. Changes recommended in the evaluation report will be carried out accordingly.

Appendix A

Qualifications and Terms of Reference for Senior Personnel

Terms of Reference for Livestock Marketing Project Staff

1 Coordinator.

Qualifications

The Coordinator must be a senior Livestock Marketing and Animal Health Service Specialist with proven managerial and organizational skills. Specifically the incumbent

- Should have a relevant first degree and a post graduate qualification in economics, business studies or equivalent commercial qualification.
- Should have at least 15 years of experience in livestock development and marketing in Eastern Africa
- Should have been successfully involved at senior level in the management of large development projects.
- Should have highly developed inter-personal skills.

Terms of Reference.

The Coordinator of the LMM under CPLIU direction and in close collaboration with the Chief Technical Adviser (CTA) shall:

- Take a lead role in work programme and budget preparation and submission.
- Advise and assist in the establishment and setting up of the Project.
- Coordinate all component activities efficiently and ensure the establishment and maintenance of close working relationships with national and regional technical committees.
- Closely monitor delivery of all component inputs to national and regional activities
- Ensure that all factors constraining implementation of work programmes are identified, resolved or brought to the attention of the CPLIU expeditiously.
- Ensure Project reporting responsibilities are carried out fully and on schedule.
- Discharge such other responsibilities that are appropriate or that may be requested by the CPLIU

2 MIS and Information Technology Specialist.

Qualifications

The MIS and Information Technologist must be highly experienced in his/her field with proven skills in setting up systems for the management, manipulation and analysis of large data banks of information and in information transfer. Specifically the incumbent:

- Should have relevant MIS and IT qualifications and at least 10 years of varied field experience in Eastern Africa
- Should have highly developed and proven teaching skills.
- Must be able to work under variable conditions of difficulty
- Must have highly developed inter-personal skills.

Terms of Reference

The MIS and Information Technology Specialist, under the direction of the Project Coordinator and in close collaboration of other Project specialists, the CTA and visiting consultants shall:

- Work closely with at MDB in development of a comprehensive regional MIS training programme for candidates from participating countries.

- In collaboration with the International Consultant, evaluate, update or modify as necessary existing MIS data handling systems and MIS programmes used by MDB.
- Assist participating countries in the establishment or improvement of national livestock marketing and livestock product MIS systems
- Develop an effective linkage mechanism between national systems and the regional MIS of the CPLIU in Nairobi.
- Carry and discharge other duties and responsibilities as may be directed by the Project Coordinator.

3. Meat and Livestock Products Marketing Specialist

Qualifications

The Meat and Livestock Products Marketing Specialist must be highly experienced with proven marketing skills across a significant range of products including meat and including export sales. Specifically the incumbent:

- Should have a relevant first degree and a post graduate qualification in economics, marketing and/or an equivalent professional /commercial qualification.
- Should have at least 10 years of experience in marketing at senior levels in Eastern Africa and preferably the Middle East.
- Should have been successfully involved at senior level in development of new markets
- Should have highly developed inter-personal skills

Terms of Reference.

The Meat and Livestock Products Marketing Specialist, under the coordinator's direction and in close collaboration with other project specialists, the CTA and visiting consultants shall:

- Work closely with teaching and training staff of the Arusha Municipal Abattoir and Training School and the lecturers of Tengeru Institute for Meat Inspection in developing Regional training programmes for industry and meat inspectorate candidates from participating countries;
- Assist in establishing Arusha as a Regional Centre of Teaching Excellence for the meat industries of participating countries;
- In collaboration with the Project Coordinator and CTA, assist in arranging, scheduling and delivering training opportunities at all levels within the export standard abattoirs, meat processing plants and respective sales departments of countries of Southern Africa;
- Assist national and regional technical committees in the development of an internationally accepted classification and grading system for livestock and meat for adoption by participating countries;
- Assist in the identification and commercial development of interregional trade opportunities for meat, dairy and other animal products by participating countries.
- Assist in the development of the regional MIS capacity with regard to market coverage of livestock products, nationally, regionally and internationally;
- Monitor the hides, skins and leather sectors and identify commercially sustainable interventions at regional level that would improve trade and returns to stakeholders within participating countries; and
- Carry out such further responsibilities as may be requested by the Project Coordinator.

4 Standards, Trade Regulations and Legislation Specialist.

Qualifications.

The Standards, Trade Regulations and Legislation Specialist must be highly experienced in all facets concerning development and application of standards, rules and regulations with regard to manufacture, trade, export and import of all input/output products. Specifically the incumbent :

- Should have a relevant first degree and post graduate qualification in Business Studies, Commercial Law, Marketing or

equivalent professional qualification;

- Should have at least 10 years of experience in the field at a senior level in Eastern Africa, some of it with a National Bureau of Standards; and
- Should have highly developed inter-personal skills.

Terms of Reference

The Standards, Trade Regulation and Legislation Specialist, under the direction of the Project Coordinator and in close collaboration with the CTA, other Project Specialists and visiting consultants shall:

- Work closely with national and regional technical committees in harmonizing/developing regional, internationally acceptable Official Standards for all input/output products of the livestock sector for adoption by participating countries;
- Advise and work closely with technical committees to develop livestock classification and grading systems for meat and livestock;
- Work closely with and take a prominent advisory role on national and regional technical committees to harmonize animal health and livestock movement regulations, of international acceptance, throughout the Eastern African region; and
- Perform and undertake other duties and responsibilities as may be directed by the Project Coordinator.

5. Chief Technical Advisor.

Qualifications.

The Chief Technical Advisor must be highly experienced in all fields and facets of livestock and livestock product marketing and in the livestock production and farm servicing sectors both in Eastern Africa and internationally. Specifically he/she should:

- Hold relevant qualifications in Agriculture and Marketing, have a minimum of 15 years livestock and related marketing and project management experience in Eastern African countries, preceded by substantial experience at senior level internationally in livestock production, marketing and trade.

Terms of reference

- Assist the project coordinator establish the office, recruit professional and support staff and establish procedures;
- Work closely with the project coordinator on all management, procurement, implementation and reporting responsibilities
- Assist in and advise on the preparation of annual work plans and budgets;
- Provide technical advice and assistance as required on all phases and facets of project activities and the establishment and maintenance of working relationships with other projects and programmes within the region;
- Participate and contribute as required and appropriate on national and regional technical committees, panels and other forums;
- Assist in the development of training programmes, hands-on-experience opportunities and study tour itineraries;
- Provide assistance in the preparation of consultants' terms of reference and back-up support; and
- Carry out such other responsibilities and advisory functions as may be appropriate and requested.

5 International Consultants

Relevant terms of reference will be formulated by the LMM as required.

<p>RODRIGUEZ MARKETING</p>	<p>entity serving the market from the basis on animal health establish- ment and disease prevention</p>	<p>Results: 2.1.1 Co-ordination of the project's compo- nents is effective</p> <p>Development and MIS and reg. to part- icipate in Livestock Marketing System (LMS) from MIS zone</p> <p>2.2.1 Uniform MIS systems enabled and established in all member countries 2.2.2 Official standards for an agreed pro- duct range of livestock inputs/outputs pro- duced adopted or being developed by every member country - including livestock food, health and veterinary products 2.3.3 Absence and presence indicators of animal products and inputs meet or are in the process of meeting ISO 9000 stan- dards and criteria 2.3.4 Capacity developed to ensure that inputs/outputs conform to official standards</p>	<p>Livestock Marketing Information Systems component</p>	<p>Results: 2.1.1 The Marketing Development Bureau operates an approved MIS and provides competence training to participants from member countries 2.2.2 Official standards for an agreed pro- duct range of livestock inputs/outputs pro- duced adopted or being developed by every member country - including livestock food, health and veterinary products 2.3.3 Absence and presence indicators of animal products and inputs meet or are in the process of meeting ISO 9000 stan- dards and criteria 2.3.4 Capacity developed to ensure that inputs/outputs conform to official standards</p>	<p>Adoption of uniform official standards for livestock and livestock products component</p>	<p>Results: 2.4.1 Professional, trained and multi-disci- plined marketing staff available to provide input commercial delivery of marketing and stock route services and input supply in all member countries 2.4.2 Policy in place allowing privatisation deployment in the abattoir and meat pro- cessing industries of each member country 2.4.3 Market and stock route services pro- vided previously provided</p>	<p>Livestock Marketing Training component</p>	<p>Results: 2.5.1 Regional capacity established to pro- vide training of international standards to staff of the abattoir and processing indus- tries of all member countries 2.5.2 A cadre of trained staff available for health regulatory at harvesting site and in- ternationally recognized health and move- ment permits</p>	<p>Slaughter and Processing Training component</p>	<p>Results: 2.6.1 Adoption of member states of harmo- nized legislation covering animal health and livestock movement, veterinary public health regulatory at harvesting site and in- ternationally recognized health and move- ment permits</p>	<p>Harmonisation of Health and Movement Regulations component</p>	<p>Results: 2.7.1 Established animal health check post which are an integral part of functioning quarantine, disease free zone and stock re- lease systems at national borders, entry and exit points to disease free zones (national embarkation</p>	<p>Establishment of Animal Health Check Points component</p>	<p>Results: 2.7.1 Established animal health check post which are an integral part of functioning quarantine, disease free zone and stock re- lease systems at national borders, entry and exit points to disease free zones (national embarkation</p>
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<p>DDRN- SETTING</p>	<p>Livestock Marketing Management component</p>	<p>Livestock Marketing Information Systems component</p>	<p>Adoption of uniform official standards for livestock and livestock products component</p>	<p>Livestock Marketing Training component</p>	<p>Slaughter and Processing Training component</p>	<p>Harmonization of Health and Movement Regulations component</p>	<p>Establishment of Animal Health Check Points component</p>
<p>Activities:</p>	<p>2.1.1 Prepare the project's annual work plan, budgets and progress reports and report programme components well at the preparatory, planning and implementation stages 2.1.2 Develop an appropriate training programme for market information specialists 2.1.3 Provide MDB with computer, associated equipment and software, transport, printing and technical support 2.1.4 Co-ordinate and provide technical assistance to livestock marketing projects within all member countries</p>	<p>2.2.1 Recruit a TA to update software and develop an appropriate BAC model) to review formal national classification and grading systems 2.2.2 Recruit international TAs as required 2.2.3 Prioritize and adopt list of output/inputs to be standardized 2.2.4 Review present coverage of official public and private sectors of each member country 2.4.2 Advise member countries on the introduction of commercial livestock marketing stock route and quarantine services 2.4.2.2 Advise member countries on the national requirements for submission to a regional part of experts for comparison and evaluation 2.2.5 Hold regional panel meetings (arranged by international advisors if needed) to agree on internationally acceptable classification and standards to be adopted 2.3.2.7 Publish the agreed standards for formal adoption by the participating countries 2.3.3.1 Support the UNIDO HACCP regional project to enable industries to attain ISO 9000 standards and criteria 2.3.4.1 Where necessary assist countries to establish or share Bureau of Standards and identify regional reference laboratories</p>	<p>2.4.1.1 Formulate appropriate standards and courses of practical experience, study tour and theoretical study in Southern Africa (Zimbabwe, Botswana, South Africa and Namibia) 2.4.1.2 Select pre-qualified professional and technical candidates from both the public and private sectors of each member country 2.4.2.1 Advise member countries on the adoption of policies conducive to the commercialisation of marketing services 2.4.3.1 Promote the formation of professional associations to foster the aims of members and provide client protection</p>	<p>2.5.1.1 Extend the training facilities to the abator's training school (building and equipment) 2.5.1.2 Adapt the school's curricula and meet the training objectives 2.5.2.1 Arrange for training and experience in Southern Africa (Botswana, Namibia, Zimbabwe and South Africa) 2.5.2.2 Select suitable candidates and revise if needed 2.5.2.3 Monitor course implementation and review if needed</p>	<p>2.6.1.1 Prepare detailed terms of reference for support services 2.6.1.2 Select regional opening venue, arrange for support services 2.6.1.3 Identify and appoint members of national and regional committees 2.6.1.4 Review existing national legislation and regulation and prepare submissions for consideration at regional level 2.6.1.5 Hold regional meetings (arranged by international advisors if needed) 2.6.1.6 Agree on legislation and regulations to be adopted 2.6.1.7 Publish agreed drafts for formal adoption by the participating countries</p>	<p>2.7.1.1 Design check point facilities 2.7.1.2 Identify important border crossing points and port exits in member countries 2.7.1.3 Verify that quarantine stations, disease free zones and stock route connections are functioning 2.7.1.4 Make final selection of sites 2.7.1.5 Tender for pre-clearance and construction of check points and the supply of equipment 2.7.1.6 Import and hand over the facilities to national authorities and train staff 2.7.1.7 Monitor effectiveness and efficiency of the system</p>	<p>Activities:</p>

Project 3 Enabling national veterinary services to respond to the opportunities of SPS

1. Background

During the field visits to the ten participating countries marketing problems were universally cited as a major constraint to development of the livestock subsector. Within this context animal health issues were amongst the particular problems identified. The EU has agreed to fund the PanAfrican Control of Epizootics Programme (PACE) which is a major and comprehensive animal health programme that will include the ten countries of RELIDEPEA. The objectives of PACE are to:

- Eradicate rinderpest;
- Assist countries in emergency control of CBPP, work towards formulation and implementation of sustainable and appropriate control strategies for the disease and subcontract research and development of an improved CBPP vaccine;
- Assist countries to control other emergency epizootics;
- Strengthen public services and particularly development of National Systems for Epidemiological Surveillance (including capacity for economic analysis, participation in international networks, development of Geographical Information Systems) increasing capacity of laboratory staff and assistance to regional reference laboratories and the vaccine quality control laboratory (PANVAC); and
- Develop animal health delivery systems through privatization, harmonization of laws, tailored delivery systems for remote and pastoral areas and public sector contracting of interventions to the private sector adopting a standard approach in all countries.

Extreme care has been taken to complement and not duplicate the activities of PACE in formulating this Animal Health Project for inclusion in RELIDEPEA.

Discussions on the recently introduced Sanitary and Phytosanitary Agreement (SPS) of the World Trade Organization (WTO) were held with stakeholders during the field phase of the study. They wholeheartedly agreed that coordinated strategies should be introduced and implemented at the national level to enable the region to respond to the opportunities and responsibilities of the SPS. The major aims of this project are to:

- create awareness among decision makers to the opportunities and responsibilities attendant on SPS;
- Prepare the way for certification of national veterinary services as ISO certification will be a major step towards establishing mutual trust between veterinary services in the region and those of importing countries (this is an essential prerequisite of SPS);
- Increase national capacities to analyse and use disease intelligence data in order to provide the required support to intra and extra region livestock trade including risk assessment techniques (this is an essential component of SPS);
- Develop and enable implementation of a coordinated regional plan for establishment and official recognition (by the Office International des Epizooties – OIE) of disease zones for diseases that are a major marketing constraint (this is an essential component of SPS); and
- Address in particular foot and mouth disease (FMD) which will become the major disease constraint to trade when rinderpest has been eradicated (a primary objective of PACE) and CBPP is under effective control (a medium term objective of PACE) (the objectives are to prepare a regional master plan for FMD control, to develop sustainable FMD vaccine delivery systems and assist in establishing FMD-free zones:

Two Components are proposed to fulfil these aims:

- Establishing an enabling environment for implementation of the SPS agreement; and

- Preparing for foot and mouth disease control.

Successful implementation of these components will substantially improve access of the Region to the international livestock trade area and thereby increase foreign exchange earnings which is a major policy objective of national governments.

The third Component covers Newcastle disease control in village flocks. This was identified as a priority activity during country visit and has been included in the Project as it will increase household incomes, improve food security and target benefits towards women. This Component will develop national capacities to produce 12 thermostable vaccine and identify and implement sustainable vaccine delivery systems incorporating farmers' groups, NGOs and private veterinary practices. The component will increase supplies of poultry and eggs to domestic markets and thus contribute to improved marketing of livestock and livestock products.

The beneficiaries of the SPS project will be:

- Livestock producers and particularly those in the pastoral areas that are the major source of trade stock through providing access to remunerative markets and reducing losses due to disease;
- Dairy producers through improved control of FMD when the regional master plan for FMD control is implemented; and
- Village poultry owners through improved, cost effective and sustainable control of Newcastle disease (it is estimated that by the end of the 3-year Newcastle disease control Component a total of 100 000 rural families will have benefited directly from the component but the number of beneficiaries will continue to increase with time as the method is extended by national governments, NGOs, farmers' groups and private practitioners to more and more villages).

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Project purpose

Improved regional disease control capability for selected priority diseases resulting in improved access to market outlets both within and outside the region.

2.3 Project objectives

- Potential for disease zonation understood and establishment of disease zones commenced;
- Capacity of national veterinary services enhanced and process of ISO certification commenced;
- Formulated regional policy for targeted FMD control enabling the establishment of FMD-free zones; and
- Reduced incidence of Newcastle disease and poultry mortality.

2.4 Project results

The results of Project implementation will be:

- National decision makers aware of the trade opportunities offered by SPS and agree to participate in a regional disease zonation programme;
- Detailed regional picture of the epidemiology of selected priority diseases developed;
- National veterinary services assisted to embark on pathway for ISO certification and their capacity enhanced;

- Regional plan for disease zonation implemented;
- A good understanding of the distribution of FMD virus types and subtypes;
- National veterinary services establish FMD-free zones;
- Identification of sustainable FMD vaccine delivery systems;
- Quality control for FMD vaccine established in Region;
- Increased awareness of the benefits of I2 Newcastle disease vaccination;
- Developed capacity to produce I2 vaccine in Region;
- Use of I2 vaccine in village flocks;
- Estimates of the socio-economic benefits of I2 Newcastle disease vaccination in village flocks; and
- Mechanisms developed and in use for full cost recovery from beneficiaries.

2.5 Activities

These are fully covered in the descriptions of each Component.

2.6 Objectively verifiable indicators

These are fully covered in the descriptions of each Component.

3. Assumptions

The assumptions used in formulating the project were;

- CPLIU mechanisms are in operation;
- Governments continue to support activities after project completion;
- Close collaboration and cooperation between international organizations (DIE, FAO, WTO/SPS, ISO) and facilitating institutions (EU, FAO/IAEA) and national technical and political institutions on levels of trust and commitment;
- No action will result in loss of trade and markets;
- PACE operational and successful;
- Serum banks exist within each country and the Project can gain access to data and sera;
- It will be possible to identify target groups that consider FMD and Newcastle disease to be serious problems and are willing to pay a market price for their control;
- It will be possible to identify private players prepared to distribute and administer FMD and I2 vaccines;
- PARC/PACE improve capability of national veterinary services to the extent that they can provide the necessary support to FMD-free zones;
- A suitable laboratory can be identified for upgrading as the regional FMD vaccine quality control laboratory;
- A suitable laboratory can be identified for upgrading as the regional Newcastle disease centre;
- A field study is able to quantify the socio-economic benefits of I2 vaccination.

