



**ORGANIZATION OF AFRICAN UNITY
INTERAFRICAN BUREAU OF ANIMAL RESOURCES**

**PAN AFRICAN PROGRAMME
FOR THE CONTROL OF EPIZOOTICS
(PACE)**

**EUROPEAN DEVELOPMENT FUND PROJECT NUMBER REG/5007/005
EDF VII and VIII
FINANCING AGREEMENT No 61215/REG**

**SOMALI PACE PROJECT
PACE/EDF/TN/001/01**

IMPLEMENTED BY TERRA NUOVA, UNA VSF-SUISSE and CAPE

SECOND QUARTERLY REPORT

1st January- 31st March 2002

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LIST OF ACRONYMS

AU/IBAR.....	African Union/Inter- African Bureau of Animal Resources
AWH.....	Animal Health Worker
BENELPA	Benadir Livestock Professional association
CAPE	Community based Animal health and Participatory Epidemiology
CBAHDS	Community Based Animal Health Delivery Systems
CBAHW.....	Community Based Animal Health Worker
CBPP.....	Contagious Bovine Plueropneumonia
CERELPA.....	Central Regions Livestock Professional Association
CSU.....	Common Services Unit
DG.....	Director General
DFiD	Donor fund for International Development
EC	European Commission
ECSU	European Commission Somalia Unit
FAO	Food and Agricultural Organisation of United Nations
ILRI.....	International Livestock Research Institute
INGO	International Non Governmental Organisation
IRC.....	International Rescue Committee
ITP	Itinerant Training Programme
KARI.....	Kenya Agricultural Research Institute
MOL	Ministry of Livestock, Somaliland
MOLAE	Ministry of livestock Agriculture & Environment, Puntland
MOU	Memorandum of Understanding
NAHA.....	Nomadic Animal Health Auxiliary
PACE	Pan African control Of Epizootics
PULPA.....	Puntland Livestock Professional Association
RP	Rinderpest
RFV.....	Rift Valley Fever
SCIU	Somali Coordination and Implementation Unit
SHA	Swiss Humanitarian Aid
SLPF	Somali Livestock Professional Forum
SOWELPA.....	South west Livestock Professional Association
SVP	Somali Veterinary Professional
TRANSJULPA	TransJuba Livestock Professional Association
ULPA.....	United Livestock Professional Association
UN.....	United Nations
UNDP.....	United Nations Development Programme
VSF	Veterinairie San Frontière
WTO	World Trade Organization

1. PROJECT BACKGROUND AND OVERVIEW

1.1 The PACE Somalia Component

The Somali PACE Component operates under the overall PACE objective **aiming at improving farmers' incomes and peoples' general living conditions by strengthening livestock services and hence improve and maintain animal health security.**

The three International Non Governmental Organisations Terra Nuova, UNA and VSF-Swiss, together with the CAPE Unit of OAU/IBAR are the implementers of the Somali PACE Project.

Expatriate staff from these partners are coordinating and supervising field activities in co-operation with Somali veterinary professional staff at national as well as at zonal level.

As from January 2002, EC allowed organizations to operate inside Somalia following the ban imposed as a result of the September 11th events.

PACE began its field-based activities from January 2002 with Somaliland, Puntland and Central Somalia bases becoming functional during the quarter.

Somali PACE Project's Somali Coordination and Implementation Unit (SCIU) embarked on finalizing the recruitment of expatriate and Somali staff for the 4 zonal bases.

In all zones, Somali national staff held sensitisation meetings with local authorities and veterinary professionals whereby a broad concept of the PACE project was explained and the groundwork prepared for the stakeholder workshops to be carried out in all 4 zones. All 4 stakeholder workshops were carried out with the launching of PACE in Somalia.

In addition, the Central Zonal Livestock Professional Association CERELPA was inaugurated in Jowhar. The 4th zone, Southern Somalia, did not fully start as the 4th expatriate zonal veterinary advisor had been delayed due to visa problems to enter Kenya although some activities related to community based animal health services were carried out by the CAPE unit and a local veterinary association TRANSJULPA was formed by livestock professionals from Gedo, Lower and Middle Juba regions.

As Somali PACE project operates in 4 zones, this report is presented by giving an overall summary of activities followed by section reports from each individual zone. Only the stakeholder workshops carried out in the 4 zones is presented as a joint report (see 4.1).

This quarterly report will mention the activities in the 4 operational zones and the Nairobi based Somali Coordination and Implementation Unit (SCIU) and they are reported as follows:

SECTION A	PACE SOMALILAND ZONE with the annexes
SECTION B	PACE PUNTLAND ZONE with the annexes
SECTION C	PACE CENTRAL ZONE with annexes
SECTION D	PACE SOUTHERN ZONE with annexes
SECTION E	SOMALI COORDINATION AND IMPLEMENTATION UNIT (SCIU) with annexes

2. SOMALI PACE OBJECTIVES

Overall objective and Project Purpose

The project will contribute to sustainable enhancement of production as well as trade in livestock and livestock products.

The immediate impact of the project will be to **enable livestock owners, traders, public and private sector animal health workers to co-operate in order to combat major livestock diseases**

3. EXPECTED RESULTS

Somali PACE Project has six expected results (outputs) and these are merged with the four major thrust of global PACE as described in the following table:

Matching Global PACE Thrust and Somali PACE Results

Global PACE	Somalia PACE Component
Thrusts	Results
Thrust 1 <i>Capacity enhancement of local administration</i>	Result 1 <i>The capability of public sector animal health workers to regulate, monitor and evaluate the livestock sector are strengthened</i>
	Result 5 <i>Local networks for promoting livestock health are functioning</i>
	Result 6 <i>The programme is effectively co-ordinated</i>
Thrust 2 <i>Promotion of private veterinary services</i>	Result 2 <i>Capabilities of private AHWs to engage in curative and preventive services are enhanced</i>
	Result 5 <i>Local networks for promoting livestock health are functioning</i>
Thrust 3 <i>Eradication of Rinderpest</i>	Result 3 <i>Livestock disease surveillance system is functioning, with specific reference to rinderpest</i>
	Result 4 <i>Emergency preparedness and response systems are functional, initially to rinderpest</i>
	Result 5 <i>Local networks for promoting livestock health are functioning</i>
Thrust 4 <i>Development of an animal disease surveillance and information system</i>	Result 3 <i>Livestock disease surveillance system is functioning</i>
	Result 4 <i>Emergency preparedness and response systems are functional</i>
	Result 5 <i>Local networks for promoting livestock health are functioning</i>

4. ACTIVITIES

The following table gives a summary of activities carried out during the quarter. Reports of the activities are given in the respective PACE zones and SCIU.

Expected Results	Activities carried out	Zones
RESULT 1 <i>The capability of public sector animal health workers to regulate, monitor and evaluate the livestock sector are strengthened</i>	Preparatory phase for the strategy on role of public sector in PACE	Somaliland, Puntland
	Sensitisation meetings on starting of PACE	All zones
	Stakeholders workshops	All zones
	Baseline information of the current function of MOL.	Somaliland, Puntland
	Current status of Veterinary code	Somaliland, Puntland
	Roles and responsibilities of public and private sector	Puntland
	Preparation of the draft of MOU with Ministry of Livestock	Somaliland, Puntland
RESULT 2 <i>The capabilities of private animal health workers to engage in curative and preventive services are enhanced</i>	Preparatory phase for the strategy on role of private sector in PACE	Central/SCIU
	Establishment of 2 zonal veterinary associations	Central and Southern
	Establishment of one local veterinary association	Southern
	Needs assessment for community based animal health delivery system (CBAHDS)	Southern
	PRA training for CBAHDS	Southern
	4 Zonal coordinators attending CBAHDS meeting in Jigjiga, (region 5, Somali ecosystem) Ethiopia	All zones
RESULT 3 <i>A disease surveillance system is functioning</i>	Rinderpest eradication strategy	SCIU
	Training of trainers session in epidemiology	SCIU
	Training material and modules on epidemiology, information gathering and active search for rinderpest finalized	SCIU
	Rift Valley Fever presentation at ILRI-	SCIU
RESULT 4 <i>Emergency preparedness and response system in place, initially to Rinderpest</i>	No field activities foreseen in the quarter	

RESULT 5 <i>Local networks for promoting livestock health are functioning</i>	No field activity foreseen in the quarter	
RESULT 6 <i>The programme is effectively co-ordinated</i>	Establishment 4 zonal bases	All zones
	Recruitment of expatriate and Somali staff for zonal bases	Implementing partners +SCIU
	Establish linkages with AU-IBAR and PACE Common Services Unit (CSU)	SCIU
	Administrative and financial operative procedures established	Implementing partners
	Internal rules and guidelines of Somali PACE approved by EC Somalia Unit	SCIU
	Procedures for zonal work plans and budget request established	SCIU

4.1 STAKEHOLDER WORKSHOPS 4 ZONES

4.1.1. Objective of the stakeholder workshops:

The overall objective of the workshops was intended to create awareness of Somali PACE Project amongst the stakeholders and to officially launch the project in the country. Prior to the stakeholder workshops SCIU office in Nairobi sent missions to the various zones namely Baidoa for Southern Somalia, Beled Weyne for Central Regions, Hargeysa for Somaliland and Bosasso for Puntland with the aim to sensitise the local authorities, veterinary associations and other stakeholders as well and to prepare the ground for the stakeholder workshops. More emphasis was put to explain about the purposes of PACE and its expected outcome(s).

PACE forwarded invitation letters to the respective authorities and stakeholders defining the venue, the number of participants and the date of each stakeholder workshop. A standard timetable of agenda of topics was prepared for all zones. The workshops were planned and progressed as follows:

Dates:

Southern Somalia	30-31 January 2002.
Puntland	12-13 February 2002.
Central Somalia	19-21 February 2002.
Somaliland	07-08 March 2002.

Workshop Venues

Baidoa	for Southern Somalia incorporating participants from Bay, Bakool, Lower Shabelle, Lower Juba, Middle Juba and Gedo regions
Bosasso	for Puntland incorporating participants from Bari, Nugaal, North Mudug, and Puntland affiliated areas of Sool and Eastern Sanaag
Beled Weyne	for Central Somalia incorporating participants from Hiraan, Middle Shebelle, Mudug and Galgaduud
Hargeysa for	Somaliland incorporating participants from Awadal, West Galbeed, Togdheer, Saheil, and Somaliland affiliated areas of Sool and Sanaag.

OAU/IBAR - PACE:

This presentation was carried out by Risto Heinonen in Baidoa and Dr Gavin Thompson in Hargeysa. In Puntland, Dr Seif Maloo gave a brief on the role of OAU/IBAR/PACE.

PACE global plan is for 32 African countries, Somalia included, and that PACE is divided into three regional offices: Western And Central (regional office is Bamako), and Eastern (regional office is Nairobi) African regions. The objectives and strategies of RP eradication from Africa and the control of other major trans-boundary diseases were highlighted.

EC Somalia Unit:

Dr Fritz Mahler gave this presentation in Baidoa, Bosasso and Hargeysa. He presented PACE Somalia Component and deeply explained the features of the Somali livestock sector, its requirements, main problems to be addressed, PACE domains, beneficiaries and geographical areas as well as its implementation procedures including operational structures and organogramme.

Somali PACE Project:

Dr Seif Maloo presented the overall objective of the project being the contribution to sustainable enhancement of production as well as trade in livestock and products of animal origin. He also explained the project purpose focusing on the idea of enabling all livestock stakeholders to cooperate in order to combat major livestock diseases. The project expected results were also presented

SLPF:

Prof Abdullatif M. Abdi and Prof Ali Gedi presented a profile of SLPF (Somali Livestock Professional Forum), its definition, history of establishment, objectives, goals and strategies as well as its achievements and the way forward.

Prof Gedi also delivered a short presentation defining the difference between activities of private veterinary services and those of public veterinary services and pointed out the common or shared activities by both.

CAPE - PACE:

Dr M. Dirie of CAPE Unit, OAU/IBAR presented the concept and the main objective of training Community based Animal Health Workers (CAHWs) or Nomadic Animal Health Auxiliaries (NAHAs) and promotion of their use in the delivery of private animal health services in pastoral areas.

Conclusion: Debates and group exercises followed the presentations where questions and clarifications were asked the different presenters who provided reliable answers to all the participants. Annex 4.1 gives the report and the presentations made in the stakeholder workshops

5. ADHERENCE TO THE WORKPLAN

5.1 Activities not implemented

Private AHWs (ULPA) capacities building 1st workshop in Somaliland

This activity was not carried out as ULPA had not finalized their registration process and membership list. It was felt that this training also be done after the workshop on role of private sector in PACE. The possibility of involving CAPE to support this capacity building was also being considered.

6. WORKPLAN FOR UPCOMING QUARTER

Work plan for each zone and SCIU are presented in their respective sections.

7. EXTERNAL AND INTERNAL FACTORS INFLUENCING THE PROJECT

7.1 Political Developments and Security Issues

In Puntland, the administration was under the control of Jamaa Ali Jamaa, but was not accepted by the previous rule Abdullahi Yusuf. The long- term result of this political situation cannot be foreseen. In other areas no major security incidents or political developments were observed.

7.2 Internal Problems

In Puntland, the Zonal Coordinator could not be based in Bosasso due to the clanic political differences. This made it difficult for the zonal advisor to plan Puntland activities in consultation with his coordinator.

8. UPDATED INVENTORY

As per the EC guidelines, an updated list of physical goods exceeding the value of €500 Euro (USD 450) that have been acquired by the project to date is included in the respective sections of the zones.

9. PERSONNEL

Details of all zonal and SCIU expatriate and SCIU Somali personnel employed by the project to date are given below: Senior Somali staff recruited in the respective zones are given in their respective section.

A - SCIU expatriate staff

- 1) Name: Dr. Seiffuddin H Maloo
Passport Number: B 063825
Nationality: Kenyan
Position: Project Adviser
Recruitment Date: 1st October 2001
Present during the reporting period, (3months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period: NIL
Duty Station: Nairobi
- 2) Name: Dr. Stefano Tempia
Passport Number: Y125498
Nationality: Italian
Position: Project Epidemiologist
Recruitment Date: 1st October 2001
Present during the reporting period, (3 months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period: NIL
Duty Station: Nairobi
- 3) Name: Mr Dario Zecchini
Passport Number: 690929 A
Nationality: Italian

Position: Project Administrator
Recruitment Date: 1st October 2001
Present during the reporting period, (3 months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period: NIL
Duty Station: Nairobi

- 4) Name: Dr. Baba Soumare
Passport Number: 97FA23494
Nationality: Senegalese
Position: Zonal Veterinary Adviser
Recruitment Date: 1st October 2001
Present during the reporting period, (3 months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period: NIL
Duty Station: Hargeysa, Somaliland

Name: Dr Massimo Castiello.
Passport Number: 690991A
Nationality: Italian
Position: Zonal Veterinary Adviser, Central Somalia
Recruitment Date: 1st January 2002
Present during the reporting period, (3 months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period: NIL
Duty Station: Central Somalia, Beled Weyne

Name: Dr Martin Nyangao.
Passport Number: A279595
Nationality: Kenyan
Position: Zonal Veterinary Adviser, Central Somalia
Recruitment Date: 1st February 2002
Present during the reporting period, (2 months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period: NIL
Duty Station: Bosasso, Puntland

Name: Dr Mohammed Dirie.
Passport Number: A011063024
Nationality: Somali
Position: Community based Animal Health Adviser,
Recruitment Date: 1st February 2002
Present during the reporting period, (2 months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period: NIL
Duty Station: Nairobi

B - Somali National Staff

- 1) Name: Dr Ali Gedi
Passport Number: 0978755
Nationality: Somali
Position: Somali Project Coordinator
Recruitment Date: 1st December 2001

Present during the reporting period, (3 months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period: NIL
Duty Station: Nairobi

2) Name: Dr Abdulatif M Abdi
Passport Number: 01009284
Nationality: Somali
Position: Somali Epidemiologist
Recruitment Date: 1st December 2001
Present during the reporting period, (3 months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period:
Duty Station: Nairobi

Name: Sayyid H Sherrif
Passport Number: E283697
Nationality: Somali
Position: Somali Administrator
Recruitment Date: 15th January 2002
Present during the reporting period, (2.5 months)
Leave Entitlement: 2.5 working days per month plus public holidays
Leave taken during the period: NIL
Duty Station: Nairobi

10. SECTION REPORTS

-SECTION A	PACE SOMALILAND ZONE with the annexes
-SECTION B	PACE PUNTLAND ZONE with the annexes
-SECTION C	PACE CENTRAL ZONE with annexes
-SECTION D	PACE SOUTHERN ZONE with annexes
-SECTION E	SOMALI COORDINATION AND IMPLEMENTATION UNIT with annexes

Annex 4.1

Stakeholder Workshops

STAKEHOLDER WORKSHOPS IN FOUR ZONES

Objective of the stakeholder workshops:

The overall objective of the workshops was intended to launch the Somali PACE Project in the country. Prior to the stakeholder workshops SCIU office in Nairobi sent missions to the various zones namely Baidoa for Southern Somalia, Beled Weyne for Central Regions, Hargeysa for Somaliland and Bosasso for Puntland with the aim to sensitise the local authorities, veterinary associations and other stakeholders as well. More emphasis was put to explain about the purposes of PACE and its expected outcome(s).

After the sensitisation meetings of all stakeholders in each zone, PACE forwarded invitation letters to the respective authorities and stakeholders defining the venue, the number of participants and the date of each stakeholder workshop and consequently was conducted properly. Coming to the methodological point of view and during each workshop, the expected participants attended and standard workshop timetable was set up. The workshops progressed as follows:

- Southern Somalia (Baidoa): 30-31 January 2002.
- Puntland (Bosasso): 12-13 February 2002.
- Central Somalia (Beled Weyne): 19-21 February 2002.
- Somaliland (Hargeysa): 7-8 March 2002.

After a short self-introduction of the participants the respective authorities carried out the opening ceremonies of the workshops in each of the four zones.

Venues and Workshop programmes:

a) Baidoa for Southern Somalia

(Bay, Bakool, Lower Shabelle, Lower Juba, Middle Juba and Gedo regions):

The duration of the stakeholder workshop was three days (Timetable attached). After the opening ceremony the participants from Nairobi started carrying out the following presentations:

b) Bosasso for Puntland:

The same program and timetable was implemented in Bosasso stakeholder workshop. In addition to the stakeholders in the workshop including the local administration and also Dr Martin, Zonal Veterinary Advisor for PACE Puntland, other participants from Nairobi were:

Dr Friedrich Mahler of EC Somalia Unit, Dr Philip Ankers from VSF-Swiss, Savario Frazzoli of UNA and Dr Seif Maloo and Prof Abdullatif M. Abdi from PACE Project. The same presentations and methodology as per Baidoa workshop were made with the same result (see the list of participants).

c) Beled Weyne for Central Somalia

(South Mudug, Galgaduud, Hiraan and Middle Shabelle regions):

The same program and timetable was conducted. Beyond the local participants of the stakeholders, present from Nairobi were: Ali Gedi, M. Dirie and Massimo Castiello of PACE Project.

d) Hargeysa for Somaliland:

This was the last stakeholder workshop and the participants, among others, included five Ministers of Somaliland including the Minister of Livestock (Guest of Honor).

Participants from Nairobi were: Dr F. Mahler from EC Somalia Unit, Gavin Thompson from OAU/IBAR, Dr Seif Maloo, Dr S. Tempia, Prof Gedi, Prof Abdullatif, Dr M Dirie and Dr Baba Soumare. Dr Martin of Puntland PACE Zonal Office also attended. The same program as the other

three zones was presented and successfully carried out with the launching of PACE Somaliland and Somalia countrywide during the closing ceremony.

Overview of PACE Programme by OAU/IBAR/PACE

Global PACE project is in 32 countries of Africa most of which are in the sub-Sahara region. The overall PACE coordination office is OAU/IBAR, Nairobi. PACE stands for Pan-Africa programme for the Control of Epizootics. The epizootic diseases are those that are affecting trade and have rapid spread.

The programme is divided into East Africa and West Africa and has offices in the said regions. The countries that are in east Africa include: Djibouti, Somali, Ethiopia, Kenya, Sudan, Uganda and Tanzania.

The programme becomes complicated due to different political situations in these countries to the extent that some countries do not have diplomatic links. However, it will be important for these countries to share information because livestock diseases do not respect boundaries.

Thus, information sharing in these countries will be very important. The information will include: information on livestock diseases, cross border movements, livestock trade, facilities, human resources etc. In countries where central or national governments exist PACE programmes are implemented by the Director of Veterinary Services under supervision of the Ministry of Livestock.

One of the main objectives of PACE will be livestock disease information gathering. In Somalia there is lack of information gathered and further there are no effective methods of collecting the information on diseases.

This has resulted in livestock bans put in place by the Arab countries. Information on diseases, trade and numbers of animals exported to attain any concrete information system. With changes in globalisation and free trade, information is very important for efficient trade.

The PACE project is in these 32 countries to allow the African countries form a basis to defend their case in event there are bans from the countries they are trading with in livestock. At the same time information gathering will enable the African countries find out which disease problems of livestock they have and how to combat them. The modalities that PACE will employ to achieve/declare the free disease status include:

- Have human resources both in the private and public sectors to do the work.
- Enhance/support these related activities capacity building both in the public and private sectors.
- Have livestock disease surveillance systems in place. This will enable people to find out within their countries which diseases affect international trade.
- Set up an emergency preparedness and response teams.
- Have information gathering and exchange system established between all key players for livestock trade, animal movement, disease information within and outside a country
- Have a coordination unit.

For these and related activities it will not be the role of the public sector alone but has to include the private sector. The players will be public sector (public veterinarians, public administrators), private sector (private veterinarians, animal health assistants and auxiliaries, livestock traders and livestock producers). The project is expected to run from 2001 to 2003.

Achievements from the first phase will determine the extension into a second phase. Assessment will be done after completion of the first phase. So it is a challenge for all of us if we want an extension, which will come after tangible results from the first phase.

Please note that this is one of the many programmes in the livestock sector and it is not the only one that will be depended on. It is our hope that the project will give Somali a clean record of findings and

allow free livestock trade. Another unique aspect of the PSP is the rinderpest eradication. The foci for rinderpest are indicated as South Somali and south Sudan. There emphasis on the programme for identifying the foci in south Somali because FAO has a global programme for eradicating rinderpest by the year 2008.

Funding for this project is from EC. Somali PACE Programme has more than one donor.

EC Somali Unit Coordinator, Fritz Maller.

A workshop was held in Hargeysa in 2000 about this project and progress of the proceeding of PACE have been relayed to various stakeholders. After the two years field activities are finally being started all over Somali. Puntland is the second place where the Somali PACE is being discussed in details about its organization and structure and officially launched.

The global PACE programme is funded by the EC. For Somali PACE additional funds has been generated from the government of Italy, Switzerland (SHA) and DFID. The overall PACE Somali component will last two years. Its performance will be monitored and validated and the result will determine how PACE Somali programme will proceed.

In the Somali programme not all livestock problems identified will be addressed. The importance of livestock in Somali is known.

There are two main pillars for livestock in Somali: the nomadic production and the livestock trade. The known fact is that 80% of foreign currency comes from livestock and the industry offers employment and accounts for up to 40% of the GDP income of the country. Export trade of livestock outside Somali is to the Gulf countries (95%). Being a market oriented institute it has to be developed to become commercially oriented. The trade has been an old traditional business with informal opportunities and unregulated.

There have been a few health restrictions on the export trade. Within the last two decades Somali has experienced disease epidemics, which have affected livestock trade, the major one being the ban due to rinderpest (1983). Recently, there was a ban imposed on livestock from Horn of Africa countries including Somalia due RVF. Livestock export in Somalia is a deregulated trade that lacks of livestock policy and trade conditions.

Due to these characteristics, PACE has tried to identify major requirements for the Somali livestock sector and what should be done to provide scientific evidence on livestock diseases likely to affect trade.

The challenge facing Somali in future is that they have to increasingly compete with other countries to export livestock to the lucrative market in the Gulf States. Furthermore, ability to control diseases in Somalia will enable to expand its market to other areas. To do this it has to become less vulnerable to the diseases that are likely to effect livestock ban. To enlarge and diversify the market areas it has to comply with the WTO regulations, produce better and healthier animals and improve on the quality of their livestock.

The livestock characteristics and constraints of Somali are known. The specific problem PACE will address will be trade and trade related problems and cross border spread of disease to and from Somali. This will not be an issue for export only but also movement within Somali and other exporting countries. With disease control in place there will be reduced mortality, increased production and reduced high vulnerability of the Somali stock to bans. PACE will address the four major problems identified by the Hargeysa workshop: -

- Limited access to animal health care
- Lack of recognized authorities especially relevant in export
- Keep track and identify major disease outbreaks by improving disease surveillance, emergency response and preparedness.

Presently, major diseases may occur in the country and cannot be recognized in time and also there is no system in place to react swiftly to control diseases before they spread within the country and spill out to the neighbouring countries. The whole country is suffering from a ban due to rinderpest, which is believed to be in the southern region of the country.

The PACE project will be to focus on rinderpest in Central and South Somali and confirm its presence or absence. Ultimately, this will contribute to the enhancement of livestock production and export trade in Somali.

The project will not be targeted only to live animals but also animal products. PACE will strengthen and enable the stakeholders (private sector, public sector, traders and producers) to achieve these objectives. There will be collaboration to identify and eradicate the major livestock diseases: rinderpest in the south. In the northern region there is need to better understand the diseases that will affect trade.

The beneficiaries of this programme will be primarily Somali livestock owner who are mainly pastoralists and traders. They will realise profits by decreased livestock loss because there will be early identification and eradication of diseases. This will increase productivity and good quality animals will be marketed. Along with improving animal health, private and public veterinary service providers will benefit from active collaboration. They will establish and reinforce the livestock health delivery system and export related services.

This will lead to diversification of business opportunity of the private sector and ultimately lead to better employment opportunity. The public sector will play an important role for they will become a partner to the private sector. PACE will provide training and capacity building to the public sector. This will allow the public sector take over its responsibilities and realise good services in addition to taxes and fees that will be paid. It is therefore important to understand that PACE is a demand driven programme.

The PACE project will operate in four geographical zones:

- Northwest – Somaliland
- Northeast – Puntland
- Central – Central Somali
- South – Southern Somali

These are not political but geographical zones to avoid logistical problems. Due to cross border movement of animals, the project will not be limited to these regions only but will work closely to extraterritorial regions of Somali especially south Ethiopia where there is intensive movement of animals in and out of Somali and also borders around Kenya.

PACE is a continental programme in 32 countries of Africa with two regional offices one in East Africa and another in West Africa. The East Africa programme has a coordinating office in the OAU/IBAR, Nairobi, which coordinates and provides services to national coordinating and implementation units of different countries. It is kept aware of the achievements and results of the project.

PACE Somali Project is headed by National Coordinator under EC Somalia Unit followed by the Somali co-ordination and implementation unit (SCIU) both in Nairobi. The SCIU has the project advisor, epidemiologist and administrator with Somali counterparts in every position. In the four zones there are zonal expatriate veterinary advisor, Somali veterinary coordinator, Somali veterinary administrator and Somali support staff.

PACE will build capacity within the Somali system and establish strong partnership at all levels for the expatriate and Somali counterpart. PACE wants to build and strengthen existing infrastructures, SVP's, para-vets, CBAHW's and institutions such as professional associations and local administration. In each zone a Somali disease surveillance and emergency preparedness coordinating and implementation unit will be established.

THE PAN-AFRICAN PROGRAMME FOR THE CONTROL OF EPIZOOTICS (PACE)

Gavin Thomson
Main Epidemiologist: PACE
OAU-IBAR
Nairobi

PACE: BASIC FACTS

- Funded by the European Union (€ 72 mil)
- Operates under the auspices of OAU-IBAR
- Covers 32 countries in Africa excluding North and Southern African countries

PACE THRUSTS (OBJECTIVES)

PACE has 4 thrusts:

- Improved delivery of veterinary services
- Development of a pan-African network for epidemio-surveillance
- Final eradication of rinderpest from Africa
- Development of control strategies for other major epizootic diseases, e.g. CBPP, RVF & ASF

STRUCTURE OF PACE

- Project co-ordinator (Dr R Bessin) and principal technical assistant (presently vacant) based in Nairobi
- Regional co-ordination units in Bamako (Western and Central Africa) and Nairobi (Eastern Africa)
- Dr B Diop is regional co-ordinator in Bamako and Dr Bessin co-ordinates for Eastern Africa
- Each unit has administrative components

CENTRAL SERVICES UNITS

PACE has 6 central services units to support participating countries and as well as the programme and regional co-ordinators:

- Economics Unit
- Communication Unit
- Privatization & legislation Unit; linked to
- CAPE Unit (community-based animal health systems and participatory epidemiology)

CENTRAL SERVICES UNITS (cont.)