4. Implementation

4.1 Detailed features

Technical assistance will be provided by specialists drawn from the Region or overseas depending upon qualifications and experience of candidates. Should an overseas specialist be selected for a post an important item in his/her terms of reference will be to train a counterpart officer. Equipment and supplies will be provided as required to enable project activities and to strengthen capability at selected regional centres. The Project has a large training element through national and regional workshops and sponsoring fellows for post graduate training at a regional university.

4.2 Organization and implementation features

The Project will be coordinated and facilitated by the CPLIU particularly in policy issues, preparation and approval of AWPBs, release of funds and organization of workshops and meetings.

Each specialist will produce an inception report, quarterly reports and an end of assignment report in a format determined by the CPLIU.

National activities will be carried out by national officers, institutions and laboratories as appropriate. National activities will be under the control of National Project Representatives who will coordinate closely with national authorities and the relevant Regional Centre. Funds will be provided for selected national activities.

4.3 Costs and funding

Total costs are estimated at Euro 4 037 225. Financing will be from the Programme budget.

4.4 Special conditions

The CPLIU and PTC must have been established.

PACE must be operational and successful.

5. Factors ensuring sustainability

5.1 Policy support

The Project will require strong and continuing support from policy makers particularly at the level of the IGAD Council of Ministers to ensure that participating countries support the principles of:

- Full integration into SPS including disease zonation, transparency of disease information systems and certification of national veterinary services;
- Upgrading and combining post graduate courses in epidemiology and use of animal health data to develop a regional training programme that meets the real needs of veterinary services in the context of SPS;
- Controlling FMD as this will be the major disease constraint to trade when rinderpest has been eradicated and CBPP is under control;
- Establishment of a regional FMD quality control laboratory; and
- Control of Newcastle disease in village flocks.

5.2 Appropriate technology

Modern data management and analysis methods and other tools will be used to investigate the potential for establishment of disease zones and to develop optimal and sustainable control strategies for FMD control.

The Newcastle disease component will use a thermostable vaccine that is very simple to administer and is the most appropriate technology available. In the medium term the Component will assist in the establishment of small scale vaccine production units thus easing the burden on national transport systems.

5.3 Environmental protection

The main thrust of the SPS and FMD components is to facilitate the Marketing Project by removing or mitigating important disease constraints and enabling expansion of regional and export trade. These Components will therefore stimulate offtake and help to counter any tendency for increased livestock population due to the disease control activities of PACE.

The Newcastle disease Component will reduce mortalities in village flocks but this is not expected to result in significant increases in the numbers of birds as home consumption and commercial offtake is likely to increase.

The Project will lead to an overall increase in livestock production and productivity and reduce the environmental cost per unit of production.

5.4 Socio-cultural aspects: women in development

Women and children are largely responsible for raising village poultry and selling produce therefrom. The Newcastle disease component targets benefits women. Children and all community members will benefit from the increased availability of high quality protein in eggs and chicken meat.

To the extent that women are involved in the management of dairy cattle and sale of milk the FMD component will benefit women.

The SPS component will assist the Marketing Project and contribute towards improved market access and better producer prices. These results will *inter alia* benefit women through improved family incomes and food security.

5.5 Institutional and management capacity

The Project will make major contributions to the technical competence of national and regional institutions. Capacity building of national veterinary services and epidemiology units through regional fellowships and training courses as well as working towards ISO certification will enable countries to respond to SPS.

The data collection and analysis of serological and field data and practical application of findings to development of regional master plans for disease zonation and FMD control will closely involve national officers and thereby increase their capacity. The serological assays will involve training of staff at national serological laboratories and increase the capacity of these institutions.

The Newcastle disease component has a large capacity building component through establishing a specialist regional I2 vaccine centre, training farmers' groups and involvement of NGOs in administering and later producing the vaccine.

5.6 Financial and economic analyses

Financial and economic analyses are included for each individual component.

6. *Monitoring and evaluation*

6.1 Monitoring indicators

The improvement in access to remunerative export markets and to increased trade activity at the regional and national levels and improvements in incomes of (mainly pastoral) families will be the best indicators of the progress achieved by the Project.

The particular indicators to be used would be:

- Numbers of animals marketed and mean producer prices by species and grade;
- AGENDA signed;
- Master plan prepared for disease zonation;
- Improved capacity of national veterinary services and epidemiology units in context of SPS and movement toward or achievement of ISO certification;
- Master plan prepared for FMD control;
- Sustainable FMD vaccine delivery systems identified;
- Reduced incidence of Newcastle disease; and
- Establishment of a regional I2 vaccine production centre.

6.2 Reviews and evaluation

The Project will be subject to an independent Mid-term Review and a completion review.

Component 1 Establishing an enabling environment for implementation of the SPS agreement

1. Background

The legal framework for International trade in livestock and livestock products is now the Sanitary and Phytosanitary Agreement (SPS) of the World Trade Organization (WTO). The aim, *inter alia*, of the SPS is to liberalize trade in livestock and livestock products and ensure that any restrictions imposed (for example by importing countries) are based upon rational scientific evaluation of risks. SPS regulations aim at inhibiting unjustified use of disease for the purpose of trade restrictions.

National veterinary services must respond to the provisions of SPS in order to take advantage of the opportunities it offers and manage the threats of increased global trade in livestock and livestock products. Failure of a country to respond to SPS will greatly compromise its ability to access international markets for livestock and livestock products.

SPS includes the provision that importing countries shall recognize the concepts of disease-free zones or zones with low disease prevalence.

SPS also allows for declaration of regions for the purposes of disease control. Adjacent countries or parts of countries which have the same health status and similar disease controls can be treated as a region. The region must be clearly demarcated by natural, artificial or legal boundaries which must be effective. The region must have a common control policy for the specific disease. There must be a uniform effective system of epidemiological surveillance throughout the region and an official sanitary agreement between the countries involved.

The PACE project will enhance national disease surveillance and monitoring capability, concentrating upon rinderpest, CBPP and include other diseases of importance. The aims of these surveillance activities are directed towards disease control/eradication: promote the eradication of rinderpest from Africa; enable participating countries to proceed along the OIE pathway for declaration of freedom from rinderpest; and determine the major epidemiological features of CBPP prior to formulating control/eradication policies for this disease. This Component will access the epidemiological data collected by PACE, subject this to further analysis with the aim of taking a regional perspective to disease occurrence, livestock movement patterns, distribution of livestock production systems, natural barriers to disease spread and climate patterns in order to identify regional and national opportunities for disease zonation according to OIE guidelines. The responsibility of providing disease information to satisfy SPS requirements lies with the declaring veterinary service.

The application of the principle of zoning is a pathway for veterinary services to facilitate adoption of SPS regulations. Zoning requires the implementation of internationally accepted standards for defining zonal boundaries, legal competence, duration of disease free period, standards of surveillance, use of buffer zones and quarantine procedures. Countries are encouraged to harmonize their SPS requirements. For the Eastern Africa region, with its largely uncontrolled livestock movement and frequent transborder spread of disease, the concept of zoning and regionalization and in particular the establishment of disease free zones, are therefore essential first steps to be taken if livestock marketing and trade are to be developed.

Countries wishing to establish disease free zones must have an effective veterinary organization and infrastructure. The veterinary services must be able to provide accurate information of the health, origin and quality of a livestock commodity and national surveillance, monitoring and control systems must be open to scrutiny. Certification of veterinary services according to ISO 9000 / EN 45005, an initiative of the OIE, will via reviews (of personnel, facilities, technologies used, organizational structure and procedures) help services to identify and correct deficiencies and thus significantly improve their efficiency. Certified services will have comparative advantages and this will be of great assistance in gaining the trust of importing countries.

Considerable investment and effort will be required to achieve the goal of certification of a national veterinary service. Procedures and steps required are well described in the OIE International Health Codes (Chapter 1.4.4), in ISO/EN regulations and in the WTO/SPS Agreement. The Component will assist in building up and establishing the first strategic elements of a modernised veterinary system within a longer process leading to zonation and the certification of these zones. A key element is to ensure that the necessary personnel, material resources and policy instruments are in place and operational at the national and regional levels for the collection, compilation

analysis, interpretation and reporting of disease occurrence data, referred to as Disease Information and Intelligence Systems (DIIS).

DIIS are the necessary, logical and concerted extension of PACE's national disease surveillance and monitoring activities which will concentrate on rinderpest, CBPP and other diseases of importance as well as complementary activities in training and certification. It extends from the PACE approach of notification for disease control purposes by putting disease control into the context of regulations for trade. These regulations require notification of a wider range of diseases and include conditions for auditing (certification of zones and services). Only if these standards and procedures are fulfilled can the region take full advantage of livestock and livestock products.

The required animal health services structure is not simply an extension of the old system but asks for completely new structures, procedures and skills as well as commitments and inputs. To commence this process, national and regional capabilities must be linked with international supervisory, certifying and auditing authorities to jointly build this new structure.

Epizootic disease control in the region is hampered by the inability of the Muguga laboratory (regional reference laboratory for rinderpest and CBPP) to examine field samples due to lack of funds for purchase of test consumables and reagents,

The beneficiaries of this component will be livestock owners, primarily in the pastoral areas, who will gain from improved access to remunerative markets.

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Component purpose

National decision makers aware of trade opportunities offered by SPS, disease zonation implemented, raised capability and certification of national veterinary services.

2.3 Component objectives

Component objectives are:

- Potential for disease zonation understood and establishment of disease zones commenced;
- Capacity of national veterinary services enhanced and process of ISO certification commenced.

2.4 Results

- National policy makers aware of the trade opportunities offered and the standards required by SPS disease zonation and the additional measures;
- Epidemiological data and serum samples collected by PARC/PACE analysed and integrated with other livestock data. to map out potential cross border and other disease zones;
- National veterinary services on pathway for ISO certification and their capacity enhanced;
- Regional disease zonation plan endorsed by national governments;
- Implementation of the disease zonation plan commences.

2.5 Activities

Result 1

- Recruit SPS specialist;
- Hold a workshop for senior decision makers, including Ministers, Technical Directors, international agencies (EU USAID, DfID, GTZ, FAO, WTO and OIE);
- Hold technical meetings to formulate an agenda for certification of veterinary services and establishment of disease zones; and
- All participating countries sign this agenda.

Result 2

- Develop methodology for data analysis and identify the 3 or 4 priority diseases to be addressed;
- Establish links with PACE and define methods for accessing disease intelligence data from the regional disease information centre and from national veterinary services;
- Evaluate national serological laboratories;
- Provide required equipment and consumables to national serological laboratories;
- Place FAO/IAEA consultant to conduct required serological tests at the national laboratories using sera in PARC/PACE serum banks and increase local expertise and capacity;
- Select and contract a specialist GIS company or institution to digitize and plot results;
- Compile and analyse the PACE data and serological results in concert with other data including such as natural barriers to spread of disease, climatic data, distribution of livestock populations and production systems and livestock movement patterns using *inter alia* GIS; and
- Prepare report of findings

Result 3

- Recruit ISO advisory specialist;
- Evaluate national veterinary services to determine and advise on status re ISO certification;
- Recruit training specialist;
- Combine and upgrade post graduate courses in veterinary epidemiology and disease intelligence at Nairobi, Debre Zeit and maybe Khartoum Faculties and consider combining and upgrading post graduate courses in veterinary public health;
- Supply equipment for the new course;
- Fund the first group of postgraduate students aiming for at least one participant from each participating country; and
- Provide training for staff in national veterinary services/epidemiology units to equip them for ISO certification;

Result 4

- Using the findings of analysis of PACE and serological data prepare a master plan for disease zonation; and
- Use the services of the selected specialist company or institution to assist in plotting potential disease zones.

Result 5

- Have AGENDA signatories sign a memorandum for implementation of the master plan.; and
- Advise participating national veterinary services to obtain funds and other inputs and commence phased and coordinated implementation of the regional zonation agreement

2.6 Objectively verifiable indicators

For Component Purpose.

- Decision makers in 10 countries understand SPS and at least five agree to establishment of disease zones and at least two veterinary services certified by the end of Year 5.

For Results

Result 1

- National decision makers decided to establish disease zones; and
- AGENDA signed as evidenced by information to OAU/IBAR and at least five countries agree to participate in regional disease zonation programme.

Result 2

- Detailed regional picture of epidemiology of selected diseases developed;
- Detailed picture developed for CBPP, FMD (untyped) and RVF from serology and PACE epidemicsurveillance data and for PPR, CCPP and sheep and goat pox from PACE data as evidenced by report of consultant and GIS contractor.

Result 3

- National Veterinary Services on pathway for ISO certification and their capacity enhanced;
- At least five countries have initiated ISO certification and component trained staff are in post by end of Year 5. Sources of verification would be reports from consultant and national veterinary services and report from university on possession of M.Sc. diploma and working in national veterinary epidemiology units.

Result 4

- Regional disease zonation master plan developed. Indicators would be regional master plan finalized by end of Year 2 as evidenced by report of consultant and the master plan document.

Result 5

- Regional master plan for disease zonation is implemented
- Commencing in Year 3 at least five countries commence establishment of zones for one priority disease as evidenced by signed memorandum, reports from national veterinary services and correspondence with OIE.

3. Assumptions

3.1 Assumptions

- CPLIU mechanisms operative
- Governments committed to provide funding for a continuation of Component activities after the end of the Component period;
- Close collaboration between international certification institutions (OIE, WTO/SPS, ISO) and facilitating institutions (EU, FAO, IAEA) and national technical (veterinary) and political institutions on level of trust and commitment;
- No action will result in loss of trade and markets; and
- PACE operational and successful.

3.2 Risks and flexibility

The Component aims to initiate and assist in bringing about radical changes in and upgrading of the regional animal health sector. There may be resistance to the rapid and fundamental changes envisaged. The coordinator in close collaboration with the CPLIU and its link with IGAD and Councils of Ministers would make vigorous efforts to encourage acceptance and implementation of the required change by any dissenting national veterinary service. Failing this Component activities would be limited to those countries that agree to participate.

4. Implementation

4.1 Detailed features

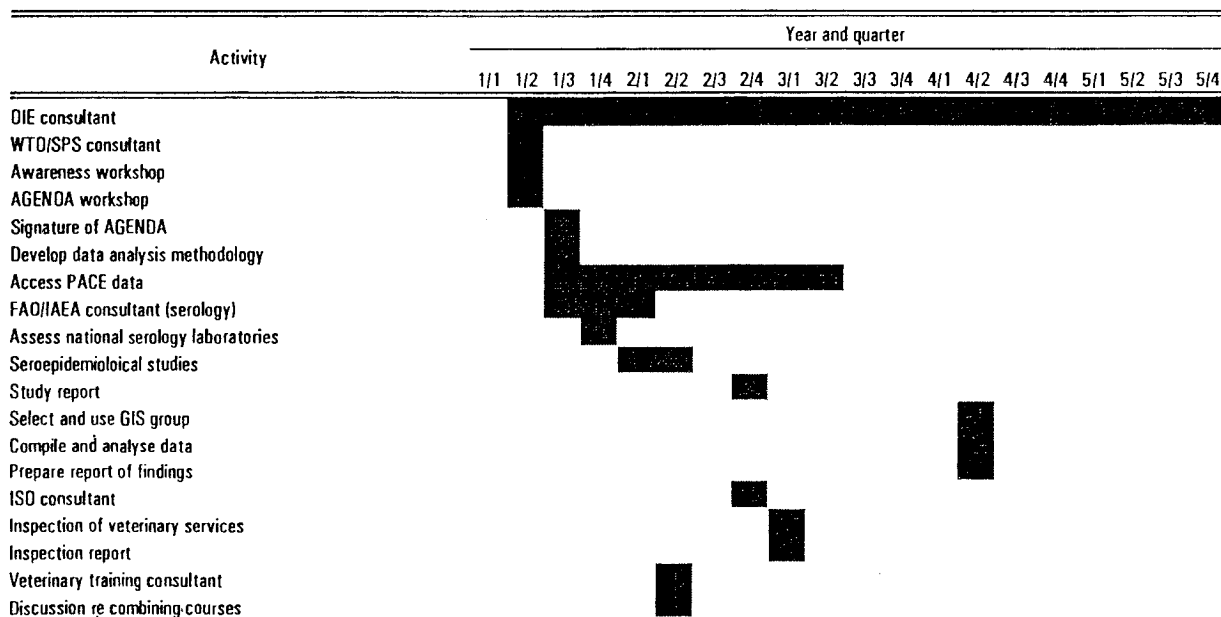
- The Component will be managed by a senior Coordinator with significant experience in application of OIE regulations
- Close contacts and collaboration with the WTD/SPS, DIE, FAO, ISD/EN;
- Close collaboration with PACE; and
- Close collaboration with FAD/IAEA Joint Division based in Vienna.

4.2 Organization and implementation features

- The Component will be assisted and guided by the Programme Coordination Unit (CPLIU);
- Annual work plans and budgets (AWPB) will be prepared at least four months before the start of each financial year;
- The AWPB will be examined and approved (as appropriate) by the CPLIU;
- The CPLIU will inform the PTC of approved AWPBs and submit to RAD or DRAD for approval and recommendation for release of funds;
- Quarterly progress reports will be submitted to the CPLIU for comment and necessary action;
- National coordinators will be appointed to promote activities in participating countries; and
- Policy constraints at the national level shall be reported to the CPLIU for onward transmission to IGAD and National Councils of Ministers for resolution.

Implementation schedule

The project will be implemented over a 5-year period.



Activity	Year and quarter																				
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4	
Order and supply equipment																					
Training report																					
Post graduate training																					
ISO/EN consultant																					
Training of national staff																					
Pathway to ISO certification																					
Prepare regional zonation plan																					
Use GIS specialists																					
Signing of memorandum																					
Implementation of zonation																					

4.3 Costs and financing

Total base line costs are Euro 2.089 million. Financing will be by the Programme budget.

4.4 Special conditions

- CPLIU must have been established;
- PACE must be operational and successful; and
- A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

5. Factors ensuring sustainability

5.1 Policy support

The Component requires strong support from policy makers (particularly IGAO, OAU/IBAR and Councils of Ministers) to ensure participating countries support the principles of certification and zonation and provide the necessary resources to implement them.

5.2 Appropriate technology

Not applicable

5.3 Environmental protection

This Component is expected to increase productivity in the disease free zones but not result in increases in the numbers of livestock. The environmental cost per unit of output will be decreased.

5.4 Socio-cultural aspects: women in development

Recruitment of personnel will be on an equal opportunity basis. Successful establishment of disease zones will facilitate trade in livestock and benefit livestock owning communities particularly in the pastoral areas where women play an essential role and will benefit from increased revenue from livestock sales.

5.5 Institutional and management capacity.

The Component will greatly improve the capacity and organization of veterinary services within the region.

The Component will build capacity in:

- Compliance with OIE standards and regulations;
- Certification of veterinary services;
- Data analysis and application of findings particularly to disease zonation; and
- Serological testing.

5.6 Financial and economic analyses

The eventual beneficiaries of Component activities will be livestock producers through access to improved marketing opportunities and increased livestock productivity in the disease free zones. Veterinary services will benefit from improved efficiency, application of modern techniques, increased capacity and significant institutional strengthening.

The problems met by Ethiopia and Northern Somalia as a result of the blanket ban¹ on imports by Saudi Arabia due to an outbreak of Rift Valley fever illustrate the benefits of SPS and certification of veterinary services. The assumptions are:

- An epizootic of RVF occurs once every 15 years;
- Discounted costs and benefits were streamed over 15 years at a discount rate of 10 per cent assuming an RVF epizootic occurs in Year 15;
- A ban leads to a fall in small ruminant exports of 65 per cent based on data from Berbera in Somalia of 2.81 million exported in 1997 to 0.96 million in 1998 and for Ethiopia from 0.50 million to 0.33 million;
- Euro 15 as the mean value of one small ruminant gives a total loss of Euro 54.375 million over one year;
- The costs of complying with SPS are taken as the component costs spread over five years plus the costs of operating and staffing upgraded national and subnational epidemiology units; and
- There would be 12 epidemiology units in Ethiopia (11 regional plus one federal) and three in Northern Somalia and the annual operating costs for one unit is Euro 26 500 per year.

With these assumptions the results obtained for Ethiopia and Somalia alone (which grossly overestimate the costs as all costs of the SPS component are included) were:

- B:C - 2.68:1
- NPV - Euro 9 million

6. Monitoring and evaluation

6.1 Monitoring indicators

- AGENDA signed;
- Understanding of all SPS provisions by senior decision makers;
- Master plan prepared for regional disease zonation;
- National veterinary services assessed for ISO/EN certification;
- Personnel trained for enhanced management of veterinary services;
- National veterinary services embark on pathway for OIE certification of disease free zones;
- Personnel trained in ISO/EN certification;
- Procedures for ISO/EN certification commenced; and
- Numbers of field samples tested by regional reference laboratory.

¹ The ban was contrary to the provisions of SPS (and may therefore be considered to be "illegal") as the occurrence of RVF was geographically very limited in these two countries

6.2 Reviews and evaluation

The Project will be subject to a *Mid-term Review* and completion evaluation by an independent consultant.

Component 2 Preparing for foot and mouth disease control

1. Background

Foot and mouth disease (FMD) occurs throughout the region, affecting mainly cattle although other ruminants including Camelidae as well as pigs are susceptible. FMD is a serious disease in crossbred and exotic stock (as a rule of thumb the higher the proportion of *Bos taurus* genes the more severe the clinical disease) and tends to be enzootically established in many *Bos indicus* populations where clinical disease tends to be relatively mild.

The control of FMD is complicated by several factors and includes:

- The existence of 7 types of FMD virus: O, A, C, SAT1, SAT2, SAT3 and Asia1;
- The lack of cross-immunity between these types;
- Antigenic shift and drift of FMD viruses. New subtypes of virus evolve which may not have cross immunity with existing sub-types. This means that virus types and sub-types that occur in the field must be continually monitored and the antigenic composition of vaccines adjusted accordingly;
- Vaccines are relatively expensive, in the order of US\$ 2 per dose, depending upon numbers of virus types and sub-types included. This is equivalent to some 4-8 litres of milk (at current farm gate prices in Kenya and Tanzania) or some 18 litres of milk for one year's protection; and
- Effective protection of a population requires at least two, better three, vaccinations per year.

FMD causes large financial and economic losses to the livestock sector:

- High morbidity rates in susceptible *Bos taurus* and *Bos taurus* crosses (generally in dairy herds) with attendant loss of production (milk and live weight), abortion in some animals, mastitis, foot infections and in a proportion of cases these may proceed to chronic infections of the udder, foot and uterus;
- Neonatal mortality which from recent experience elsewhere can be quite high; and
- Inability to export livestock and livestock products to potentially remunerative markets (for example, Europe and the Middle East) as a result of bans of imports from countries with FMD.

Foot and mouth disease will become a major constraint to expansion of international trade in livestock and livestock products out of rinderpest-free and CBPP-free zones (as planned in Component 1 of this Project). This Component is designed to study the epidemiology and other features of FMD and prepare a practical and cost effective regional policy for control of the disease taking into account among other factors livestock production systems, risk from FMD in different areas of production and internal and export market potential.

The beneficiaries of this project will be cattle owners in areas and production systems that are included in the regional FMD control programme (primarily dairy producers) and are located in FMD-free zones (primarily pastoralists and agropastoralist). These beneficiaries will gain from reduced losses due to clinical FMD and improved access to a broader range of more remunerative markets for livestock and livestock products.

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Component objective

The Component objective is:

- Formulated regional policy for targeted FMD control enabling the establishment of FMD-free zones.

2.3 Results

The anticipated results are:

- A good understanding of the prevalent FMD virus types and the spatial distribution of each and zones by FMD risk within the region; and
- Identification of sustainable model delivery systems for FMD vaccine;

2.4 Activities

The activities to be carried out are:

- Recruitment of an FMD expert with experience in control of the disease in the Region and an understanding of regional livestock production systems;
- Recruitment of a socio-economist and a cost recovery expert;
- Hold technical meeting with Directors of Veterinary Services (DVS) to agree on an active programme of collecting samples from all suspected outbreaks of FMD and on a fee to be paid to national veterinary services by the component for each sample collected;
- Sign contract for testing field samples with the OIE/FAO World Reference Laboratory for FMD (WRL);
- Supply specimen collection and transport requirements to national veterinary services;
- Provide funds to cover costs of sample collection and transport to the WRL;
- Develop protocol for conducting serological study;
- Select and contract a laboratory to undertake serological testing;
- Select serum samples from national serum banks established by PARC/PACE and submit for screening (first for non structural proteins followed by testing of all positive sera for SAT1, SAT2, A, O and C antibodies);
- Contract a GIS specialist or company to digitize and plot results;
- Analyse findings of serological study and the results from the WRL in order to plot results;
- Prepare report of findings and recommendations including a regional plan for FMD control specifying the type of vaccine and types and subtypes by location;
- Use the results of the FMD studies to assist the SPS Component (Component 1) in identifying potential FMD-free zones;
- Advise and assist national veterinary services to establish disease free zones;
- Hold workshops with stakeholders to identify sustainable FMD vaccine delivery systems;
- Examine all costs of vaccination including CIF price, cost of cold chain, losses due to wastage and breakage, cost of administering the vaccine and margin for veterinarians for different production systems in order to develop a suitable price structure;
- Organize meetings of DVSs to obtain agreement that all batches of FMD vaccine used must have passed a certified quality control process;
- Select a regional FMD vaccine quality control laboratory (QCL);
- Liaise with QCL to determine requirements for FMD vaccine testing;
- Agree a cost recovery policy to enable QCL to offer sustainable FMD testing services;
- Supply QCL with required equipment and supplies;
- Hold 2-week regional FMD ELISA training workshop at Muguga for participants from each country to be run by a specialist nominated by FAO/IAEA Joint Division; and

- Supply ELISA kits and training to national laboratories to enable primary diagnosis and virus typing.

2.5 Verifiable indicators

For Objective

Formulated regional policy for targeted FMD control enabling the establishment of FMD-free zones. The indicator would be the policy document.

For Results

Result 1

Good understanding of prevalent FMD virus types and spatial distribution and zones by FMD risk, within the region. The indicator would be the report of the FMD specialist.

Good understanding obtained as indicated by the results of the serological study, submission of field samples to the WRL and the result of the WRL and the report of the consultant.

Result 2

Identification of sustainable model delivery systems for FMD vaccine. The indicator would be the report of the Socio-Economist.

Zones are established as indicated by reports from national veterinary services and the OIE and from the SPS Component.

Result 3

Identification of sustainable FMD vaccine delivery systems. The indicator would be that sustainable delivery systems are in use as shown in the reports of the community (socio-economic) specialist and cost recovery expert.

Result 4

Regional centre for vaccine quality control established. The indicator would be the presence and use of the laboratory as demonstrated by physical presence of FMD testing facility, results of testing vaccine samples, the numbers of samples tested and payments made by the component to national veterinary services.

3. Assumptions

3.1 Assumptions

- Serum banks exist within each country and the Project can gain access to samples of sera for FMD antibody assays
- It will be possible to identify target groups that consider FMD to be a serious constraint and are willing to pay a market price for control of the disease;
- It will be possible to identify private players prepared to distribute and administer FMD vaccine; and
- PARC and PACE improve capability of national veterinary services to the extent that they can provide the necessary support to FMD free zones.

3.2 Risks and flexibility

Vaccine delivery systems may entail too high a cost at the village level in which case alternative delivery mechanisms must be developed

Activity	Year and quarter																			
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4
Training in FMD ELISA		■																		
Supply ELISA kits			■				■													

4.3 Costs and financing

Total costs are estimated at Euro 1 213 200. Finance will be provided by the Programme budget. IBAR will provide office space.

4.4 Special conditions

- The CPLIU must have been established and be fully functional before the Project can start;
- A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

5 *Factors ensuring sustainability*

5.1 Policy support

All or a majority of countries in the Region must have a commitment to: reducing the adverse effects of FMD on production and trade developing and utilising appropriate and sustainable FMD vaccine delivery systems through the private sector; and the eventual establishment of FMD free zones.

5.2 Appropriate technology

Although sophisticated vaccines will be used in the Project the delivery systems identified and used in vaccine delivery will be sustainable.

5.3 Environmental protection

It is not anticipated that the Project will lead to increased numbers of cattle. Target cattle populations will be healthier and more productive so that the cost per unit of output will be reduced.

5.4 Socio-cultural aspects: women in development

To the extent that women are involved in the management of dairy cattle they will benefit from the Component. The benefits accruing from improved trade opportunities will accrue in part to women through their close involvement with management and in some cases sale of livestock as well as from increased family incomes.

5.5 Institutional and management capacity

The Component will be assisted and supported by the CPLIU.

The Component will train a regional virologist in FMD control, development and implementation of sustainable delivery systems, interaction with target groups, FMD epidemiology and seroepidemiology.

The Component will also develop capacity at the national level.

5.6 Financial and economic analyses

There are no directly quantifiable financial and economic benefits at this stage. The development of a well conceived and sustainable policy for regional FMD control and the integration of this into plans for the establishment of disease zones would be a major development step. The successful implementation of these plans would lead to very significant benefits to the livestock subsector and to producers in all scales of enterprise through increased productivity and access gained to lucrative international markets.

6 *Monitoring and evaluation*

6.1 Monitoring indicators

- Regional policy document for targeted control of FMD;
- Understanding of the epidemiology of FMD;
- Categorization of the Region into FMD zones, by risk; and
- Sustainable FMD vaccine delivery systems identified.

6.2 Reviews and evaluation

A Mid-term Review will be conducted in month 18 and a terminal review within 6 months of the end of the Project.

Component 3 Newcastle disease control

1. Background

Village poultry are important throughout the region, provide eggs and meat and thereby contribute high quality protein to the diets of rural families. They are generally the responsibility of women and children. Although production is low, so are the costs involved as the bird obtain the vast majority of their nutrient requirements by scavenging.

Newcastle disease is present throughout the region, is the major disease of poultry and leads to significant mortality during epizootics. Two thermostable vaccines have been developed, V4 (under commercial license) and I2 (not licensed, vaccine seed stock is available free of cost). Both vaccines are easy to administer and provide solid immunity. I2 vaccine can be produced locally. Production of I2:

- Is not complicated as it involves the inoculation of and the harvesting of virus (vaccine) from eggs;
- Does not require sophisticated equipment; and
- Is cheap -- some 5000 doses of vaccine can be obtained from one egg.

The production costs of I2 vaccine are negligible and estimated as a maximum of Euro 2.5 per 100 doses, including ex-factory price delivery, administration, margin and allowance for wastage. Thus 100 birds can be vaccinated, giving protection against Newcastle disease for 12 months, for the equivalent of the sale price of 30 eggs, or 1 adult bird (using current village level prices in Kenya).

The widespread use of this vaccine, which does not require an expensive cold chain, would remove one important disease constraint and lead to improved production from poultry. This would be to the benefit of the rural populations as a whole but to women in particular and would contribute to improved food security.

Although V4/I2 initiatives are being taken in the region (for example Tanzania is currently field testing the vaccine) progress is slow and the current Project aims to lead, coordinate and hasten adoption of the I2 vaccine.

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Component purpose

Improved control of Newcastle disease using sustainable mechanisms.

2.3 Component objective

The Component objective is:

- Reduced incidence of Newcastle disease and poultry mortality.

2.4 Results

The anticipated results are:

- Increased awareness of the benefits of the thermostable I2 vaccine;

- Capacity building to produce the I2 vaccine;
- Use of vaccine by owners of village flocks;
- Estimates of the socio-economic benefits of use of I2 Newcastle disease vaccine in village flocks; and
- Mechanisms developed and in use to recover the costs of the vaccine from the beneficiaries.

2.5 Activities

- Recruitment of a specialist virologist, community specialist and a cost recovery specialist;
- Assessment of vaccine production laboratories in the region and the selection of one to produce the vaccine initially
- Provision of equipment (incubator, candling lamp, refrigerator, minor items) and vaccine packaging materials to selected laboratories;
- Train staff of the selected laboratory in the production of I2 vaccine;
- Train trainers so the chosen laboratory can later train national staff and stakeholders in vaccine production, storage handling and delivery;
- Train staff in drop inoculation;
- Hold 1/2-day workshops to explain the advantages of the vaccine and develop interest in its use in villages;
- Conduct a 2-year longitudinal study to quantify the benefits of I2 vaccination of village flocks;
- Organize field days to extend the intervention to additional village flocks;
- Establish a cost structure for the vaccine that recovers the cost of production and distribution and gives an incentive to the vaccinator;
- Distribute the vaccine through projects, NGOs and private sector; and
- When the system has been fully accepted and if demand exists establish vaccine production units and train staff at the NGO and village levels.

2.6 Verifiable Indicators

For Objectives

The objective of the Component is reduced incidence of Newcastle disease and poultry mortality. The most appropriate indicators would be (1) the results of the Component's Newcastle disease monitoring activities in areas where the vaccine is used and when the vaccine has found wide acceptance and use in an area, (2) Government's disease occurrence reports for that area.

For Results

Result 1

Increased awareness of the benefits of the thermostable I2 vaccine. Indicators would include the numbers of participants at workshops and training sessions and the volume of publicity materials distributed and increased numbers of birds vaccinated as detailed in Livestock Department reports, Project Mid-term Review and project completion report.

Result 2

Capacity building to produce the I2 vaccine. Indicators would include the numbers of laboratories producing I2 vaccine as detailed in project and laboratory reports.

Result 3

Use of vaccine by owners of village flocks. Indicators would include receipts of I2 sales at the Regional Centre and national laboratories, numbers of birds vaccinated as determined from project and laboratory reports.

Result 4

Estimates of the socio-economic benefits of Newcastle disease vaccination in village flocks. The indicator would be an understanding of these benefits as evidenced by the report of the socio-economic study produced by the regional centre.

Result 5

Mechanisms developed and in use to recover the costs of the vaccine from the beneficiaries. The indicators would include the implementation of cost recovery and the percentage of vaccine costs that are recovered from beneficiaries as detailed in the report of the cost recovery expert and project reports.

3. Assumptions

3.1 Assumptions

- Newcastle disease is recognized as an important constraint by village poultry owners;
- The private sector and NGOs are willing and able to deliver the vaccine to the village level;
- A suitable cost structure can be agreed;
- A suitable regional Newcastle disease vaccine production laboratory can be identified; and
- A cost recovery system at the producing laboratories that assures funds from vaccine sales are recycled back for Newcastle disease vaccine production.

3.2 Risks and flexibility

- Vaccine delivery systems may demand too high a cost at the village level in which case alternative delivery mechanisms must be identified that would most likely concentrate on NGOs and farmers' groups;
- The cost recovery system at the regional and national vaccine production laboratories diverts revenue to other uses thereby compromising Newcastle disease vaccine production. If this becomes a problem then it must be drawn to the attention of policy makers and if no solution is forthcoming alternative vaccine sources must be developed (for example import from a neighbouring country).

4. Implementation

4.1 Detailed features

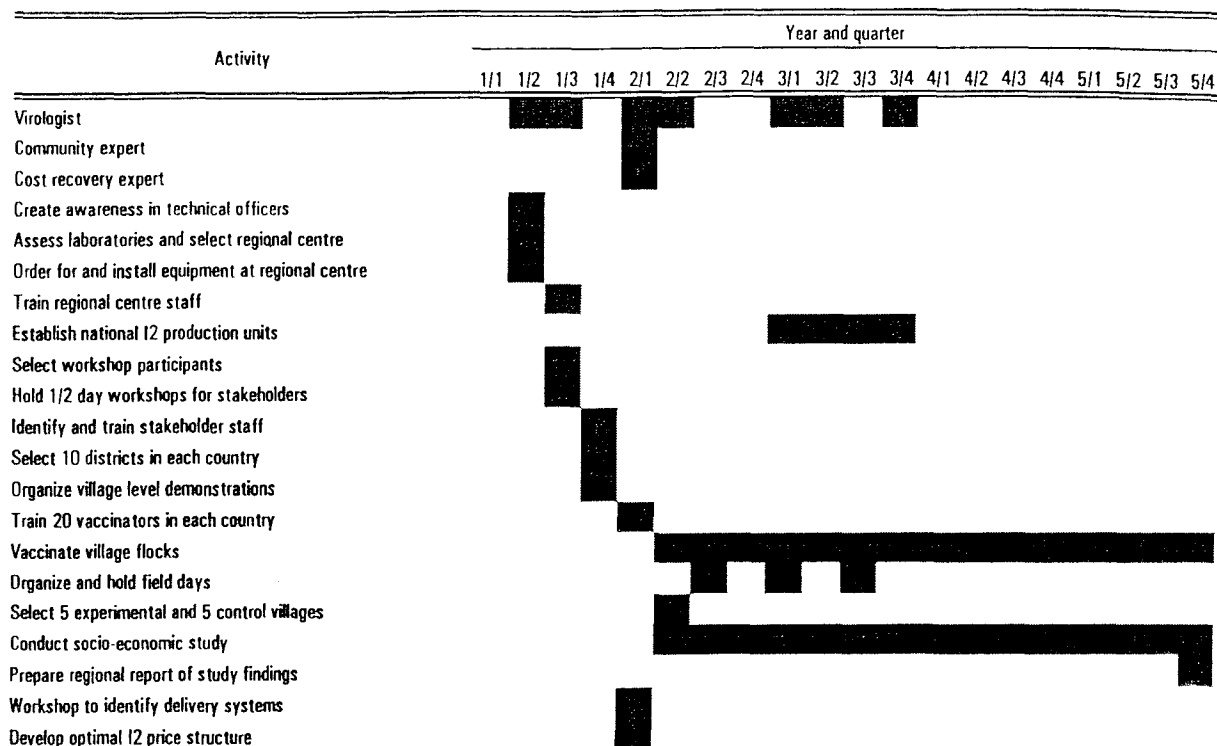
The Component will fund three short term specialists: a virologist with experience in the production and use of I2 vaccine for 15 months; a participatory specialist/community development expert for 6 months; and a cost recovery specialist for 1 month. Equipment and consumables will be provided to the selected regional I2 vaccine production centre and training centre which will produce vaccine for the host country and maybe other countries in the Region. The Component will fund training courses for training of trainers at the regional centre, training of staff from national laboratories, workshops for stakeholders, village level demonstrations and field days and a 24-month socio-economic study to quantify the benefits of I2 vaccination of village flocks.