- Data management Unit
- Epidemiology Unit
 - epidemiologists for Eastern & Western/Central Africa (R Heinonen [EA], A Maillard [WA] & F Bendali [CA])
 - wildlife specialists for Eastern & Western/Central Africa (R Kock & B Chardonnet respectively)

IMPORTANCE OF PACE SOMALIA TO THE OVERALL PROGRAMME

- Rinderpest eradication
 - Somali eco-system is one of the two residual foci for rinderpest in Africa
 - recent occurrences of rinderpest in the Somali eco-system have been “mild” in cattle and variable in wildlife (lineage 2)
 - “mild” rinderpest presents difficult problems for both surveillance and control

IMPORTANCE OF PACE SOMALIA TO THE OVERALL PROGRAMME (cont.)

- Rift Valley fever (RVF)
 - Trade ban on exports of livestock from the Horn of Africa to the Arabian Peninsula is a major cause of hardship and an economic problem that needs to be urgently overcome
 - PACE is involved in trying to solve this complex problem

**PAN AFRICAN PROGRAMME
FOR THE CONTROL OF
EPIZOOTICS (PACE)**

SOMALI COMPONENT

Overall Objective

To contribute to the sustainable enhancement of production as well as trade in livestock and products of animal origin

Project Purpose

To enable livestock owners, traders, public and private sector animal health workers to co-operate in order to combat major livestock diseases

Results

Local administration are identified and guidelines provided for the definition of livestock development strategies and regulatory framework

Capabilities of private animal health workers to engage in curative and preventive services are enhanced

Livestock diseases surveillance system is functioning with specific reference to Rinderpest

Emergency preparedness and response systems are functional, initially for Rinderpest

Community based animal health services are established and functioning

Local networks for promoting livestock health are functioning

The programme is effectively co-ordinated

Activities for the first two years

Local administration are identified and guidelines provided for the definition of livestock development strategies and regulatory framework

Assist local administrations in the definition of roles and responsibilities of the public sector and other actors involved in the livestock sector, and the development of administrative and legislative supporting measures.

Assist contract private professionals to carry out certain essential duties and popularise that approach.

Support the establishment of an effective and efficient livestock information system.

Establish linkages between Somali veterinarians and public officers of neighbouring countries and regional bodies.

Activities for the first two years

Capabilities of private animal health workers to engage in curative and preventive services are enhanced

Advice on appropriate roles and responsibilities for the private sector, foster dialogue and co-operation between the public and the private sectors, and ensure their contribution to the development of laws, rules and regulations

Assist willing private veterinary professionals to establish and operate professional associations, and facilitate their access to appropriate sources of funding

Provide training support to the private sector in order to enhance their professional competence and ability to discharge agreed tasks and roles

Promote working relationship between veterinary professionals and para-professionals

Activities for the first two years

Livestock diseases surveillance system is functioning with specific reference to Rinderpest

Create widespread awareness about current status of livestock diseases and their impact in the Somali context; motivate local stakeholders to monitor and evaluate the surveillance system and disseminate results locally and to neighbouring countries.

Co-ordinate planning of a suitable livestock disease surveillance system, involving a broad spectrum of stakeholder in the process.

Provide training support to the public and private sector personnel on relevant aspect of the system.

Co-ordinate the establishment of the system (basic and referral laboratories, survey teams), field test it and adjust as necessary (data gathering, analysis, dissemination feedback).

Conduct surveys for Rinderpest and other major diseases, and carry out specific studies according to needs.

Activities for the first two years

Emergency preparedness and response systems are functional, initially for Rinderpest

Advice on the establishment of vertically integrated EP&R structures involving multidisciplinary private and public sector personnel; the appointment of an EP&R co-ordination team; and the formulation of necessary laws, regulations, guidelines and procedures. Test the system (Dry runs).

Co-ordinate emergency actions for the control / eradication of confirmed outbreaks of Rinderpest or other epidemics.

Activities for the first two years

Local networks for promoting livestock health are functioning

Advice relevant stakeholders to form effective networks

Elaborate and implement plans for building capacities of networks

Participate in activities of area based national and international networks

Publicise objectives, activities and mode of operation of PACE initiative

Assist stakeholders to adopt appropriate objectives and activities for assorted networks

Publicise activities, outputs and impacts of networks with particular emphasis on regional ...status of Rinderpest.

Activities for the first two years

The programme is effectively co-ordinated

Formulate appropriate modalities for co-ordinating and steering PACE in Somalia, and identify zones for project implementation.

Establish PACE offices and management structures according to agreements

Elaborate and implement annual work plans and participatory M&E system.

Convene steering / co-ordination meetings and report on progress regularly

Provide building, motor vehicles, equipment, materials and operating funds on timely bases

Ensure harmonisation of activities within the country and effective linkages within the region

Advise on sustainable extension of project activities beyond project implementation areas

Main activities for the first year

Four workshops to define role and responsibilities of public and private sectors in the delivery of animal health services

Five workshops, in Somaliland and Puntland, to define human and financial resources for the public sector

Training courses for private and public veterinary professionals on disease surveillance and data analysis

Organise one workshop in each zone to establish veterinary associations at zonal level

Train CAHWs and promote their use in the delivery of private animal health services in rural areas (CAPE)

One sensitisation workshop in each zone on the need for major livestock disease control

Workshops in surveillance techniques, disease investigation and reporting, and co-ordination among different zones

Cross-sectional surveys in each zone to assess prevalence and distribution of Rinderpest, CBPP, RVF and PPR through the collection of 4,000 serum samples in each zone, use of questionnaires and clinical investigations.

Main activities for the first year

Purposive sampling in each zone to better understand animal health status based upon the findings of the cross-sectional survey

Four workshops, one in each zone, on concepts, component, objectives and methodologies of emergency preparedness

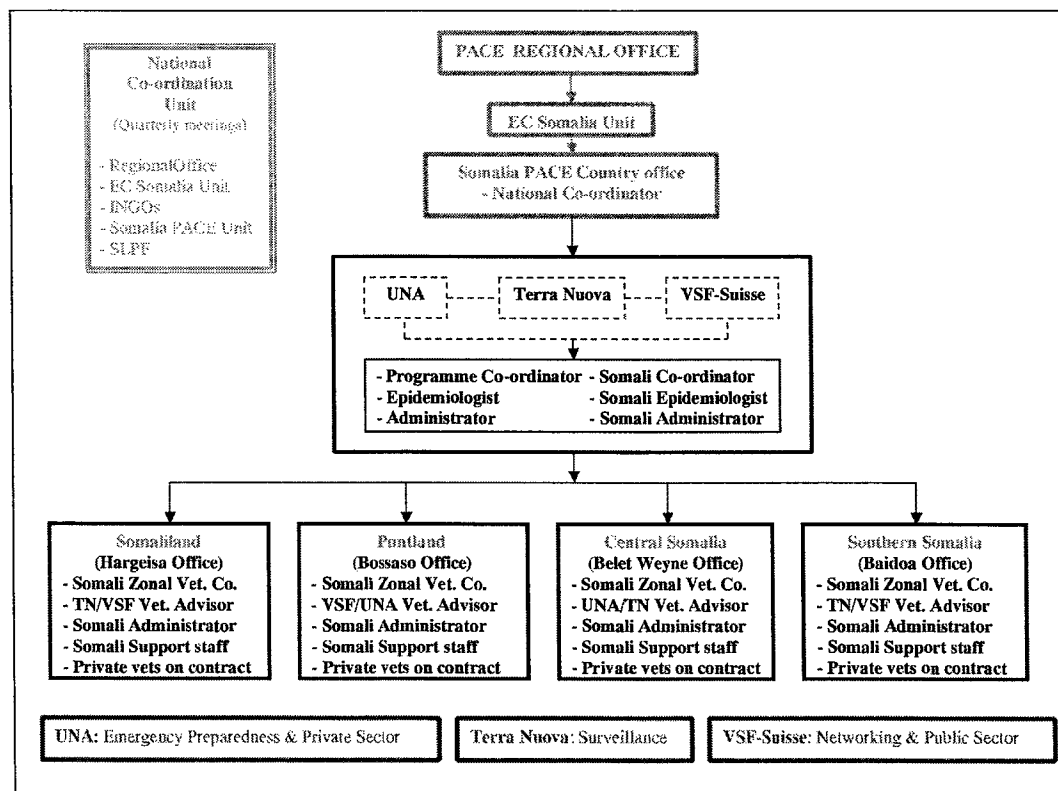
Vaccination against Rinderpest if foci will be identified and confirmed

Establish an zonal and national networks promoting livestock health

Establish zonal PACE office, procure equipment and materials, and recruit Somali staff (Zonal Co-ordinator, administrator, and support staff) and expatriate advisers (One veterinary per zone)

Rehabilitate public buildings in Puntland

Establish a national project implementation and co-ordination Unit, staffed with three senior Somali professionals (Co-ordinator, epidemiologists and administrator) and three expatriate advisers (Co-ordinator, epidemiologist and administrator)



Somali Livestock Professionals Forum (SLPF)

Profile

January 2001

BACKGROUND

In mid 1999, a group of senior Somali Veterinarians held discussions in Nairobi regarding the background, current situation and the future livestock industry as well as the veterinary profession in Somalia/Somaliland.

They reached a common understanding on the following points:

- * Livestock is the backbone of the national economy in terms of attracting hard currency, providing employment opportunities and increasing the GDP. It is also critical with regards food security for both pastoral and urban communities.
- * The livestock production in the Somali peninsula, compared to other countries in sub-Saharan Africa, is a market-integrated commercial system rather than a subsistence-oriented one.

Thus, livestock trade in the Somali peninsula is mainly export driven, and the provision of quality/cost effective veterinary drugs and efficient veterinary services are essential for the livestock owners/traders and other stakeholders involved in the improvement of the livestock industry.

Since the delivery of veterinary services by the government or parastatal agencies in many African countries, has seen to be dissatisfactory, Donors and International Aid Organizations started supporting the privatisation of veterinary services along side the public veterinary institution.

This approach was also endorsed in Somalia in the late 1980s, when the former Somali government started to liberalise the veterinary drug trade (importation and distribution) as well as privatise some veterinary services by issuing decrees of regulatory laws and by-laws.

- * In the Somali peninsula, the livestock production system has an added peculiarity of not being confined within the national borders but going beyond them. Thus the planning of livestock related services and activities has to be encompassed within the framework of the livestock systems in the neighbouring countries, and adopt a regional approach rather than a national one.
- * There is increasing need to have an effective national regulatory body to overlook international export operations of livestock and livestock products through a viable regional transboundary disease surveillance system.

This entails discussing the issue with all stakeholders in the livestock export process; namely livestock producers, traders, Somali veterinary professionals, local/national administrations and port authorities.

In this regard, the group agreed to collect views and opinions from the Somali livestock professionals in their respective locations nation-wide for the way forward. The Nairobi group contacted and briefed the livestock professionals in each region.

The initiative was warmly welcomed and stimulated the professionals themselves, to think about the revival and development of the livestock sector.

On November 3, 1999 representatives of the Somali Livestock Professionals from all regions agreed to form “the Somali Livestock Professionals Forum (SLPF)”. On that day the founding members registered 52 university graduates in Veterinary Medicine and Animal Husbandry and 79 Diploma holders from Veterinary technical schools, all currently involved in the livestock sector practices. The registration remains open to all other interested livestock professionals.

The SLPF registered members agreed to appoint a technical committee of 4 members mandated to prepare the proceedings of the newly formed Forum and to act as a co-ordination group among the members. Equal mandate was given to the committee to deal with, on behalf of the forum, the

- * The Forum is an interim body with the aim of paving the way for a future national veterinary association, while different veterinary professional associations have been established recently or are under process at regional and zonal levels.

The Technical Committee Members are:

1. Dr. Abdullatif Mohamud Abdi
2. Dr. Ali Mohamed Gedi
3. Dr. Ahmed Hashi Nur
4. Dr. Mohamed Abdullahi Mohamed

PROFILE

The Somali Livestock Professionals Forum (SLPF) is a global Somali voluntary organisation which functions as a low cost co-operative professional group comprising of private and public veterinary professionals. It is concerned with the welfare of animals and human beings in the Somali peninsula.

Objectives

The overall objective of SLPF is to support and initiate regional and national rehabilitation and development of the livestock sector so the sector makes sustainable contributions to food security, poverty alleviation, improving the status of women and environmental protection.

Broadly the specific objectives of the Forum, among others include:

- Contributing to the livestock development policy and programme design to foster sustainable livelihoods across the country.
- Fostering the provision of effective veterinary services.
- Establishing closest possible links between the veterinary professionals and with other stakeholders within the livestock industry such as: livestock traders, drug dealers and Community Animals Health Workers (CAHWs).
- Promoting veterinary education and Continuous Professional Development (CPD).
- Facilitating the dissemination of professional knowledge and information.

Operating Principles of SLPF

- Promotion of peace, stability, conflict prevention, mitigation and response.
- Basing planning and operational decisions on participation, consultation and negotiation.
- Effective co-ordination and networking at the district, regional and national levels and linkages international organizations and networks.
- Linking relief and rehabilitation efforts to sustainable and long-term development policy and direction.

Organizational Framework

The SLPF is in the inception process. The list of the founding members is attached. They include well-respected Somali veterinary professionals from Somaliland, Puntland, Central, South-Western and TransJuba areas. The founding members include the ones most likely to be called upon for livestock/veterinary professional leadership by any nation-wide representative government that will be in place in the future. Some of them attended the PACE (Pan African Control of Epizootics) Somali Workshop held in Hargeysa from 24 - 28 January 2000 under the auspices of EC (European Commission) and OAU/IBAR (African Union - Interafrican Bureau of Animal Resources) - Somali Technical Co-operation.

The Forum shall act as the General Assembly and shall be the highest organ in terms of legislation and decision-making. During this transitional period, the Forum shall have an Executive Committee, Veterinary Coordinating Group (SVCG) and Zonal Coordinators (Focal Points).

On a temporary basis, SLPF will have a liaison office in Nairobi as head coordination unit which will be linked to the Zonal offices across all areas (Hargeysa, Bossaso, Beled Weyne, Baidoa, Bu'ale).

ROLE OF SLPF

The European Commission (EC) is the main donor funding the Pan African Control of Epizootics (PACE) that was established as a follow-up of the Pan African Rinderpest Campaign (PARC). The programme which is scheduled to be implemented under the guidance and technical advice of the OAU/IBAR is expected to cover 32 African countries including the Somali Peninsula.

Given this opportunity, the appointed committee started, among other duties, to contact and negotiate with EC-Somalia Unit in Nairobi and the office of OAU/IBAR as well and explaining them the need to involve SLPF members in the planning and implementation process of the PACE Programme.

Consequently SLPF was invited to send a representative to participate in the first PACE working group discussing on the “Development of PACE Global Plan and First Workplan for Somalia” -(15 December 1999, EC - Somalia Unit Conference Room, Nairobi). In this meeting the Somali “PACE” programme, planning workshop was endorsed.

During January 2000, representatives of the OAU/IBAR, the EC-Somalia Unit, FAO, TERRA NUOVA, UNA, VSF-CH, PARC-VAC, SLPF, Local Authorities as well as representatives from the neighbouring countries of Kenya and Ethiopia participated in a workshop in Hargeysa. The main objective of the workshop was to formulate a concept for the PACE programme in Somalia. In the Hargeysa workshop the participating SLPF members utilised the opportunity and exchanged ideas and views with the aim to develop a networking mechanism among its members in the different regions nation-wide.

The SLPF networking and communications have been facilitated by the ongoing training programmes for the Somali Veterinary Professionals conducted by Terra Nuova in Somaliland, Central and Southern Somalia and by UNA in Puntland under the auspices of EC - Somalia Unit.

On 3rd June 2000, the members of SLPF from all regions, through consultations, agreed to form an Executive Committee of ten members, a Veterinary Coordination Group and Zonal Coordinators (Focal Points) with a three- year mandate. They include:

1. Dr. Abdullatif Mohamud Abdi Chairman
2. Dr. Ahmed Hashi Nur member
3. Dr. Ali Mohamed Gedi “
4. Dr. Mohamed Abdullahi Mohamed “
5. Drs. Habiba Sheikh Hassan “
6. Dr. Hersi Abdulle Guled “
7. Dr. Abdillahi Rabile Good “
8. Dr. Ahmed Abdi Gedi “
9. Dr. Abdi Khalif Roble “
10. Dr. Abdillahi Adan Jama “

Among the SLPF Executive Committee members, the following are elected for:

a) Somali Veterinary Coordinating Group (SVCG)

1. Dr. Abdullatif Mohamud AbdiChairman, SLPF Executive Committee and SVCG.
2. Dr. Ali Mohamed Gedi.....Member
3. Dr. Ahmed Hashi Nur.....Member
4. Dr. Mohamed Abdullahi Mohamed.....Member
5. Drs. Habiba Sheikh HassanMember

The group will co-ordinate the livestock programmes and activities in the country through SLPF focal points in close collaboration with the international partners involved (Donors, UN agencies and I-NGOs).

b) SLPF Focal Points in the Zones/regions:-

- | | |
|--|---|
| 1. Dr. Abdullahi Rabile Good | Focal point in Somaliland (Borama) |
| 2. Dr. Hersi Abdulle Guled | Focal point in Puntland (Galkaio) |
| 3. Dr. Abdi Khalif Robile | Focal point in Central regions (Beled Weyne)
(Galgaduud, Hiraan and Middle Shabelle regions) |
| 4. Dr. Ahmed Abdi Gedi | Focal point in Trans-Juba regions (Bu'ale)
(Gedo, Middle and Lower Juba regions) |
| 5. Dr. Mohamed Nur Hassan (Osbo)
(Non executive committee member) | Focal point in Bay-Bakool and Lower Shabelle
regions (Baidoa) |

Potential Roles and Functions of the Somali Veterinary Coordinating Group (SVCG).

Planning and Coordination

- Ensure the “Somali Ownership” of the veterinary activities;
- Develop workplans with the Inter-agencies involved in the livestock sector as well as with local authorities.
- Establish and operate a nation-wide information system and dissemination among all other interested stakeholders.
- Advice donors, UN Agencies, OAU/IBAR and INGOs on elements of Nation-wide technical direction and facilitation and address all challenges and opportunities.

Implementation

- Participate in the implementation of all veterinary programs through the area and region-based member associates and representatives, collaborating with the local veterinary authorities and administrations and with INGOs.
- Develop the legislations governing the veterinary profession with a view to long term sustainability.

Monitoring and Evaluation

- Ensure the timely execution of specific activities and reporting.
- Liaise with donor, UN Agencies, OAU/IBAR and INGOs in the supervision monitoring, mid-term reviews and evaluations.

Contact Addresses of SLPF's Officials

1. Dr. Abdullatif M. Abdi - c/o P.O. Box 74916 Nairobi.Tel. 445511/2, Fax 443748
2. Dr. Ahmed Hashi NurHargeysa - Somaliland -Tel 252-2-426140, 253-223552
3. Dr. Ali Mohamed Gedi c/o P.O. Box 74916 Nairobi.....Tel. 445511/2, Fax 443748
4. Dr. Mohamed Abdullahi Mohamed Bosasso, Puntland.....Tel. 252-523-6294 (Res.)
or 252-523-4770 - UNA office
5. Drs. Habiba Sheikh Hassan - Mogadishu, SomaliaTel. 252-1-217279
6. Dr. Hersi Abdulle Guled - Galkaio, PuntlandUNA - Tel: 252-543-4477,
Fax 252-543-4500/1
7. Dr/ Abdillahi Rabile Good - Borama, Somaliland.....Tel. 252-2-210370
8. Dr. Abdi Khalife Roble - Beled Weyne, Somalia.....Tel. 252-563-4533
9. Dr. Ahmed Abdi Gedi - Buale, SomaliaAHV Radio 7373
10. Dr. Abdillahi Aden Jama - Hargeysa, Somaliland.....Tel. 253-22-3920
11. Dr. Mohamed Nur Hassan (OSBO) - Baidoa, SomaliaTel. 252-1-214571 or 214577
Fax: 252-513-4271

Stakeholder Workshop on Somali PACE Project

TIMETABLE

DAY ONE

Opening Ceremony	Regional authority and other dignitaries	Plenary
Scope of workshop	Facilitator	Plenary
Introduction		
- Overall PACE	PACE CSU	Plenary
- Somali PACE	National Coordinator	Plenary
Operational Structure	National Coordinator	Plenary
Main results of PACE	Project Advisor	Plenary
<ul style="list-style-type: none">• Strengthening of public sector• Strengthening of private sector• Disease surveillance and emergency preparedness• Establishment of community based animal health services• Networking• Coordination		
Sensitisation of stakeholders	SCIU	Plenary
Role of public and private veterinarians in Somalia		Plenary
Discussion		Plenary

DAY TWO

Somali Livestock Profession Forum (SLPF) and its activities	Plenary
Role of Veterinarians in PACE	Group exercise
Community based animal health services and its implications	Plenary
Role of Pastoral communities and community based animal health services in PACE	Group exercise
PACE and the likely impact on livestock trade	Plenary
Role of Livestock traders in PACE	Group exercise
Launching of PACE	Plenary
Endorsement and Closing ceremony	Local authorities

**Stakeholders Workshop and Launching of the Somali PACE Project
In Southern Somalia**

Baidoa 30-31st January 2002

List of Participants

Name	Organisation	Contact
1. Ali Sheikh Mohamed	LOSAVAR/SLPF	Tel 654291 Moga
2. Abdi M. Abdi	LOSAVAR/SLPF	Tel 43447
3. Ahmed W. Barkhadle	LOSAVAR/SLPF	Tel 654322 Moga
4. Hassan Qadi Ahmed	Bay Vet. Association	Tel 212045 B/H
5. Hassan Mohamed Hassan	BENALPA	Tel 215825 Moga
6. Mohamed Hashi Mohamed	BENALPA	Tel 653866 Moga
7. Abdullahi Gesey Dinle	BENALPA	Tel 220455 Moga
8. Hassan Moallim Ahmed	L/Juba Vet. Ass.	Tel 53059 Afmadow
9. Osman Omar Budul	L/Juba Vet. Ass.	Tel 53059 Afmadow
10. Aden Ibrahim Hared	Bakol Vet. Ass.	Tiyeglow
11. Hussen Hagi Aden	M/Juba Vet.	Radio 6359 Sakow
12. Abdirashid Sh. Ahmed	M/Juba Vet.	Radio 6359 Sakow
13. Muridi Amin	Bay Vet. Ass.	Baidoa
14. Ali Salah Muse	Bay Vet. Ass.	Baidoa Tel 667301
15. Ismail Abdullahi Moallim	Bay Vet. Ass.	Baidoa Tel 214636
16. Mohamed Ali Shire	Bay Vet. Ass.	Baidoa Tel
17. Ali Roble Mohamed	Bay Vet. Ass.	Baidoa Tel 214635
18. Avv. Ahmed Ibrahim	Somali Law Society	Baidoa Tel
19. Omar Abdi Abikar	Lower Shabelle	Baidoa Tel
20. Omar Sh. Mohamed	Lower Shabelle	Baidoa Tel
21. Hussen Abdirahman	World Vision	Baidoa Tel 214517
22. Mohamed Ali Nur	Gedo Vet.	Moga Tel 635097
23. Hassan Ali Ibrahim	SRCS	Baidoa Tel 214546
24. Abdullahi Ibrahim Abdi	WHO	Baidoa Tel 214549
25. Ali Ismail Mohamed	Trader	Baidoa Tel 214658
26. Mohamed Omar Ali	Bakol Vet. Ass.	Moga Tel 653450
27. Mustaf Sharif Ibrahim	Bakol Vet. Ass	Baidoa
28. Osman Mohamed Hagi	Trader	Dinsor Tel 34089
29. Aweis Sufi Hagi	Trader	Baidoa Tel 214571
30. Aden Ali Abdirahman	Bay Vet. Ass.	Baidoa Tel 34378
31. Abdo Mohamud Hagi	Bay Vet. Ass.	Baidoa
32. Mohamed Nur Hassan	Bay Vet. Ass.	Baidoa Tel 214545
33. Mohamed Ali Aden (Qalinle)	Governor, Bay Region	Baidoa Tel 214535
34. Risto Heinonen	PACE Epidemiologist	OAU/IBAR NBI
35. Friedrich MAHLER	EC-SU/PACE Som. Coord.	EC-SU Tel 718186
36. Seif MALOO	Project Advisor/PACE	NBI Box 75776
37. Ali M. Gedi	Project Coordinator	NBI Box 74916
38. Abdullahi A. Herzi	BENALPA	Moga Tel 651144
39. AHMED Abdi Gedi	M/Juba Vet.	Buale
40. Zahra M. Nur	UNESCO	Baidoa Tel 214730
41. Habiba Sh. Hamud	PACE/CAPE	Baidoa
42. Hussein Waberi	IMC	Baidoa Tel 34008

43. Abdirashid A. Hussein	WFP	Baidoa Tel 34560
44. Abdisalam Sh. Aden	Trader/Gedo	Baidoa Tel 214571
45. Sh. Mohamed Hargeysa	Trader /Bay	Baidoa Tel 214571
46. Mohamed Farah Dirie	PACE/CAPE	NBI Tel 445958
47. Abdullatif M. Abdi	PACE Somalia	NBI Tel 445958
48. Sheikh Salad	Pastoralist	Huddur, Bakol
49. Abdullahi Aden Mohamud Bakol	Admin.	Huddur, Bakol

Stakeholders Workshop and Launching of the Somali PACE Project In Central Somalia

Beled Weyne 19-20 Feb, 2002

List of Participants

<u>Name</u>	<u>Organisation</u>	
1 Dr. Suleyman Mohamed Salah	Vet. G/gadud/Guriel	
2 Mohamed Sheiq Adan Sheek Ahmed	Dc/Mudug Xarar-dher	
3 Axmed warsame Diriye	Dc/G/gadud/Abud-waq	
4 Yusuf xassan Iyow	Gov.G/gadud region	
5 C/rahman Ibrahim Qere	Gov.Rep/Mudug Region	
6 Xaji Mohamud Hilowle	Gov.Rep/M/Shabelle Region	
7 Adan Qeyliye Cabdi	Coun.Mem.B/weyn district	
8 Cali Yusuf Cabdi	Dc/Rep/G/gadud/Adado	
9 Cabdi warsame Indha-cade	Mayor/Mataban/Hiraan	
10 Adan cabdi Ise	Dc/B/weyn/Hiraan	
11 C/nasir Shiq Mohamed	Vet Ass/Xarar-dhere district	
12 Dr,Maxamed A.Husein	Vet.Hiraan Region	
13 Ahmed Mu'alin Husein	Dc/Guriel/G/gdud	
14 Shek salad Ise Livestock	Trader	Dh/Mareb
15 Mohamed dahir Bulhan	Coun/Mem/B/bale/District	
16 Artan Sheek Don Osman	Rep/Local /NGO/Mataban	
17 Yusuf A/dulle Isak	Coun/Mem/B/bale/District	
18 Dr A/lahi Ilmi Nur	HVA Hiraan /	B/weyn
19 Dr A/lahi A/dulle Mohamed	HVA Hiraan /	B/weyn
20 A/salan OsmanAmin	HVA Hiraan /	B/weyn
21 Dahiye Ulow	Mem/ Distr/Coun/	B/weyn
22 Dr, Mohamed Omar Ire	Vet. Mem/M/Shabelle Ass	
23 Dr,Da'ud Alasow Ahmed	Chairman/ M/Shabelle Assos	
24 Dr, Mohamed A/lahi Roble	Mem/M/ Shabelle Assos	
25 Dr, Abshir Mohamud Gesey	Mem/M/ Shabelle Assos	
26 Osma'il Ali Dubte	Livestock Trader	
27 Dr, Mohamed Husein Diriye	Vet,A/bud-waq	
28 Dr, Mohamed Hassan A/dulle	Vet/El-bur	
29 Dr,Ahmed Ma'alin Afey	Vet.El-dheer	
30 Mohamed Omar Jim'ale	Livestock Trader	Guri'el
31 Muse Qa-direvste	Drug Dealer	Mudug

32 Mohamed Husein A/kole	Vet.Assistance	Mudug
33 Ahmede hassan Shek	Livestock Trader	Xarar-dhere
34 Mohamud Ahmed Omar	Vet.Assistace	Xarar-Dhere
35 Diriye Shilow Ibrahim	Mem,Distr/council	B/weyn
36 Dr, Mohamed Ali Hamud	HVA Chairman	
37 Dr, A/lahi Ilmi Abdi	HVA Mem	
38 Arli Mohamed Husein	Vet,Assistance/HVA	
39 Hassan Xelow	Vet,Assistance/HVA	
40 A/lahi Hassan Abdi	Local Authority	

Stakeholders Workshop and Launching of the Somali PACE Project In Puntland

Bosasso

1 Abdirahman Mohamed Jama	Private vet. team
2 Ahmed Sheikh Musse	Private vet. team
3 Mohamed Jama Diriye	Private vet. team
4 Bashir Abdulkhadir	Private vet. team
5 Bashir Aw Jama	Private vet. team
6 Said Abdulahi Ali	Private vet. team
7 Aden Abdi	Private vet. team
8 Salad Ali Faaqi	Private vet. team
9 Abdulahi Jama	Private vet. team
10 Abdi Mire	Private vet. team
11 Abdi Shire Dhegaban	Private vet. team
12 Dr. Hirsi Abdulee Gulled	Private vet. team
13 Dr. Abdikarim Mohamed Isse	Private vet. team
14 Mohamed Abdulkadir	Private vet. team
15 Jama Mohamed Ali	Public vet. team
16 Muse Hussen Mohamed	Public vet. team
17 Said Hassan Warsame	Public vet. team
18 Dr. Khalaf Hassan	Public vet. team (D.G)
19 Abdisalam Warsame	Public vet. team (PVO)
20 Dr. Amale	Public vet. team (Bosasso s/house)
21 Said Noor Jama	Public vet. team (PVO)
22 Mohamed A. Mohamoud	Private vet. team

List of Participants of Sensitisation workshop in Gardo

Abdullahi Mohamed Barre	Gardo	UNA Milk
Fatima Hussein Mohamed	Gardo	UNA Milk
Liiban Hirsi Farah	Gardo	Deputy Mayor
Mohamoud Ismail Gurhan	Gardo	Gardo Community
Mohamed Yusuf Nur	Gardo	Gardo Community
Farah Xassan Gure	Gardo	Gardo Community
Bashir Farah Yare	Gardo	Gardo Community
Cabdi Shire Mhamed	Gardo	Gardo Community
Isamil Omar Ali	Gardo	Gardo Community
Muse Said Mohamed	Gardo	Gardo Community
Ahdirisak Mohamed Abdi	Gardo	Gardo Community

Hodan Mohamed Cilmi	Gardo	Gardo Community
Mohamed Muse Mohamed	Gardo	Gardo Community
Ruyiyo Sanjeex	Gardo	Gardo Community

List of Participants of Sensitisation workshop in Galkaiyo

Dr. Khalaf Hassan	D.G
Said Hassan Warsame	meat inspector
Abdi Said Ali Suryan	livestock trader
Mohamed A. Doro	NGO Rahama
Bashir A/qaadir Jama	private vet.
Abdi Mire Farah	private vet
Ahmed Sh. Muse	private vet
Muse Husein Mohamed	meat inspector
Dr. Mohamed Haji Mohamed	meat inspector
Mohamed Jama Dirie	private vet
Aden Abdi Samanter	private vet
Jama Mohamed Ali	meat inspector
Mohamed A/kadir	public sector
Said Abdullahi Ali	private vet
Mohamed Farah Isse	NGO Rahmo
Abdullahi Dalmar	meat inspector
Mohuyadiin Hussein Ali	Alkawsar s/house
Bashir Hassan	Mubarak 2 s/house
Mohamed Salad Mohamoud	FAO/FSAU
Mohamed Mohamoud	private vet
Hirsi A. Gulled	private vet
Ali Qood	livestock trader
Abdulahi Haji Salaad	livestock trader
Ina Haaji Xassan	livestock trader
Musse Farah	livestock trader
Ali Yusuf	livestock trader
Said Abshir Walde	veterinary drug trader

Stakeholders Workshop and Launching of the Somali PACE Project -Somaliland

A complete list was not provided but categories of participants were reported . Officials attending were:

- Ministry of Livestock H.E Suleiban Y. Ali Koore
- Ministry of Interior H.E Abdullahi Omer Egeh
- Ministry of Planning H.E Ahmed Hassan Aafi
- Ministry of Rural Development H.E Mohamed Muse Awale
- Ministry of Agriculture H.E Mohamed Jama Balal
- Director General of MoL Mohamoud Ali Gire

The participants were from all regions of Somaliland and representative of the different components of Somaliland livestock industry:

Livestock owners or producers
Professionals from the Public sector (MoL)

Livestock traders and representatives of the Chamber of Commerce.

Delegates from International NGOs and Organizations dealing with livestock in Somaliland.

Administrators of Different Ministries

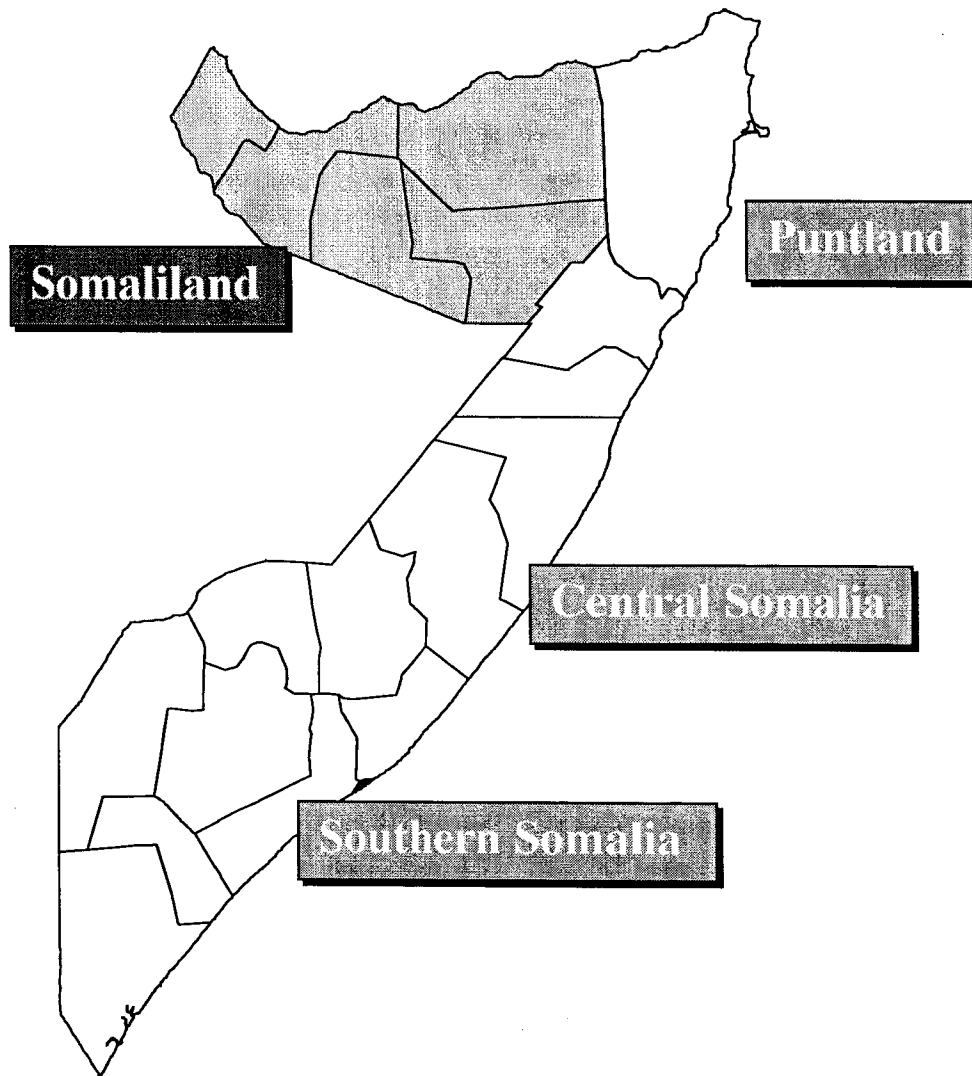
Press and medias active in Somaliland

A total number of 70 participants from different stakeholders attended the opening ceremony. The following technical sessions were restricted to 45 participants.

In addition to Somali PACE officials, representatives from the Donor (E.C. Somalia Unit) and PACE Patronage (OAU/IBAR) took part to the workshop:

- | | |
|------------------------------------|---------------------------------------|
| • PACE Chief Epidemiologist | AU/IBAR |
| • National Coordinator | EC-SOMALI UNIT |
| • Project Advisor | SCIU Nairobi |
| • Somali Project Coordinator | SCIU Nairobi |
| • Zonal Vet Advisor for Puntland | Somali PACE – Zonal Office Puntland |
| • Zonal Vet Advisor for Somaliland | Somali PACE – Zonal Office Somaliland |

SECTION A - PACE SOMALILAND



A.1 PACE SOMALILAND ZONE

In Somaliland as for the rest of Somalia, the responsibility for preparing the Somali PACE component has been taken on by the implementing parties concerned including the OAU/IBAR and EC Somalia Unit. Somaliland covers 6 regions, Awadal, West Galbeed, Togdheer, Saheil, and Somaliland affiliated areas of Sool and Sanaag, and it is predominantly dependant on livestock.

Areas around Boroma and Gabileyh are agro-pastoralists. The zone has been supported in the past with livestock projects mainly funded by EC; Privatisation of veterinary Services Phase 1& 2, Itinerant Training Programme Phase 1&2, Other agencies and donors have supported the livestock sector through Action Aid veterinary services project, CARE's Veterinary Services and Support Programme, Vet Aid's community based livestock health and production, UNHCR Reintegration Projects, and community based approach for animal health by International Rescue Committee (IRC). Additional EC funded projects include and the Sheikh Veterinary School by Terra Nuova/UNA.

Authorities in Somaliland have pledged their commitment toward PACE objectives and approach.

The Programme has been developed along the lines of the overall objectives and results of PACE.

A.1.1 Result 1: Capabilities of public sector AHWs to regulate, coordinate, monitor and evaluate the livestock development sector are strengthened

i) Sensitisation meeting with local authorities, namely Ministry of Livestock

The Zonal Advisor of PACE in Hargeysa held a contact meeting with the Ministry of Livestock of Somaliland in mid January 2002. Also attending was Mr. Ahmed Haji, the DG and an Advisor from the ministry's cabinet.

From the Zonal advisor's side, the purpose of the meeting was

- Introduction
- Reasons for this first mission which are to establish the zonal office so that PACE activities can start in Somaliland as soon as possible
- An MOU between PACE Somalia and the MOL to be prepared and signed.

The MoL and his advisors were seeking additional information about the implementation of PACE in Somaliland.

- The conditions upon which zonal Somali personnel will be hired,
- The composition of the steering committee in Nairobi and a representative for Somaliland to be member of that committee.
- Separation of Terra Nuova activities and PACE (different bases, different staff)

The zonal advisor explained how the recruitment procedures be implemented and that MOL would be involved and or informed in the selection process. The approach was acceptable to MOL.

On matters related to composition of steering committee, the zonal advisor agreed that their questions and concerns be transmitted to Nairobi for answer and clarification.

The zonal advisor also explained the role of the implementing partners in PACE with Terra Nuova being one of them. He stated that PACE had staff from the 3 INGO seconded to PACE to carry out the project. Terra Nuova will finalise their Itinerant Training Programme (ITP)2 project by end of June 2002 and be directly involved in the Sheikh Veterinary School project.

PACE will continue to use the base provided by Somaliland authorities to EC for implementing their livestock project.

ii) Stakeholder workshop Hargeysa

The workshop was held in Hargeysa from 7-8th March 2002 and is reported in Section 4.1 with the combined report in Annex 4.1.

iii) Baseline information Public Sector, Somaliland.

A meeting was held with the Director General (DG) of the Ministry of Livestock (MOL) in Somaliland who gave an overview of the set-up of the ministry. The existing organogramme of the MOL as reflected in the KARI Master plan report is the one that is operational (Annex A.1.)

The MOL employs a total of 104 staff. The Department of Animal Health and Production has 25 veterinarians, 30 veterinary assistants and 13 auxiliaries who are operating in the six provinces/regions of the state.

The basic infrastructure for the ministry is that there is a Minister, Assistant minister, DG, head of Department of Animal Health and Production, which has 6 provincial/regional coordinators, 28 district veterinary officers supported by auxiliaries and peripheral health posts. The MOL in Somaliland has benefited from trainings from INGO's (CARE, VETAID, Terra Nuova) and KARI to reach the organization they have currently. A meeting at a later date will be organized with the DG to enable identification of the needs of the public sector in Somaliland which are in line with the PACE activities or expected results.

iv) Current Status of the Veterinary Code:

During ITP2, a task force of Somaliland Veterinary professionals were contracted to work on the Veterinary Code to incorporate the recommendations made by Dr J Wafula through a consultancy provided by Terra Nuova in 1996. This task force will finalise their work in June 2002. PACE will then work with MOL on issues incorporated in the Veterinary Code.

v) Memorandum of Understanding PACE and MOL Somaliland

The Zonal advisor in consultation with the Project Advisor worked on preparing a draft for discussion with MOL on a memorandum of understanding between the two parties. This MOU will be presented once finalised.

A.1.2.Result 2: The capabilities of private animal health workers to engage in curative and preventive services are enhanced

i) Meeting with United Professionals Livestock Association (ULPA)

Committee members were met to explain the role of private sector in PACE, reiterating the experience with Rift Valley fever survey carried out under ITP2. The issue of community-based animal health (CBAH) activities in Somaliland was discussed. The association was told to make linkages with organizations working on community based animal health services and be involved in training of CAHWs. A total of 3 organisations support community based activities, Vet Aid, International Rescue Committee (IRC) and CARE are involved in this activity. The possibility of CAPE to carry out CBAH services was also mentioned.

The association was advised to finalise the registration and membership procedures before any capacity building training be initiated.

A.1.3 Result 3: A disease surveillance system is functioning

No activities were planned in this quarter, but discussions were held on the possibility of establishing a Disease Information Surveillance System within MOL. This activity was to reflect in the MOU.

A.1.4 Result 4: Emergency preparedness and response system in place, initially to Rinderpest

No activities foreseen in the quarter

A.1.5 Result 5: Local and Regional Networking

CAPE had invited all 4 zonal coordinators to a workshop in Jigjiga. Annex A.2 gives a report prepared by the zonal coordinator of Somaliland Ahmed Hashi (Odey). Only one report is presented as all 4 zonal coordinators from Somaliland, Puntland, Central and Southern Somalia attended the same workshop. Workshop was held in Jigjiga, Ethiopia and supported by CAPE:

A.1.6 Result 6: The programme is effectively co-ordinated

i) Establishment of the zonal base

The base used by Terra Nuova and provided by Somaliland Authorities to EC for EC funded project continues to be used by PACE Hargeysa office. The based was furnished and equipped by PACE. List of inventory indicates the furniture and equipment purchased for Hargeysa

ii) Car rental:

One car contract was signed. All contracts are made on 3 months basis.

iii) Recruitment of PACE Somali Hargeysa staff

The zonal coordinator position was carried out with the approval and endorsement of the Minister of Livestock in Somaliland. The person selected previously worked as a consultant for Terra Nuova under the ITP2.

The position of zonal Administrator was not finalized in this quarter. Support staff, previously of Terra Nuova continued to be hired under PACE as from October 2001.

Draft of TOR and letters of appointments were prepared for the recruited Somali staff.

Name	Position	Nationality	
Ahmed Hashi	Zonal Coordinator	Somaliland	
Ayaan Ahmed	Secretary	Somaliland	
Jamal Abdi Haasan	Chief Security guard	Somaliland	
Ahmed Sh. Aden	Security guard	Somaliland	
Mubarak A. Yonis	Security guard	Somaliland	
Mustaf S. Jama	Security/Generator	Somaliland	
Roda.	Cleaner	Somaliland	

iv) Cash Facilitator

Dalsan cash facilitator was identified for the transfer of funds from Nairobi to Hargeysa

A.2 WORK PLAN FOR NEXT QUARTER

TIME TABLE FOR THE 3rd QUARTER							
ACTIVITIES		APRIL		MAY		JUNE	
		From	To	From	To	From	To
RESULT 1	<i>The capabilities of Public sector (MoL) to regulate, coordinate and evaluate livestock development sector are strengthened</i>						
	ESTABLISHMENT OF EDMU (ASSESSMENT PHASE)	1	7				
	MEETING WITH MOL: FINALISATION OF MoU SSP-MoL	17	22				
	WORKSHOP WITH MOL: VETERINARY CODE			4	7		
	<i>PREPARATION OF TRAINING MATERIAL/INTERNAL MEETING</i>			11	16		
	TRAINING FOR EDMU: 1st COURSE (DATA MANAGEMENT)					10	15
RESULT 2	IDENTIFICATION WITH MoL OF OTHER RELEVANT ACTIVITIES			1	3		
	<i>Private sector strengthening</i>						
	ROLES AND RESPONSIBILITIES OF PRIVATE AND PUBLIC SECTOR WP	24	26				
	GUIDELINES AND LEGISLATION FOR PRIVATE VET ASSOCIATIONS	27	30				
RESULT 3	EPIDEMIOLOGY TRAINING FOR PRIVATE SECTOR			11	20		
	<i>Livestock disease surveillance system is functioning</i>						
	ESTABLISHMENT OF DIS/EP&R UNIT IN THE MoL (ASSESSMENT PHASE)			21	23		
	WORKSHOP ON LIVESTOCK DISEASE SURVEILLANCE (SENSITISATION)			26	29		
	<i>PREPARATION OF TRAINING MATERIAL</i>					1	8
	PERFORMANCE ASSESSMENT OF ABATTOIRS					2	8
RESULT 5	TRAINING ON ADVANCE EPIDEMIOLOGY (SURVEY DESIGN, MONITOR...)					24	30
	<i>Local/Regional networks for animal health are functioning</i>						
RESULT 6	REGIONAL WORKSHOP FOR PACE REGIONAL NETWORKING					16	23
	<i>Programme is effectively coordinated</i>						
	SOMALI PACE INTERNAL WORKSHOP	8	12				
	INTERNAL ZONAL MEETING (ADM & TECH.)	16	16				

A.3. UPDATED INVENTORY

INVENTORY PACE PROJECT 01/01/02 to 31/03/02 - SOMALILAND

PURCHASED WITH PROJECT FUNDS

ITEM	DATE	REF	DESCRIPTION	AMOUNT USD	LOCATION	ORGANIS.	REMARKS
B052	30-01-02	25033	TOSHIBA S1800-214 PS 183E-004GZ-EN LAPTOP COMPUTER Z1086002G-SS183-0	1,550.00	HARGEYSA	PACE	VET COORDINATOR
B029	19-02-02	52032	TELEVISION SET 21"	230.00	HARGEYSA	PACE	OFFICE
B043	24-02-02	52044	SONY VIDEO CASSETTE CA45AV	105.00	HARGEYSA	PACE	OFFICE
B044	28-02-02	52048	HP VECTRA PENTIUM III 256MB 20GB	940.00	HARGEYSA	PACE	OFFICE
B045	28-02-02	52048	HP DESKJET 845C PRINTER	175.00	HARGEYSA	PACE	OFFICE
B046	28-02-02	52048	HP DESKJET 350C PRINTER	260.00	HARGEYSA	PACE	OFFICE
B047	28-02-02	52048	FUJI FILM DIGITAL CAMERA	260.00	HARGEYSA	PACE	OFFICE
B048	16-03-02	52055	UPS 500V WITH PCUTP CABLE 1732089	8,401.60	HARGEYSA	PACE	OFFICE

RECEIVED FROM EU PROJECTS

ITEM	DATE	REF	DESCRIPTION	AMOUNT USD	LOCATION	ORGANIS.	REMARKS
			NO MOVEMENTS				

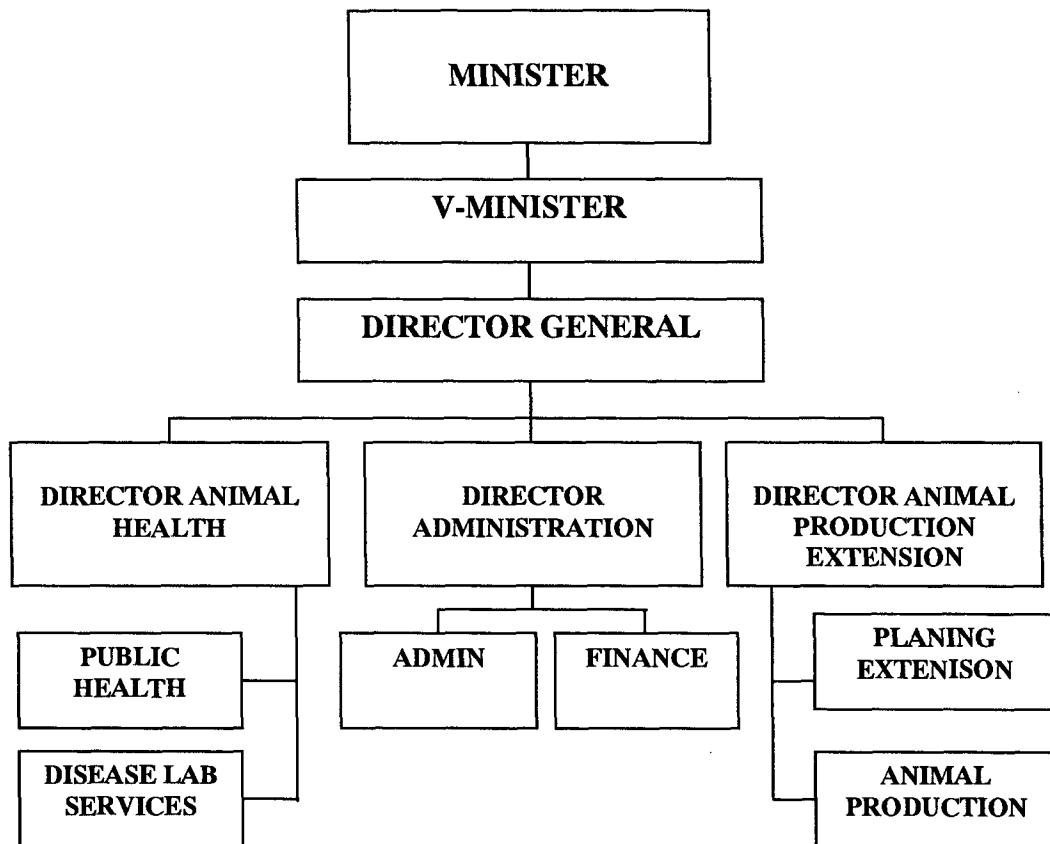
RECEIVED FROM PACE PROJECT IMPLEMENTING ORGANISATIONS

ITEM	DATE	REF	DESCRIPTION	AMOUNT USD	LOCATION	ORGANIS.	REMARKS
			NO MOVEMENTS				

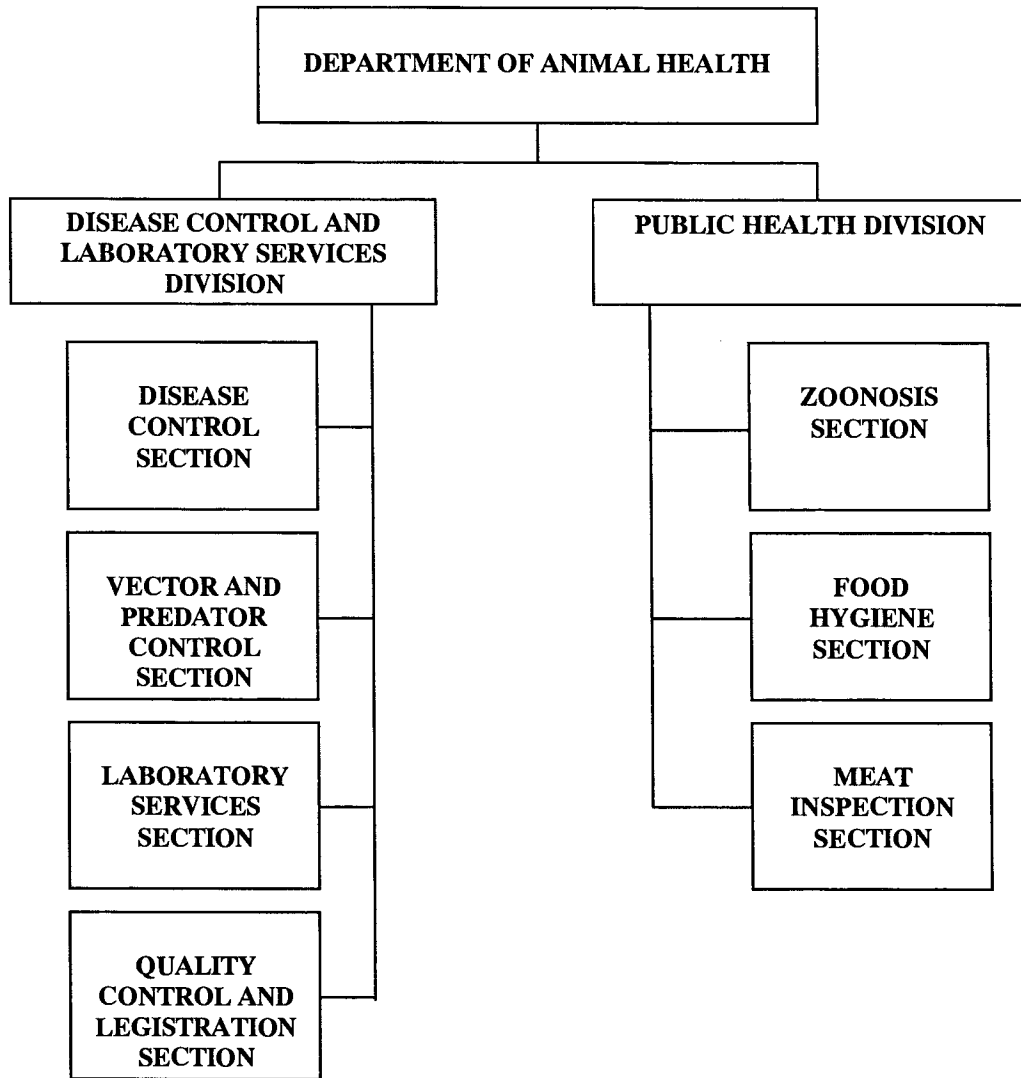
ANNEX A.1

ORGANOGRAMME FOR THE MINISTRY OF LIVESTOCK IN SOMALILAND

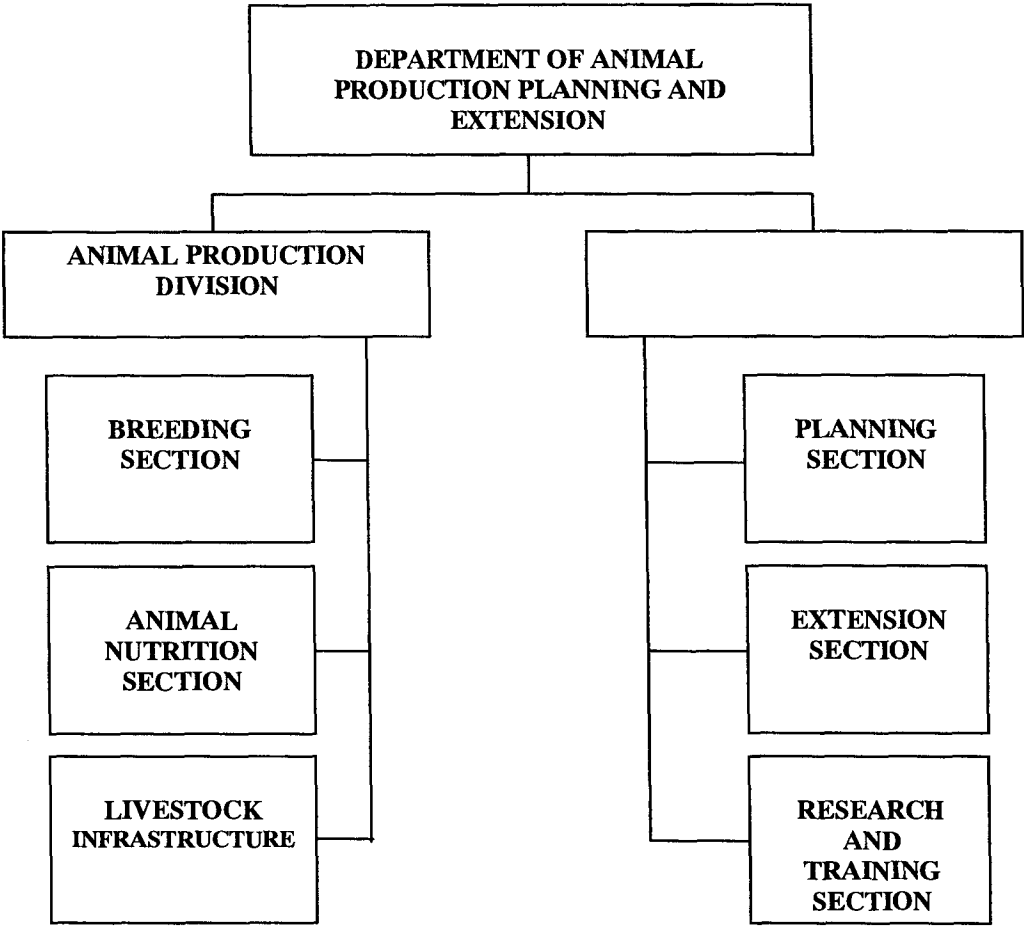
SOMALILAND ORGANISATONAL STRUCTURE FOR THE MINISTRY OF LIVESTOCK



DEPARTMENT OF ANIMAL HEALTH



DEPARTMENT OF ANIMAL PRODUCTION PLANNING AND EXTENSION



Annex A.2

***REPORT ON 1ST PACE REGIONAL WORKSHOP ON COMMUNITY BASED
ANIMAL HEALTH WORKERS HELD IN JIGJIGA, ETHIOPIA***

REPORT ON 1ST PACE REGIONAL WORKSHOP ON COMMUNITY BASED ANIMAL HEALTH WORKERS HELD IN JIGJIGA, ETHIOPIA

The purpose of the workshop was community based animal health services delivery programme.