4.2 Organization and implementation features

The Component would be coordinated and facilitated by the CPLIU. The project will be carried out over a 3-year period with an extension of two years that will be nationally funded.

The virologist will produce a report at the end of each of the 4 inputs. The community expert and cost recovery expert will each produce an end of assignment report. The regional I2 vaccine production centre will provide quarterly reports to the CPLIU.

Implementation schedule



4.3 Costs and financing

Total base line costs are estimated at Euro 745 700 for the 3-year life of the Component. Finance will be provided by the Programme budget. The regional centre will provide office space and support to the Component.

4.4 Special conditions

The CPLIU must be established before the Component can commence.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

5 Factors ensuring sustainability

5.1 Policy support

The policy support required includes:

- Cost recovery policy established for regional I2 vaccine production laboratory.

Given this the vaccine production element of the Component will be financially sustainable. Distributing the vaccine through the private sector, NGOs and farmers' organizations will also favour sustainability.

5.2 Appropriate technology

The I2 vaccine is cheap, thermostable and does not require a cold chain. It is therefore very appropriate for use at the village level. In the medium term the regional I2 centre could consider assisting in the establishment of small scale I2 production units at the village/NGO level. This would require advice (equipment, staffing), training, quality control, sourcing SPF eggs.

5.3 Environmental protection

The Component is expected to increase the numbers of poultry but this is unlikely to have any adverse effects on the environment. Productivity and overall production will be increased thus reducing any environmental cost per unit of output.

5.4 Socio-cultural aspects: women in development

Women and children play the key role in raising village poultry and selling produce therefrom. This Project will therefore primarily benefit women, however benefits will also accrue to children and other members of the community through improved availability of meat and eggs.

5.5 Institutional and management capacity

The Component will include full cost recovery thereby assuring the financial sustainability of vaccine production and distribution from the regional and national laboratories.

An important aim of the Component is to build capacity in:

- Production of I2 vaccine
- Formulation and implementation of a cost recovery policy
- Use of participatory techniques
- Publicity
- Design and implementation of field trials and demonstrations

5.6 Financial and economic analyses

An empirical analysis indicates the potential scale of benefits. The assumptions used in this analysis are:

- Three vaccinations of all birds in a village will prevent the occurrence of Newcastle disease and its effects;
- The cost to the owner of vaccinating one bird is Euro 0.025;
- A Newcastle disease epizootic occurs once every five years and leads to deaths of 70 per cent of the flock (disease outbreaks are modelled to occur in Years 3 and 8 in the 10-year analysis);
- The proportion of layers in the flock is 40 per cent, each layer produces 50 eggs per year of unit value Euro 0.08 and an outbreak of disease reduces egg output by 70 per cent for six months;
- The discount rate is 10 per cent; and
- One million birds are protected by the vaccine.

Using these assumptions the results are:

B:C	=	2.03:1.00
NPV	=	1 286 951
IRR	=	54 per cent

These results indicate that the Component is economically viable.

6 *Monitoring and evaluation*

6.1 Monitoring indicators

- Reduced incidence of Newcastle disease in target areas;
- Numbers of doses of vaccine produced;
- Numbers of participants at workshops;
- Numbers of doses of vaccine sold;
- Percentage of vaccine costs that is recovered.

6.2 Reviews and evaluation

The Project will be subject to an independent evaluation within six months of completion. An input of two man months should be sufficient for this.

Logframe for Project 3: Enabling national veterinary services to respond to the opportunities of SPS

ENABLING NATIONAL VETERINARY SERVICES TO RESPOND TO THE OPPORTUNITIES OF SPS PROJECT

	Objectively verifiable indicators	Sources of verification	Assumptions
<p>Overall objective:</p> <p>The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection. Livestock shown to be an integral part of agriculture and of social and economic development</p>	<p>Reduced incidence of target diseases, trade in livestock facilitated.</p>	<p>Reports from national veterinary services, OIE, Ministries of Trade and Customs reports and reports from Livestock Marketing Departments</p>	<p>National policy makers and directors of veterinary services give continued active support and provide resources</p>
<p>Project purpose:</p> <p>Improved disease control capability in region for selected priority diseases resulting in improved access to markets both within and outside the region</p>	<p>Disease zones established in at least 5 countries by end of year 5 National veterinary services upgraded in all countries</p>	<p>Reports from national vet. Services and OIE Reports from national vet. Services and university reports Reports from national vet. Services and certification bodies Plan document Reports from national vet. Services and OIE</p>	<p>Cost effective disease zones can be identified. National veterinary services can be upgraded to certification level Quality data can be accessed from PACE Serum banks documented and well stocked Users prepared to pay for FMD quality control Owners of village flocks, NGOs, farmers groups participate in ND control</p>
<p>Results:</p> <p>National decision makers aware of trade opportunities offered by SPS, disease zonation implemented, raised capability and certification of national veterinary services</p>	<p>At least 2 veterinary services ISO certified by end of year 5. Formulated regional plan for FMD control FMD zones established in at least 2 countries Reduced incidence of Newcastle disease</p>		
<p>Activities:</p> <p>1. Make National decision makers aware the trade opportunities offered by SPS and agree to participate in a regional disease zonation programme</p>			<p>National policy makers receptive</p>

Logframe for Project 3: Enabling national veterinary services to respond to the opportunities of SPS

ENABLING NATIONAL VETERINARY SERVICES TO RESPOND TO THE OPPORTUNITIES OF SPS PROJECT

	Objectively verifiable indicators	Sources of verification	Assumptions
<p>1.2 Develop detailed regional picture of the epidemiology of selected priority diseases</p> <p>1.3 Assist National veterinary services to embark on pathway for ISO certification and enhance their capacity</p> <p>1.4 Develop regional plan for disease zonation</p> <p>1.5 Implement regional plan for disease zonation</p> <p>2.1 Develop a good understanding of the distribution of the prevalent FMD virus types and subtypes</p> <p>2.2 Enable National Veterinary services to establish FMD-free zones</p> <p>2.3 Identify sustainable vaccine delivery system</p> <p>2.4 Establish quality control for FMD vaccine in region</p> <p>3.1 Develop increased awareness of the benefits of the 12 Newcastle disease vaccine</p> <p>3.2 Develop capacity to produce 12 vaccine in the region</p> <p>3.3 Encourage use of 12 vaccine in village flocks</p> <p>3.4 Estimate the socio-economic benefits of use of 12 Newcastle disease vaccine in village flocks</p> <p>3.5 Develop and implement mechanisms for full cost recovery from beneficiaries</p>			<p>PACE generates high quality data that can be accessed</p> <p>DVs agree to embark upon certification</p> <p>PACE/PARC serum banks well documented and contain sufficient numbers of sera, and national veterinary services participate actively in collecting field isolates of FMD virus</p> <p>Owners of village flocks recognise losses due to ND and are willing to pay for vaccination.</p>

Activity	Country no.	Days	Rate	Subtotal	Other	Total
Demonstrations and Training	10	10	500	5,000	50	5,050
	60	60	250	15,000	150	15,150
Study Visits	10	10	800	8,000	60.0	8,060
	150	150	250	37,500	375	37,875
Economic Study	20	20	6,000	120,000	60.0	120,060
	300	300	250	75,000	750	75,750
Field Cost Workshops	2	2	900	1,800	18	1,818
	30	30	115	3,450	35	3,485
Subtotal				15,000	15	15,015
Disease Control						
Subtotal						
Grand Total				293.5	332.2	745.7
Subtotal				1,504.6	1,451.0	4,046.0

The countries would be responsible for continuing this activity

Project 4 Sustainable use of farm animal genetic resources, feed resources and land resources

1. Background

This Project aims to contribute to sustainable systems of production through linking and matching resources to their use. Thus inventories of animal genetic resources with a view to their development and to making better use of feed and land resources are integral parts of this Project.

Throughout history Africa has been colonized by many of the species of livestock that man has domesticated and subsequently used for food production and in agriculture. All major species of ruminants (cattle, goat, sheep, buffalo), pseudoruminants (one-humped camel) monogastric quadrupeds (horse, donkey, pig) and several species of poultry (domestic fowl, Guinea fowl, Muscovy duck, pigeon, goose, turkey) are represented in Africa. Many minor or potential domestic species are also present (cane rat, grass cutter, antelope) as are non-conventional microlivestock (snail, earthworm). The wild progenitors of some domestic animals (Nubian and Somali wild asses, Guinea fowl) are indigenous to Africa and near relatives of domesticates such as the Nubian ibex and Barbary sheep are African natives.

The great genetic diversity in the livestock of Eastern Africa is an asset of tremendous potential and value. The domestic animal genetic resources of Africa have been described briefly and partially at species level either for the continent or as part of a more global treatment. A few African breeds or breed groups have been studied at varying levels of detail. A much larger number has been accorded less attention. Most, however, have not been studied at all and little is known about them other than their name and their general area of distribution. Some African breeds will disappear, and some indeed have already done so, before they have been described. Very little is known of the genetic make up of this animal wealth and hence the risks to its survival. Immediate characterization and recommendations for conservation are essential if biodiversity is not to be reduced or lost. Some initiatives have already taken place: for example, by the International Livestock Research Institute (ILRI) for molecular characterization of a very small number of cattle breeds and by FAO's series of regional programmes for development and further use of indigenous genetic resources. The Programmes of both agencies have suffered, however, from limited and insecure funding. Coordination and support of both initiatives by a Regional Programme would help ensure continuity.

Animal genetic resources are of key importance in the Eastern Africa Region and of great significance in their contribution to local economies and to food security. The three main ways by which livestock can contribute to food security and poverty alleviation are via increased output through productivity increase in the areas of harsh environment and in low input production systems (mainly in the pastoral environment), via intensification particularly in the periurban areas to supply the increasing number of city dwellers and via risk management with adapted resources assisting families to overcome drought and other periods of difficulty.

It is believed that most of the increase in supply will need to rely on increased production but because inputs are generally limiting productivity increases are also required. Locally adapted breeds in the traditional environment are commonly highly productive in life cycle terms so their use in livestock development programmes is important if a large number of traditional livestock owners are to be the beneficiaries. Conditions to accommodate high performing exotic breeds require higher level of inputs -- and therefore increased production costs -- and demand good management abilities and commonly have a much higher risk exposure.

The general belief that indigenous breeds are of low productivity is increasingly being questioned as little information exists on performance, productive and adaptive qualities of most breeds of animals of interest for food and in agricultural production. Animal longevity is an extremely important variable in low to medium input production systems as with longer animal productive life farmers need to rear fewer replacement stock. Most of the comparisons that have been done so far between breeds and their crosses have not taken a production system or life-cycle approach as the basis. Consequently these comparisons have not taken major inputs fully into account and have produced misleading results which -- intentionally or unintentionally -- favoured shorter living exotic breeds and their crosses.

In order to allow countries to make the right policy and subsequently technical decisions for their national livestock improvement and conservation plans it is considered imperative that they undertake several necessary steps:

- baseline survey -- a national inventory of animal genetic resources as the essential starting point;
- monitoring -- monitoring population status and changes;
- comparative evaluation -- increased knowledge of the unique qualities of breeds is required to develop strategies to make best use of these traits in the shorter and longer term; and
- comparative molecular description -- where molecular markers can be used to establish which breeds harbour identifiable genetic diversity in order better to target conservation activities.

These key activities are reflected in Components 1, 2, 4 and 5 of this Project. The technologies have already been developed by ILRI and other players and may need only minor changes for them to be fully adaptable to Eastern Africa conditions and requirements. Implementation and execution would be mainly through NARS under ILRI and ASARECA overall coordination. ILRI will also provide the adequate training of scientist from NARS to assure that a standardized approach is used by all countries. Results of these activities will allow countries to plan, develop and start implementing targeted breed improvement programmes for various species. These programmes -- although time deferred because of the long life cycle nature of animal breeding programmes -- will have a substantial and long lasting impact on the income of rural populations and on food security. Genetic improvement once achieved will remain within the population and will be passed on from generation to generation. The proposed animal genetic resource activities will also allow countries to fulfil the reporting requirements after having ratified the CBD.

Component 3 will allow to store and make available the information on East African Farm Animal Genetic Resources obtained through Components 1 and 2. Such a data base will be of immense importance to countries in the Region for national and regional policy decisions and through the proposed link to FAO's Global Domestic Animal Diversity Information System.

All these activities need to become an integral part of a country driven structure through the establishment of National Focal Points and a Regional Co-ordination Centre as proposed in Component 6 which will be responsible for the overall coordination and reporting of development activities. It is important to stress that no new Institutions will be created but existing ones will be further strengthened. This Component will require national commitments but once established it will guarantee sustainability of the overall programme beyond the duration of the external financing period. Such a network will also guarantee a standardized approach for the various issues on animal genetic resources and will allow the comparison of results. As breeds are not always unique to individual countries livestock improvement programmes will be of importance to several countries. A Regional Network will streamline activities and will identify and use institutions in the Region which have a comparative advantage for cost saving and increased efficiency. This network will use the data base of Component 3 as the virtual structure for communication and information dissemination. It is proposed that the East African Regional Network will be linked to other similar Networks in the African Region with in the Global Network of FAO's Global Strategy for the Management of Farm Animal Genetic Resources.

Component 1 Livestock breed surveys and on farm phenotypic characterization

1. Background

Rational management that includes the use and conservation of domestic animal diversity is possible only if countries have an inventory of the breeds and indications of trends in population numbers of individual breeds that constitute that diversity. Very few countries undertake regular overall livestock censuses and no country in the Eastern Africa Region has breed level statistics. It is thus not possible to identify breeds whose populations are increasing or decreasing nor the rates of any such changes. ILRI has recently developed a framework for country use in collection of breed level information at field level using quadrat and transect survey instruments. This framework can be used to gather data on breed characteristics, uses, indigenous knowledge and population statistics. These are essential not only in facilitating future use and identification of breed status but will also contribute to countries meeting their obligations under the CBD. This study is designed to facilitate understanding of the Region's farm animal genetic resources with a view to enhancing their management and more rational use.

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Component objective

- Determine the risk level and the major causes of threat to indigenous ruminant species and identify breeds for which immediate conservation action is needed
- Strengthen the capacities of NARS in phenotypic characterization of livestock and in field data collection and analytic techniques by individual and group training

2.3 Results

- Methodology developed for rapid surveys to collect population data by breed and trends in producers' preferences
- Population estimates for breeds, herd/flock structures, extent of crossbreeding, other causes of threat
- Causes that threaten local native breeds with extinction or absorption determined and remedial action proposed
- NARS institutionally strengthened to carry out design, execute and analyse surveys

2.4 Activities

- Use random cluster techniques to complete census in each country to:
 - identify typical production environments associated with each breed
 - obtain information on farmers' indigenous knowledge and breed preferences
 - identify main uses of breeds and key adaptive attributes
 - establish main performance characteristics
- Establish estimated breed population statistics from the censuses and use these to obtain approximate national figures for breed status and composition
- Analyse survey data to determine trends and causes for change in breed numbers
- Train NARS staff in-service in design, execution and analysis of surveys

2.5 Verifiable indicators

Activity	Indicator
Use random cluster techniques to complete census in each country	Methodology set up and being implemented in field
Establish estimated breed population statistics from the censuses and use to obtain approximate national figures for breed status and composition	Data collected and collated for analysis
Analyse survey data to determine trends and causes for change in breed numbers	Data analyses completed and published; number of breeds at risk established
Train NARS staff in-service in design, execution and analysis of surveys	Number of staff trained

3. Assumptions

3.1 Assumptions

- Appropriate survey methodologies can be developed and used in the field
- Governments are committed to maintaining and enhancing their domestic animal biodiversity in accordance with their ratification of the Convention on Biological Diversity
- NARS have staff or will obtain staff to be trained in techniques

3.2 Risks and flexibility

No major risks are associated with this component if Governments' respect their commitment to the Convention on Biological Diversity

4. Implementation

4.1 Detailed features

- Overall management would be by ILRI in Nairobi and Addis Ababa with direction and monitoring and evaluation by independent committees or assessors
- There will be close collaboration with NARS in the Eastern African Region in field surveys and in cooperative analysis of data collected

4.2 Organization and implementation procedures

- Composite annual work plans and budgets (AWPB) will be prepared by the overall management unit from AWPBs prepared for each collaborating NARS at least four months before the start of the financial and operational year and submitted to the CPLIU
- AWPBs will be examined and endorsed (as appropriate) by the CPLIU
- CPLIU will submit AWPBs to the Programme Technical Committee (PTC) for approval and for recommendations on release of funding to the Regional Authorizing Officer (RAO) or the relevant Deputy RAO
- Progress reports will be at six-monthly intervals to the CPLIU which will then consolidate the reports with those of the other Projects of the Programme for examination by the PTC at its regular meetings

Implementation schedule

Activity	Year and quarter																			
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4
Purchase vehicles and equipment	■																			
Provide international technical assistance ^a	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Consulting services ^a		■				■			■			■			■			■		
Local professional staff ^b	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local support staff	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Field enumerators	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Prepare and provide training materials		■			■			■			■			■			■			■
Workshops					■															■
Group training								■												■
Graduate training	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Technician in-service training		■				■				■				■						■

Notes: a) 50 per cent of time
b) inputs of 1 month

4.3 Costs and financing

Total costs are estimated at Euro 920 500 for the 5-year life of the Component. Finance will be provided by the Programme budget. ILRI will provide office and laboratory space for Component execution.

4.4 Special conditions

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.

5. Factors ensuring sustainability

5.1 Policy support

All countries in the region have a commitment to conservation and enhancement of biodiversity (including biodiversity in farm animal genetic resources) through various instruments including ratification of the Convention on Biological Diversity Agenda 21 and their own national environmental and biodiversity plans.

5.2 Appropriate technology

The methodology used for the survey will be cost effective and replicable for further surveys by NARS and other institutions.

5.3 Environmental protection

Identification of threats to local breeds will almost certainly involve identification of pressures on the environment. Remedial action to conserve breeds will have concomitant environmental benefits.

5.4 Socio-cultural aspects: women in development

Many types and breeds of livestock -- even those that are disappearing under external pressures -- are already and intrinsically preferred by their owners. Identification and promotion of breeds with particular adaptive traits (e.g. milk production, docility) will benefit women

and children in greater availability of products and increased household incomes and in easier work loads.

5.5 Institutional and management capacity

NARS will be closely integrated in methodology development and field staff will benefit from training for carrying out field surveys not only for this but for other types of survey.

5.6 Financial and economic analysis

This is a research component whose benefits can not be quantified at this stage but which when completed should lead to development activities that would benefit both livestock owners and the economies of the participating countries. Once the methodology is developed subsequent surveys would require little in the way of additional resources other than staff time for collecting data and for analysis. This would contribute to sustainability.