The benefits of professional participation and opportunities of a CAH service delivery.

Since the most of the professionals are based in big towns, an alternative approach to reach the remote pastoral community with clinical veterinary service has been to promote the use of community based animal health worker (CAHWs).

Community-based Animal health programmes have become very popular and had implemented by many NGOs, under various circumstance in the pastoral community.

The primary purpose of a community-based animal health programme is:

- To reduce morbidity (illness) and mortality (death), and thereby increase the productivity of local livestock by improving the access of rural livestock keepers to affordable, basic animal health services.
- The effectiveness and reliability of individual village based workers can be greatly enhanced if they work as a network under the supervision and support of veterinarians at district level.
- It must be demonstrated to local veterinarians that CAHWs are not competitors but rather, extensions of their own influence and importance within the community.
- By having veterinarians participate in supervision and supportive role, such as training, monitoring and drug supply, the long term prospects for success of the programme can be bolstered and the entire framework of veterinary service delivery in the pastoral areas of the country can be favourably influenced to support this programme of CAHWs so many other points were discussed in the workshop such as
 - Good selection of CAHWs with respect to community, vet. Professionals and vet. Authorities, potential CAHWs should be livestock keepers known to their community.
 - Training of CAHWs should be done locally whenever possible
 - Curriculum development, it is critically important that veterinary professionals actively participate in the curriculum development.
 - Monitoring of CAHWs once trained CAHWs being working in their communities, it is vital to the overall success of the programme that their technical and personal performance be regularly evaluated
 - Disease surveillance activity
 - Animal health information system
 - What type of information's will be required from CAHWs

Conclusions:

CAHWs can provide immediate tangible benefits to poor livestock owners and economic development in poor, rural communities. CAHWs in trans-boundary disease control, because of their position in the community, they can be used to mobilize their communities as well as to do vaccinations, with their links to supervising vets in future, contract type vaccinations for disease like rinderpest/CBPP in pastoralist areas.

On 29th MAR 02, a meeting was arranged in which the participants were:

- PACE Ethiopia
- PACE Somaliland and Somalia
- PACE From Nairobi
- Region 5 Veterinary Authorities

The objective of that meeting was first the introduction of PACE people in the region.

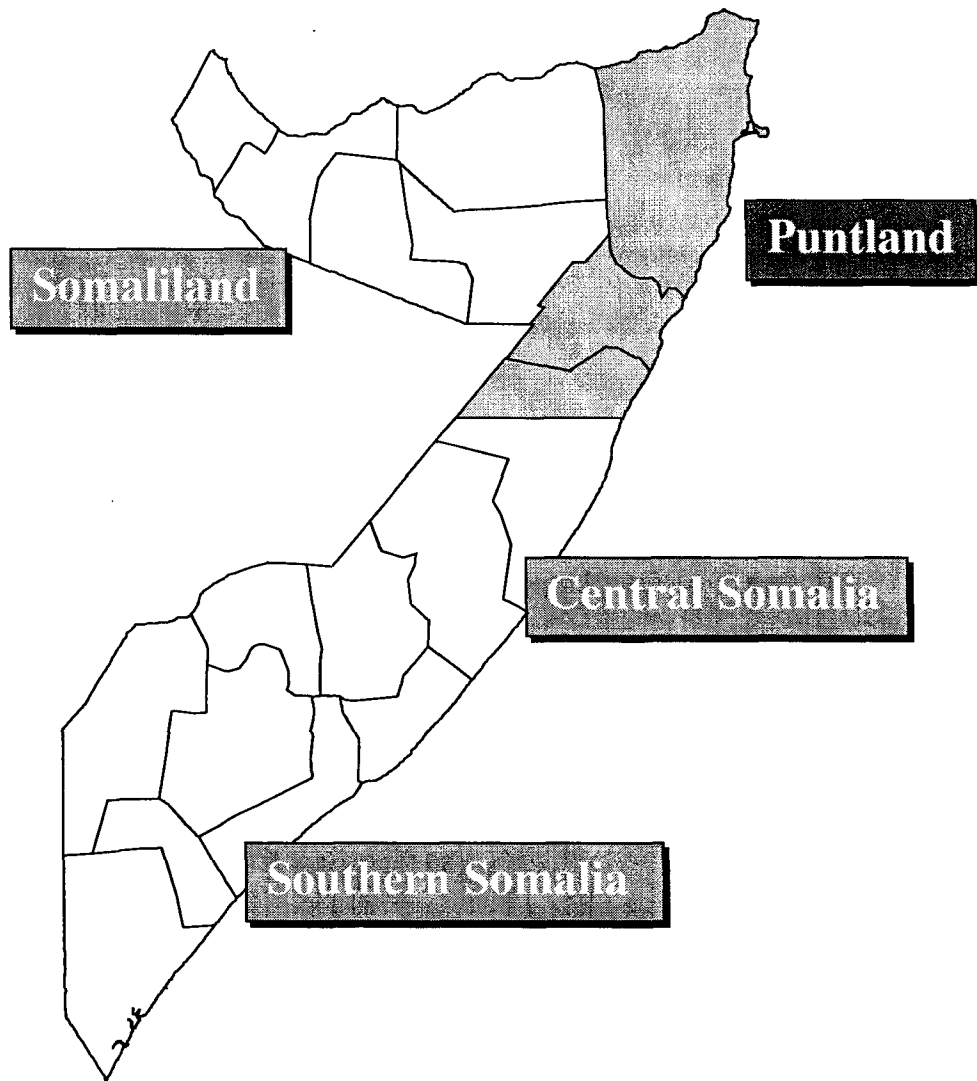
- To strengthening the harmonization of trans-boundary disease control;
- Establishing network system among the countries, in the region;
- Releasing restrictions of cross-boarder movements;
- The declaration of rinderpest eradication in the region was top priority in the meeting.

We have decided to work together all the suspected parts in the region, and since Ethiopia is the oldest government in Africa and is a member of OIE, must take the greatest role in that activities.

Prepared by

Zonal Coordinator
PACE Somaliland

SECTION B - PACE PUNTLAND



B.1 PACE PUNTLAND ZONE

Puntland comprises of Bari, Nugaal, North Mudug, and Puntland affiliated areas of Sool and Eastern Sanaag in North East Somalia and was supported in the livestock sector since 1997 by UNA under the EC-funded Livestock Export related Veterinary Services project. PACE Puntland became operational from February 2002 when the zonal veterinary advisor Dr Martin Nyangao Nyamweya was appointed through VSF Suisse. The current base is in Bosasso and is where is located in the building which was rehabilitated by UNA for MOLAE's Port Veterinary Offices. This base is temporary, as the decision to move the PACE office to where the MOLAE Head quarters is has not being confirmed by MOLAE.

Puntland continues to export livestock to Emirates, Oman and Yemen and Bosasso port has become one of the most active ports for livestock export.

B.1.1 Result 1: Capabilities of public sector AHWs to regulate, coordinate, monitor and evaluate the livestock development sector are strengthened

i) Sensitisation meetings of livestock stakeholders of PACE Project in Puntland.

Somali livestock professional forum (SLPF) and Puntland livestock professional association (PULPA) carried out a sensitisation meeting with livestock stockholders (livestock producers, livestock traders, drug traders, private veterinarians, public veterinarians and public administration) prior to the launch of the project in Puntland. Two more sensitisation meetings were later held in Gardo and Galkaiyo. In all the meetings the activities PACE were highlighted and the ground for the Stakeholder workshop prepared. In Galkaiyo discussion was held on involvement of the export chilled meat in the project.

ii) Stakeholder Workshop and launch of PACE Somali Project, Bosasso and Galkayo

PACE Somali Project was launched in Puntland on the 12th February 2002. The welcome address was given by the SLPF/PULPA and MoLAE who were the hosts. Those present included livestock stakeholders, INGO's . The Director General of MoLAE, who is the highest-ranking government representative of the Puntland State government presently, officially opened the meeting. Dr Seif Maloo, the project advisor, gave an overall view on PACE Programme and the TA Livestock Dr Fritz Mahler of European Commission Somali Unit made a presentation on Somali PACE Project and operational structure. The project advisor then presented the main results expected from the PACE Somali Project and the likely impact on livestock industry. Various livestock stakeholders were informed on their roles on the PACE project. The Director General of MoLAE formally launched the project

The report is presented in Annex 4.1. Due to the political differences in Puntland, a repeat of the workshop was held in Galkayo a week later to explain the objectives of PACE. Representatives from South Mudug also attended this meeting. A brief report as presented by the zonal vet advisor is given below.

The Zonal veterinary advisor gave an overview of the PACE Programme, the Somali PACE Project, Operation of SCIU, the Main Results expected of the PACE project and the programme Puntland i.e. strengthening the Public Sector and networking. There was an address by one representative from each stakeholders group on the presentation by the zonal veterinarian. Each highlighted on the main results of PACE in Puntland. There was a meeting called by the elders from South Mudug who wanted the to meet the PACE team. The elders explained that South Mudug is closer to Galkaiyo as an administrative unit that Beled Weyne. In terms of development or projects the area is normally classified as Mudug region and it is only the political figures that divide the area into North and South Mudug. There are about 72 scattered settlements in South Mudug under the administration from

Galkaiyo. Whatever developments being undertaken in North Mudug, this area is normally covered. However, they have had no veterinary involvement in all the projects aimed at livestock. They have over 10 veterinary professions in the area. Among the issues raised included lack of involvement of the professionals in any livestock projects in the area by international NGO's and the pastoralists have received no professional assistance for their animals. This has caused a lot of unemployment for the professionals and livestock health has deteriorated. They are ready to cooperate with all persons dealing with livestock matters and are appealing to the leaders of the PACE project to review their case and have in the Puntland programme.

iii) Baseline Information Public Sector, Puntland

A baseline survey to establish the functions of the Ministry of Livestock, Agriculture and Environment (MoLAE) and the staff involved was conducted in Puntland by consultations and semi-structured interviews with the stakeholders in the livestock industry from the public and private sectors. It was established that the existing structure does not reflect what is supposed to be a functional and entire MoLAE. There is lack of organized well-structured and functional public and private veterinary services for delivery of animal health to livestock keepers and traders. The animal health delivery system is non-existence or run down and no clear duties exist for the private or the public veterinarians. There is a lack of clear understanding of roles and responsibilities of the public sectors in the livestock sector and as a result, the existing organisational structure of MoLAE appears to be less active in terms of hierarchy and direction. Current political situation has rendered the MoLAE to operate only through the Director General.

A detailed report on the baseline information on operation of public and private veterinary sectors in Puntland is given in Annex B.1

iv) Current Status of Veterinary Legislation and Code.

Consultation and semi-structured interviews of livestock stakeholders revealed that Puntland has no animal health acts or laws and regulations/guidelines recognised by any other country or to govern the performance of the livestock industry or the conduct of public or private veterinary professionals. A copy of veterinary law-code has been found even though none of the laws appearing are implemented.

v) Memorandum of Understanding PACE and MOLAE, Puntland

The draft memorandum of understanding (MOU) between the MoLAE and PACE has been prepared by zonal veterinary advisor and awaits discussion with PACE SCIU office and MOLAE prior to submission to the ministry.

B.1.2 Result 2: Capabilities of private AHWs to engage in curative and preventive services are enhanced

i) Baseline Information on Private sector

Baseline information was established for the private sector to determine the contribution of private sector operating in Puntland in the delivery of veterinary services. Eighteen private veterinary teams set up by UNA offered veterinary services to pastoralists and traders in the past. These teams later concentrated on the lucrative export-related activities especially Brucella testing at the port of Bosasso. A ban imposed due to RVF by Saudi and Yemen drastically reduced the number of animals for export from Somali through the port of Bosasso. As a result of the livestock ban, the performance of these teams appears to have been on the decline. An association for professional actors in livestock health delivery system, Puntland Livestock Professional Association (PULPA), has been established recently whose one of the mandates is to revive the private teams (Annex B.1).

ii) Drugs supply situation.

Prior the collapse of central government of Somalia, ministry of livestock and range had a full authority and responsibility for all issues concerning livestock drugs (orders, quality control, storage, distribution and pricing). After the collapse of the central government in 1991, all activities of the

former ministry of livestock ceased. Between 1992 and 2000 Puntland received emergency animal health assistance from various international non-governmental organizations in the form of veterinary equipment, vaccines and drugs. Presently, livestock drugs are imported, distributed and sold by general traders who have little or no knowledge on quality of drugs. The main classes of imported drugs into Puntland are antihelminthics, antibiotics and acaricides.

These drugs are imported mainly from Kenya, Jordan, Pakistan, Belgium, England, Egypt and India. The drugs are imported either directly from these countries or through wholesalers in Mogadishu, Hargeysa or Nairobi. Most of these drugs are sold indiscriminately in open markets like other domestic wares and lack any form of proper storage. The retail traders have little or no knowledge of the use of the medicines and the trade lacks professional supervisory input in terms of quality and use.

The ban of livestock trade has had negative impact in the trade of veterinary medicines because the pastoralists cannot afford to buy drugs nor can they afford to pay for the services of the veterinarians who use drugs to treat their animals. This trade is at the verge of collapse because of this vicious cycle of livestock trade. Fake and expired cheap medicines have now surfaced in the market and are being sold to the pastoralists for use.

iii) Workshop on the roles and responsibilities of public and private animal health workers.

This report is presented as a private livestock sector activity even though it cuts across both public and private sectors.

A workshop was held in Galkaiyo for four days and, using a participatory approach, the roles and responsibilities of the private and public sectors clearly delineated out. Further shared activities were also highlighted. An organizational structure for an operational MoLAE was reached by consensus on which an organogramme of the MoLAE will be based. Annex B.2 gives the report of the workshop.

B.1.3 Result 3: Livestock disease surveillance system is functioning with specific reference to Rinderpest

No foreseen activity were planned in this quarter

B.1.4 Result 4: Emergency preparedness and response systems are functional, initially to Rinderpest

No foreseen activity were planned in this quarter as per timetable

B.1.5 Result 5: Local networks for promoting livestock health are functioning

The zonal coordinator Dr Hersi Guled attended the Jigjiga workshop in Ethiopia. The report is represented in Annex A.2.

B.1.6 Result 6: The programme is effectively co-ordinated

i) Establishment of the Zonal PACE office in Puntland

The Zonal Base for PACE in Puntland was temporarily set in Bosasso at the port veterinary offices complex and occupied the office premises formerly used by UNA Livestock Export-related programme. PACE took over this office and office equipment and furniture left by the UNA project following a handing over ceremony presided over by Director General MoLAE, Dr Khalaf Hassan, Dr Seif Maloo, former project manager of UNA, UNA Regional Representative, Mr. Saverio Frazzoli, VSF Regional representative, Dr Phillip Ankers and EC Somali Unit Coordinator, Mr. Fritz Maller. The list of the equipment handed over to PACE is given in the Inventory section of this report. The only item purchased newly was a laptop computer for the zonal advisor. Telephone and e-mail services were installed.

ii) Recruitment of Somali zonal veterinary coordinator and administrator

Interviews for the positions of the Somali Veterinary Coordinator and Somali Veterinary Administrator for Puntland were conducted on the 2nd and 3rd March, 2002 by the National Somali Epidemiologist, Dr Abdillatif. The interview for the coordinator was conducted in Garowe because the candidate could not travel to Bosasso where the other interviews were conducted due to political reasons. A total of six candidates attended the interviews. Two candidates, Dr Hersi Guled and Dr Mohammed Abdullahi, emerged successful and were recruited to the positions of the coordinator and administrator, respectively, for PACE Project in Puntland. Their appointments were dated 1st March 2002.

Details of the local personnel employed by the project to date are given below:

Name	Passport Number	Nationality	Position	Recruitment Date	Present during the reporting time
Dr Hersi A Guled	A0352098	Somali	Zonal vet Coordinator	1 st February 2002	Yes
Dr Mohamed Abdullahi	A0689995	Somali	Zonal Administrator	1 st February 2002	Yes
Ms Zeinab A Guled		Somali	Secretary	1 st February 2002	Yes
Mohammed Ducaalle		Somali	Security staff	1 st February 2002	Yes
Mr Abdulqadir S Hassan		Somali	Security staff	1 st February 2002	Yes
Mr Abdiqani Y Nur		Somali	Security staff	1 st February 2002	Yes
Ms Waris F Samanter		Somali	Security staff	1 st February 2002	Yes

iii) Car Rentals

Motor vehicles for use in Puntland were identified and temporal contracts for their use drawn. The two previous cars of UNA were contracted on a period of 15days per month for each car pending a final decision. This decision will be based on where the base of PACE Puntland will be located.

iv) Cash Facilitator

Dalsan cash facilitator was identified for the transfer of funds from Nairobi to Bosasso

B.2 WORKPLAN FOR UPCOMING QUARTER

TIME TABLE FOR THE 3rd QUARTER (APRIL TO JUNE 2002)							
ACTIVITIES		APRIL		MAY		JUNE	
		From	To	From	To	From	To
RESULT 1	<i>The capabilities of Public sector (MoL) to regulate, coordinate and evaluate livestock development sector are strengthened</i>						
	Search Somali veterinary laws and regulations	1	5				
	Meeting with MoLAE and submission of MOU	18	24				
	Preliminary public sector strategy meeting with SCIU	22					
	Workshop on advise on appropriate personnel & TOR			1	5		
	TOR for task force on laws and regulations			6	11		
	MoLAE administration and budgetary workshop					1	5
	Prepare inventory for MoLAE (PVO & Ministry HQ)						
RESULT 2	<i>Private sector strengthening</i>						
	Support to PULPA AGM/Scientific Conference	20	24				
	Follow up of PULPA meeting/conference	25	28				
	Capacity building of PULPA (management of executive)			15	18		
	Organize field day for private vets by PULPA						
	Identify areas for CBAHW's (Communicate with CAPE)						
	Field assessment of needs of CBAHW's						
RESULT 3	<i>Livestock disease surveillance system is functioning</i>						
	Basic epidemiology training (10 days)					1	11
	Information gathering (3 days)					13	16
RESULT 4	<i>Emergency preparedness and response</i>						
	No activities foreseen in this quarter						
RESULT 5	<i>Local/Regional networks for animal health are functioning</i>						
	Baseline information on existing networks			19	26		
	Meetings with livestock traders to discuss networking			26	30		
RESULT 6	<i>Programme is effectively coordinated</i>						
	Somali PACE internal workshop	8	13				
	Activity plan for Puntland and finalize MOU	24	30				
	VSF Mission to Puntland			11	14		
	PACE CSU Eastern Africa Regional Workshop on Rinderpest					17	19
	EC Monitoring Mission			13	18		
	Consultative meeting for zonal and SCIU teams on work plans					22	30

B.3 Other Activities

The Kenya Camel Association (KCA) held its 8th annual meeting (Kenya Camel Forum) in Kajiado from 11th to 15th March 2002. The zonal advisor attended this meeting representing PACE Somali Project and also went to hand over the vice chairmanship of the association because he was not going to be able to run the post effectively while in Puntland.

B.4 Updated Inventory

As per the EC guidelines, an updated list of physical goods that have been acquired by the project to date is included.

INVENTORY PACE PROJECT 01/01/02 to 31/03/02 - PUNTLAND

PURCHASED WITH PROJECT FUNDS

ITEM	DATE	REF	DESCRIPTION	AMOUNT USD	LOCATION	ORGANIS.	REMARKS
B051	30-01-02	25033	TOSHIBA S1800-214 PS 183E-004GZ-EN LAPTOP COMPUTER Y1056918G-SS183-0	1,550.00	BOSASSO	PACE	VET COORDINATOR

RECEIVED FROM EU PROJECTS

ITEM	DATE	REF	DESCRIPTION	AMOUNT USD	LOCATION	ORGANIZATION	REMARKS
A064	15-03-02		HP DEKJET PRINTER		BOSASSO	PACE	FROM UNA VET
A065	15-03-02		SMALL XEROS PHOTOCOPIER		BOSASSO	PACE	FROM UNA VET
A066	15-03-02		VOLTAGE REGULATOR		BOSASSO	PACE	FROM UNA VET
A067	15-03-02		AIR CONDITIONER		BOSASSO	PACE	FROM UNA VET
A068	15-03-02		CEILING FAN		BOSASSO	PACE	FROM UNA VET
A069	15-03-02		SMALL REFRIGERATOR		BOSASSO	PACE	FROM UNA VET
A070	15-03-02		SMALL REFRIGERATOR		BOSASSO	PACE	FROM UNA VET
A072	15-03-02		COOLING FAN		BOSASSO	PACE	FROM UNA VET
A073	15-03-02		SOLATEK REGULATOR		BOSASSO	PACE	FROM UNA VET
A063	15-03-02		OFFICE DESK WITH DRAWERS		BOSASSO	PACE	FROM UNA VET
A064	16-03-02		OFFICE DESK WITH DRAWERS		BOSASSO	PACE	FROM UNA VET
A065	17-03-02		COMPUTER TABLE		BOSASSO	PACE	FROM UNA VET
A066	18-03-02		OPEN FILLING TABLE		BOSASSO	PACE	FROM UNA VET
A067	19-03-02		EXECUTIVE ARM CHAIR		BOSASSO	PACE	FROM UNA VET
A068	20-03-02		EXECUTIVE ARM CHAIR		BOSASSO	PACE	FROM UNA VET
A069	21-03-02		CLOSED WOODEN FILLING TABLE		BOSASSO	PACE	FROM UNA VET
A070	22-03-02		WHITE NOTICE BOOARD		BOSASSO	PACE	FROM UNA VET
A071	23-03-02		SMALL WOODEN TABLE		BOSASSO	PACE	FROM UNA VET
A072	24-03-02		PICTURE FRAME UNA POSTER OF ACTIVITIES		BOSASSO	PACE	FROM UNA VET
A073	25-03-02		WOODEN CHAIRS		BOSASSO	PACE	FROM UNA VET
A074	26-03-02		WOODEN CHAIRS		BOSASSO	PACE	FROM UNA VET
A075	27-03-02		KEY WOODEN BOX		BOSASSO	PACE	FROM UNA VET

Annex B.1

BASELINE INFORMATION ON OPERATION OF PUBLIC & PRIVATE SECTORS IN PUNTLAND

BASELINE INFORMATION ON OPERATION OF PUBLIC & PRIVATE SECTORS IN PUNTLAND.

PUBLIC SECTOR

The Ministry of Livestock, Agriculture and Environment (MoLAE) is responsible for livestock activities in Puntland State of Somali. MoLAE has four departments:

- Animal health department
- Agriculture department
- Range and Environment department
- Finance and Administration department

ANIMAL HEALTH DEPARTMENT.

Personnel

Currently there are 22 public servants in the department of animal health of the MoLAE and they draw their salaries from the ministry. They include:

1) Director General

The Director General is directly concerned with the technical affairs of livestock in the MoLAE in Puntland. Dr Khalaf Hassan heads this department. He is the technical arm of the MoLAE. His responsibilities include:

- All technical information and activities of livestock within the ministry;
- Administration of the four departments;
- Liases with Director Generals of other ministries' departments;
- Coordinates the technical activities of the ministry and is responsible to advise the minister accordingly (presently there is no minister in Puntland);
- Responsible for all correspondence to the MoLAE concerning livestock and livestock-related activities, agriculture and environment;
- Advises on the requirement of the departments especially on human resources;
- Supervises the delivery of veterinary services by the private vets in the field.

2) Director of Animal Health Department

The Director of Animal Health is in charge of all activities that concern livestock health. He oversees or supervises the Regional Veterinary Co-coordinators, Port Veterinary Officer and the meat inspection teams.

He controls all vaccination activities in the state and oversees the treatments of livestock. The person presently in charge of this has not been active in the last 8 months.

3) Regional Co-coordinator of BARI region

There are five regions in Puntland, which are supposed to be headed by Regional veterinary coordinators. The regional coordinators are supposed to be responsible for livestock activities in each region.

Presently there is only one regional coordinator in Puntland for Bari region. His main role is supervision of the Bosasso meat inspection team. He has no office and does not have specific duties from the department.

4) Bosasso Meat Inspection Team.

This team is made up of 4 persons: two veterinary doctors and two veterinary assistants. They are employed to inspect meat and fish in Bosasso market. Their duties include ante mortem and post mortem of animals that are slaughtered for local consumption in Bosasso town.

They occasionally undertake ante mortem examination in the local livestock market on animals that are due for slaughter for local consumption.

They do not undertake post mortem examination on the slaughtered animals because there is no slaughterhouse in the town and most animals are slaughtered at the owners' homes. They are not as busy as they are supposed to be.

The work they undertake in the market is in collaboration with the municipality, which collects all the taxes.

5) Galkaiyo Meat Inspection Team.

The Galkaiyo meat inspection team is made up of one veterinary doctor and four veterinary assistants. They are fully engaged in the ante mortem and post mortem operations in the slaughterhouse in Galkaiyo for chilled meat for export. There are two slaughterhouses in Galkaiyo: Mubarak 2 and Al Kowser. It is only the Mubarak 2 slaughterhouse that is functional. The team collects charges for inspection of the carcasses. They collect Somali shillings 300 per head of sheep or goat; 1,500 per head of cattle and 2,000 per head of camel which is submitted to the Ministry of Finance. They then issue Certificates for export of chilled meat. The other slaughterhouse is ready and the traders are waiting for orders of chilled meat.

6) Port Veterinary Office.

This is the most active part of the department of animal health currently. It is made up of two veterinary doctors and seven veterinary assistants. One of the veterinary doctors (Ahmed Sheikh Amin) is in charge of the port veterinary laboratory services while the other one (Abdisalaam Warsame) is in charge of the port as the Port Veterinary Officer (PVO). The PVO and his team start their task by visiting the animals that are due for export in the holding grounds where they carry out ante mortem examinations in all the animals.

They carry out physical examinations on the animals, determine the age, sex, colour and any other distinctive marks. They then issue the trader with a Veterinary Inspection Certificate, which he uses at the custom office to pay custom fee. Then the laboratory team will sample 5% of these animals at random and carry out Brucella tests. The PVO then issue a final certificates for export of the animals, the Veterinary Health Certificate.

The PVO and his team examine and measure the space of the vessels that will carry the animals and supervise the loading of the animals into the vessels. The traders pay a fee for the services rendered by the PVO's office: Somali shillings 300 per head of sheep or goat; 1,200 per head of cattle and 1,500 per head of camel. The money is submitted to the ministry of finance. The port is active periodically during Hajj and end of Ramadan.