6. Monitoring and evaluation

6.1 Monitoring indicators

- Methodology set up and being implemented in field (ILRI and NARS)
- Data collected and collated for analysis (NARS and ILRI)
- Data analyses completed and published (ILRI and NARS)
- Number of breeds at risk established
- Number of staff trained

6.2 Reviews and evaluation

Internal reviews of progress will be undertaken under supervision of the CPLIU economic/monitoring unit with the assistance of contract short term specialists at regular intervals. A Mid-term Review will be conducted by a contracted Third Party at the end of Year 3 implementation. Impact assessment will be carried out jointly by EU/Programme Management/contracted Third Party within six months of Programme completion.

Component 2 Genetic distancing and assessment of genetic diversity at molecular level (Identification of unique breeds for development and conservation)

1. Background

An optimized panel of markers for the study and development of African cattle has been developed by ILRI. Similar systems are in the process of being developed for sheep, goats and camels. The study, classification and management of livestock resources at country level is a national responsibility and is identified as such under the CBD. ILRI could, however, assist countries in this task if the requisite resources were to be provided as project restricted funding. ILRI's own work would be limited to the application of technology to the broader understanding of the macro-evolutionary relationships of African livestock and their relationships with major groups in other regions of the world.

The listing below indicates, by country, cattle breeds or strains that need to be studied. These have been determined from results of a recently concluded breed survey. The 10 countries of the Region are home to over 50 per cent of African cattle breeds and have the greatest -- but yet untapped -- genetic diversity on the continent. The situation in terms of breeds/strains of other species can only be clearly defined after breed surveys have been completed and hence the urgency of Component 1 of this Project. The magnitude of the problem is demonstrated by the number of breeds and the interrelationships among the tribal groups which own them. The regional nature of the problem derives from the existence of several breeds/strains in two to several countries and the traditional contacts of pastoral groups across countries with consequent implications for admixture and introgression. The situation is not any simpler for sheep, goats and camels urgent action is required for these species in which breed/strain definitions are even less obvious. Understanding of the relationships is essential for the implementation of rational programmes for the development and conservation of unique breeds. Identification of genetic uniqueness can also contribute significantly to future regional trade in breeding stock. The availability of DNA-based technologies that have been tested and optimized for use in African livestock populations provides a great opportunity to reduce the complex problem (large number of breeds, intricately related but with particular genetic adaptations) into a manageable proportion. This has immense potential impact on future development of the livestock subsector in the region.

Country	Cattle breeds
Sudan	Toposa, Murle, Butana, Kenana, Baggara, Mongolla, Nuba Mountain, Aliab Dinka, Aweil Dinka, Nuer, Shilluk, Dongolla, Shendi, Bambawa, Ingessana
Ethiopia	Sheko, Borana, Arsi, Adwa, Ambo, Bale, Goffa, Guraghe, Harar, Jem-Jem, Smada, Mursi, Hammer, Jijiga, Ogaden, Abigar, Danakil, Raya-Azebo, Arado, Fogera, Horro
Eritrea	Barka, Baherie, Danakil, Dohein
Somalia	Somali Boran, Ogaden, Garre, Gasara, North Somali Zebu, Jiddu
Kenya	Kenya Boran, Orma Boran, Borana, Turkana, Kikuyu (Highland), Taita, Giriama, Duruma, Kamba, Maasai, Winam, Nandi, Samburu, Watende, Teso
Tanzania	Iringa Red, Maasai, Ugogo Grey, Mkalama Dun, Singida White, Pare, Tarime, Chagga, Zanzibar Zebu, Watusi, Sukuma
Uganda	Karamajong Zebu, Nkedi, Lugware, Teso, Usuk, Kyoga, Serere, Bahima, Kigezi, Watusi, Nganda
Rwanda and Burundi	Bashi, Ruzizi, Watusi

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Component objectives

- Estimation of the genetic relationships among breeds of cattle (Zebu and Sanga groups) and among the various types of sheep (fat rumped, fat tailed, thin tailed) and goats (short eared, long eared)
- Phylogenetic trees constructed for degrees of relationship among cattle, among sheep and among goats
- Strengthened capacity of NARS to use available information and to use and conserve existing farm animal genetic diversity through enhanced material and intellectual capacity to evaluate breed resources

2.3 Results

- Genetic relationships (diversity) among breeds and micro-evolutionary history established
- Distinct breeds identified on the basis of molecular genetics
- Objective criteria for sound decision making for priorities for development, conservation and use of various breeds (i.e. which breeds should be conserved, by which methods, for what purposes, by whom)
- Highly trained and motivated staff located in NARS carrying out molecular genetic analyses

2.4 Activities

- Supply supplementary equipment as required at central coordinating unit and at collaborating laboratories in order to strengthen capacity of (selected) NARS in molecular genetics
- Collect blood samples
- Preparation of DNA
- Establish genotypes (24-30 highly polymorphic easy to score microsatellite markers)
- Analyse data
- Prepare phylogenetic trees
- Prepare and provide training materials for individual and group training
- Train individual graduates (higher degrees, practical training) in molecular genetics

2.5 Verifiable indicators

Activity	Indicator
Supply equipment to central and collaborating laboratories	Equipment supplied, installed and operational
Collect blood samples and prepare DNA	Number of samples collected and prepared
Establish genotypes and analyse data	Range of diversity and micro-evolutionary relationships established
Prepare phylogenetic trees	Number of unique populations identified and phylogenetic trees prepared
Prepare/provide training materials and train staff and graduates	Type and amount of training materials delivered and number of people trained

3. Assumptions

3.1 Assumptions

- There is considerable genetic diversity among populations ("types", "breeds") of the Region's livestock and that this can be quantified through genetic markers, microsatellites and distinct DNA sequences
- Diversity is of productive and economic value and its identification (characterization) will contribute to rational use
- If no action is taken there will be an irrecoverable loss of diversity
- NARS have staff to be trained

3.2 Risks and flexibility

No major risks are associated with this component. Methodologies for characterizing diversity (genetic markers, microsatellites, DNA sequences) have been developed and there is little risk that existing diversity cannot be identified.

4. Implementation

4.1 Detailed features

- Overall management would be by ILRI in Nairobi and Addis Ababa with direction and monitoring and evaluation by independent committees or assessors
- There will be close collaboration with NARS in the Eastern Africa Region in sample collection, in cooperative analysis of data collected and in construction of phylogenetic trees

4.2 Organization and implementation procedures

- Overall annual work plans and budgets (AWPB) will be prepared by the overall management unit from AWPBs prepared for each collaborating NARS at least four months before the start of the financial and operational year and submitted to the CPLIU
- AWPBs will be examined and endorsed (as appropriate) by the CPLIU
- CPLIU will submit AWPBs to the Programme Technical Committee (PTC) for approval and for recommendations or release of funding to the Regional Authorizing Officer (RAO) or the relevant Deputy RAO
- Progress reports will be submitted at six-monthly intervals to the CPLIU which will then consolidate the reports with those of the other Projects of the Programme for examination by the PTC at its regular meetings

Implementation schedule

Activity	Year and quarter																			
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4
Purchase vehicles and equipment	■																			
Provide international technical assistance ^a	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Consulting services ^a		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local professional staff ^a	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local support staff	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Field staff	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Prepare and provide training materials		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Workshops					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Group training									■	■	■	■	■	■	■	■	■	■	■	■
Graduate training																				
Technician in-service training																				

Notes: a) 50 per cent of time
b) inputs of 1 month

4.3 Costs and financing

Total costs are estimated at Euro 1.321 million for the 5-year life of the Component. Finance will be provided by the Programme budget. ILRI and NARS will provide office and laboratory space for Component execution.

4.4 Special conditions

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management

entity before the project becomes operational.

5. *Factors ensuring sustainability*

5.1 Policy support

All countries in the region have a commitment to conservation and enhancement of biodiversity (including biodiversity in farm animal genetic resources) through various instruments including ratification of the Convention on Biological Diversity, Agenda 21 and their own national environmental and biodiversity plans.

5.2 Appropriate technology

The methodology for establishing micro-satellite markers and sequencing of DNA is well developed and is in use by ILRI. ILRI will transfer this technology to its NARS partners.

5.3 Environmental protection

Identification of breeds with distinct characteristics adapted to local conditions does not pose any threat to the environment.

5.4 Socio-cultural aspects: women in development

The results will help to quantify the largely qualitative socio-cultural preferences of livestock owners and help in further development of adapted breeds. Identification and promotion of breeds with particular adaptive traits (e.g. milk production, docility) will benefit women and children in greater availability of products and increased household incomes and in easier work loads.

5.5 Institutional and management capacity

NARS will be closely integrated in the collection of samples and in analyses and will receive additional in-service and other types of (high level) training in modern biotechnology.

5.6 Financial and economic analysis

The benefits of this research component can not be quantified at this stage but when completed they should lead to development activities that would benefit both livestock owners and the economies of the participating countries.

6. *Monitoring and evaluation*

6.1 Monitoring indicators

- Equipment supplied, installed and operational (ILRI and NARS)
- Number of serum samples collected and analysed for genotype (NARS and ILRI)
- Range of diversity and micro-evolutionary relationships established (ILRI and NARS)
- Number of unique populations identified and described in molecular terms (ILRI and NARS)
- Type and amount of training materials and number of people trained

6.2 Reviews and evaluation

Regular internal reviews will be undertaken under supervision of the CPLIU economic/monitoring unit with the assistance of short term specialists. A Mid-term Review will be conducted by a contracted Third Party at the end of Year 3. Impact assessment will be carried out jointly by EU/Programme Management/contracted Third Party within six months of Programme completion.

Component 3 Development of a data base (breed catalogue) on Eastern African farm animal genetic resources

1. Background

This Component is a logical activity aimed at capturing the information obtained from Components 1 and 2 in a systematic manner to facilitate regional sharing of information, to improve awareness of the available resources and to promote trade. The completed data base could also be used to market the regional livestock resources in other parts of the world and will be an invaluable resource for both training and extension.

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Component objectives

- A catalogue of breeds indigenous to the Eastern African Region produced and linked to the Global Data Base of FAO's DAD-IS (Domestic Animal Diversity Information System)
- Enhanced public awareness of biodiversity in domestic livestock and to be used for further training, research and extension

2.3 Results

- Breed catalogue of indigenous livestock in the Eastern African region published and used for further training, research and extension
- Public aware of great range of biodiversity in domestic livestock

2.4 Activities

- Use data collected from Components 1 and 2 as the basis for a Regional Breed Catalogue initially as a database
- Complete photographic collection of breeds (sex and age groups where appropriate) in representative and typical production environments
- Write up descriptions of breeds (distribution, physical characteristics, main uses, production systems, performance characteristics, major threats and extent of threat)
- Publish catalogue in electronic and hard copy form

2.5 Verifiable indicators

Activity	Indicator
Compile data from Components 1 and 2 for common database	Database established
Complete photographic collection	Number of photographs collected and taken for completion
Write up descriptions of breeds	Breed descriptions completed
Publish catalogue of breeds in electronic and hard copy	Catalogue published and available for distribution

3. Assumptions

3.1 Assumptions

- Data collected in Components 1 and 2 are suitable for describing breeds

3.2 Risks and flexibility

- There are no risks associated with this component

4. Implementation

4.1 Detailed features

- Overall management would be jointly by ILRI and FAO in Addis Ababa/Rome with direction and monitoring and evaluation by independent committees or assessors

4.2 Organization and implementation procedures

- Overall annual work plans and budgets (AWPB) will be prepared by the overall management unit from AWPBs prepared for each collaborating NARS at least four months before the start of the financial and operational year and submitted to the CPLIU
- AWPBs will be examined and endorsed (as appropriate) by the CPLIU
- CPLIU will submit AWPBs to the Programme Technical Committee (PTC) for approval and for recommendations on release of funding to the Regional Authorizing Officer (RAO) or the relevant Deputy RAO
- Progress reports will be submitted at six-monthly intervals to the CPLIU which will then consolidate the reports with those of the other Projects of the Programme for examination by the PTC at its regular meetings

Implementation schedule

Activity	Year and quarter																				
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4	
Purchase equipment					■																
Provide international technical assistance ^{a)}					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Consulting services ^{a)}						■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local support staff					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Prepare breed descriptions as database materials										■	■	■	■	■	■	■	■	■	■	■	■
Publish and distribute catalogue																					■

- Notes:
- 25 per cent of time
 - inputs of 1.5 months

4.3 Costs and financing

Total costs are estimated at Euro 419 000 for the 5-year life of the Component. Finance will be provided by the Programme budget. ILRI and FAO will provide office space and pre-existing material for Component execution.

4.4 Special conditions

The CPLIU must have been set up and be fully operational before the Project can start.

A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management

entity before the project becomes operational.

ILRI and FAO must complete a Memorandum of Understanding to ensure full and frank cooperation

5. *Factors ensuring sustainability*

5.1 Policy support

All countries in the region have a commitment to conservation and enhancement of biodiversity (including biodiversity in farm animal genetic resources) through various instruments including ratification of the Convention on Biological Diversity, Agenda 21 and their own national environmental and biodiversity plans. ILRI and FAO support characterization and conservation of farm animal genetic diversity

5.2 Appropriate technology

Not applicable.

5.3 Environmental protection

Not applicable.

5.4 Socio-cultural aspects: women in development

Not applicable.

5.5 Institutional and management capacity

ILRI and FAO already possess the capacity to undertake this component.

5.6 Financial and economic analysis

There are no directly quantifiable financial and economic benefits to this Component at this stage but the creation of awareness of the diversity of Eastern Africa's animal genetic resources leading to their better appreciation by the general public should contribute to more rational use and to sustainable production.

6. *Monitoring and evaluation*

6.1 Monitoring indicators

- Common data base established on breeds (ILRI and FAO)
- Number of photographs made available (ILRI and FAO)
- Number of photographs taken/commissioned to complete collection (ILRI and FAO)
- Breed descriptions completed (ILRI and FAO)
- Catalogue published (ILRI and FAO)

6.2 Reviews and evaluation

Internal reviews of progress will be undertaken under supervision of the CPLIU economic/monitoring unit with the assistance of contracted short term specialists at regular intervals. A Mid-term Review will be conducted by a contracted Third Party at the end of Year 2 of implementation of the 3-year Component. Impact assessment will be carried out jointly by EU/Programme Management/contracted Third Party within six months of Programme completion.

Component 4 Economic valuation of indigenous animal genetic resources

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environment protection.

2.2 Component objectives

- Assign economic values to indigenous breeds, traits and attributes and to various breeding strategies and programmes
- Provide a rational basis for assigning priorities to identified breeds for conservation and breed development and to breeding programmes and strategies
- Provide quantitative information for benefit sharing in the context of the Convention on Biological Diversity

2.3 Results

- Economic values assigned to various aspects of African farm animal genetic resources

2.4 Activities

- Test an array of valuation methods in case studies in selected countries
- Carry out multilocational studies with retained methods over a range of species, production systems and marketing situations in collaboration with national scientists
- Analyse and publish results of studies

2.5 Verifiable indicators

Activity	Indicator
Test valuation methods in selected countries	Number of valuation methods tested and best selected
Multilocational studies of several species, production systems and marketing situations with national scientists	Economic values assigned to breeds, traits and breeding methods and objectives
Analyse and publish results of studies	Number of reports and scientific papers published

3. Assumptions

3.1 Assumptions

- Diversity is not only of productive but also of economic value
- Assignment of economic values will result in more rational use of animal genetic resources
- Analytical tools (econometric models) exist or can be developed and analytical capacity exists within the region

3.2 Risks and flexibility

- The main risks of this component are that existing analytical tools for assigning economic values to biodiversity are unsuitable for domestic livestock or cannot be adapted for use

4. Implementation

4.1 Detailed features

- Implementation would be by a consortium or consortia of Centres of Excellence (University Economics Department, Ministries of Economics or Planning or Development, ILRI) yet to be identified within the Region in collaboration with NARS with direction and monitoring and evaluation by independent committees or assessors

4.2 Organization and implementation procedures

- Overall annual work plans and budgets (AWPB) will be prepared by the management unit from AWPBs prepared for each consortium at least four months before the start of the financial and operational year and submitted to the CPLIU
- AWPBs will be examined and endorsed (as appropriate) by the CPLIU
- CPLIU will submit AWPBs to the Programme Technical Committee (PTC) for approval and for recommendations on release of funding to the Regional Authorizing Officer (RAO) or the relevant Deputy RAO
- Progress reports will be submitted at 6-monthly intervals to the CPLIU which will then consolidate the reports with those of the other Projects of the Programme for examination by the PTC at its regular meetings

Implementation schedule

Activity	Year and quarter																			
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4
Purchase equipment																				
Provide international technical assistance ^{a)}																				
Consulting services ^{b)}																				
Local professional staff ^{c)}																				
Local support staff																				
Workshops																				
Test methods and analyse results																				
Publish and distribute results																				

- Notes:
- a) 12 months per year full time
 - b) inputs of 1 month
 - c) equivalent of 2 full time professionals

4.3 Costs and financing

Total costs are estimated at Euro 772 900 for the 3-year life of the Component. Finance will be provided by the Programme budget. Participating institutions will provide office space for Component execution.

4.4 Special conditions

- The CPLIU must have been set up and be fully operational before the Project can start
- Memoranda of Understanding must be established between and among consortia to ensure full and frank cooperation

5. Factors ensuring sustainability

5.1 Policy support

All countries in the region have a commitment to conservation and enhancement of biodiversity (including biodiversity in farm animal

genetic resources) through various instruments including ratification of the Convention on Biological Diversity, Agenda 21 and their own national environmental and biodiversity plans.

5.2 Appropriate technology

Econometric models exist for estimating the value of other major taxa (plants, fish) that can be used or adapted for livestock.

5.3 Environmental protection

Assignment of economic values will encourage rational use of the most appropriate genotypes in given production environments.

5.4 Socio-cultural aspects: women in development

Not applicable.

5.5 Institutional and management capacity

Centres of Excellence in the Region already exist but will be strengthened by introduction and use of new analytical techniques.

5.6 Financial and economic analysis

Benefits from this Component are not immediately quantifiable until after evaluation methods have been selected.

6. *Monitoring and evaluation*

6.1 Monitoring indicators

- Number of evaluation methods assessed
- Economic values assigned to breeds, traits and breeding methods and objectives
- Number of reports and scientific papers published

6.2 Reviews and evaluation

Internal reviews of progress will be undertaken under supervision of the CPLIU economic/monitoring unit with the assistance of contracted short term specialists at regular intervals. A Mid-term Review will be conducted by a contracted Third Party at the end of Year 2 of implementation of the 3-year Component. Impact assessment will be carried out jointly by EU/Programme Management/contracted Third Party within six months of Programme completion.

Component 5 Breed comparisons and breeding objectives

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Component objectives

- Encourage and promote the use of indigenous cattle, goat and sheep breeds indigenous to the Region that possess high performance traits
- Provide a framework for comparative evaluation of a set of breeds for a selection of economic traits in a regional context
- Develop breeding objectives for indigenous ruminant livestock that incorporate adaptive attributes and productivity traits
- Strengthen the capacity of NARS to undertake comparative breed evaluation trials and to work in collaboration with other institutions

2.3 Results

- Eastern African indigenous breeds compared for productive performance (milk, meat, draught power) in various environments under various management systems
- Breeding objectives defined
- Rational use of indigenous animal genetic resources
- NARS staff trained to a high level in experimentation techniques

2.4 Activities

Human resources development and institutional strengthening

- Provide appropriate postgraduate training to research staff of NARS in data collection and experimental and statistical analysis techniques

Regional breed comparisons

- Select a set of breeds and traits for milk and meat production to be evaluated
- Select representative environments and production systems in several countries
- Carry out breed evaluation studies with several breeds at each site that ensure breed links across sites and record all relevant component traits

Breeding objectives

- Use information obtained from economic valuation studies and other market information to develop economic weights for chosen traits to be included in the objective function
- Use results of breed surveys to identify key attributes identified by farmers and evaluate these for possible inclusion in the breeding objectives
- Compile genetic and phenotypic parameters of identified traits from the literature and from the breed evaluation studies
- Use the selected genetic and phenotypic parameters to help to choose appropriate selection criteria for the objective function

2.5 Verifiable indicators

Activity	Indicator
Train graduate	Graduate trained
Select breeds and traits (milk and meat production) for evaluation	Breeds and traits selected and agreed
Select representative environments and production systems in several countries	Number of participating NARS and sites for comparative evaluation
Breed evaluation studies of several breeds at each site and ensure breed links across sites	Number of breeds and animals under experimentation
Information obtained from economic studies plus market information used to develop economic weights for chosen traits	Number of traits identified and weightings applied
Use results of breed surveys to identify key attributes identified by farmers and evaluate these for possible inclusion in the breeding objectives	Farmers' attributes evaluated
Compile genetic and phenotypic parameters from literature and breed evaluation studies	Genetic and phenotypic parameters compiled
Use genetic and phenotypic parameters to choose appropriate selection criteria	Uptake by farmers of recommended breeds for particular production functions and environments

3. Assumptions

3.1 Assumptions

- Indigenous breeds possess various productive and adaptive traits at different levels
- Breeds that perform well in a restricted ecological and management environment may also perform well under other conditions
- Farmers will accept "strange" or "exotic" breeds to which they are not accustomed if performance is superior than local breeds and if the level of risk is not increased

3.2 Risks and flexibility

- Some problems may arise in transfer of germ plasm (live animals and genetic material) from one country to another for breed comparison studies for which the CPLIU and IGAD (as regional conflict resolution body) should mediate

4. Implementation

4.1 Detailed features

- Implementation would be by groups of NARS research organizations yet to be identified within the Region with direction and monitoring and evaluation by independent committees or assessors

4.2 Organization and implementation procedures

- Overall annual work plans and budgets (AWPB) will be prepared by the overall management unit from AWPBs prepared for each participating site at least four months before the start of the financial and operational year and submitted to the CPLIU
- AWPBs will be examined and endorsed (as appropriate) by the CPLIU
- CPLIU will submit AWPBs to the Programme Technical Committee (PTC) for approval and for recommendations on

- release of funding to the Regional Authorizing Officer (RAO) or the relevant Deputy RAO
- Progress reports will be submitted at six-monthly intervals to the CPLIU which will then consolidate the reports with those of the other Projects of the Programme for examination by the PTC at its regular meetings

Implementation schedule

Activity	Year and quarter																			
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4
Purchase vehicles and equipment	■	■			■	■			■											
Construct animal pens and facilities	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Provide international technical assistance ^{a)}	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Consulting services ^{b)}	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Provide servicing of equipment	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local professional staff ^{c)}	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local support staff ^{d)}	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Workshops	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Publish and distribute preliminary results																				

- Notes:
- 12 months per year full time
 - inputs of 4, 3, 3, 2 and 1 month in successive years
 - equivalent of 2 full time professionals
 - equivalent of 5 full time staff

4.3 Costs and financing

Total costs are estimated at Euro 2.409 million for the 5-year life of the Component. Finance will be provided by the Programme budget. Participating institutions will provide land and animals (on an exchange basis) for Component execution.

4.4 Special conditions

- The PTC and CPLIU must have been set up and be fully operational before the Project can start
- Memoranda of Understanding must be established between and among NARS participating in the Component
- All stock moved from one location to another for experimental purposes must fulfil all health and movement conditions pertaining in the various locations

5. Factors ensuring sustainability

5.1 Policy support

All countries in the region have a commitment to conservation and enhancement of biodiversity (including biodiversity in farm animal genetic resources) through various instruments including ratification of the Convention on Biological Diversity, Agenda 21 and their own national environmental and biodiversity plans.

5.2 Appropriate technology

Standard research methodologies exist for breed comparison and will be used in this Component.

5.3 Environmental protection

Identification of superior genotypes and application of breeding objectives for production functions in particular environments will result in more rational use of resources. Production and adaptive traits will be identified that can be used to enhance productivity and financial and economic output. Higher productivity will benefit the environment as greater output from the same number (or fewer in the long term)

of animals will reduce the need to increase animal holdings to maintain the supply of animals and their products in relation to increased demand from human population growth.

5.4 Socio-cultural aspects: women in development

Farmers will benefit from higher output from the use of the same or fewer inputs. Women will benefit equally with men.

5.5 Institutional and management capacity

NARS in the Region will be strengthened by introduction and use of standard comparative research techniques and by training in these.

5.6 Financial and economic analysis

There are no directly quantifiable financial and economic benefits to this Component. Identification of superior performing breeds and traits will lead to considerable quantifiable benefits in the future.

6. Monitoring and evaluation

6.1 Monitoring indicators

- Graduate training completed
- Number of breeds and traits selected
- Number of participating NARS and sites for comparative evaluation
- Number of breeds and animals involved in trials
- Number of traits identified and weightings applied
- Number and type of farmers' attributes evaluated
- Number of genetic and phenotypic parameters compiled
- Uptake by farmers of recommended breeds for particular production functions and environments

6.2 Reviews and evaluation

Internal reviews of progress will be undertaken under supervision of the CPLIU economic/monitoring unit with the assistance of contracted short term specialists at regular intervals. A Mid-term Review will be conducted by a contracted Third Party at the end of Year 3 of implementation. Impact assessment will be carried out jointly by EU/Programme Management/contracted Third Party within six months of Programme completion.

Component 6 Development and rational use of the Region's farm animal genetic resources

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Component objectives

- Create a sustainable Regional network on the management, use and development of farm animal genetic resources
- Create a functional coordinating centre (Regional Focal Point) for the management of farm animal genetic resources in the Region together with country coordinating centres (National Focal Points)
- Develop and initiate national policies and plans to guide the management and use of the Region's farm animal genetic resources.

2.3 Results

In collaboration with other Components of the Project:

- Quantitative description of farm animal genetic resources at national and regional levels
- Identification of breeds at risk of extinction and the measures implemented to conserve them
- Inventory of country and regional preservation approaches for breeds of all species at risk
- A regional data bank accessible to all regional institutions and other interested parties
- National plans for the management of the Region's livestock resources and the most urgent actions implemented
- Regional network developed and critical support services put in place
- Creation of a cadre of personnel trained in animal genetic resources management
- National Focal Points and National Coordinator in each country
- Regional policies developed on exchange and trade in farm animal genetic resources and their and legal implications

2.4 Activities

- Identification and establishment of a Regional Focal Point
- Identification and establishment of National Focal Points (National Coordinating Institution and National Coordinator) in existing national structures
- Production of a National Farm Animal Genetic Resources Management Plan in each country
- Establish critical mass of scientists and technicians via training to implement breed development and conservation programmes
- Preparation of a Regional Policy document on exchange and control of genetic material between countries in the Region and, where appropriate, with countries outside the region
- Initiate breed development programmes based on breeds identified and characterized in other Components of this Project
- Complete Regional Database for animal genetic resources in collaboration with other Components of the Project and linked to DAD-IS
- Conduct yearly 14-day National Coordinators training workshops
- Establish a regional network to link all countries and provide information to all National Focal Points and other interested organizations

2.5 Verifiable indicators

Activity	Indicator
Identify/set up Regional and National Focal Points	Number of Focal Points identified/set up
Establish critical mass of scientist/technicians via training to implement breed development/conservation programmes	Number of scientists/technicians trained
Produce National Farm Animal Genetic Resources Management Plans	Number of plans produced
Prepare Regional Policy Document on exchange of genetic material	Policy document prepared and policy being implemented
Initiate breed development programmes	Number of breed development programmes initiated
Complete collaborative Regional Database linked to DAD-IS	Regional Database completed (and published)
Conduct yearly workshops	Number of workshops completed
Establish functional network	Functional network established

3. Assumptions

3.1 Assumptions

- There is increasing awareness by Governments of the importance of indigenous breeds and their importance for the livelihoods of the rural populations
- That well managed local breeds can compete economically with imported exotics and are therefore a major asset in contributing to food security and sustainable production
- That the level of biodiversity of farm animal genetic resources will be at least maintained within the framework of the Convention on Biological Diversity

3.2 Risks and flexibility

There are no real immediate risks as long as countries honour their commitments to the Convention on Biological Diversity.

4. Implementation

4.1 Detailed features

- Day to day management would be by a Regional Steering Committee responsible to the CPLIU and comprising the Regional Coordinator and National Coordinators with back up support by FAO

4.2 Organization and implementation procedures

- Annual work plans and budgets (AWPB) will be prepared by National Coordinators for their countries and consolidated as a regional plan by the Regional Coordinator at least four months before the start of the financial and operational year and submitted to the CPLIU
- AWPBs will be examined and endorsed (as appropriate) by the CPLIU
- CPLIU will submit AWPBs to the Programme Technical Committee (PTC) for approval and for recommendations on release of funding to the Regional Authorizing Officer (RAO) or the relevant Deputy RAO
- Progress reports will be submitted at 6-monthly intervals to the CPLIU which will then consolidate the reports with those of the other Projects of the Programme for examination by the PTC at its regular meetings

Implementation schedule

Activity	Year and quarter																			
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4
Purchase vehicles and equipment	■																			
Provide international technical assistance ^{a)}	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local professional staff ^{a)}	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Local support staff ^{a)}	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Prepare National Management Plans				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Prepare Regional Policy Document				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Implement breed development plans																				
Workshops				■																
Publish and distribute preliminary results																				■

Notes:

- a) 12 months per year full time
- b) equivalent of 2 full time professionals spread over 10 countries on part time basis
- c) equivalent of 5 full time staff spread over 10 countries on part time basis

4.3 Costs and financing

Total costs are estimated at Euro 1.960 million for the 5-year initial life of the Component. Finance will be provided by the Programme budget. Participating institutions will provide office space, facilities and staff for Component execution and provide the necessary support to maintain it both during the life of the Project.

4.4 Special conditions

- The CPLIU must have been set up and be fully operational before the Project can start
- A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.
- Regional and National Focal Points must be set up before the Component becomes operative and support for them assured from national Governments

5. Factors ensuring sustainability

5.1 Policy support

All countries in the region have a commitment to conservation and enhancement of biodiversity (including biodiversity in farm animal genetic resources) through various instruments including ratification of the Convention on Biological Diversity, Agenda 21 and their own national environmental and biodiversity plans.

5.2 Appropriate technology

The proposed structure relying on a Regional Focal Point and National Focal Points has been supported by COP 3 to the Convention on Biological Diversity as well as by Member States of FAO in the Commission on Agriculture and the Commission for Genetic Resources for Food and Agriculture.

5.3 Environmental protection

No increases in livestock numbers are expected to result from this Project. Production and adaptive traits will be identified that will be able to be used to enhance productivity and financial and economic output. Higher productivity will benefit the environment as greater output from the same number (or fewer in the long term) of animals will reduce the need to increase animal holdings to maintain the supply

of animals and their products in relation to increased demand from human population growth.

5.4 Socio-cultural aspects: women in development

Many types and breeds of livestock are already and intrinsically preferred by their owners. Production, financial and economic improvement will add further value to socio-cultural values. Identification of production and adaptive traits that lead to increased output will benefit women and children in greater availability of products and increased household incomes.

5.5 Institutional and management capacity

The key arrangements for coordinating this Project with related efforts in Region are through the various advisory committees set up in the Component. The Regional Component Steering Committee comprises representatives from each country who will be well informed about all aspects of the Project as it relates to their own country. The Steering Committee is the initial decision making body within the Component and will guide its implementation. Each country will have a National Advisory Committee comprising representatives of stakeholders that will be the forum for coordination with related activities within country.

5.6 Financial and economic analysis

There are no immediately quantifiable financial and economic benefits to this Component which is designed to facilitate and enable future sustainable production.

6. *Monitoring and evaluation*

6.1 Monitoring indicators

Indicators of progress will be:

- Number of Regional/National Focal Points established
- Critical mass of scientists established
- National Farm Animal Genetic Resources Management Plan in each country
- Production of a draft Regional Policy Working Party report
- Number of breed development programmes initiated
- Five annual workshops for National Coordinators completed
- Functional network linking all countries and providing information to all National Focal Points and other interested organizations
- Number of training workshops held for national coordinators

6.2 Reviews and evaluation

Regular internal reviews of progress will be undertaken by the economics unit of CPLIU with the assistance of contracted short term specialists at regular intervals. A Mid-term Review will be conducted by a contracted Third Party during Year 3 of implementation. Impact assessment will be carried out jointly by EU/Programme Management/contracted Third Party within six months of Programme completion.

Component 7 Feed inventory and livestock production data bank and information system

1. Background

The Regional Livestock Development Programme elsewhere proposes the creation and operation of a regional information centre based at CPLIU for strategic data impinging on the livestock subsector. The centre's data bank serves to collect and collate data (documentation system) to be used for monitoring of events and trends in single areas but also to overlay data from various disciplines for assessment of entire production systems, agroecological zones and regions: this will allow the establishment of relationships and the forecasting of impacts of likely interventions (information system). Such combined and multilayered information is essential for all levels of planning in the immediate future and ranges from production and marketing development planning, zonation of production systems in terms of inputs and outputs to infrastructure planning. Strong relationships exist among these various planning needs which can be drawn on from a unified database systems.

Several disciplinary information schemes already exist in the Region. This Component is not intended to duplicate but to complement and integrate them. This Component will contribute a third database element on feed resources to the information centre (two other Components of other Projects address disease and marketing information data).

There is a paramount need to overlay inventories of available and potential feed resources, by-products and concentrate feeds with production systems, their marketable shortages or surpluses and access of farmers to them. For sustainable development purposes (comparative advantage assessments) livestock production systems will have to be matched with resources and demand rather than the other way round. This includes marketing and processing preferably at or near the zone of production.

A feed inventory database and information system for the region will involve cooperation with other parties (FAO, USAID) to e.g. integrate satellite imagery information. Available data will need to be complemented by the most recent country information to be collected by on-site investigations. The compilation of a regional feed inventory is one of ASARECA-A-AARNET project priorities. It is therefore proposed that A-AARNET will collect national data via NARS.

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Project objectives

Feed resource data bank available for use as an information system for planning zoning of livestock development

2.3 Results

- Status of the region's feed resources established for all major agricultural and pastoral systems in the region, for ruminant and monogastric animals and for all feed types (range, browse, pasture, fodder crops, crop residues, fish waste, agro-industrial by-products and the potential to produce fodder and catch crops in terms of both quantity and quality;
- A feed resources data base created and the data integrated into a comprehensive multilayered information system which is continually updated;
- Agenda for crossborder feed/livestock zones initiated; and
- NARS capacities for assessing national feed resources using on farm surveys strengthened through the development of suitable methodologies

2.4 Activities

Unified Feed Resource Database:

- Develop a relational data bank on regional feed resources and related information from existing data sources; and
- Customize a desktop system for zoned livestock production planning

National Feed Inventory Investigations:

- A-AARNET identifies suitable NARS;
- A-AARNET/ILRI formulate details of the research proposal;
- Hold orientation workshop on research strategy and methodology;
- NARS undertake country studies at representative sites;
- A-AARNET/ILRI backstop studies; and
- Analysis of country study reports and integrate data into the data bank.

Zonation of Feed/Livestock Production Zones:

- Present study results to a workshop; and
- Hold a feed/livestock production/processing workshop for land use and animal production planners

3. Assumptions

3.1 Assumptions

- there is considerable interest in the countries of the Region in having their feed inventories updated and evaluated for livestock use
- management of fodder resources and matching with production systems is seen as a useful tool for more efficient planning of the livestock subsector
- national governments are committed to regional collaboration based on comparative advantages of inputs into animal production systems among their countries to permit trade and concentration (zonation)

3.2 Risks and flexibility

- lack of timely delivery of information to the information unit by national and local institutions can be overcome with close (CPLIU)/AARNET) supervision
- The database system has enough flexibility so that it can contribute to a wide range of planning activities in the livestock subsector ranging from extensive pastoralism to intensive systems

4. Implementation

4.1 Detailed features

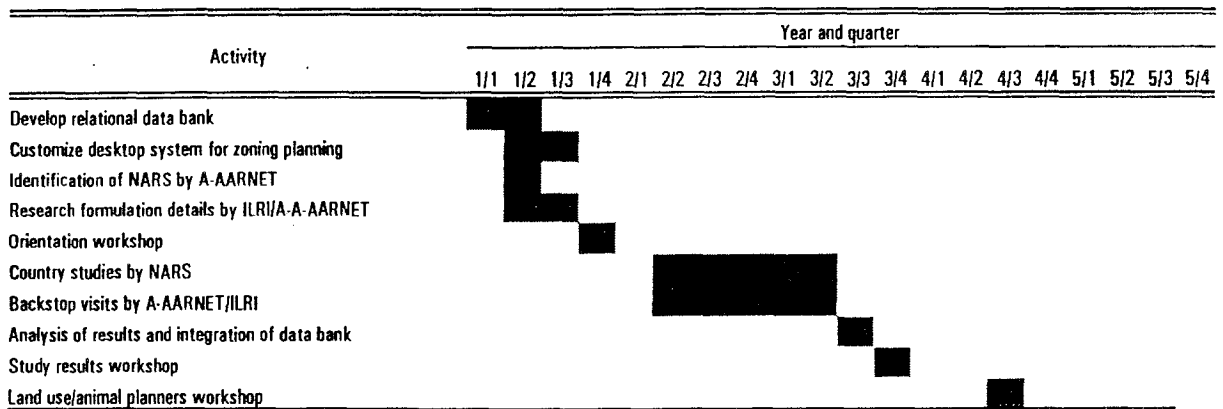
- Overall management is by CPLIU
- The data bank is part of the multipurpose information unit in CPLIU
- A-AARNET/ILRI will be subcontracted to develop and customize the data bank by integrating existing information sources
- Collaboration with NARS will be arranged through A-AARNET
- The implementation of research projects at country levels will be executed by NARS under A-AARNET coordination and commissioned by OAU/IBAR

- Training of the personnel needed to operate the data bank and to distribute information electronically
- Access and distribution of information
- The use of the data bank for planning and zonation of production systems, including cross-border systems
- Workshop to develop the uses of data and to enable policy decisions

4.2 Organization and implementation procedures

- Inventory compilation for CPLIU by ILRI with/from information gathering institutions (national, regional and global)
- Information will be compiled under appropriate headings (livestock location and movement, production strategies, marketing, feed processing facilities) with matched feed/fodder inventory (availability, location), crop patterns (for use of residues as fodder) and environmental matters (deforestation, land use/misuse)
- NARS identification and coordination of their field activities under A-AARNET
- Annual work plans and budgets prepared for each subcomponent by their management unit (ILRI, ASARECA/ILRI CPLIU technical unit) at least four months before the start of the operational year and submitted to CPLIU
- Project funds for ASARECA components and for ILRI will be disbursed via ILRI and supervised by A-AARNET OAU/IBAR will be the contractor and accountability will be to the donor
- All subcomponents will submit quarterly reports to CPLIU. CPLIU will be responsible for the consolidation of the reports with those of other projects for examination by the steering committee

Implementation schedule



4.3 Costs and financing

Total Component costs including contingencies are Euro 1.221 million of which base costs are Euro 1.116 million. All costs will be financed from the EU Programme costs.