The current organogramme for the Department of Animal Health is: -

Director General	Dr Hassan Khalaf BSc. MSc – Tropical Veterinary Medicine
Director of Animal Health Dept.	Mohammed Ishmael Hassan
Regional Vet. Co-coordinator (Bari)	Dr Alinoor Ibrahim
Meat Inspection Team (Bosasso):	Dr Mohammoud Yusuf Hussein Dr Saidia Musa Mohammed
Veterinary Assistants (AHA's)	Mohammed Mahammoud Hussein Mohammed Mahammoud Warsame
Meat Inspection Team (Galkaiyo)	Dr Abdi Karim Mohammed Issa
Veterinary Assistants (AHA's)	Mohammed Abdulkadir Said Khasam Warsame Muse Hussein Mohammed Yussuf Mohammed Ali

Port Veterinary Office

Port Veterinary Officer

Veterinary Assistants (AHA's)

Dr Abdisalaam Warsame

Said Noor Jama

Mohammed Ahamed Abdule

Abdir Rashid Hashi Arb

Mahammoud Hassan Ali

Khalif Ahamed Abdi

Mahammoud Mohammed Hidik

Mohammed Adbulahi Salah

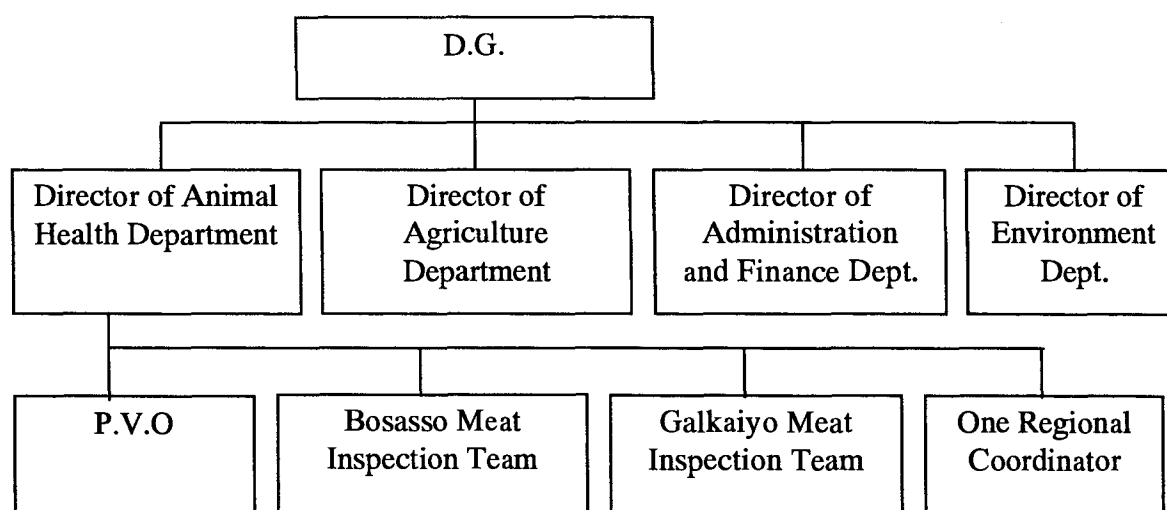
Laboratory I/C

Dr Ahamed Sheikh Amin

Veterinary Assistant (AHA)

Abdikhan Omar Mohammoud

The present organogramme for MoLAE is:



The other departments have got even leaner staff:

1. Department of Agriculture: Director General
2 other staff
2. Department of Range and Environment: Director General
17 staff
3. Department of Finance: Director of Finance
Cashier
Administrator

The MoLAE pays the salaries of all these public servants.

The public servants feel left out by on INGO's matters concerning in livestock especially by UNA which set up the privatisation scheme.

They also feel that the private veterinarians are give support and finance for livestock development and they are ignored.

They are not assured of their salaries from the ministry now that there is no authority or government.

They want to be involved closely in the programmes being run by the international non-governmental organizations.

Infrastructure

The capital city for Puntland State is in Garowe. Here in the headquarters for the Ministry of Livestock, Agriculture and Environment is where the minister, director general of MoLAE and the director of animal health are supposed to sit here.

The present political situation does not allow this normalcy and the DG sits in Bosasso at the port veterinary office. The building in Garowe is run down and we had no access take inventory of what is in place. In Bosasso the port veterinary offices was recently renovated by UNA Livestock-export related project that ended in July 2001.

There are several offices in the complex that are not used. The PVO's complex currently houses the DG of MoLAE. There is a building that is run down in Bosasso town that was previously the office for the regional veterinary coordinator of Bari region.

In Gardo district, there are several buildings at the district headquarters that belong to MoLAE. Several of the buildings have been occupied by individuals privately while other are in ruins. There is one building that was the office of the district veterinary office. In Galkaiyo the MoLAE has a big compound with four buildings that were for the three departments. These buildings are currently used as housing for individuals.

PRIVATE SECTOR

The Somali Central Government, when it existed, employed most of the veterinarians in public sector. They were deployed to regions, districts, villages and nomadic settlements to offer clinical veterinary services, treatments and vaccinations. Most of the rural areas were underdeveloped in terms of infrastructure and means of communication.

After the collapse of the central government, in 1991, the veterinarians went where they could find work especially at the ports that were exporting livestock to the Gulf countries. Fourteen veterinarians who were in the regional office of Bari formed a private veterinary team to supervise export of livestock and provide Brucella tests for the livestock.

Another group of veterinarians from the south formed another team (Al Najah) and came to Bosasso to offer clinical examination and Brucella tests for livestock for export. At this time the ports of Mogadishu, Kismayo and Berbera were closed and there was enough work for all the teams in Bosasso. The charges were high, Somali shillings. 1,600 per head of sheep or goat examined and 15,000 for camels and the exchange rate was good (1US\$ to 4,000SoS).

Two more teams were formed (Kulmiye and Al-Fows) and they joined those at the port offering the same services. Competition set in, there was no regulatory body and the fees that the teams were charging decreased to the point that the teams could not sustain themselves or even pay rent for the premises they operated from. Inflation of the Somali shilling occurred at this time making the situation worse.

The Brucella teams collapsed due to the inflation, uncontrolled and unfair compromising competition and a ban from the Gulf states especially Saudia Arabia which was the major importer. Fortunately, the UNA project on privatisation was launched one month before the ban of livestock export. By this time there were 27 graduates (holders of degrees), 60 veterinary assistants and 22 senior auxiliaries in Bosasso. They offered no clinical services to the producers or traders.

UNA trained and established 17 private veterinary teams in North Eastern Somali, Puntland on the privatisation scheme and provided them with basic veterinary equipments to a team of 3 to 5 persons for clinical work. UNA also did capacity building by holding six training workshops and also offered on job trainings. They provided yet another set of the basic veterinary equipment.

These teams were based initially in different districts and regions of Puntland with a larger number in livestock concentration zones. Eight teams were in Bari region, 5 in North Mudug and 4 in Nugal. The teams helped the nomadic livestock keepers in offering clinical services. Confidence was created

between the private veterinary teams and the livestock keepers for they understood how to offer their services to the nomadic keepers.

However, most teams could not sustain this programme because accessibility to the villages became expensive compared to the profits they made. The work they were doing was not fetching as much profit when compared to the Brucella tests at the port. The nomadic nature of the pastoralists made it difficult for the private teams to keep pace with the pastoralists.

Further, the livestock export bans that were imposed over different times in the following periods made it impossible for the livestock producers pay for the veterinary services rendered. Moreover, the producers who managed to send their animals to the Gulf countries were paid by produce such as sugar, rice and thus were unable to pay cash to the private veterinary teams for the services rendered.

Five teams, however, survived: Gardo, Garowe, Godobgiran, Galkaiyo and Baadweyne. This was because they worked in villages with high population of livestock or the villages were near and easily accessible or had financial support from their families. The other private teams lacked sufficient funds to run their programmes.

Puntland Livestock Professional Association (PULPA).

Puntland Livestock Professional Association (PULPA) is a regional Somali voluntary welfare association for private and public veterinary professions. This is a professional association, which is apolitical, with no tribal or clan affiliations and is legally recognized. It is part of the larger national professional association, Somali Livestock Professional Forum.

Its formation was necessitated by the dependency of Somali on livestock: major contributor to the GDP, foreign exchange earner and employer. PULPA was formed with the hope of assisting to keep in check trans-boundary disease occurrence due to free movement of animals between Somali and neighbouring countries and indiscriminate slaughter practices even of breeding females.

The association also needed to have a professional input in the livestock export trade to avoid the numerous rejections of livestock by the Gulf countries. Livestock drugs were imported into the country, distributed and sold by unprofessional traders who had little or no knowledge on quality, proper storage of drugs and indiscriminate sale. PULPA wanted to put a professional touch in this. There was also a need to have an association that would unify disunited and mistrusting professional colleagues.

Member of PULPA from the private sector received training from the UNA privatisation project and have been involved in the Brucella testing teams and the private veterinary teams that were set up to offer clinical services to the livestock producers in various parts of Puntland. Most of the private teams have collapsed so far.

Gaps Existing.

The collapsed teams can be contracted to carry out sampling procedures when the PACE project will be carrying out cross-sectional surveys for RVF in Puntland. This will help them generate fund to re-stock their kits. Alternatively, they could be given drugs and other accessories to enable them function. The cost of this can be deducted from the proceeds that they will earn from the samples taken.

Good quality drugs can also be offered to them while they are out to carry out the survey for RVF. The cost of the drugs will be recovered when they receive payment after the sampling process.

The teams could be offered means of transport to the villages like motorbikes and the money recovered from their contract fees.

The teams will also benefit from capacity building from the PACE programmes that could train them on better managerial skills.

Livestock Drug Situation in Puntland

Prior the collapse of central government of Somalia, ministry of livestock and range had a full authority and responsibility for all issues concerning livestock drugs (orders, quality control, storage, distribution and pricing). After the collapse of the central government all activities of the former ministry of livestock ceased to operate.

Between 1992 and 1993 Puntland received emergency animal health assistance from ICRC in the form of veterinary equipment, vaccines and drugs.

After 1993 local traders started livestock drug trade but had little or no veterinary medicine knowledge. The imported drugs Pakistan, India, Egypt and Kenya some were of poor quality. Most of these drugs are sold in markets and lack of good storage. The traders have little or no knowledge of the use of the drugs and the trade lacks professional supervisory input in terms of quality and use of different drugs.

The main classes of imported drugs in Puntland are antihelminthics and acaricides. There are two main importers of veterinary drugs in Puntland: Medivet in Bosasso and Al Kher in Galkaiyo. They import their drugs from Kenya, Jordan, Pakistan, Belgium, Egypt and other countries. The drugs are imported either directly from these countries or from wholesalers in Mogadishu. The importers have learned over time which drugs they need to import.

The ban of livestock trade has had negative impact in the trade of veterinary medicines in that the pastoralists cannot afford to buy drugs nor can they pay for the services of the veterinarians who use drugs to treat their animals. This trade is at the verge of collapse because of this vicious cycle of livestock trade. Fake and expired cheap medicines have now been introduced in the market and are being used by the pastoralists. There is need of creation of awareness on the use of quality medicines and formulating laws or guidelines or policy on importation and distribution of livestock drugs.

In a meeting with the drug importers the zonal veterinary advisor explained to the two drug importers that the information needed from them was to form a basis for the control of importation of medicines to Puntland thus avoiding fake or expired products. One of the drug importers is situated in South Mudug part of Galkaiyo town and the other one in North Mudug.

The drugs that were in their pharmacy had long expiry, from pharmaceutical companies in Kenya, Jordan, Belgium, Bangkok, Greece and England. The drugs included antibiotics (oxytetracyclines), dewormers (albendazoles) and acaricides. Presently there is short supply of trypanocides. Most of the imports are from wholesalers in Mogadishu, Hargeysa and Kenya while some are imported to Puntland directly from the manufacturers in England. The drugs are of good quality and have competitive prices.

The livestock ban has interrupted the smooth selling of drugs because the pastoralists do not have buying power to purchase quality drugs and have instead turned to cheap low quality or expired drugs mainly from Mogadishu. The most affected drug sales are those from England that the pastoralists are finding very expensive. These traders have branches in several other places. They sell medicine to both the veterinary professionals and nomadic pastoralists. Most of their customers are nomadic pastoralists who come from areas with high livestock population.

The traders have no training in regards to veterinary medicine and sell according to the request of the buyer. Competition is rampant especially from the people who sell drugs in the market (in kiosks) who have lower prices than the established trader. Their expectation is that through the ministry of livestock they can receive basic training in the medicines they sell and control of sale of medicines to avoid end users getting fake or expired products.

They concluded by saying that they hope there will be laws and regulations to control the influx of fake or expired drugs by setting up drug inspection teams. The public sector should also create awareness in the pastoralists communities on advantages of using quality drugs, respecting withdrawal periods and how to identify fake and expired drugs.

Livestock traders

One livestock trader gave an overview on the export of live animals. He commended the main results that PACE will achieve in Somali and especially Puntland. He mentioned that there are many livestock problems right from the keepers to export. At the herders level he noted that there is no adequate knowledge on production by the nomads leading to rejection of poor quality animals in the Gulf countries. No one cares about sanitary methods of production and the veterinarians, especially from the public sector, have ignored the livestock producers.

There are cases where they have bought animals, which looked healthy just to develop disease en-route to export. He believes with professional selection for animals for export traders can avoid buying animals that incubate diseases. He and fellow traders feel that the best approach will be creating awareness to the livestock keepers and having a larger number of animal auxiliaries at village level. Another problem that lead to poor quality animals is availability of pasture.

With veterinary professionals in the livestock rearing areas will help traders buy good quality animals. He hopes that the laws, regulation/guidelines that are going to be developed will include setting up marshalling yards, quarantine areas and holding grounds for monitoring animals for a few days before export. He feels that if there were laboratories at regional levels where dense livestock population exist disease could be noticed earlier rather than by the PVO and his team just before export. This will assist in containing diseases and not transporting diseased animals from one region to another.

Lack of internationally recognized certificates has hampered trade of live animals and the traders hope that the surveillance and monitoring team will assist Puntland get this recognition. However much the livestock keepers, traders and veterinarians cared for the animals it will be futile without this certificates because acceptance of exported animals remains at the mercy of the veterinarians in the importing countries ports.

A delegation should be sent to the importing countries to find out what they needed in terms of quality animals. He also informed the workshop about the interaction of wildlife and livestock especially in the coastal region. If we are addressing a disease like rinderpest we should look at the wildlife, which are said to be carriers of the diseases. He concluded by saying that he hopes for an internationally recognized government and public sector, which can defend the traders and their livestock.

Once standards have been set the traders will be ready to compete with other exporting countries. Dr Mohammed Hassan, FAO-FSAU Representative, Mudug indicated that FAO had submitted samples from Puntland to the Saudi authorities for them to prove the presence of RVF in livestock from this region. Further, FAO will soon start a project on examination and certification of livestock for export (EXCELL) and they hope this will go along way to assist the traders and livestock keepers.

For the implementation of the project he mentioned that all other players were in place (producers, traders, veterinary professionals) and what was missing is the public sector which he is happy to learn will be set by the PACE programme. Dr Mohammed Haji Mohammed observed that the PACE project if implemented as presented will go along way to assist livestock keepers, traders, veterinary professions, drug importers and the public sector.

However, he felt that the issue of extension of veterinary information to the pastoralists is lacking. There is weakness between the herdsman and the veterinarians and this might hamper information flow. The veterinarians have ignored the pastoralists for a long time so the project should create awareness to the livestock traders. There should be also working relationship between the veterinarians and the livestock keepers and traders. He suggests that in the event there is lack of recognized government or public sector the traders should contract qualified veterinarians to accompany the exported livestock to the destination because at times animals have been rejected with minor reasons due to unfair competition. He wondered what measures PACE will undertake in case there is an outbreak of a disease within their mandate.

Chilled carcasses exports

Mubarak 2 slaughterhouse is a private enterprise of about 15 investors that deals with export of chilled meat to the Gulf countries. Chilled meat export is a new concept in Somali where it started in 1992 in Mogadishu by Mubarak 1 slaughterhouse, which started operating in 2001 for export. In Galkaiyo the concept was introduced in 1997 and became operational two years latter. Mubarak 2 has been built to the standards and specification of a modern slaughterhouse.

After completion, it was visited by a delegation from UAE that approved its standard, which are up to the recommendations and specification of a modern set up. Another team of investors intends to have another one built in Burao. Sheep and goats that are slaughtered in Mubarak 2 come from as far as Baidoa, Somaliland and Ogaden region of Ethiopia and this is beneficial to the poor communities found in these areas through purchase of their livestock.

Once the animals have been bought they are brought to the slaughterhouse where they are kept in a holding ground. The number that is slaughtered is by the order received from the customers mainly the UAE. The animals are slaughtered, examined by public veterinarians, certified fit, stamped, packed in individual bags and chilled for 12 hours between 0 and 1°C. They are then transported to the airport and airlifted to the country of destiny. Presently the export market is to UAE and this represents about 20% of the total chilled meat market in the Gulf countries.

This concept has benefited the local community in that it is an equal employer and even better than the live export trade in that the offals provide a nutritional supplement to the community. The project is a major source of protein for the community of Galkaiyo who are given the offals and heads free. After slaughter, hides and skins are also left behind for the community to use also exported to separate companies.

Chilled meat is exported only by order and as such has their price controlled unlike for the live animals that keeps on fluctuating depending on the demand or supply. The project also offers relief to the fragile environment alleviating pasture pressure and fodder needed during transportation. There is less risk of spreading livestock disease to the importing countries by the chilled meat. They give encouragement to the exporters of live animals to consider chilled meat export as an alternative.

From the PACE Project they hope that:

- The ban by Saudi Arabia will be lifted and hence increasing the market for chilled meat;
- There will be better quality animals for slaughter to avoid rejections;
- Training of the public meat inspectors with more recent techniques for meat inspection or up date them from the training they received from UNA;
- Assist in managerial skills training and hope for a visit to other countries that export chilled meat;
- Enable us get an internationally recognized certificates for chilled meat processing.

Expectation of each group from the PACE project.

a) Public sector:

- Strengthen the public sector by training/capacity building in epidemiology surveillance and monitoring;
- Assist establish internationally recognized livestock health certificates;
- Rehabilitation of MoL infrastructure especially the laboratories at regional levels or wherever possible;
- Assist set up laws, regulations and guidelines for the livestock industry;
- Set up a data bank with all information of livestock (numbers, diseases and disease patterns, export figures etc) in Puntland;
- Connection with other professionals within the region

b) Private sector:

- Improvement of livestock production by training on modern systems
- Be able to access price, quality needed by the international markets
- Find new international markets for livestock
- Assist in lifting the ban lift the ban by being involved in surveillance and monitoring
- Enhance the knowledge of auxiliaries in treatment of livestock by training
- Ensure that the disease surveillance team has been set

ANNEX B. 2

***Advise on roles and responsibilities of public servants
and other actors in the livestock sector***

PACE SOMALI COMPONENT: PUNTLAND ZONE, WORKSHOP.

OBJECTIVE: Sustainable enhancement of production as well as trade in livestock and products of animal origin.

RESULT 1: Capabilities of the public sector animal health workers to regulate, monitor and evaluate the livestock sector are strengthened.

ACTIVITY 1: Advise on roles and responsibilities of public servants and other actors in the livestock sector.

Workshop 1. Advise on Roles and responsibilities of the public servants and other actors in the livestock sector.

Dates: 27th to 31st March 2002

OFFICIAL OPENING - DG, HASSAN KHALAF

The Director General (DG) of the Ministry of Livestock, Agriculture and Environment (MoLAE) conducted the official opening. On behalf of the ministry, the DG welcomed all the workshop participants who, on the first day, included public and private veterinarians, livestock traders (live animals and chilled carcasses), and livestock producers for having gotten time to attend this important workshop. He informed the participants that this was the first of the several workshops that will assist in the setting up of an effective and efficient MoLAE.

The DG mentioned the importance of PACE Programme especially in Puntland for the livestock industry, which included assisting, to set up the MoLAE, laws, regulations/guidelines and an emergency and preparedness response team among others. He stressed the expectation of local stakeholders who have been waiting for the project for quite a long time and are eager for the programme to start. He explained livestock export trend that has been on a decline even though Puntland is currently a major exporter of livestock to the Arabian Gulf Countries from Somalia. He emphasized on the dire need to improve livestock marketing procedures if the livestock industry is to be developed further. The DG mentioned that the project would benefit all livestock stakeholders (public and private) in Puntland.

What is expected from the MoLAE and the stakeholders is to give PACE project full cooperation/collaboration to its manager and project staff. We expect also from PACE to go on the right way/ track. Of course, during the project activities there may unexpected problems/difficulties in that case it must be solved amicably with mutual understanding of each other with patient and in a friendly manner. The DG was pleased to note the participants were drawn from the whole state of Puntland considering the present political situation and urged the professional to stand above all politics (List of participants, Appendix I). Finally, the DG wished all participants of the workshop fruitful deliberations and successful outcome. He then declared the workshop officially open.

OVERVIEW OF THE PACE PROGRAMME - ZONAL VET ADVISOR, MARTIN NYAMWEYA

The Zonal veterinary advisor welcomed all the participants to the workshop and was happy for the response the project was getting from both the public and private sector. He emphasized on the point that the two should consider each other as equal partners in the project and approaches the project with the same thought. He stressed that PACE Programme in Puntland was for all livestock stakeholders in the zone and Somali in general.

The direct and indirect beneficiaries will be all livestock stakeholders and the private and public veterinary professionals. He mentioned that the DG of livestock understood the project well and was consulted when the programme was being developed. He hoped that the workshop will come up with recommendations that will go along way in assisting strengthen the livestock public sector in terms of

by PACE will be participatory workshops that will take a bottom-up approach and the consensus reached in the workshops will be used to strengthen the public sector. He gave a brief introduction of the overall PACE project.

SOMALI COMPONENT OF PACE PROJECT - ZONAL ADM., MOHAMMED ABDULLAHI

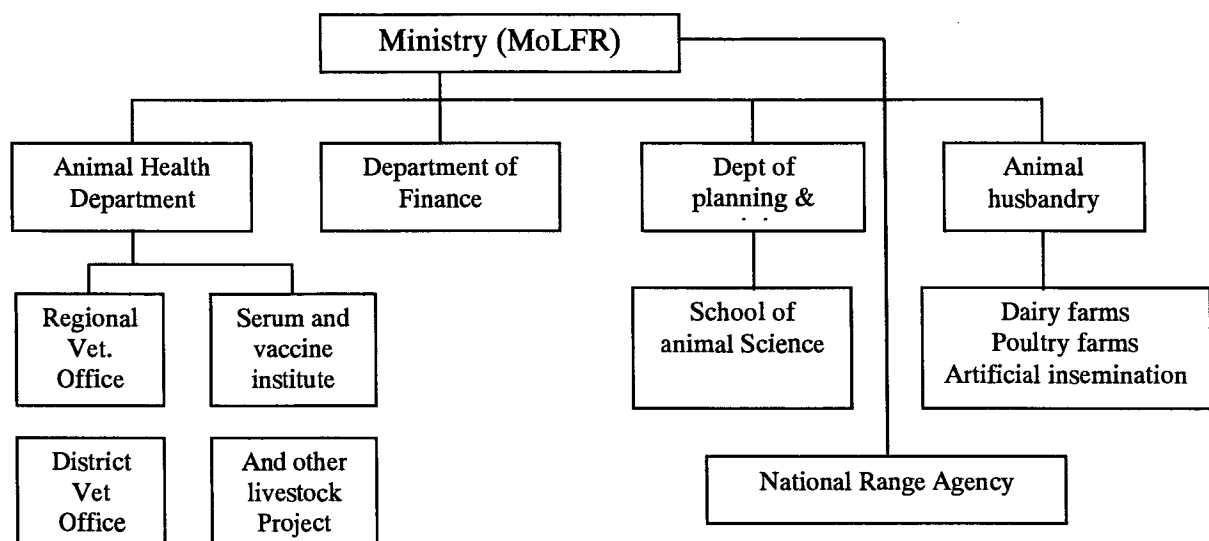
The zonal administrator gave a brief summary of the PACE Programme in Somali. He touched on what main results are expected. He also indicated what is expected of the livestock stakeholders of Puntland and what is expected of PACE in Puntland. He also emphasized that PACE will support the public sector and private sector to work as a team. He hoped that before long the ban on livestock export will be lifted because of the results from the PACE Project. He mentioned on the importance of disease information, export figures and other related information to the development of the livestock sector.

He also envisaged that the workshop would assist in developing a strong and efficient public sector, surveillance and monitoring unit and local and regional networks. He hoped that the nomadic animal health assistants would receive training/capacity building to help the pastoralists in disease control. For the private sector there will be capacity building for the private veterinarians on disease surveillance and monitoring, data collection and analysis. All the above-mentioned activities are the responsibility of public sector using contracted private veterinary teams. There is a need to improve the capacity of the public sector, which will complement the private sector.

Dr. Matthews Kenyajui who had accompanied the zonal veterinary advisor of PACE expressed his appreciation on the turn out of the private and public veterinarians for the workshop. He mentioned on the importance of the two sectors to work together to the betterment of livestock in Puntland. He hoped that the initial work that was conducted by UNA especially the privatisation of veterinary services and formation of the veterinary teams will be pivotal to the establishment of a strong public sector and involvement in disease surveillance and monitoring. He indicated that the UNA Camel Milk project will closely with the PACE Programme and hoped to benefit from the latter.

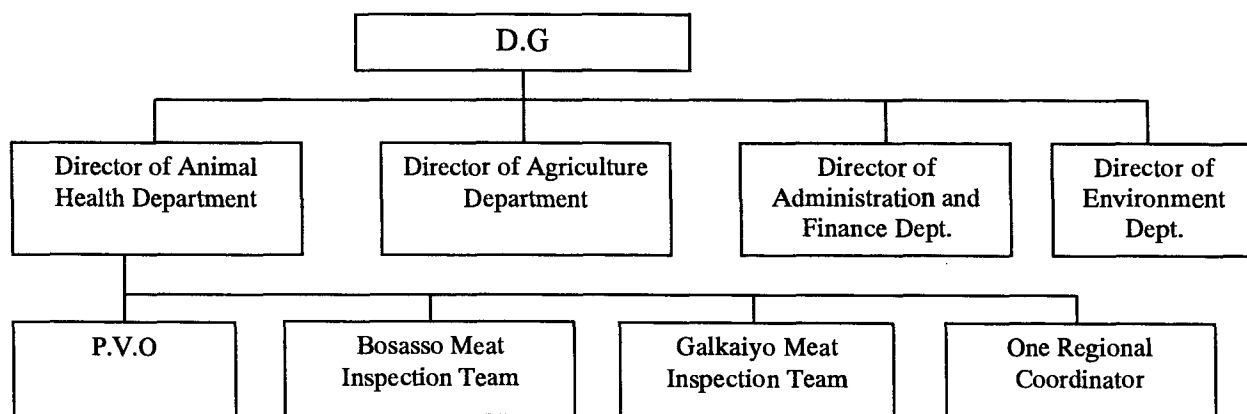
PAST AND PRESENT FUNCTIONS OF THE PUBLIC SECTOR IN PUNTLAND - DG, HASAAN KHALAF

The ministry that was responsible for livestock in the Siyaad Barre regime was the Ministry of Livestock, Forest and Range (MoLFR). The ministry had its headquarters in Mogadishu and 18 regional centres. The structural set up of the MoLFR was as shown in the diagram below.



The MoLFR in Somali employed all animal health workers as civil servants from 1960. Veterinary drugs were free of charge up to 1980 to the pastoralists. In 1980 Somali government started to charge a small fee on veterinary medicines but vaccination of animals was free of charge. The total number of animal health workers in 1990 was about 350 veterinarians and animal husbandry graduate and 1600 veterinary assistants and several laboratory technicians and 500 nomadic animal health auxiliaries. The ratio was one Veterinarian into 4.5 veterinary assistants (this ratio excluded NAHA groups). Offices were in place for regional coordinators, office for district veterinary officers and other animal health workers, support staff in the main focal points: watering points and dipping centres. The latter were involved in reporting of animal diseases. MLFR used to have district veterinary officers for each district. MLFR used to have Regional veterinary Officers in each capital region. All animal health services were under the responsibility of MLFR. The supplies of veterinary products were inadequate and quality drugs were poor. The livestock export system was by use of letter of credit (LC) because there was trust between importers and Somali national bank. Public sector after the civil war totally collapsed in 1991. The MLFR infrastructures also collapsed. In 1991 to 1995 emergency relief programs from the international donors started in Somalia. In June 1997 EC/UNA Veterinary Project started privatisation of veterinary services in Puntland. UNA's project activities were terminated on July 31 2001.

In September 1998 Puntland region declared itself an independent state and set up the Ministry of livestock, agriculture and environment (MoLAE) to be responsible for livestock activities among other responsibilities. The government then employed 5 veterinarians and 13 veterinary assistants in the livestock public sector with the main limitation being finance. This number of staff according to the DG is not sufficient enough to run an efficient delivery of the veterinary services needed by a state. Currently over 80% of the animal health services in Puntland are carried out by the private sector that are mainly PULPA members. The DG informed the participants that in the two private slaughterhouses in Galkaiyo one is given service of the public team while the second one engages services of private veterinarians. The present organizational structure of the MoLAE is as shown hereafter.