5. Factors ensuring sustainability

5.1 Policy support

Intelligence will not be sold and its cost will be absorbed by the CPLIU. All different aspects, including a fodder inventory, will provide an essential planning tool to all countries in the Region which should enable the improved production, marketing, animal health and environmental aspects of the livestock subsector. The environmental and economic benefits will justify the continuation of the system. Appropriate indicators will be included as monitoring indicators.

5.2 Appropriate technology

The feed inventory will use the best available and proven sources of intelligence and technology. Database and data processing technologies are advanced but proven, user-friendly and accepted technologies throughout the world. Training will be provided for user groups in these techniques.

5.3 Environmental protection

It is implicit in the concept of compiling the feed inventory that environmental considerations are taken into account. Improved use of fodder resources as a result of consultation of the data bank will reduce overgrazing and improve use of on farm products. Production of fodder should have a positive impact in reducing soil erosion and improving conservation. Zoning of feed production areas with suitable livestock production systems will assist in avoiding production in unsuitable particularly in fragile zones. Matching production with marketing and processing locations will reduce long transport routes.

5.4 Socio-cultural aspects: women in development

Any increase in the availability and production of fodder will impact on animal production and will improve incomes, directly benefiting the well being of women and children in the poorer income groups. There will also be increased production of animal protein and marketable surpluses leading to increased food security.

5.5 Institutional and management capacity

The core investigation component of the Project is devoted to strengthening the regional research network ASARECA-A-AARNET and via it the national NARS. Practical implementation of on farm field investigations and collaboration with ILRI as the backstopping institute will strengthen regional and national capacity to undertake such activities. Active participation of land use planners working together with animal production specialists to delineate zones for special consideration for development will strengthen interdisciplinary collaboration nationally and regionally and will foster the recognition of regional responsibility for shared resources.

5.6 Financial and economic analysis

Benefits from this Project are not immediately quantifiable but evaluation will be possible following completion.

6. *Monitoring and evaluation*

6.1 Monitoring indicators

Monitoring indicators and their means of verification are contained in the logframe.

6.2 Reviews and evaluation

Regular reports from all component management units will be compiled by CPLIU into their comprehensive report and evaluated by the steering committee. Workshop proceedings and results will also be contained in the regular report of the responsible CPLIU expert.

A final evaluation will be conducted at programme end. It particularly will concentrate on progress of use of study and workshop results in zoning of production systems.

Component 8 Livestock production-environment-land tenure relationships in smallholder mixed farming systems

1. Background

The significance of land tenure and land use policy issues was underscored by the seminar held in Mbabane in August 1997 and by the Kampala workshop in December 1997. Livestock farming efficiency was found to be interrelated with varying configurations of property rights. Earlier in March 1996 a review of tenure reforms and the lessons from past experiences was held at the Economic Commission for Africa (ECA) in Addis Ababa by the Sahara and Sahel Observatory (OSS) under the auspices of ECA and IGAD. The motivation was to make the countries in the region meet the requirement by the Convention to Combat Desertification (CCD) as provided for in Article 19 which they have signed. The need for an effective legal framework of natural resource management to provide security of land tenure for local populations is stressed in the article. IGAD has installed a focal point for desertification to assist and coordinate formulation and implementation of national land policy action plans meeting this CCD requirement.

Most countries in the Region are in the process of introducing and implementing land reforms. Tanzania passed a new Land Act and a Village Land Act in February 1999, Uganda adopted a new constitution in 1995 and land reform is being undertaken in line with the new constitutional provision. Sudan, Ethiopia, Rwanda and Eritrea are reviewing land tenure systems in accordance with their respective land policies.

Land tenure and land use policies can affect the relative allocation of resources. An important argument in favour of land reforms is that land held under exclusive and secure rights is more productive. Policies directed towards reforms to land titles can thus be seen as incentives to facilitate the long term investment and sustainability that are common on private property. If the relative production efficiency of alternative land tenure systems can be measured then productivity gains through land reforms can be estimated. Such information is of the utmost importance for the development of alternative production systems.

Mixed farming systems as closed systems offer positive incentives to compensate for economic, social and environmental effects. Mixed farms under secure tenure can thus potentially, for example, employ better fodder species, use better forage and water harvesting techniques and undertake livestock improvement. These systems produce the largest share of meat and milk and are the main system for smallholder farmers. They are entering a dynamic period of growth and change, are under increased pressure for intensification and specialization and are moving from closed to increasingly open systems in terms of input use. Were demand for livestock products to exceed the capacity and flexibility of these systems the alternative would be immediate transition to highly intensive industrial systems. The question is whether or not the mixed farming systems can adapt to change and what are the policy and institutional frameworks regarding land use and land tenure that are necessary to promote sustainable systems.

Little information is available of what may be expected (quantitatively and qualitatively) of any change of policy or action. Such information is an essential condition for informed decision making. Reducing the substantial void in objective and precise assessments of land use-production relationships is also expected to remove many of the national and international misconceptions that surround the livestock production-development-environment debate.

In all the countries of the region there is a close relationship between tenure arrangements and food security, agricultural development and conservation of natural resources. In connection to food security, tenure security is regarded as a form of social security mechanism. Tenure security is also a precondition for improved technology adoption and increased agricultural productivity. It is generally accepted within the region that agricultural producers have need of greater security of tenure. It is also generally accepted that tenure change is not a panacea to food security in the region. However, policy on tenure security in the region must lead to a convergence of national policy on the adaptation strategy of customary tenure systems to meet the new needs of sedentary population and the strategy of replacement of traditional tenure systems with other tenure systems which are emerging in the region. An appropriate national and regional policy on tenure security for agriculture and access and management of the natural resources will go a long way in controlling the emerging cross-border resource use conflicts and intracountry conflicts over various land use options. Other issues of land tenure

touch on gender tenure rights and the impacts of democratization under decentralised systems of governance. There are clear regional trends over the last three decades:

- Smallholder production continues to be the major form of production throughout the region in spite of major effort by the governments to discourage this trend. Tenure security for the smallholder is still the most critical need throughout the region. The smallholder land use systems are governed by both the customary tenure and by other forms of tenure security.
- The policy makers in the region are aware of the potential impacts of the conversion of tenure from communal to private in the pastoral areas and the possible negative impacts of a liberalized land market.
- The tenure policy is biased more towards the agricultural lands and not over the broader issues of tenure in natural resource management.

The regional governments lack the administrative and policing capacity and the ability to replace customary land tenure systems with imported tenure forms.

This Project will form a part of the overall regional livestock development programme in Eastern Africa. The pastoral and crop livestock production systems are continuously adapting to social, cultural, economic and political changes in the region. Emergence of sedentary and semisedentary livestock production systems in pastoral areas is currently creating land use conflicts. The purpose of this project is to commission pilot studies in critical pastoral and agropastoral areas in order to assist national governments to rationalize their policy based on the relationship between security of tenure in smallholder mixed farming system and land productivity.

The state of land and natural resource tenure policy presents different scenarios at national level when viewed from the perspective of inducing greater productivity through tenure reform. Kenya has been pursuing a policy of tenure individualization and privatization. Burundi, Rwanda, Djibouti and Sudan have conserved the private ownership that existed at independence. Uganda is pursuing a strategy of replacing customary ownership with private ownership in the context of a new constitution which was adopted in 1995. Tanzania, Ethiopia and Eritrea abolished private ownership and sought to replace indigenous tenure system with alternative community based tenure forms. The underlying concern of most governments in the region is the fear that unchecked operation of a market in land under a liberalized system may lead to concentration in the hands of a few people.

Land tenure/security effects on the productivity and conservation of natural resources are poorly understood and cannot lead to informed decision making. It is also quite apparent that livestock production opportunities and constraints cannot be addressed sufficiently without looking into the tenure security issues. Out of a very complex problem of addressing the land tenure/land use and land policy issues which were raised in the Kampala meeting this Project will concentrate only on land tenure/security issues as they relate to the smallholder mixed farming production system.

The study will also take into the account the existing disparities at country level on land tenure and land management policies. For example for Burundi the main concern is the land subdivision which compromises the productivity whereas the overriding concern for Eritrea and Somalia is the demarcation of land between the crop/livestock sedentary system and the nomadic production systems. Ethiopia is more interested in the allocation of land to particular production types such as dairy in periurban areas. The issues of resource use conflicts especially between wildlife and livestock is a common problem in all the countries as they attempt to maintain the ecological integrity of the protected area systems. These country specific issues and the common problems have to be addressed by country case studies. The case studies will be selected to reflect the production system, agroecological zones and the production orientation.

The focus is on the smallholder mixed farming system because it has the potential to internalize the environmental impacts of the intensification process. The smallholder production system is expanding at a high rate in the region. The encroachment of farmers from highlands and densely populated areas into key pastoral production areas is a matter of concern in all the countries in the region. The focus of this study is on the priority area identified by the IGAD and ECA sponsored subregional workshop held in March 1996 on Land Tenure Issues in Natural Resources Management. Funds permitting, the number of case studies can be increased to cater for other production systems.

The implementation of the case studies will be by National Agricultural Research Systems (NARS) at national level and by the ASARECA Animal Agriculture Research Network (A-AARNET) at regional level. Regional level implementation will be by coordinating by networking that will ensure that the country studies are not disconnected but that study sites are replicated in multiple locations according to specific land use/land tenure issues and the geographical coverage and ecological criteria. A-AARNET will collate the information generated to be fed back to the policy making organs for informed decision making at regional and national level.

2. Intervention

2.1 Overall objective

The livestock subsector in ten Eastern African countries stimulated through regional projects to support and initiate national efforts so that the subsector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

2.2 Project objective

Informed decisions made concerning the development of mixed smallholder systems based on the results of a coordinated regional study on livestock production-land tenure relationships

2.3 Results

- Resource specialists and decision makers jointly formulate policy at national and regional levels;
- A coordinated regional study completed detailing the relationships between land tenure, access, use and the options for livestock development in the region's mixed smallholder systems; and
- ASARECA-A-AARNET has shown a capacity to tackle effectively pertinent regional research needs involving collaboration among technical specialists of NARS, IARCS and ARIs.

2.4 Activities

Resource Use-Land Tenure Relationships Study (Subcomponent 1):

- ILRI-A-AARNET formulates the details of the research (design, protocols, schedules, analysis, reporting);
- A-AARNET identifies suitable NARS;
- Execution of country studies at representative study sites;
- A-AARNET/ILRI provides technical backstopping to country studies; and
- Analysis of study results, interpretation and synthesis for national and regional relevance.

Technical and Stakeholder Information Workshop (Subcomponent 2):

- Hold orientation workshop for research strategy and methodology and for familiarization of national and regional land tenure policy authorities;
- Hold Mid-term Review workshop; and
- Hold study results workshop;

Formulation of Land Tenure Policies (Subcomponent 3):

- Formulate national action plans.

3. Assumptions

3.1 Assumptions

- Land tenure-resource use relationships can be quantified and their identification can be used to rationalize livestock systems development;
- Participating states are signatory to natural resource policy conventions and are committed to fulfil their obligations;
- Advantages of integration of land tenure and land use issues in a regional livestock programme are seen and supported by all Programme stakeholders;
- A-AARNET research structure, commitment and capacity and linkages with ECA/PAPA stand the test; and
- No change in land policy will result in the decline of the economically and environmentally most friendly mixed farming system resource.

3.2 Risks and flexibility

- Use of existing structures and mandates at IGAD-, national and A-AARNET levels and their full integration into programme coordination, management and technical units will permit coordinated work and allow results to be achieved.
- Solutions by these structures can best and effectively be tackled and adjustments be made with consent of all participants.

4. Implementation

4.1 Detailed features

- Activities are grouped into three subcomponents according to the lead implementing institution Overall management is by A-AARNET operational mechanisms for Component 1, A-AARNET and IGAD share Component 2, and IGAD is in charge of Component 3;
- Monitoring and evaluation is by OAU/IBAR economics and policy units and CPLIU. A-AARNET and IGAD focal points are members of committees;
- A-AARNET liaises with ILRI in Addis Ababa and Nairobi for assistance and interlinks with ECAPAPA on policy issues; and
- Collaboration of A-AARNET-NARS in the region with ILRI and IGAD.

4.2 Organization and implementation procedures

- Annual work plans, budgets and time schedules will be prepared for each subcomponent by the management units (A-AARNET, IGAD) at least four months before the start of the financial and operational year and submitted to CPLIU;
- Work plans and budgets will be examined, fine tuned with other programme activities and endorsed by CPLIU;
- CPLIU will submit approved work plans to IGAD for release of funding to the Regional Authorizing Officer and will inform PTC of subsequent activities;
- Project funds of ASARECA activities of Components 1 and 2 will be kept in trust by ILRI but funds disbursement will be supervised by A-AARNET Steering Committee. ILRI is responsible for the financial accounting to donor; and
- Each component will submit regular progress reports to CPLIU. CPLIU will consolidate reports with those of other Components and Projects into a comprehensive report for examination by the PTC at its regular meetings.

The Project will be implemented over a 4-year period.

Implementation schedule

Activity	Year and quarter																			
	1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4	4/1	4/2	4/3	4/4	5/1	5/2	5/3	5/4
ILRI/A-AARNET formulate research proposals	■	■																		
A-AARNET identifies suitable NARS		■	■																	
Country studies by NARS				■	■	■	■	■	■	■	■	■								
A-AARNET/ILRI provide technical backstopping					■	■	■	■	■	■	■	■	■							
Analysis of results, interpretation, synthesis												■	■	■						
Orientation workshops			■							■										
Mid-term Review													■							
Results workshop														■						
Formulation of national action plans															■	■	■	■		

4.3 Costs and financing

Total Component base costs are Euro 970 500. All costs will be financed from the EU Programme costs.

4.4 Special conditions

- CPLIU and steering units must be set up before the Component can start.
- A Memorandum of Understanding governing operational and financial aspects must be signed by OAU/IBAR and the project management entity before the project becomes operational.
- Agreement between A-AARNET and countries pertaining to all technical details of field study execution and analysis must be finalized before country field studies begin.

5. Factors ensuring sustainability

5.1 Policy support

All countries in the region have a commitment to land policy issues and enhancement of livestock production systems through adjustments of regulatory frameworks of natural resource management, including their ratification into CCD and CBD Conventions and the development of national action plans.

5.2 Appropriate technology

Proven on farm appraisal techniques that have shown their applicability particularly for smallholder systems in many countries will be used. Training will be provided to participating NARS in these techniques.

5.3 Environmental protection

No increases in livestock numbers will result from the Project. Relationships between land tenure system and resource use of farms will be identified that can enhance the production, social and environmental factors of mixed smallholder systems. Results of land tenure adjustments will result in more efficient use of on farm resources and decreased pressure on off farm lands will enhance biodiversity by better and more mixes of livestock/crop species and will help in the use of environmentally safer production technologies.

5.4 Socio-cultural aspects: women in development

Issues of land tenure and land use are of direct relevance to women. Land tenure security and resulting improvements in production have a direct positive impact on the wellbeing of women and their access to productive resources. Settlement of disputed land rights further

reduces the ethnic and clan conflicts of which women and their children are the most affected.

5.5 Institutional and management capacity

Two of the subcomponents are devoted to strengthening the regional research network ASARECA-A-AARNET and via it the national NARS. Practical implementation of field study activities with backstopping support from ILRI will strengthen regional and national capacity to undertake such activities. IGAD's capacity will be enhanced by being fully integrated in the technical aspects of field activities and taking the lead in the political and policy aspects of the Component. Collaboration among the diverse institutions (NARS, ASARECA, IGAD, ILRI) will enhance regional capacity for concerted actions.

5.6 Financial and economic analysis

Benefits from this Project are not immediately quantifiable, but evaluation will be possible on completion.

6. Monitoring and Evaluation

6.1 Monitoring indicators

Monitoring indicators and their means of verification are contained in the logframe.

6.2 Reviews and evaluation

An internal Mid-term Review will be carried out at the mid term workshop in the middle of Year 2, particularly concentrating on work progress and quality achieved and on next planning and implementation steps. Necessary adjustments will be made on consensus of all stakeholders (technical and political) participating in the workshop.

Workshop proceedings and results will be contained in the regular report of the responsible CPLIU expert.

A final evaluation will be conducted at programme end. It particularly will concentrate on progress of use of study and workshop results in national land tenure plans.

Sustainable utilization of Animal Genetic Resources, Feed Resources and Land Rights

ICES, AND	Breed surveys and on farm phenotypic characterization component	Genetic distancing and assessment of genetic diversity at molecular level component	Data base on Eastern African farm animal genetic resources component	Economic evaluation of indigenous animal genetic resources component	Breed comparisons and breeding objectives component	Rational use of region's farm animal genetic resources component	Feed inventory and livestock production data bank and information system component	Livestock production-environment-land tenure relationships component
<p>Key ty. of</p> <p>by</p> <p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p> <p>6.</p> <p>7.</p> <p>8.</p> <p>9.</p> <p>10.</p> <p>11.</p> <p>12.</p> <p>13.</p> <p>14.</p> <p>15.</p> <p>16.</p> <p>17.</p> <p>18.</p> <p>19.</p> <p>20.</p> <p>21.</p> <p>22.</p> <p>23.</p> <p>24.</p> <p>25.</p> <p>26.</p> <p>27.</p> <p>28.</p> <p>29.</p> <p>30.</p> <p>31.</p> <p>32.</p> <p>33.</p> <p>34.</p> <p>35.</p> <p>36.</p> <p>37.</p> <p>38.</p> <p>39.</p> <p>40.</p> <p>41.</p> <p>42.</p> <p>43.</p> <p>44.</p> <p>45.</p> <p>46.</p> <p>47.</p> <p>48.</p> <p>49.</p> <p>50.</p> <p>51.</p> <p>52.</p> <p>53.</p> <p>54.</p> <p>55.</p> <p>56.</p> <p>57.</p> <p>58.</p> <p>59.</p> <p>60.</p> <p>61.</p> <p>62.</p> <p>63.</p> <p>64.</p> <p>65.</p> <p>66.</p> <p>67.</p> <p>68.</p> <p>69.</p> <p>70.</p> <p>71.</p> <p>72.</p> <p>73.</p> <p>74.</p> <p>75.</p> <p>76.</p> <p>77.</p> <p>78.</p> <p>79.</p> <p>80.</p> <p>81.</p> <p>82.</p> <p>83.</p> <p>84.</p> <p>85.</p> <p>86.</p> <p>87.</p> <p>88.</p> <p>89.</p> <p>90.</p> <p>91.</p> <p>92.</p> <p>93.</p> <p>94.</p> <p>95.</p> <p>96.</p> <p>97.</p> <p>98.</p> <p>99.</p> <p>100.</p>	<p>Overall objective: Production and productivity increases by sustainable, efficient and effective utilization of animal genetic resources, feed resources and land rights</p> <p>Project purpose: 4.1 Determination of risk levels and conservation needs of species and breeds by NARS field studies</p> <p>Results: 4.1.1 NARS competent in survey methods 4.1.2 Herd/flock demographic data available 4.1.3 Cause of threats for local native breeds determined 4.1.4 NARS institutionally strengthened</p>	<p>Overall objective: Production and productivity increases by sustainable, efficient and effective utilization of animal genetic resources, feed resources and land rights</p> <p>Project purpose: 4.2 Estimation of genetic relationships among cattle breeds and establishment of phylogenetic trees</p> <p>Results: 4.2.1 Genetic relationships (diversity) among breeds established 4.2.2 Distinct breeds identified on molecular genetic basis 4.2.3 Criteria for development, conservation and use of breeds developed 4.2.4 NARS staff trained and motivated to carry out molecular genetic analyses</p>	<p>Overall objective: Production and productivity increases by sustainable, efficient and effective utilization of animal genetic resources, feed resources and land rights</p> <p>Project purpose: 4.3 Production of breed catalogue of indigenous breeds in the Eastern African Region</p> <p>Results: 4.3.1 Breed catalogue of indigenous livestock published and used 4.3.2 Public is aware of range of biodiversity</p>	<p>Overall objective: Production and productivity increases by sustainable, efficient and effective utilization of animal genetic resources, feed resources and land rights</p> <p>Project purpose: 4.4 Economic valuation of breeds, traits and attributes of for conservation and breed development priority purposes</p> <p>Results: 4.4.1 Economic values are assigned to various aspects of African farm animal genetic resources</p>	<p>Overall objective: Production and productivity increases by sustainable, efficient and effective utilization of animal genetic resources, feed resources and land rights</p> <p>Project purpose: 4.5 Promotion of use of sets of indigenous breeds according to economic, adaptive and productivity traits</p> <p>Results: 4.5.1 Indigenous breeds are compared for productive performance in various environments 4.5.2 Breeding objectives are defined 4.5.3 Rational use of indigenous genetic resources is initiated 4.5.4 NARS staff is trained in experimentation techniques</p>	<p>Overall objective: Production and productivity increases by sustainable, efficient and effective utilization of animal genetic resources, feed resources and land rights</p> <p>Project purpose: 4.6 Creation of network on management, use and development of farm animal genetic resources</p> <p>Results: 4.6.1 A network of a functional coordinating centre and country centres for management, use and development of farm animal genetic resources created 4.6.2 National policies and plans to guide the management and use of the region's farm animal genetic resources developed and initiated</p>	<p>Overall objective: Production and productivity increases by sustainable, efficient and effective utilization of animal genetic resources, feed resources and land rights</p> <p>Project purpose: 4.7 Creation of a feed resource data bank for use as an information system for planning zoning of livestock development</p> <p>Results: 4.7.1 Feed inventory data base from passive and active data created 4.7.2 Agenda for cross-border feed/livestock zones initiated 4.7.3 NARS capacities for on-farm surveys strengthened</p>	<p>Overall objective: Production and productivity increases by sustainable, efficient and effective utilization of animal genetic resources, feed resources and land rights</p> <p>Project purpose: 4.8 Initiation of informed decision making on land tenure policy by provision of results of coordinated country studies</p> <p>Results: 4.8.1 National studies regionally coordinated on land tenure/environment/livestock production completed 4.8.2 Resource specialists and decision makers jointly formulate policy 4.8.3 NARS capacities to tackle regional research needs strengthened</p>

Sustainable utilization of Animal Genetic Resources, Feed Resources and Land Rights

Breed surveys and on farm phenotypic characterization component	Genetic distancing and assessment of genetic diversity at molecular level component	Data base on Eastern African farm animal genetic resources component	Economic evaluation of indigenous animal genetic resources component	Breed comparisons and breeding objectives component	Rational use of region's farm animal genetic resources component	Feed inventory and livestock production data bank and information system component	Livestock production-environment-land tenure relationships component
<p>Activities:</p> <p>4.1.1.1 Establish random cluster techniques to complete census in each country to identify typical production environments associated with each breed</p> <p>4.1.1.2 Obtain information on farmers' indigenous knowledge and breed preferences</p> <p>4.1.1.3 Identify main uses of breeds and key adaptive attributes</p> <p>4.1.1.4 Establish main performance characteristics</p> <p>4.1.2.1 Establish estimated breed population statistics from censuses and use these to obtain approximate national figures for breed status and composition</p> <p>4.1.3.1 Analyse survey data to determine trends and causes for change in breed numbers</p> <p>4.1.4.1 Train NARS staff in-service in design, execution and analysis of surveys</p>	<p>Activities:</p> <p>4.2.1.1 Supply supplementary equipment as required at central coordinating unit and at collaborating laboratories in order to strengthen capacity of (selected) NARS in molecular genetics</p> <p>4.2.1.2 Collect blood samples, prepare DNA, establish genotypes (24-30 highly polymorphic easy to score microsatellite markers)</p> <p>4.2.2.1 Analyse data and prepare phylogenetic trees</p> <p>4.2.3.1 Develop criteria by analysis of data and phylogenetic trees</p> <p>4.2.4.1 Prepare and provide training materials for individual and group training</p> <p>2.2.4.2 Train individual graduates (higher degrees, practical training) in molecular genetics</p>	<p>Activities:</p> <p>4.3.1.1 Use data collected from components 1 and 2 as a basis for a Regional Breed Catalogue initially as a database</p> <p>4.3.1.2 Compile photographic collection of breeds (sex and age groups where appropriate) in representative and typical production environments</p> <p>4.3.1.3 Write up descriptions of breeds (distribution, physical characteristics, main uses, production systems, performance characteristics, major threats and extent of breeds)</p> <p>4.3.2.1 Publish catalogue in electronic and hard copy form</p>	<p>Activities:</p> <p>4.4.1.1 Test an array of valuation methods in case studies in selected countries</p> <p>4.4.1.2 Carry out multicollectoral studies with retained methods over a range of species, production systems and marketing situations in collaboration with national scientists</p> <p>4.4.1.3 Analyse and publish results of studies</p>	<p>Activities:</p> <p>4.5.1.1 Select a set of breeds and traits for milk and meat production to be evaluated</p> <p>4.5.1.2 Select representative environments and production systems in several countries</p> <p>4.5.1.3 Carry out breed evaluation studies with several breeds at each site that ensure breed links across sites and record all relevant component traits</p> <p>4.5.2.1 Use information from economic evaluation studies and other market information to develop economic weights for chosen traits to be included in the objective function</p> <p>4.5.2.2 Use results of breed surveys to identify key attributes identified by farmers and evaluate these for possible inclusion in the breeding objectives</p> <p>4.5.2.3 Compile genetic and phenotypic parameters of identified traits from the literature and from breed evaluation studies</p> <p>4.5.3.1 Use the selected genetic and phenotypic parameters to help to choose selection criteria for the objective function</p> <p>4.5.4.1 Provide appropriate postgraduate training to research staff of NARS in data collection and experimental and statistical analysis techniques</p>	<p>Activities:</p> <p>4.6.1.1 Identify and establish a Regional Focal Point</p> <p>4.6.1.2 Identify and establish National Focal Points (National Coordinating Institution and National Coordinator) in existing national structures</p> <p>4.6.1.3 Complete Regional Database for animal genetic resources in collaboration with components of the project and linked to DARS</p> <p>4.6.1.4 Conduct yearly 14-day National Coordinators training workshops</p> <p>4.6.1.5 Establish a regional network to link all countries and provide information to all National Focal Points and other interested organizations</p> <p>4.6.2.1 Establish a critical mass of scientists and technicians training to implement breed development and conservation programmes</p> <p>4.6.2.2 Produce a National Farm Animal Genetic Resources Management Plan in each country</p> <p>4.6.2.3 Initiate breed development programmes based on breeds identified and characterized in other components of the project</p> <p>4.6.2.4 Prepare a Regional Policy document on exchange and control of genetic material between countries in the region</p>	<p>Activities:</p> <p>4.7.1.1 Collect country information from stakeholders on kind of data needed, sources of information available and kinds and amounts of information system queries required</p> <p>4.7.1.2 Develop a relational data bank on regional feed resources and related information from existing data sources</p> <p>4.7.1.3 Initiate first customization step of desktop systems for issued livestock production planning</p> <p>4.7.1.4 Identify suitable NARS and the details of research strategy and methodology to be formulated</p> <p>4.7.1.5 Hold orientation workshop</p> <p>4.7.1.6 NARS undertake country studies at representative sites</p> <p>4.7.2.1 Hold a feed/livestock productivity processing workshop for land use and animal production on farmers</p> <p>4.7.3.1 Increase NARS capacity by training and by execution of country studies</p>	<p>Activities:</p> <p>4.8.1.1 Identify suitable NARS and the details of research strategy and methodology to be formulated</p> <p>4.8.1.2 Hold orientation workshop</p> <p>4.8.1.3 NARS undertake country studies at representative sites</p> <p>4.8.1.4 Hold mid-term review workshop on work progress and adjustments</p> <p>4.8.1.5 Analyse, interpret and synthesize results of studies</p> <p>4.8.2.1 Hold a joint workshop on policy issues emanating from study results</p> <p>4.8.2.2 Initiate formulation of national action plans under regional guidance</p> <p>4.8.3.1 Increase NARS capacity by training and by execution of country studies</p>

ical assistance	month	3	3	3	3	3	15	12,000	36.0	36.0	36.0	36.0	36.0	180.0
	month	1	3	3	3	3	13	5,000	5.0	15.0	15.0	15.0	15.0	65.0
	year	1	1	1			3	20,000	20.0	20.0	20.0			60.0
	year	1	1	1	1		2	15,000		15.0		15.0		30.0
	year	1	1	1	1		4	3,000	3.0	3.0	3.0	3.0		12.0
									64.0	89.0	74.0	69.0	51.0	347.0
nt	month	12	12	12	12	12	60	800	9.6	9.6	8.6	9.6	9.6	48.0
ds														
roduction	lump sum								2.0	2.0	2.0	2.0	2.0	10.0
el inputs	lump sum											5.0	5.0	10.0
									2.0	2.0	2.0	7.0	7.0	20.0
el of a Data Base on Eastern African Farm Animal Genetic Resources									79.6	100.6	85.6	85.6	67.6	419.0
on of Indigenous Animal Genetic Resources														
quipment	no.			5			5	3,500			17.5			17.5
ent and software														
ical assistance	month			12	12	12	36	12,000			144.0	144.0	144.0	432.0
	month			2	2	2	6	5,000			10.0	10.0	10.0	30.0
	lump sum										2.0			2.0
											156.0	154.0	154.0	464.0
l staff	month			24	24	24	72	1,000			24.0	24.0	24.0	72.0
ll	month			36	36	36	108	800			28.8	28.8	28.8	86.4
sonnel											52.8	52.8	52.8	158.4
ds														
supervision	month			12	12	12	36	500			6.0	6.0	6.0	18.0
	No.			1			1	10,000			10.0		10.0	20.0
	visits			20	20	20	60	1,000			20.0	20.0	20.0	60.0
	year			1	1	1	3	10,000			10.0	10.0	10.0	30.0
	lump sum												5.0	5.0
el inputs											46.0	36.0	51.0	133.0
aluation of Indigenous Animal Genetic Resources											272.3	242.8	257.8	772.9
rs and Breeding Objectives /d														
quipment	no.	2	2				4	20,000	40.0	40.0				80.0
ent and software	no.	5		5			10	3,500	17.5		17.5			35.0
re	no.	100	50				150	1,000	100.0	50.0				150.0
nd other equipment /	lump sum								25.0	20.0				45.0
nd Equipment	lump sum								20.0	15.0				35.0
	no.								5.0	5.0				10.0
									207.5	130.0	17.5			355.0
ical assistance	month	12	12	12	18	18	72	12,000	144.0	144.0	144.0	216.0	216.0	864.0
in equipment	month	4	3	3	2	1	13	5,000	20.0	15.0	15.0	10.0	5.0	65.0
in AIT equipment	lump sum									5.0	5.0	5.0	5.0	20.0
	lump sum									5.0	5.0	5.0	5.0	20.0
	no.	1	1	1			3	20,000	20.0	20.0	20.0			60.0
									184.0	188.0	189.0	236.0	231.0	1,029.0
l staff	month	24	24	24	24	24	120	1,000	24.0	24.0	24.0	24.0	24.0	120.0
ll	month	60	60	30	60	60	300	800	48.0	48.0	48.0	48.0	48.0	240.0
sonnel									72.0	72.0	72.0	72.0	72.0	360.0
ds /g														
es	month	12	12	12	12	12	60	3,500	42.0	42.0	42.0	42.0	42.0	210.0
ss	month	12	12	12	12	12	60	500	6.0	6.0	6.0	6.0	6.0	36.0
	month	12	12	12	12	12	60	1,500	18.0	18.0	18.0	18.0	18.0	90.0
	No.	1	1				3	10,000	10.0	10.0			10.0	30.0
rs	month	24	48	48	48	48	216	650	15.6	31.2	31.2	31.2	31.2	146.4
AM	month		12	12	12	12	48	300		3.6	3.6	3.6	3.6	14.4
l supervision	visits	20	20	20	20	20	100	1,000	20.0	20.0	20.0	20.0	20.0	100.0
	year	1	1	1	1	1	5	10,000	10.0	10.0	10.0	10.0	10.0	50.0
el inputs									121.6	140.8	130.8	130.8	140.8	664.8
risons and Breeding Objectives									585.1	521.8	409.3	438.8	443.8	2,408.8
ational Use of the Region's Farm Animal Genetic Resources /														
quipment	no.	1					1	20,000	20.0					20.0
er office equipment - regional	no.	1					1	7,000	7.0					7.0
er office equipment - counties	no.	10					10	7,000	70.0					70.0
nd Equipment									97.0					97.0
ical assistance	month	12	12	12	12	12	60	12,000	144.0	144.0	144.0	144.0	144.0	720.0
osis	month			2			2	15,000			30.0		30.0	60.0
									144.0	144.0	174.0	144.0	174.0	780.0

4. CPLU for
 iles, communications etc
 ion of Land Tenure Policies
 roduction-Environment-Landtenure Relationships in Smallholder Mixed Farming Systems

visit
 lump sum

2 2 2 2

8

2,000

4.0	4.0	4.0	4.0	16.0
2.5	2.5	2.5	2.5	10.0
16.5	16.5	16.5	24.0	73.5
223.3	323.5	234.0	189.8	970.6
2,388.8	2,048.2	2,190.0	1,780.6	1,522.8
				9,879.5

if, subsistence, venue hire, facilitation etc.)

if, subsistence, venue hire, facilitation etc.)

if, subsistence, venue hire, facilitation etc.)

vents will provide animals, basic facilities and additional support staff and estimates have been requested for inclusion in the Final Report

quested for inclusion in the final report

quested for inclusion in the final report

these costs has been requested for inclusion in the Final Report

if, subsistence, venue hire, facilitation etc.)

these costs has been requested for inclusion in the Final Report

these costs has been requested for inclusion in the Final Report

if, subsistence, venue hire, facilitation etc.)

if, subsistence, venue hire, facilitation etc.)

measuring tapes, scales etc.)

ig countries, 2 ASAR, 2 ILRI, 2 IBAR and 2 others and includes all costs (travel, per diems, hire of venue)

flute

g countries, 2 ASAR, 2 ILRI, 2 IBAR, 2 IGAD and 2 others and includes all costs (travel, per diems and venue hire etc.)

ig countries, 2 ASAR, 2 ILRI, 2 IBAR, 2 IGAD and 2 others and includes all costs (travel, per diems, venue hire etc.)

IA and ILRI

, software etc. per participating country, ASARECA and ILRI

equipment per participating country

each participating country

15 days each

o including 10 days for preparation

stence, venue hire etc., 10 country and 10 other participants

stence, venue hire etc., 10 country and 10 other participants

stence, venue hire etc., 30 country participants (including policy makers) and 10 others

p including 10 days for preparation

ock Development Programme
 onents by Year

	Base Cost					Total
	2000	2001	2002	2003	2004	
ordination, Policy and Livestock Information Unit	689.7	594.7	639.7	504.7	504.7	2,933.5
he Modernization of Marketing and Trade	1,962.4	3,657.9	1,788.9	1,638.9	1,516.6	10,564.5
National Veterinary Services to Respond to the Opportunitas of SPS	1,504.6	1,451.0	684.8	251.1	156.7	4,048.0
ile Use of Farm Animal Genetic Resources, Feed Resources and Land Resources	2,388.8	2,048.2	2,139.0	1,780.6	1,522.8	9,879.5
VE COSTS	6,545.4	7,751.7	5,252.4	4,175.2	3,700.8	27,425.5
ntingencies	186.7	352.3	142.4	106.5	89.6	877.6
gencies	174.8	397.2	387.5	403.9	444.6	1,808.0
T COSTS	6,907.0	8,501.2	5,782.2	4,685.6	4,235.0	30,111.0
	-	-	-	-	-	-
range	4,251.8	4,134.5	2,706.9	1,938.3	1,767.2	14,798.6

Eastern Africa
Regional Livestock Development Programme
Expenditure Accounts by Years
(Euro '000)

	Base Cost					Foreign Exchange		
	2000	2001	2002	2003	2004	Total	%	Amount
A. Infrastructure	50.0	1,764.0	-	-	-	1,814.0	50.0	907.0
B. Equipment and Vehicles	1,226.0	365.0	65.0	-	-	1,656.0	100.0	1,656.0
C. Services	2,374.5	2,231.0	2,096.5	1,563.5	1,397.0	9,662.5	84.6	8,173.0
D. Special Funds	-	500.0	500.0	500.0	500.0	2,000.0	-	-
E. Local Personnel	1,077.6	1,132.6	1,167.4	1,046.4	907.6	5,331.4	-	-
F. Operational Inputs	1,817.4	1,759.2	1,423.5	1,065.3	896.2	6,961.6	40.0	2,784.6
Total BASELINE COSTS	6,545.4	7,751.7	5,252.4	4,175.2	3,700.8	27,425.5	49.3	13,520.6
Physical Contingencies	186.7	352.3	142.4	106.5	89.6	877.6	42.1	369.2
Price Contingencies	174.8	397.2	387.5	403.9	444.6	1,808.0	50.3	908.8
Total PROJECT COSTS	6,907.0	8,501.2	5,782.2	4,685.6	4,235.0	30,111.0	49.1	14,798.6
Taxes	-	-	-	-	-	-	-	-
Foreign Exchange	4,251.8	4,134.5	2,706.9	1,938.3	1,767.2	14,798.6	-	-