Human resource of MoLAE animal health department presently is composed 19 persons 6 veterinarian and 13 vet assistants. These include:

<i>Director General</i>	1 veterinarian
Regional coordinator	1 veterinarian
Port veterinary office	1 veterinarian (at the port)
	7 veterinary assistants
Bosasso meat inspection team	2 veterinarian
	2 veterinary assistants
Galkaiyo meat inspection team	1 veterinarians
	4 veterinary assistants

UNA, in their veterinary privatisation project, offered support to public sector by rehabilitating the port veterinary offices and offering training to the port veterinary office staff in export related matters and establishing the export certification procedures. They also helped in developing the code of conduct for the veterinarians in Puntland.

CONSTRAINTS THAT FACE MoLAE - DG, HASSAN KHALAF

To mention some of the problems that constrain the livestock industry are the following:

- Lack of skilled and trained personnel
- Animal health certification.
- Regulatory mechanism to enforce any livestock policy
- Lack of diseases information
- Lack of qualified veterinary professional in districts and other main focal points.
- Repeated livestock bans

The repeated bans have caused the Somali people economic losses and it is mainly due to this that the importance of PACE project should be realized.

GROUP EXERCISE 1

Group exercise was done to find the understanding of the workshop participants on the roles of private and public sector. A case study was given where a trader had animals that were due for export dying suddenly and exuding unclotted blood from all their orifices. A tentative diagnosis of anthrax was reached and the participants asked what their plan of action would be.

Group 1	Group 2	Group 3	Group 4	Group 5
Restrict animal movement. Intervention by treatment (private veterinarian). Find out where the animal came from. Separate the animals into: Suspected Healthy Sick Disease info from the livestock producers. Public sector will monitor Vaccination	Visual observation Physical examination If anthrax burn the dead bodies. Inform the public vets	Burn the dead bodies or burry Quarantine measures Vaccination of the rest Inform the public vets	Stop the movement of animals Report the diseases in the animal health department Vaccinate	Collection of samples to the lab for diagnosis Public sector to quarantine Vaccinate

If the confirmatory diagnosis of the disease were anthrax, the plan of action would be:

Group 1	Group 2	Group 3	Group 4	Group 5
We will use telecommunication like radio, car, message letter to inform the veterinarian where the animals came from and DG.	Anthrax: private vet to inform public vet (disease register with DVO).	Anthrax: private vet to inform public: DVO & RVO, animal health dept, DG, & private teams.	Anthrax: private vet to info public vet (nearest office). Private and public vet to identify disease by checking	Anthrax: private vet to info DVO, RVO, NAHA, & private veterinarian disease is notifiable disease therefore public vet to act & declare quarantine.

The group results were discussed at length and the private goods, public goods and shared activities identified (see below). Majority of the participants indicated that anthrax and other notifiable diseases

PAST AND PRESENT FUNCTIONS OF THE PRIVATE SECTOR IN PUNTLAND

MOHAMMED SHIRE SAMANTER

In the past before the civil war private veterinarians offered their services to farms and cooperative that were involved in any private livestock production. There was a private veterinary pharmaceutical products importer which the Ministry gave license. This local company veterinary pharmaceutical company had good business relation with renowned veterinary pharmaceutical manufacturing companies such as CIBA-GEIGY and Rhone Merieux etc.

Private veterinary professionals also offered their services to some small-scale private dairy and poultry farms. Public veterinary servants also offered private services to the livestock producers during their free time. Whenever government drug supply ran out, which was quite frequent, the nomadic pastoralists looked for drugs from black market, which had flourished.

After the collapse of the central government in 1991 international organizations started offering veterinary services as emergency interventions. In 1992-1993 ICRC provided emergency program for provision of free vet drugs.

Between 1994-1995 several INGO's (Africa 70, GTZ and CARE International) made some contributions towards supply of veterinary drugs to veterinary professionals in Puntland. Africa 70 and CARE International provided veterinary drugs as a kick-start in preparation of privatisation in Bari, Nugal and Mudug. GTZ trained thirty NAHA groups in three districts of Bari Region: Gardo, Iskushuban and Bayla.

Between 1997 and 2001 UNA supported veterinary privatisation project and export related activities. Due to the decline of livestock export currently pastoralists experienced a shortage of cash and lost the power of purchasing drugs and paying for veterinary services offered by the private veterinary teams. Livestock trade of live animals decreased because of repeated bans on livestock exports from Somalia, depreciation of the dollar, competition from other countries and export of chilled carcasses.

In the recent past UNA managed to support and promote private veterinary services by building the capacity of the private veterinarians and offering them kits for starting private work. Due to the requirement for exportation of Brucella free animals by exporters imposed by Kingdom of Saudi-Arabia, the private veterinary teams started private Brucella testing in 1991. Some preventive care activities such as vaccination of sheep and goat pox were conducted in Bari region during the UNA veterinary project.

Veterinarians did veterinary drug supplies in Puntland after the collapse of the central government privately. The importers of the drugs included:

- Waldo Veterinary Drug Supplier in Puntland from England
- Brothers' veterinary drug importer from Hargeysa
- Retailers-Veterinary drug importer from Mogadishu
- Abdisalan Nugal drug sale store

Most of these pharmacies that were run by veterinarians have collapsed or are at the verge of collapsing because the veterinarians cannot support them financially. Presently, traders who have limited or no knowledge on veterinary medicine is conducting trade of veterinary drugs.

In Puntland State there are a total of sixteen veterinary pharmacies. Four are in Mudug region, three are in Nugal, six are in Bari, and two in Sool and one is in Sanaag region.

Recommendations from the workshop participants on the private veterinarians and private veterinary drug industry is:

- Quality control is the responsibility of public sector and should be practiced
- Veterinary consultants should be involved or contracted by the private business companies that import veterinary drugs into Puntland

GROUP EXERCISE 2

Group exercise was done to further understand the roles of private and public sector. A case study was given where an animal had cough, high temperature, nasal discharge, breathing difficulty and a few dead. A diagnosis of pneumonia was reached after a plenary discussion.

A group exercise then followed on the plan of action on the case.

A lengthy discussion followed and a general agreement reached that the case at hand was a private good that involved treatment of a few animals but both the private and public veterinarians will be involved at some point. The private veterinarians in diagnosis and treatment of the disease while the public ensures that quality drugs are available for treatment and diagnostic laboratories are available for confirming the pathogens.

LIVESTOCK TRADE IN PUNTLAND: PAST AND PRESENT

MATHEW KENYANJUI.

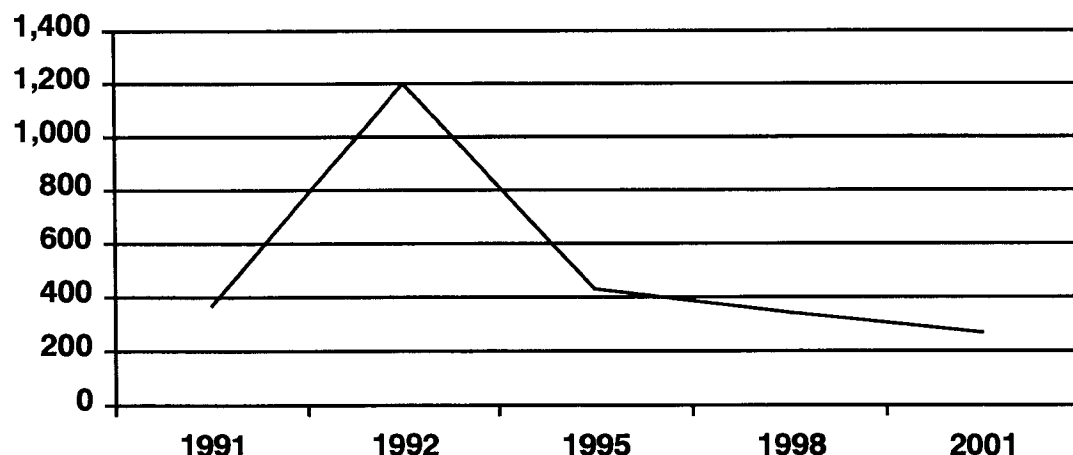
Somali livestock production system is a commercial nomadism. According to the FAO records there were 6.3 million camels and 13 million sheep and goats in Somalia in 1990 and in the year 2001 it was estimated by UNA at 8.1 million camels and 16 million sheep and goats. Over 95% of livestock export from Somalia is to the Gulf countries.

In 1975 Somalia became the world leader in live animal export when 40,000 cattle, 33,000 camels and 1.6 million sheep and goats were exported. The trend continued to increase with a peak in 1992 when they exported about 2 to 3 million livestock.

The export from Bosasso port over the years has been as follows:

1991	370,000 animals
1992	1.2 million animals
1995	430,000 animals
1998	344,000 animals
2001	270,000 animals

Livestock Export from Bosasso Port (,000)



There was a livestock ban 1983 because of rinderpest and in 1999 and 2002 because of Rift valley fever. In Puntland there is no livestock health policy with the only guiding documents being the

guidelines of the code of conduct for livestock trade and certification of export at the port veterinary office developed by UNA and other stakeholders.

Figure for the last few years of export of live animals from Puntland have shown a decreasing trend at an alarming rate.

Decline in the export of live animals was been articulated to several constraints but the main ones were:

Repeated bans by the Arab and Gulf countries.

- Monopolization of livestock trade by brokers
- Depreciation dollar against Somali shilling
- Persistent droughts
- Export chilled carcasses to UAE from Galkaiyo slaughterhouses

Because of the repeated bans on livestock for export, Somalia needs to observe regulation on sanitation and livestock health introduce by WTO and relayed by OIE. The very specific activity of the PACE programme will be to address some diseases in the OIE list A diseases. It is in this in mind that PACE will need to strengthen the public sector to complement the strong private sector in Puntland.

PAST AND PRESENT LINKAGES OF PUBLIC SECTOR

DG, HASSAN KHALAF

Past status

The MLRF before the war was linked to the:

- Bank
- Ministry of Commerce
- Ministry of Finance
- Chamber of commerce
- Ministry of Ports authority.

Presently the MoLAE is linked to:

Ministry of finance, Port Authority, Chamber of Commerce, Banks, Livestock traders, veterinary drug suppliers and Private veterinary Teams

GROUP EXERCISE 3

A group exercise was carried out to find out the type of linkages that existed between MoLAE and other ministries or departments and the importance of such linkages. The conclusions drawn were:

- Ministry of finance (taxation)
- Ministry of commerce (livestock trade)
- Chamber of commerce (marketing)
- Ministry of ports (export livestock)
- Bank (finances)

Other linkages that were recognized by the participants were:

- International agencies carrying out livestock projects
- Private veterinary teams and association (PULPA)
- Livestock traders
- Veterinary drug suppliers.

EXTERNAL LINKAGES OF THE STAKEHOLDERS IN LIVESTOCK SECTOR

MATHEW KENYANJUI

Public	Private
<p>Research – KARI, ILRI (Nairobi); IAH Pirbright, UK).</p> <p>Ministry of Livestock veterinary department in other countries. This is with regard to notifiable disease outbreaks, development and procurement of vaccines (Examples of the vaccines are the sheep and goat pox from Ethiopia and rinderpest vaccine from Kenya used in Somaliland and Puntland in the recent past).</p> <p>Information exchange on trans-border diseases.</p> <p>Diagnostic laboratories like KARI, FAO, and OAU/IBAR (Pirbright, UK for rinderpest)</p> <p>Port authority of importing and exporting countries regarding livestock certification</p> <p>Training in veterinary schools and curriculum development.</p> <p>National bodies for finances</p>	<p>Professional societies like PULPA to KCA, KVA, TVA, etc in fora like scientific conferences</p> <p>Veterinary drug suppliers like Ceva, Hoechst, and Ultraventis etc. Sponsorship from pharmaceutical companies should be sought etc</p> <p>Market and looking for new markets (Egypt, Libya, etc)</p> <p>Information Exchange (first line of disease reporting from the field)</p>

After presentations from the four exercises and following a lengthy discussion the following we eventually identified as the various roles and responsibilities of the public and private veterinarians and which were the shared activities.

Roles and responsibilities of public sector include:

- Legislation, rules, regulations guidance
- Vaccination campaigns supervision
- Surveillance and monitoring and supervision
- Capacity building (Trainings)
- Policy making
- Zoo sanitation / hygiene
- Disease surveillance and monitoring
- Final certification and licensing
- Diagnosis of the notifiable diseases
- Public health certification
- Policy enforcement
- Drug quality control
- Production especially breeding and research

Roles and responsibilities of the private sector include:

- Curative treatments and related activities
- Surveillances
- Vaccinations under public sector supervision
- Drugs sales
- Awareness
- Clinical diagnosis

- g) Disease information gathering and dissemination
- h) Awareness
- i) Veterinary drug supply and sales

Shared roles and responsibilities include:

- a) Surveillances
- b) Vaccinations
- c) Diseases information
- d) Certifications
- e) Community awareness
- f) Meat Inspection
- g) Livestock Export related activities
- h) Diseases information and surveillance
- i) Meat inspection
- j) Data collection

Roles and responsibilities of the producers include:

- a) Appropriate animal husbandry practices
- b) Have good breed selection
- c) Ensure proper stocking densities
- d) Disease reporting
- e) Primary animal treatment
- f) Awareness
- g) Marketing strategies

Role and responsibilities of the traders include:

- a) Establishment of proper animal delivery systems
- b) Appropriate transport vehicles and vessels
- c) Holding grounds
- d) Identification of livestock markets for purchase and sale
- e) Internal and external coordination

BASIC PUBLIC SECTOR STRUCTURE

DG, HASSAN KHALAF

A plenary discussion followed where the private veterinarians wondered who was to carry out most of the roles and responsibilities of the public sector considering that there is only skeleton staff that is inefficient. A proposition from the DG was a public sector with minimal basic personnel is proposed to the minister of MoLAE by the workshop, which will ensure that the basic veterinary public goods are delivered a view to set up a complete and proper department later when political situation is normalized.

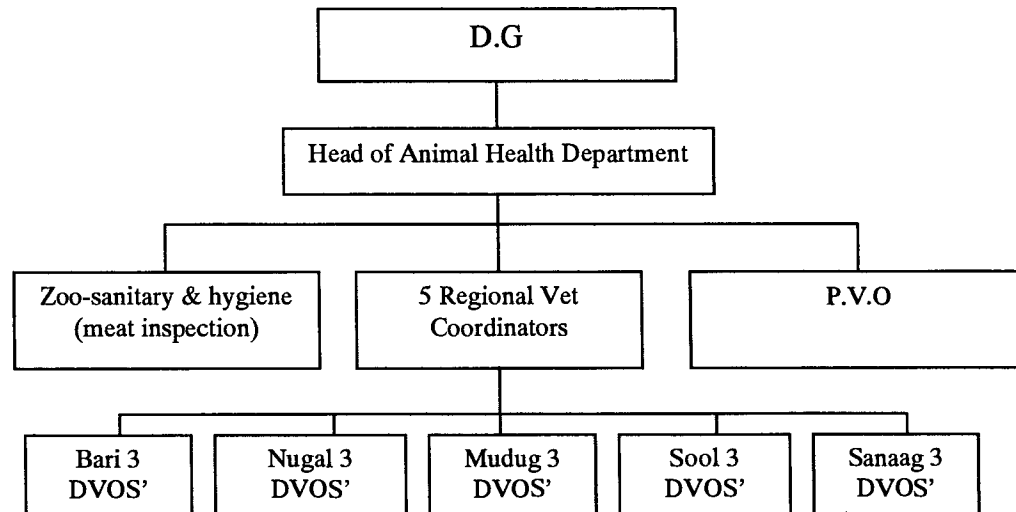
The present financial implications of the MoLAE was that it received approximately Somali shillings eighteen million as salary for the 19 persons mentioned earlier. The money was paid out as shown in appendix VII.

The personnel required by the MoLAE presently included regional coordinators, district veterinary officers, veterinary officers and veterinary assistants in various divisions and auxiliaries at the production level.

After deliberations the workshop participants agreed upon an organogramme that the MoLAE could afford. The proposal that was given was that there would be a DG. the head of animal health

department, five regional veterinary coordinators and three district veterinary officers per region. The participants put emphasis that the regional coordinators have to be veterinarians who will assist in technical work and not political appointees.

Thus the new structure for the MoLAE will have:



SUSTAINABILITY

The financial allocation for these organogramme in terms of salaries will be approximately Somali shillings thirty five million. The ministry has also to cater for the running cost of the offices of these personnel. It was hoped that the MoLAE will be able to support the personnel and the proposal will be submitted to the minister immediately with the DG.

The results of PACE project will have a greater role to play in the sustainability of the public sector. It is hoped that the project will lead to lifting of the bans placed on livestock export and thus the ministry will collect more revenue on the increased livestock export.

With an established efficient public sector the country will be able to have credibility and find new markets for its livestock. With improved zoo sanitary personnel there will be increase in export of livestock products especially chilled carcasses and this will earn the government more revenue.

It is hoped that more projects that will support capacity building of the professionals in terms of disease management, surveillance and monitoring will be forthcoming to ensure strengthening of the livestock industry.

CONCLUSIONS FROM THE WORKSHOP

- A clear-cut delineation between the private and public sectors in the delivery of animal health services was made.
- Concrete recommendations that were formulated following consensus built during the participatory workshop include:
 - Roles and responsibilities of the public and private veterinary workers were defined
 - Future basic organogramme for the animal health department was agreed upon
 - Proposition of expected salaries was given
 - Vet drug traders should import good quality and adequate veterinary drugs.

In the periods of emergency such as drought, outbreak and other risks the government launches appeal and take the responsibilities.

The Director general of the ministry will nominate the qualified veterinarians and senior veterinary assistants to the positions of the regional coordinators and district veterinary officers.

CLOSING CEREMONY

Mayor of Galkaiyo and the Governor were present to officially close the workshop. Both criticized the organizers of the workshop especially the Director General of the MoLAE who did not officially inform them of the workshop.

They both indicated that security matters of the region was in their hands and wondered why they were not informed about the workshop in the beginning.

They further informed the DG that there were expatriates in the workshop and one of their main responsibilities is to ensure that extra caution security measures to ensure their safety because of the current political climate.

They indicated that their region required good working relationship with all the INGO's and anything happening to the expatriates will have a negative impact on the region.

They were impressed by the representation of all livestock stakeholders in the workshop and further expressed their satisfaction that the professionals came from all regions of Puntland State.

They asked the professionals to uphold their veterinary ethics, which should be beyond any clanism or political affiliations and stand out as professionals.

They expressed their appreciation to the past INGO's that have worked on the livestock sector and wished PACE project a success in the results it aims to achieve. Livestock is the livelihood of the entire Somali and a ban on livestock export affected the entire nation and as such if the results PACE project will enable the bans to be lifted then the project will have given the state a major economical mileage in the livestock sector.

They expected that the PACE programme will be implemented as planned.

They also expressed their appreciation to the organizers for choosing to have an important livestock workshop in their district, which has the largest population of livestock in the whole of Puntland and is a major stock route for livestock for export through both Bosasso and Berbera ports.

They then declared the workshop officially closed.

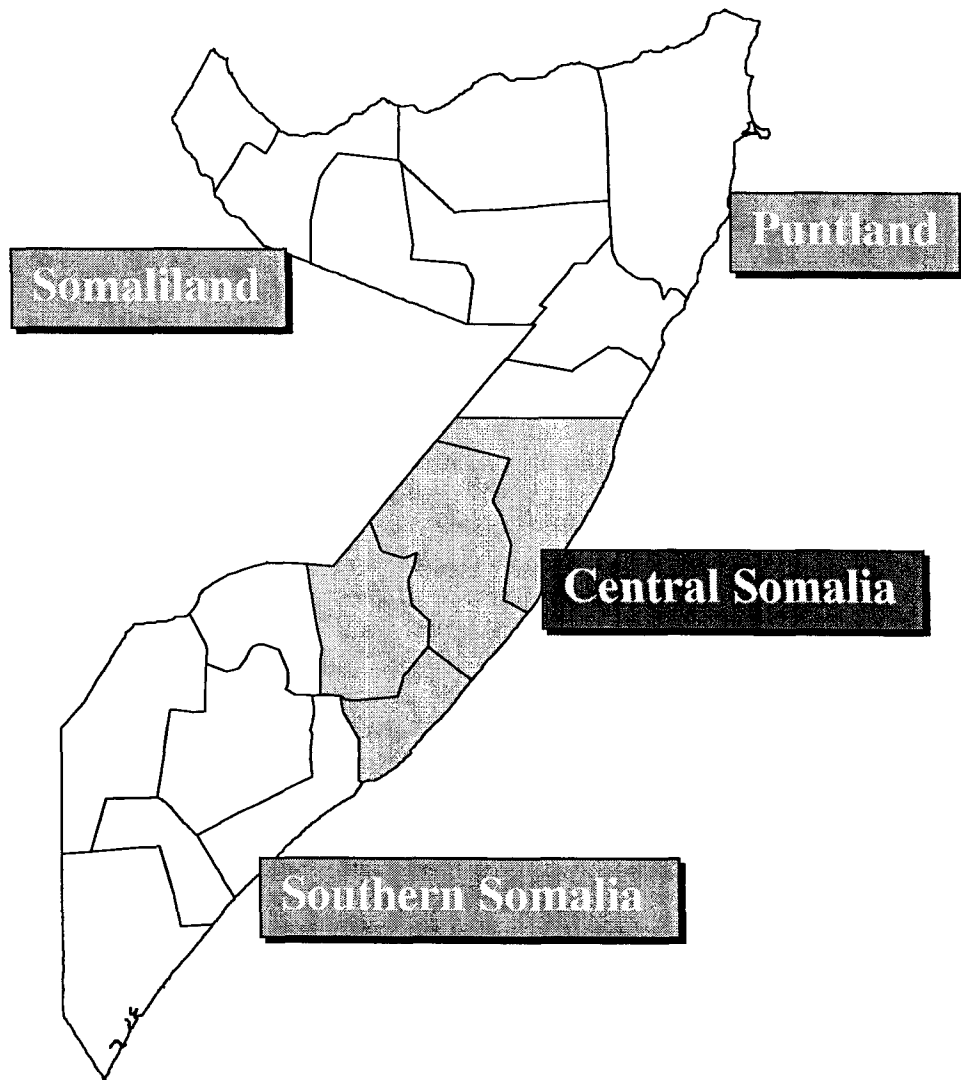
Timetable for the workshop on Roles and responsibilities of public and private AHW's.

DAY DATE	TIME	ITEM	PRESENTER
WEDN 27th March	08:00 to 8:30	Registration Of participants & workshop rules	Zeinab
	09:00 to 09:30	Official opening by Director General MoLAE	Dr. Khalaf
	09:30 to 09:45	Overall PACE Programme	M. Abdullahi
	09:45 to 10:00	Somali PACE Project	Martin
	10:00 to 10:30	Tea break	
	10:30 to 11:00	Past and present functions of Public sector in Puntland	Dr. Khalaf
	11:00 to 11:30	Past and present functions of private sector in Puntland	Shire Samanter
	11:30 to 12:00	Past and present situation of livestock export in Puntland	Mathews
	12:00 to 12:30	Discussion paper: Public sector Vs private sector	
	12:30 to 03:00	Payers and Lunch break	
	03:00 to 03:15	Case studies	
	03:15 to 04:15	Group discussion: Roles of the public sector Group discussion: Roles of the private sector	M. Abdullahi Shire Samanter
	04:15 to 04:30	Tea break and Prayers	
	04:30 to 05:30	Presentation and discussion	M. Abdullahi
THUR 28th March	08:00 to 08:30	Summary of day 1 activities	Mathews
	08:30 to 09:00	PACE and impact on animal trade	Martin
	09:00 to 09:30	Roles of private veterinarians on trade	M. Abdullahi
	09:30 to 10:00	Presentation of private veterinarians on trade	Shire Samanter
	10:00 to 10:30	Tea/Coffee break and Prayers	
	10:30 to 11:00	Presentation of public veterinarians on trade	M. Abdullahi
	11:00 to 12:00	Shared activities of public and private sector	Shire Samanter
	12:00 to 12:30	Linkages of MoLAE and other ministries and Departments	Dr. Khalaf
	12:30 to 03:30	Payers and lunch break	
	03:30 to 04:30	Presentation of shared activities and linkages	M. Abdullahi
	04:30 to 05:00	Existence of external linkages & strengthening	Mathews
	05:00 to 05:30	Tea/Coffee Break	
FRID 29th March	08:00 to 09:00	Summary of day 2 activities	Shire Samanter
	09:00 to 09:30	Basic personnel of the public sector for Puntland	Dr. Khalaf
	09:30 to 09:45	Discussion	M. Abdullahi
	09:45 to 10:00	Linkages between NAHA's and other veterinarians	M. Abdullahi
	10:00 to 10:30	Tea break	
SAT 30th March	08:00 to 08:30	Sustainability of the public sector	Dr. Khalaf
	09:00 to 09:30	Discussion	Dr. Khalaf
	09:30 to 10:30	Financial implications and sources	M. Abdullahi
	10:00 to 10:30	Tea break	
	10:30 to 11:30	Discussion	M. Abdullahi
	11:30 to 12:30	Consensus	Shire Samanter
	12:30 to 01:00	Concluding remarks	Martin
	01:00 to 01:30	Closing Ceremony	M. Abdullahi
	01:30 to 03:00	Prayers and Lunch break	
	03:00 PM	Departure	

List of participant for the workshop on roles and responsibilities of the AHW's

Name	Region	Sector
Dr. Abdikarim Mohamed Isse	Mudug.....	Public sector
Muse Hussein Mohamed	Mudug.....	Public sector
Mohamed Abdlkadir.....	Mudug.....	Public sector
Said Hassan Warsame	Mudug.....	Public sector
Jama Mohamed.....	Mudug	Public sector
Aden Sheikh Nur	Mudug.....	Private sector
Abdirahman Mohamed Jama.....	Mudug	Private sector
Aden Abdi Samanter.....	Mudug	Private sector
Abdi Mire.....	Mudug	Private sector
Salaad Mohamed	Mudug	Private sector
Bashir Jama.....	Mudug	Private sector
Dr. Ahmed Said Samanter	Nugal	Private sector
Mohamed Ahmed Mohamed	Nugal	Private sector
Abdirashid M. Barre	Nugal	Private sector
Hassan Osman Mohamoud	Nugal	Private sector
Said Abdullahi Ali	Nugal	Private sector
Abdullahi Jama Ibrahim	Nugal	Private sector
Dr. Hassan Mohamed Qalaf	Bari	Public sector
Dr. Ali Nur Ibrahme	Bari	Public sector
Dr. Abdisalam Warsame Booni.....	Bari	Public sector
Mohamed Mohamoud Hussein.....	Bari	Public sector
Dr. Mohamoud Mohamed Farah	Bari	Private sector
Dr. Hassan Hussein Abdalla	Bari	Private sector
Mohamed Aden Mohamoud	Bari	Private sector
Abdullahi Mohamoud Gedi	Bari	Private sector
Ismail Ibrahim Musse	Bari	Private sector
Mohamed Ismail Warsame.....	Bari	Private sector
Abdi Mohamed Isse.....	Bari	Private sector
Bashir Abdulkadir.....	Bari	Private sector
Mohamed Mohamoud Jama	Bari	Private sector
Mohamoud Mahamed Farah.....	Sool.....	Private sector
Abdir Alin.....	Sool.....	Private sector
Dr. Abdullahi Awad.....	Sanaag.....	Private sector
Said Abdi Qodoh	Sanaag.....	Private sector
Hussein Said Jama	Sanaag.....	Private sector
Bashir Ciro.....	Trader	Trader
Abdullahi Haji Salaad.....	Trader	Trader
Said Ali Sooyaa	Trader	Trader
Said Abshir Waldo.....	Trader	Trader
Shino Haji Farah	Trader	Trader

SECTION C - PACE CENTRAL SOMALIA



SECTION C

C.1 PACE CENTRAL SOMALIA ZONE

The Central Zone of PACE Somalia comprises of 4 regions, South Mudug, Hiraan, Galgaduud and Middle Shabelle. This zone, particularly Hiraan and Middle Shabelle benefited from the EC Privatisation of Veterinary Services project through Oxfam Quebec and CEFA, respectively. Terra Nuova under ITP1&2 also supported Hiraan region together with Harardere. Beled Weyne has been selected to be the location of the Zonal PACE Office. The Central Zone became operational from Mid January 2002 when the Zonal veterinary advisor, Dr Massimo Castiello, after 2 weeks orientation in Nairobi arrived in Beled Weyne.

C.1.1 Result 1: Capabilities of public sector AHWs to regulate, coordinate, monitor and evaluate the livestock development sector are strengthened

Although Central Somalia does not have a public sector, activities such as sensitisation meetings and stakeholder workshop are reported under this result.

i) Sensitisation meetings of livestock stakeholders of PACE Project in Central Somalia.

A series of meeting were held in different regions of the Central Zone. The objective of these meetings was to sensitise the communities and stakeholders on PACE and its activities and pave the way forward for the Stakeholder Workshop and launching of PACE

Apart from meetings with authorities and elders on Beled Weyne East Side and West Side, other authorities in all the towns and villages that were visited include Dusa Mareeb, Mata ban, Gure'el, BalBalle, Abudwa) including meetings with local Vets and Vet professionals in Dusa Mareeb and Gure'el.

In addition, a meeting was held with the Governor of Galkaiyo in Beled Weyne concerning the possibility of a survey in Galkaiyo in order to visit the slaughterhouse and start drawing tentative laws and regulations for meat inspection activity. Likewise meeting with livestock owners around Beled-Weyne water points was arranged to sensitise them on PACE.

A similar mission was made to Jowhar where a meeting was held with the Governor of the region Mr Mohamed Omar Habeb (Mohamed Dheere), Members of his Council and the Chairman of Middle Shabelle Veterinary Association Dr Daúd Alassow Ahmed. The aims and objectives of the forthcoming stakeholders workshop of Somali PACE Project were explained and the need to select participants representing their region was emphasised.

Meeting was also held with local medical NGO based in Dussa Mareeb concerning future exchange of information on zoonosis control.

ii) Stakeholder Workshop and launch of PACE Somali Project, Beled Weyne

This workshop was held from 19-21st February 2002. Participants were drawn from all 4 regions and cutting across all stakeholders. The SCIU Nairobi office was represented by Ali Gedi the Somali Country coordinator and Mohammed Dirie, the Community based Animal health Delivery Services Advisor. The presentations made were similar to the ones made in the other zones. Annex 4.1 gives the list of participants who attended the Stakeholder workshop during the opening ceremony as well as those that continued to participate in the workshop.

C.1.2 Result 2: Capabilities of private AHWs to engage in curative and preventive services are enhanced

i) Assessment of the performance of private veterinary practitioners

The Zonal advisor carried out practical assessment on the performance of veterinary professionals in Hiraan and Middle Shabelle. This included two days field trip for veterinary clinical work. The veterinary professionals used the opportunity to conduct veterinary clinical work and sale of veterinary products. Livestock disease most common was CCPP and were easily diagnosed and recognised by the livestock owners. The veterinary persons did carry out clinical activities and sold veterinary drugs.

In Jowhar the field trip was with one veterinary practitioner, Cases encountered were clinical diagnosed as Blackquarter, a disease common in the rainy season. Sick animals were treated with antibiotics and advice was given for vaccination prior to the start of the next rainy season. The practitioner was also provided with quotations for the vaccine from Kenya.

Of concern was the fact that 2 Hiraan veterinary professionals despite given the opportunity to go into the field using PACE transport were asking for their daily allowances for the 2 days spent. This was discussed at length and they were made to understand that PACE will not work like previous projects and that they have to use the opportunity given by PACE during disease surveys and search to conduct their private veterinary business.

ii) Assessment of slaughterhouses in Beled Weyne

Discussions were held with communities on both sides of the river in Beled Weyne on the issue of slaughterhouses. Currently the slaughterhouses are in poor state and some not even considered as appropriate slaughtering places. Even though this activity, if carried out, is considered as part of disease surveillance, it is reported under private sector support because of the possibility of private vets earning from services to be provided and collecting information. The Zonal adviser imposed certain conditions with regards with the slaughterhouses as follows:

- Discussions, plans and future activities must be conducted contemporaneously in both side of town, due to the presence of two livestock markets and must see the Vet association as spearhead of the process.
- Vet performing inspection must be paid either by the community or the traders
- All costs of rehabilitation must be sustained by the community
- PACE will collect epidemiological information of origin of livestock, species, age, sex and price of animal as well as data from post mortem examination of carcass.
- PACE will collect appropriate samples at post mortem examination for confirmatory diagnosis and sero-diagnosis
- PACE will train the people who will perform the inspection only when the rehabilitation will be almost over.
- PACE will assist in the technical part of the process.
- The design of the platforms must be so basic and essential that nothing can be removed (looted). The roof of the slaughterhouse rehabilitated by UN in town was looted.
- The activity must be seen as a pilot project for other centres of the regions.

The main objective of this exercise was to obtain an epidemiological picture on the situation of CBPP as reported from local slaughterhouses in the Central Zone.

iii) Formation of Zonal Veterinary Association CERELPA

This activity was supported by CAPE and was held in Jowhar, Middle Shabelle Region from 17th to 19th March. This Zonal association was formed with participants 9 Somali Veterinary Professionals) coming from all 4 regions of the Central zone. A detailed report is presented in Annex C.1.

C.1.3 Result 3: Livestock disease surveillance system is functioning with specific reference to Rinderpest

No activity was foreseen in this quarter.

C.1.4 Result 4: Emergency preparedness and response systems are functional, initially to Rinderpest

No foreseen activity were planned in this quarter

C.1.5 Result 5: Local networks for promoting livestock health are functioning

The zonal coordinator Dr Mohammed Hamud attended the Jigjiga workshop in Ethiopia. The report is represented in Annex A.2.

C.1.6 Result 6: The programme is effectively co-ordinated

i) Establishment of the Zonal PACE office in Central Somalia, Beled Weyne

The zonal base as office became operational from 1st March 2002. Initially a building rehabilitated by Islamic bank was supposed to be delivered to SLPP never materialized. A private compound with 24hrs power was identified. The base was furnished with office furniture and equipment including a deep freezer and fridge for cold chain. One desk- top computer with UPS and printer were purchased from Nairobi.

ii) Recruitment of Somali Zonal staff

The position of Zonal coordinator and Administrator were advertised in late January with a deadline of 10th February. A committee of 4 persons endorsed by the Governor of Beled Weyne including the Zonal vet advisor met to interview and select the candidates. Dr Mahoud Hamoud (Hawadle clan) and Dr Robble (Abgal clan) were selected by the committee for the post of coordinator and administrator. The secretary position was identified from the Gaal-jeel clan to make up for the clan balance.

iii) Car Rental.

During this period only one car was hired on a temporary bases. The car belonged to the Ugaas of Hawadle.

iv) Cash Facilitator

Dahabshiil cash facilitator was identified for the transfer of funds from Nairobi to Beled Weyne

C.2 WORK PLAN NEXT QUARTER

WORK PLAN FOR THE 3rd QUARTER- CENTRAL SOMALIA									
ACTIVITIES				APRIL		MAY		JUNE	
				From	To	From	To	From	To
RESULT 1	<i>The capabilities of Public sector (MoL) to regulate, coordinate and evaluate livestock development sector are strengthened</i>								
	NO ACTIVITIES FORESEEN IN CENTRAL SOMALIA								
RESULT 2	<i>Private sector strenghtening</i>								
	WORKING ON PRIVATE SECTOR STRATEGY								
	EPIDEMIOLOGY TRAINING FOR PRIVATE SECTOR								
	WORKSHOP ON PRIVATISATION								
	FIELD TRAINING WITH PRIVATE VETS								
RESULT 3	<i>Livestock disease surveillance system is functioning</i>								
	PREPARATION FOR LOGISTICS OF SURVEY, TRAINING MATERIAL,								
	TRAINING ON CROSS-SECTIONAL SURVEY AND PURPOSIVE SAMPLING								
	CROSS-SECTIONAL SURVEY								
	FINALISATION OF SURVEY								
RESULT 4	<i>Emergency Preparedeness and response</i>								
	INITIATION WORK ON EMERGENCY PREPAREDNESS AND RESPONSE STRATEGY								
RESULT 5	<i>Local/Regional networks for animal health are functioning</i>								
	NO ACTIVITIES FORESEEN								
RESULT 6	<i>Programme is effectively coordinated</i>								
	SOMALI PACE INTERNAL WORKSHOP, NAIROBI								
	PREPARATION OF QUARTERLY REPORT								
	ZONAL ADVISER SUBMITTING WORKPLANS FOR NEXT QUARTER								

C.3 UPDATED INVENTORY

As per the EC guidelines, an updated list of physical goods that have been acquired by the project to date is included.

INVENTORY PACE PROJECT 01/01/02 to 31/03/02 - CENTRAL SOMALIA

PURCHASED WITH PROJECT FUNDS

ITEM	DATE	REF	DESCRIPTION	AMOUNT USD	LOCATION	ORGANIS.	REMARKS
B050	30-01-02	25033	TOSHIBA S1800-214 LAPTOP COMPUTER IVG2CFK3W2P6	1,550.00	B/WEYNE	PACE	VET COORDINATOR

RECEIVED FROM EU PROJECTS

ITEM	DATE	REF	DESCRIPTION	AMOUNT USD	LOCATION	ORGANIZATION	REMARKS
			NO MOVEMENTS				

**CENTRAL REGIONS LIVESTOCK
PROFESSIONAL ASSOCIATION
(CERELPA) WORKSHOP**

Organized by SLPF
Facilitated by Somali PACE Project
Sponsored by CAPE Unit, OAU/IBAR
Jowhar, Middle Shabelle region, Somalia

Jowhar, March 17 - 19, 2002

CENTRAL REGIONS LIVESTOCK PROFESSIONAL ASSOCIATION (CERELPA) WORKSHOP

BACKGROUND TO THE WORKSHOP

The need assessment of a series of workshops was identified during the 22nd Jan. 2002 in Nairobi meeting where representatives of SLPF (Somali Livestock Professional Forum), CAPE Unit of OAU/IBAR, PACE Somalia, FAO and UNDP Somalia widely discussed and agreed upon the following agenda.

Agenda:

- 1) Develop a program, venue and time frame of the “national” workshop for the representatives of the Somali livestock professionals countrywide.
- 2) Address the issues of the remaining workshops: TRANSJULPA, CERELPA, SOWELPA and BENALPA to be organised by SLPF, facilitated by the Somali PACE Project and sponsored by OAU/IBAR CAPE Unit, possibly before the national one
- 3) Establish a common understanding between participants and facilitators on dates of workshops, goals, purpose and objectives.
- 4) CAPE to provide a consultant to assist SLPF in the process of the workshops.

Based on the above agenda and discussion, it was agreed to organize a series of workshops for formation of local and zonal livestock professional associations.

Workshops were to be held for CERELPA, TRANSJULPA, SOWELPA and BENALPA in the month of March to May 2002.

CERELPA WORKSHOP

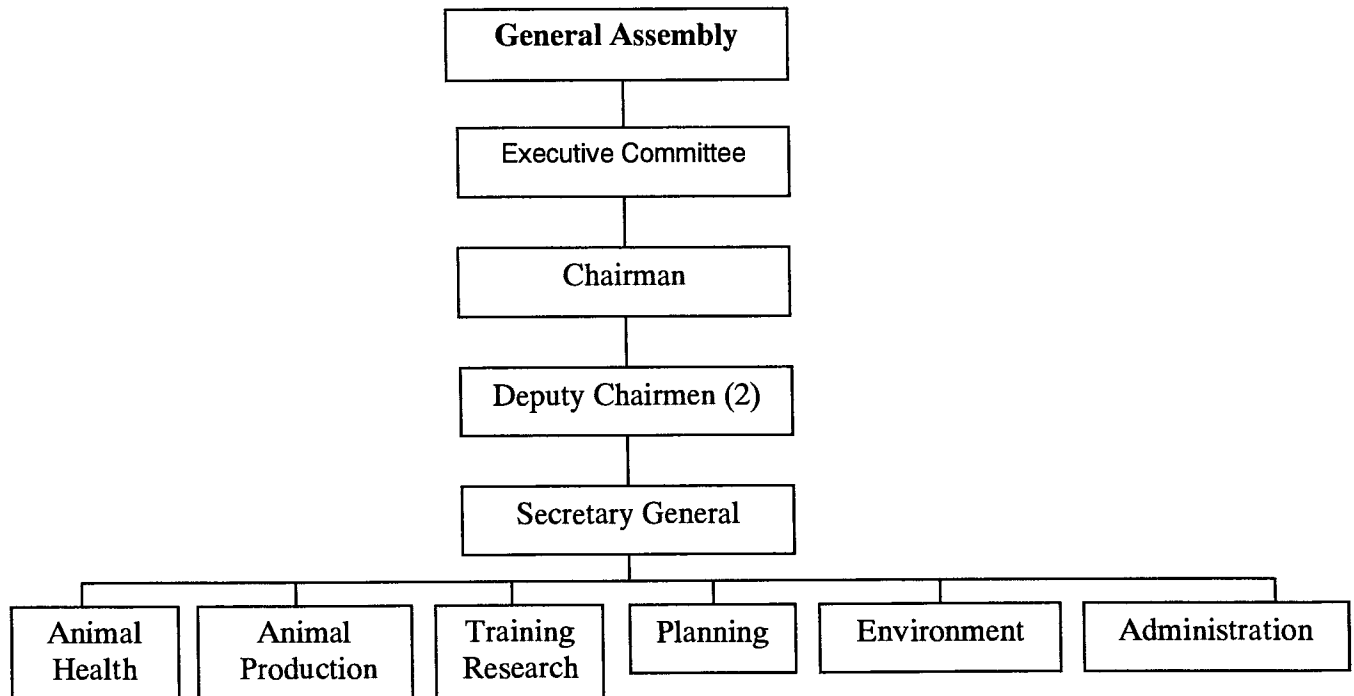
1. Common Understanding: What is CERELPA?

CERELPA is a Zonal professional association (encompassing veterinary associations of Middle Shabelle, Hiraan, Galgudud and Southern Mudug regions) that safeguards professional interest and obligations.

Its functions include the following:

- Professional Association for livestock health and Production;
- Collective human resource to develop the livestock sector;
- Safeguard ethics and welfare of vet professionals (including human rights);
- Unification of vet professionals nationally and regionally;
- Enhance skills of vet professionals;
- Extension and advice to other stakeholders;
- Upgrade livestock trade to competitive levels and other markets;
- Environmental Protection (conservation for sustainable use);
- Formulate and strengthen the association.

2. CERELPA Organogram



3. Workshop Program

Three days (March 17 – 19, 2002) were deemed adequate for the workshop. The following tentative program was developed.

Day 1

- Introduction
- Opening Ceremony
- Workshop objectives
- Animal Health
- Animal production and Range Management
- Training and Research

Day 2

- Managerial skills
- Finance and administration
- Communication
- CERELPA structure and organogram,

Day 3

- Coordination and Networking
- Presentation of CERELPA plans
- Proposal (Logical Framework Analysis)

WORKSHOP PROCESS

DAY 1

Introduction

Dr Mohamed Abdullahi Roble, on behalf of Middle Shabelle Veterinary Association, welcomed in Jowhar all participants and wished them good deliberations and successful workshop. After that, he gave the floor to the facilitator who requested everybody for self-introduction before getting involved into the workshop activities. Then he invited the Middle Shabelle Regional Authorities to address the participants and they were represented by the following:

- Mr. Salad Ali Jelle, Deputy Chairman of M/Shabelle Region Political Committee
- Mr. Ibrahim Kulow Hassan, Secretary of regional security and home affairs
- Mr. Fuad Ahmed Hilowle, Jowhar DC

At the end of his speech Mr. Salad Ali Jelle declared the workshop officially open.

Animal Health Sector

It was agreed that the animal health sector be represented by a sub-committee consisting of three experienced veterinary professionals. At a brainstorming session, participants identified the expected results from this sub committee as follows.

Expected Results.

1. Diseases controlled (Treated and vaccinated)

- Disease surveillance system in place (bacterial, viral, protozoal, etc.)
- Zoonotic diseases controlled (e.g. anthrax, brucellosis, tuberculosis).

2. Public awareness on diseases and drug residual control raised.

- Prevention of drug misuse
- Trader and user awareness on drug quality raised.

Disease¹ Control Activities by Health Sub committee

- Develop an inventory of all livestock diseases occurring in Central regions and its neighbouring areas.
- Make inventory on livestock species and their distribution, and existing mechanisms of disease control.
- Identify gaps and ways of bridging these gaps in existing disease control mechanisms. Propose appropriate changes in these mechanisms to relevant authorities.
- Lobby and encourage Central regions' authorities to conduct a livestock census and establish a disease surveillance system using Somali livestock professionals.

Public Awareness Activities on the following:

Disease control, emphasis will be laid on prevention of occurrence and transmission or spread of diseases.

- Public health issues such as meat inspection, milk and fish hygiene.
- Drug residues in meat and milk mainly, and the importance of withdrawal periods.

¹ Whenever disease is mentioned it could be animal or zoonotic diseases depending on the context

- Drug misuse and handling. E.g. Consequences of over and under dosing, poor storage and handling, environmental contamination during drug and equipment disposal, and the importance of using good quality drugs, appropriate routes of administration, and variations in species reaction to different drugs.

The above messages will add weight to CERELPA's justification as to why drugs and treatments should be handled by vet professionals.

DAY 2

Animal Production Sector and Range Management or Environment Sector

Like the animal health sector, it was agreed that these sectors be represented by two sub-committees composed of three members each. Participants brain stormed on what results they anticipated from these sectors, the following were identified.

Expected Results:

- Environmental friendly grazing / herding techniques applied. Improved carrying capacity of rangelands.
- Good quality and large quantities of milk and meat produced. Production of other products such as eggs, marine products and hides and skins improved.

The second (2) result is not expected in the immediate short term. Rather, it will be a result of the first (1) result. If animal husbandry which heavily depends on availability of natural resources and hence the environment improves, there will be more production of meat and milk. Ways of improving other animal products' production, and diversifying to intense marine and poultry production will be looked into and exploited.

Why:

The objective is to produce and continue producing valuable animals and their products in a stable, sustainable environment. This will improve household food security, and the economy both at household and national levels.

Activities of the Animal Production and Environment Subcommittees

Awareness Raising: Most messages during the awareness raising campaigns will include the following.

- Herding management – recommend stocking densities for different eco-zones and inform the public
- Lobby the relevant authorities to identify and delineate reserved grazing areas for use during hard times. I.e. Limited use, to preserve pasture and rehabilitate degraded portions. Educate the community on the importance of grazing reserves.
- Lobby for, and educate the public on, good rainy-water management by building catchments and diversions to avoid unnecessary loss.
- Lobby for planting of unpalatable trees (that do not cause bush encroachment) to fix soil in the bare deserts, and deny public access to these areas (preservation). Later, plant fodder species and have controlled access to these areas (rehabilitation and conservation). At the same time, educate the public on consequences of environmental degradation and the cost of rehabilitation in terms of time and money.
- Advice traders to feed animals and provide adequate water and rest prior to export, so that they

Training and Research

Training and research sector is identified as a priority and will be represented by a sub-committee composed of three veterinary professionals. At a brainstorming session, participants identified the expected results from this sub committee as follows.

Expected Results

1. Increase the knowledge of livestock professionals and NAHAs.

Training activities

- Lobby authorities to encourage and contribute opening a training institute of animal health and production.
- Identify and exploit opportunities for continuing education, e.g. seminars, scholarships and publications.
- Explore training needs for existing or newly recruited identified and selected NAHAs (Nomadic Animal Health Auxiliaries)
- Establish linkages nationally, regionally and internationally with sister organizations.

Research

- Prioritise and conduct research on animal production and diseases of economic importance.

General Issues

Cross cutting expectations that did not fit into the mentioned subcommittees but needed to be addressed were identified and put under the responsibility of other two sub-committees (Administration and Planning) with three members each. Participants felt that they were as important as those fitting into the thematic sectors.

Expected results

1. Professional welfare observed.

Professional welfare:

To establish a common understanding, a brainstorming session on what participants meant by professional welfare was held. The following descriptions were agreed upon.

- Sale and use of vet drugs that should be controlled by vet professionals.
- First priority in vet job opportunities should be given to Somali vet professionals.
- Activities such as treatment, vaccination, meat inspection, health certification for export and disease testing should fall under the responsibility of vet professionals.
- Find ways and means of improving technical skills of the vet professionals (continuing education).

Activities of CERELPA animal health Subcommittee to address professional welfare

- Lobby relevant authorities to make and enforce a law such that the provision of drug sale to vet professionals, and priority in employment opportunities is given to qualified Somali vet professionals.
- Make an inventory of Curricula Vitae (CV's) and contact addresses of interested vet professionals.
- Organize education for its members through seminars, professional meetings, trainings and workshops.
- Establish and maintain linkages with other vet associations nationally and internationally.

Participants were still concerned about cross cutting issues encountered in all four sectoral activities. It was becoming confusing which sector would conduct which activities. After discussions, it was agreed that these sectors are interlinked and some activities could be shared by all sectors. CERELPA is indeed one body, and all members in the association should be able to carry out any of the activities. Sectoral divisions are really for description purposes.

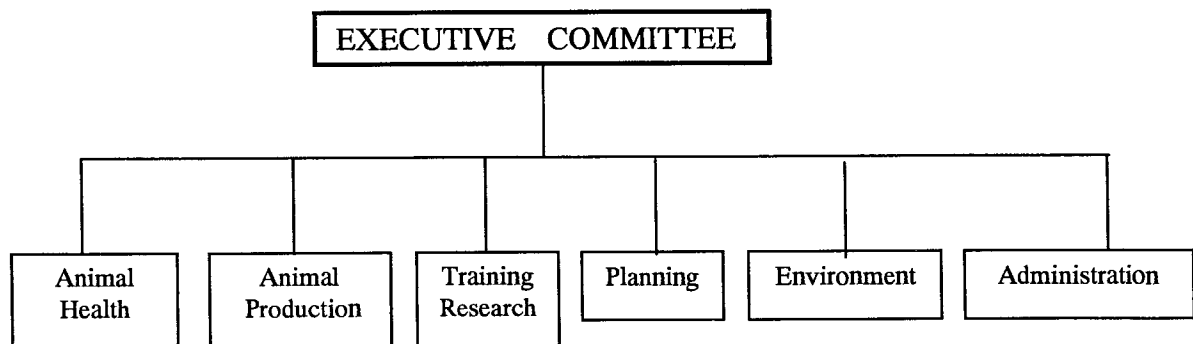
DAY 3

Managerial Skills, Co-ordination and Networking

CERELPA, being an organization of professionals has a managerial role to play. The executive Committee will conduct management activities of the organization while the subcommittees will manage sectoral/professional activities entrusted to them.

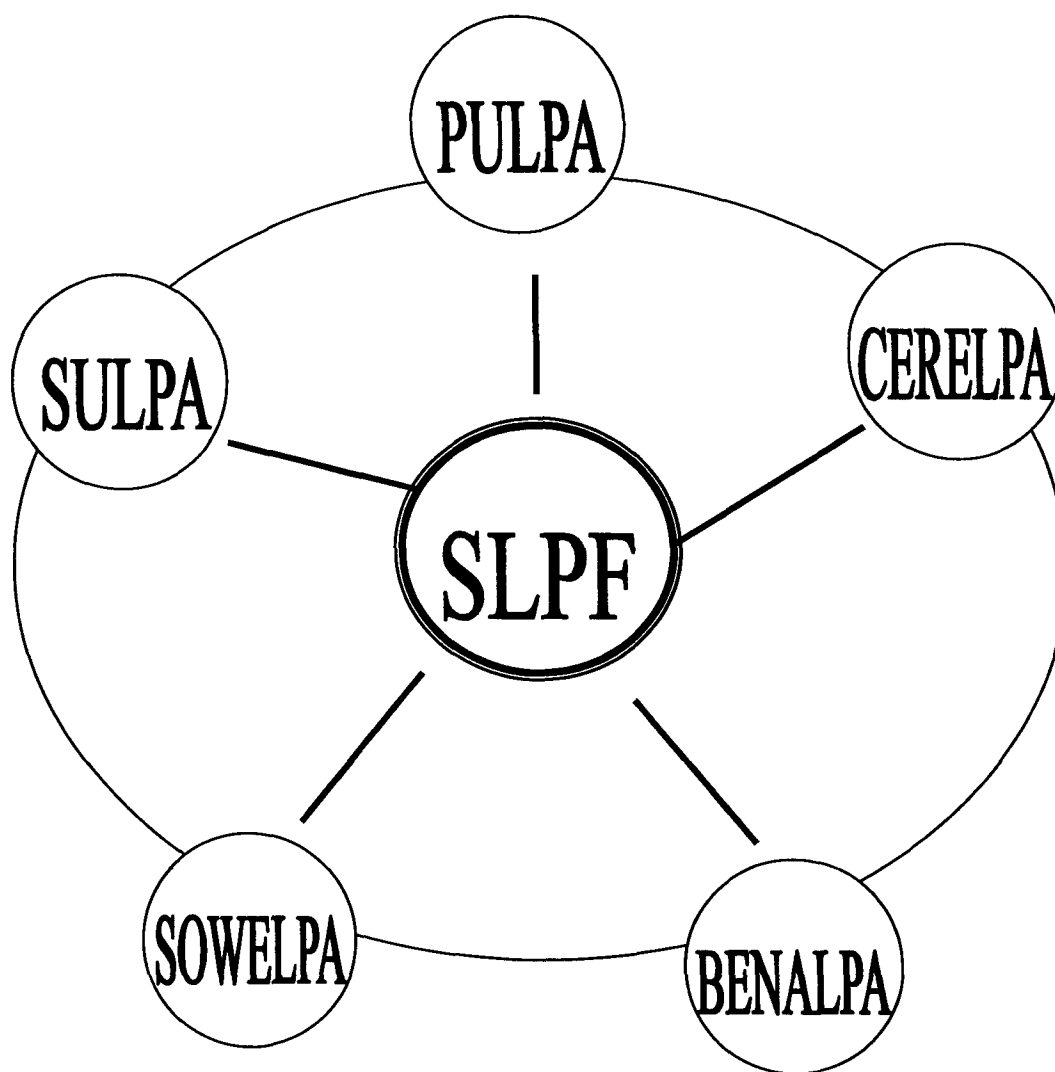
Coordination

Making things, people, parts, and etc. function together efficiently in an organized way. Without proper co-ordination, CERELPA cannot function properly. The CERELPA organogram demonstrates a well-structured and coordinated process.



Networking

A network is a closely linked group of people, companies, etc.



Objective	Result	Activities ²	Indicators ³ (within 2 years of implementation)
Safeguard interest and welfare of members. Promote the welfare and health of livestock and wild life in Central regions.	Professional welfare addressed Diseases controlled by treatment and vaccination. Awareness on health raised to the public.	Lobby authorities for sale of drugs by vet professionals. Prepare supporting documents Lobby authorities to conduct a census and establish a disease surveillance system for Central regions using Somali livestock professionals Public awareness activities e.g. meetings, field days, radio broadcasts, posters etc	Lobby government to license professionals to sell and handle drugs. A 30% increase in vet professionals licensed to sell drugs. Community awareness target groups to be doubled from the current status. No rejection of exported livestock and increased demand for export by 10%.
Environmental conservation and development.	Animal production improved (increased quality and quantity). Improved stocking rates, herding management, and environment improved.	Awareness raising activities on herding management and land use increased. Water catchments and other environmental conservation practices increased. Desert rehabilitation intensified. Animal nutrition and steaming up prior to and during export/sale period emphasized.	Milk, meat, and egg production increased by 10%. 10% Increase in production of calves, lambs, and kids. 20% increases in domestic meat consumption. Hides, skins & other animal products demand for domestic and export by increased to 20%. Four new grazing reserves established. Four more water catchments established. Rehabilitation work of one more desert started.
Upgrade the skills and professional knowledge of its members.	Increased knowledge of livestock professionals.	Look for opportunities for continuing education, e.g. seminars, scholarships, short courses. Establish linkages with sister organizations. Research – Prioritise and conduct research on diseases and issues of economic importance in the industry.	Two seminars every year. rse. Scholarships abroad for one person in the first year, gradually increasing in subsequent years. One bulletin produced monthly from Jan 2002. Contacts with sister professional organizations such as KVA and TVA established by Jan 2002. Journals containing research findings published and circulated annually from Jan 2005.

CERELPA

Profile:

The Central regions livestock professional association (CERELPA) is a zonal Somali voluntary association, which functions as a low cost co-operative professional group comprising of private and public veterinary professionals.

CERELPA is a zonal professional association, which, is apolitical, not religious, and not tribal or clan based. CERELPA is a part and parcel of the Somali Livestock Professional Forum. The membership of the association is open for all Somali livestock professionals and interested livestock stakeholders operating in the Central regions.

Goals:

The overall goal of CERELPA is to support and initiate zonal rehabilitation and development of the livestock industry.

So the livestock sector makes sustainable contribution to: -

- Food security
- Poverty alleviation
- Improving livestock status, and environmental protection.

² Prior to implementation of the proposed activities, CERELPA should conduct a baseline survey on all areas they intend to influence intervention. It is against this baseline information that indicators presented will be measured. From the findings of the survey, past trends will be noted and proposed indicators revised so that they are SMART.

³ Indicators should always be specific, measurable, achievable, realistic, and time-bound (SMART). Time-bound

Principles:

Promote peace, stability, conflict prevention, mitigation and response in the country.

Effective co-ordination and networking at small nomadic settlements, villages, districts and regional levels, and linkages with international organizations and networks.

Linking relief and rehabilitation efforts to sustainable and long-term development policy and direction.

Co-ordination and networking with the other livestock professionals association at different parts of the whole Somali region.

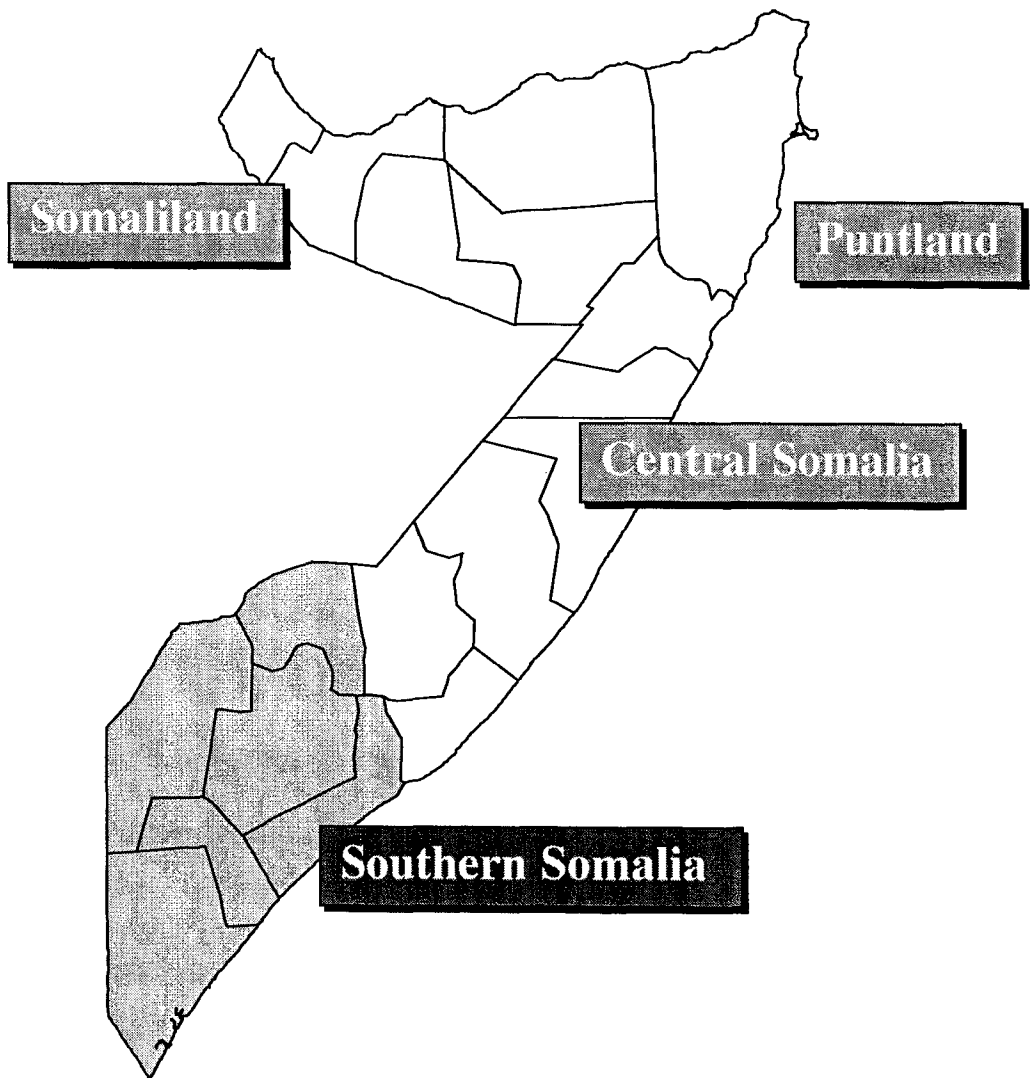
CERELPA gives more consideration about Gender issue. In fact a lady is an active member in the executive committee and head of the Animal Production sub-committee.

LIST OF WORKSHOP PARTICIPANTS.

<u>Name</u>	<u>Region</u>	
1 - Dr, Ahmed M.Hassan	G/Gudud	Vet
3 - Dr,Abdullahi M.Barre	Banadir	Vet
4 - Dr,Mohamed Hashi Mohamed	Banadir	Vet
5 - Dr,Mohamed Hasan Abdulle	G/Gudud	Vet
6 - Abdulkarim Mohyaddin addow	M/Shabele	Vet Ass
7 - Mohamud Ahmed Omar	Mudug	Vet Ass
8 - A/Salam Abdulle Barise	G/Gudud	Vet Ass
9 - Mohamed Elmi Gedi	G/Gudud	Vet Ass
10 - A/Salam Osman Amin	Hiraan	Vet Ass
11 - Abdullahi Elmi Abdi	Hiraan	Vet Ass
12 - Abdulkadir Mohamed Nur	Hiraan	Vet Ass
13 - Abdulnasir Sheikh Mohamed	Mudug	Vet Ass
14 - Mohamed Hussain Dirie	G/Gudud	Vet
15 - Abdullahi Khalif Mohamud	Hiraan	Vet Ass
16 - Ali Yusuf Ahmed	G/Gadud	Vet Ass
17 -Osman Abdi Warsame	G/Gadud	Vet Ass
18 - Hassan Mohamud Sheikh	M/Shabele	Vet Ass
19 - Mohamed Mohamud Addow	M/Shabele	Vet Ass
20 - Said Dirie Negeye	Mudug	Vet Ass
21 - Farah Odowa Ahmed	G/Gudud	Vet Ass
22 - Dr,Yusuf Ali Rage	M/Shabele	Vet
23 - Nur Hussain Duale	Mudug	Vet Ass
24 - Omar Dirie Mumin	Hiraan	Vet Ass
25 - Halima Hasan Omar	M/Shabele	Vet
26 - Dr. Zeinab Ahmed Ahmed	M/Shabele	Vet
27 - Dr. Abshir Mohamud Gesey	M/Shabele	Vet Ass
28 - Hussain Afrah Hagar	Hiraan	Vet Ass
29 - Ahmed Ibrahim Mohamud	M/Shabele	Vet Ass
30 - A/Kadir Mohamud Ahmed	M/Shabele	Vet Ass
31 - Mohamed Mohamud Qalimow	M/Shabele	Vet Ass
32 - Abdullahi Abdi Abikar(Jemis)	Hiraan	Vet Ass
33 - Abdulkadir Abdi Mohamed (Dooli)	Hiraan	Vet Ass
34 - Garad Farah Mohamed	G/Gudud	Vet Ass
35 - Mohamud Jimale Mohamed	Mudug	Vet Ass
36 - A/Rashid Yusuf Abdulle	M/Shabele	Vet Ass
37 - Mohamud Haii Ahmed	Hiraan	Vet Ass

38 - Hasan Ahmed Haylow	Hiraan	Vet Ass
39 - Dr,Mohamed Ali Gadid	G/Gudud	Vet
40 - Hasan Hussain Ali	M/Shabele	Vet
41 - Mohamed Muse Yusuf(Africa)	M/Shabele	Vet
42 - Mohamud Omar Ire	M/Shabele	Vet
43 - Abshir Mohamed Omar	G/Gudud	Vet Ass
44 - Ismail Ahmed Mumin	M/Shabele	Vet Ass
45 - Dr,Mohamed Ali Hamud	Hiraan	Vet
46 - Dr,Mohamed Abdullahi Roble	M/Shabele	Vet
47 - Abukar Takow Hassan	M/Shabele	Vet
48 - Sulaiman Mohamed Salah	G/Gudud	Vet
49 - Osman Ali Yusuf	Mudug	Vet Ass
50 - Abdi Ahmed Diblawe	Mudug	Vet Ass
51 - Dr Daud Alassow Ahmed	M/Shabele	Vet
52 - Dr Abdullahi Elmi Nur	Hiraan	Vet

SECTION D - PACE SOUTHERN SOMALIA



SECTION D

D1. PACE SOUTHERN SOMALIA ZONE

The southern zone comprises of Bay, Bakool, Gedo, Lower Shabelle, Middle Juba and Lower Juba regions. Although the PACE base was not established as the zonal veterinary advisor had not reported, some activities were carried out, namely the Stakeholder workshop and the pilot project on the initiation of community based animal health delivery services:

D1.1 Result 1: Capabilities of public sector AHWs to regulate, coordinate, monitor and evaluate the livestock development sector are strengthened

i) Stakeholder workshop in Baidoa

The first of the stakeholder workshops was held in Baidoa from 30-31st January. The workshop was opened by the Governor of Baidoa Mr Kalinle. Participants came from the 6 regions of the southern zone and include authorities, livestock traders, drugs suppliers, livestock owners, NAHAs and veterinary professionals. The detailed report and list of participants of the workshop is given in Annex 4.1.

D.1.2 Result 2 Capabilities of private AHWs to engage in curative and preventive services are enhanced

Under this result, the activities carried out were related to community based animal health delivery services. The field officer of CAPE unit based in Somalia provided this report

i) Trainer of Trainers Workshops for southern Somalia

Awareness of CAPE activities started in early February 2002. The first activity was Training of Trainers Workshop on Community based Animal Health services for veterinary professionals in using PRA tools. Participant came from five regions (Bay, Bakol, Lower Juba, Middle Juba and Gedo) from southern Somalia. The trainer from CAPE Unit facilitated and conducted the training. The workshop had 28 participants for the first day and the following day they reached up to 31. The invitees from Gedo region were four, but only one has attended the workshop from Mogadishu, due to unrest situation from the region.

The duration of the workshop was seven days with field exercise of one day in Baidoa town and one day to nearby villages of Bay district. But a group of ten vet professionals together with CAPE staff conducted a base line survey in the selected site for the purpose of establishing CAHW system, in the Dinsor district of Bay region.

Objectives of the training was:

- To introduce PRA tools and techniques;
- To enable them how to plan and implement CAHW training programme.

The survey has covered around 20 villages, and Yaqbaraway was considered as a central station during the survey because of its central location.

ii) Selection of CAHWS

During the survey there was war situation in the area, which then forced to postpone the initial plan mainly CAHW, s selection and training programme.

In addition to the findings from the basic baseline survey, more information was collected during the CAHW, s selection, which was carried out in 10days.

All the surveyed communities are agro-pastoralists. They are known to practice sorghum farming activities beside livestock production.

In general animals move from place to place seasonally in search of grass and water. During sorghum cultivation and harvest period all groups are kept together around the farmlands as labor is required.

Concerning livestock diseases, there is high problem of trypanosomosis in cattle and camels.

There are also other diseases such as Foot and Mouth, Blackleg, Lumpy Skin Disease in cattle and Wry-neck syndrome in camel. Livestock owners also complained of disease transmitted by ticks.

Lack of skills to conduct treatments and select quality drugs have formed common problem of all herders. In general the herders already know about veterinary drugs and have been accustomed to buying different kinds of veterinary and even human products from whichever sources available to them. At grass-root level veterinary drugs are available from any shops or kiosk and herders use these to treat their animals. Their application of drug administration, whether by drenching or by injection is very poor and have no clue on how to estimate the dosage.

The idea of CAHW's system has highly appreciated by the communities consulted during the baseline survey. The communities have promised that at least 25% of the initial kit costs was to be contributed within the coming 7 days.

As a result, 20 communities realized 20million Somali shillings. The one million-shilling contribution fixed per settlement site considered as part of the criteria during CAHW's selection. It, however, reduced the number of female CAHW's selected to 25%, as the communities were not willing to pay for females in most of the places.

iii) Needs assessment

A needs assessment was conducted and the results were:

- Water for animals and people,
- Livestock disease,
- Predators such as hyena and lions have formed the three top priority problems in all the 20 villages surveyed.

The problem of predators seems to be due to the fact that wild life population management practices has not been there for long periods and to the fact that wild herbivores have been highly hunted. As the herbivore population has been significantly minimized, carnivores are forced, by shortage of food items, to shift to the domestic animals. Wild herbivores are hunted not only for meat but also as source of cash income that people sale live Dick-Dick as well as Killed Antelopes and Dick-Dick to butchers highly.

The CAPE consultant will provide a detail report that will be presented in the near future.

iv) Formation of TRANSJULPA (Trans Juba Livestock Professional Association)

This association was inaugurated with funding from CAPE and comprises of veterinary professionals from Lower and Middle Juba, and Gedo regions. A CAPE consultant was engaged to participate and come with recommendations of supporting the association in the near future. Annex D.1 and D.2 gives the report of this inaugural meeting and the report of the consultant, respectively.

D.1.3 Other results

No other activities addressing the other results were planned for this quarter except the Dr Mohammed Hassan Nur, the proposed candidate for the post of Zonal coordinator went to Ethiopia for the community-based workshop held in Jigjiga.

D.2 WORK PLAN FOR THE NEXT QUARTER

WORKPLAN FOR THE 3rd QUARTER - SOUTHERN SOMALIA									
ACTIVITIES				APRIL		MAY		JUNE	
				From	To	From	To	From	To
RESULT 1	<i>The capabilities of Public sector (MoL) to regulate, coordinate and evaluate livestock development sector are strengthened</i>								
	NO ACTIVITIES FORESEEN IN SOUTHERN SOMALIA								
RESULT 2	<i>Private sector strenghtening</i>								
	ZONAL VET ASSOC MEETING SOWELPA, BAIDOA			5	7				
	SLPF INAUGARAL MEETING BAIDOA					21	25		
	EPIDEMIOLOGY TRAINING FOR PRIVATE SECTOR					26			8
	WORKSHOP ON PRIVATISATION							9	13
RESULT 3	<i>Livestock disease surveillance system is functioning</i>								
	IDENTIFICATION OF KEY PERSONS AND COLD CHAIN			27	30				
	ASSESS INFO ON LIVES. DIS, SLAUGHTERHOUSE & PLAN OF ACTIV.					1	9		
RESULT 4	<i>Emergency Preparedness and response</i>								
	NO ACTIVITIES FORESEEN IN THE QUARTER								
RESULT 5	<i>Local/Regional networks for animal health are functioning</i>								
	NO ACTIVITIES FORESEEN								
RESULT 6	<i>Programme is effectively coordinated</i>								
	ORIENTATION AND FAMILIARISATION IN NAIROBI			1	4				
	SOMALI PACE INTERNAL WORKSHOP, NAIROBI			8	12				
	ESTABLISHMENT OF BASE IN BAIDOA			12	22				
	FAMILIARISATION ON EPID TRAINING IN CENTRAL SOMALIA			15	25				
	PROCUREMENT OF BASE FURNITURE/EQUIPMENT			27	28				
	RECRUITMENT OF ZONAL SOMALI STAFF			29					
	DEBRIEFING IN NAIROBI & EC MONITORING MISSION					13	17		
	PACE-CSU-EASTERN AFRICA REGIONAL MEETING							17	19
	PREPARATION OF QUARTERLY REPORT							27	30
	ZONAL ADVISER SUBMITTING WORKPLANS FOR NEXT QUARTER							27	30

D.3 UPDATED INVENTORY

As per the EC guidelines, an updated list of physical goods that have been acquired by the project to date is included.

INVENTORY PACE PROJECT 01/01/02 to 31/03/02 - SOUTHERN SOMALIA

PURCHASED WITH PROJECT FUNDS

ITEM	DATE	REF	DESCRIPTION	AMOUNT USD	LOCATION	ORGANIS.	REMARKS
B049	30-01-02	25033	TOSHIBA S1800-214 LAPTOP COMPUTER Z1086006GSS183-0	1,550.00	BAIDOA	PACE	VET COORDINATOR

RECEIVED FROM EU PROJECTS

ITEM	DATE	REF	DESCRIPTION	AMOUNT USD	LOCATION	ORGANIS.	REMARKS
			NO MOVEMENTS				

ANNEX D. 1

TRANS-JUBA LIVESTOCK PROFESSIONAL ASSOCIATION (TRANSJULPA) WORKSHOP

Organized by SLPF
Facilitated by Somali PACE Project
Sponsored by CAPE Unit, OAU/IBAR
Afmadow, Lower Juba region, Somalia
AFMADOW, MARCH 27 - 29, 2002

TRANS-JUBA LIVESTOCK PROFESSIONAL ASSOCIATION (TRANSJULPA) WORKSHOP

INTRODUCTION

Middle/Lower Juba and Gedo regions are situated in the Southern part of Somalia sharing common borders with Kenya and Ethiopia. It is considered one of the most fertile zones of Somalia in terms of crop production and large wet-season grazing areas as well due to the presence of Juba river and some perennial water sources. Water scarcity and aridity are greatest in the immediate border zone between the two countries: Lower Juba in Somalia and Liboi up to Garissa area in Kenya.

The area is hosting a considerable Somali livestock population, mainly cattle. In addition to that the most important livestock trading routes (cattle trade) are crossing the regions. Animals, infact, are trekked to Kenyan markets from inter-riverine areas and Juba Valley, passing through arid and semi-arid areas where water and pasture are available only seasonally. Of course during the annual dry periods (Dec.-March & July-Aug.), the trade almost stops or at least slow down considerably. Otherwise, traders, would have to find out an alternative route, especially for seeking market opportunities in Kenya. This would be long, costly and stressful.

Justification

There is a strong need to set up a common approach and to coordinate veterinary activities to better assist the livestock owners and traders enabling them to produce and sell healthy livestock for domestic consumption and for export markets as well.

In this regards it is fair and logic to start first to organize the veterinary professionals, give chance to them coming together, discuss relevant livestock issues and finally establish their own professional association. In addition to that there is also an initiative from a number of veterinary professionals of the area addressed to SLPF (Somali Livestock Professional Forum) seeking assistance in the process of setting up their association.

WORKSHOPS NEEDS ASSESMENT

The needs assessment was identified during the 22nd Jan. 2002 meeting where representatives of SLPF, CAPE Unit of OAU/IBAR, PACE Somalia, FAO and UNDP Somalia widely discussed and agreed upon the following agenda.

Agenda

- 1) Develop a program, venue and time frame of the “national” workshop for the Somali livestock professionals.
- 2) Address the issues of the remaining workshops: TRANSJULPA, CERELPA, SOWELPA and BENALPA to be organized by SLPF, facilitated by Somali PACE Project and sponsored by OAU/IBAR CAPE Unit, possibly before the national one
- 3) Establish a common understanding between participants and facilitators on dates of workshops, goals, purpose and objectives.
- 4) CAPE to provide a consultant to assist SLPF during the process of the workshops.

TRANSJULPA WORKSHOP

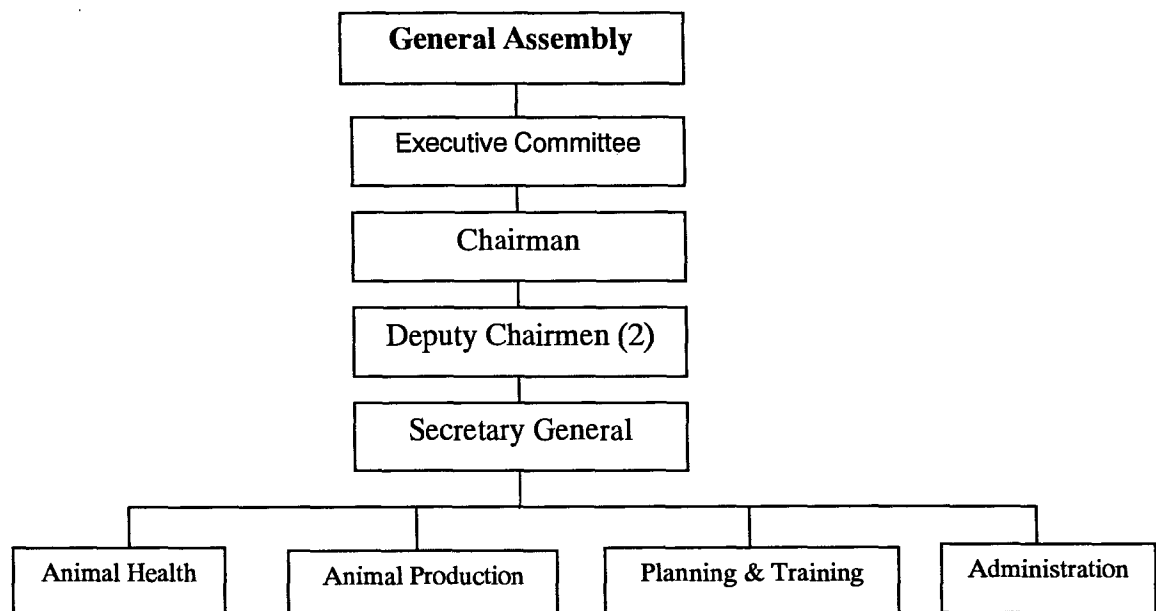
1. Common Understanding: What is TRANSJULPA?

TRANSJULPA is a Sub- Zonal professional association (encompassing veterinary associations of Middle Juba, Lower Juba and Gedo regions) that safeguards professional interest and obligation.

Its functions include the following:

- Professional Association for livestock health and Production.
- Collective human resource to develop the livestock sector.
- Safeguard ethics and welfare of vet professionals (including human rights).
- Unification of vet professionals nationally and regionally.
- Enhance skills of vet professionals.
- Establish sustainable relationship with NAHAs (Nomadic Animal Health Auxilliaries)
- Extension and advice to other stakeholders.
- Upgrade livestock trade to competitive levels and other markets.
- Environmental Protection (conservation for sustainable use).
- Formulate and strengthen the association.

2. TRANSJULPA Organogram



Workshop Program

Three days (March 27 – 29, 2002) were deemed adequate for the workshop. The following tentative program was developed.

Day 1

Introduction

- Opening Ceremony
- Workshop objectives
- Animal Health
- Animal production and Range Management
- Training and Research

Day 2

- Managerial skills
- Finance and administration
- Communication

- TRANSJULPA Introduction and objectives

Day 3

- Coordination and Networking
- Presentation of TRANSJULPA plans
- Proposal (Logical Framework Analysis)

WORKSHOP PROCESS

DAY 1

Introduction

Dr Hassan Moallim, on behalf of Afmadow Veterinary Association, welcomed in Afmadow all participants and wished them good deliberations and successful workshop. After that, he gave the floor to the facilitator who requested everybody for self introduction before getting involved into the workshop activities. Then he invited the Afmadow Authorities to address the participants and declare the workshop officially open.

They were represented by the following:

- | | |
|-------------------------------|-----------------------|
| • Mr. Sultan Abdi Ali Sonkor | Traditional Leader |
| • Mr. Abdirazak Osman Mohamud | District Commissioner |
| • Mr. Suleiman Hassan Sheikh | Trader |

Animal Health Sector

It was agreed that the animal health sector be represented by a sub-committee consisting of three experienced veterinary professionals. At a brainstorming session, participants identified the expected results from this sub committee as follows.

Expected Results:

1. Diseases controlled (Treated and vaccinated)
 - Disease surveillance system in place (bacterial, viral, protozoal, etc.)
 - Zoonotic diseases controlled (e.g. anthrax, brucellosis, tuberculosis).
2. Public awareness on diseases and drug residual control raised.
 - Prevention of drug misuse
 - Trader and user awareness on drug quality raised.

Disease⁴ Control Activities by Sub committee:

- Develop an inventory of all livestock diseases occurring in Trans-Juba regions and its neighbouring areas.
- Make inventory on livestock species and their distribution, and existing mechanisms of disease control.
- Identify gaps and ways of bridging these gaps in existing disease control mechanisms. Propose appropriate changes in these mechanisms to relevant authorities.
- Lobby and encourage trans-Juba authorities to conduct a livestock census and establish a disease surveillance system using Somali livestock professionals.

⁴ Whenever disease is mentioned it could be animal or zoonotic diseases depending on the context

Public Awareness Activities on the following

- Disease control, emphasis will be laid on prevention of occurrence and transmission or spread of diseases.
- Public health issues such as meat inspection, milk and fish hygiene.
- Drug residues in meat and milk mainly, and the importance of withdrawal periods.
- Drug misuse and handling. E.g. Consequences of over and under dosing, poor storage and handling, environmental contamination during drug and equipment disposal, and the importance of using good quality drugs, appropriate routes of administration, and variations in species reaction to different drugs.

The above messages will add weight to TRANSJULPA's justification as to why drugs and treatments should be handled by vet professionals and avoid, among others, the circulation of fake drugs and consequences, very common in these areas.

DAY 2

Animal Production and Range Management Sector

Like the animal health sector, it was agreed that this sector be represented by one sub-committee composed of three members each. Participants brain stormed on what results they anticipated from this sector, the following were identified.

Expected Results:

- 1) Environmental friendly grazing / herding techniques applied. Improved carrying capacity of rangelands.
- 2) Good quality and large quantities of milk and meat produced. Production of other products such as eggs, marine products and hides and skins improved.

The second (2) result is not expected in the immediate short term. Rather, it will be a result of the first (1) result. If animal husbandry which heavily depends on availability of natural resources and hence the environment improves, there will be more production of meat and milk. Ways of improving other animal products' production, and diversifying to intense marine and poultry production will be looked into and exploited.

Why:

The objective is to produce and continue producing valuable animals and their products in a stable, sustainable environment. This will improve household food security, and the economy both at household and national levels.

Activities of the Animal Production and Range Management Subcommittee

Awareness Raising: Most messages during the awareness raising campaigns will include the following:

- Herding management – recommend stocking densities for different eco-zones and inform the public
- Lobby the relevant authorities to identify and delineate reserved grazing areas for use during hard times. I.e. Limited use, to preserve pasture and rehabilitate degraded portions. Educate the community on the importance of grazing reserves.
- Lobby for, and educate the public on, good rainy-water management by building catchments and

- Lobby for planting of unpalatable trees (that do not cause bush encroachment) to fix soil in the bare deserts, and deny public access to these areas (preservation). Later, plant fodder species and have controlled access to these areas (rehabilitation and conservation). At the same time, educate the public on consequences of environmental degradation and the cost of rehabilitation in terms of time and money.
- Advise traders to feed animals and provide adequate water and rest prior to export, so that they fetch better market prices.

Training and Research

Training and research sector is identified as a priority and will be represented by a sub-committee composed of three veterinary professionals. At a brainstorming session, participants identified the expected results from this sub committee as follows.

Expected Results:

1. Increase the knowledge of livestock professionals.

Activities

Training

- Lobby authorities to encourage and contribute opening a training institute of animal health and production.
- Identify and exploit opportunities for continuing education, e.g: seminars, scholarships and publications.
- Explore training needs for existing or newly recruited identified and selected NAHAs (Nomadic Animal Health Auxiliaries)
- Establish linkages at zonal level, nationally, regionally and internationally with sister organizations.

Research

- Prioritize and conduct research on animal production and diseases of economic importance.

General Issues

Cross cutting expectations that did not fit into the mentioned subcommittees but needed to be addressed were identified and put under the responsibility of the Administration Sub-committee with three members.

Expected results

1. Professional welfare observed.

Professional welfare: To establish a common understanding, a brainstorming session on what participants meant by professional welfare was held. The following descriptions were agreed upon:

- Sale and use of vet drugs that should be controlled by vet professionals.
- First priority and vet job opportunities should be given to the Somali vet professionals.
- Activities such as treatment, vaccination, meat inspection, health certification for export and disease testing should fall under the responsibility of vet professionals.
- Find ways and means of improving technical skills of the vet professionals (continuing education).
- Extend the membership list and include NAHAs and other important stakeholders as honorary members but not entitled to join in the decision making body of the association

Activities of TRANSJULPA animal health Subcommittee to address professional welfare

- Lobby relevant authorities to make and enforce a law such that the provision of drug sale to vet professionals, and priority in employment opportunities is given to qualified Somali vet professionals.
- Make an inventory of Curricula Vitae (CV's) and contact addresses of interested vet professionals.
- Organize education for its members through seminars, professional meetings, trainings and workshops.
- Establish and maintain linkages with other vet associations regionally and internationally

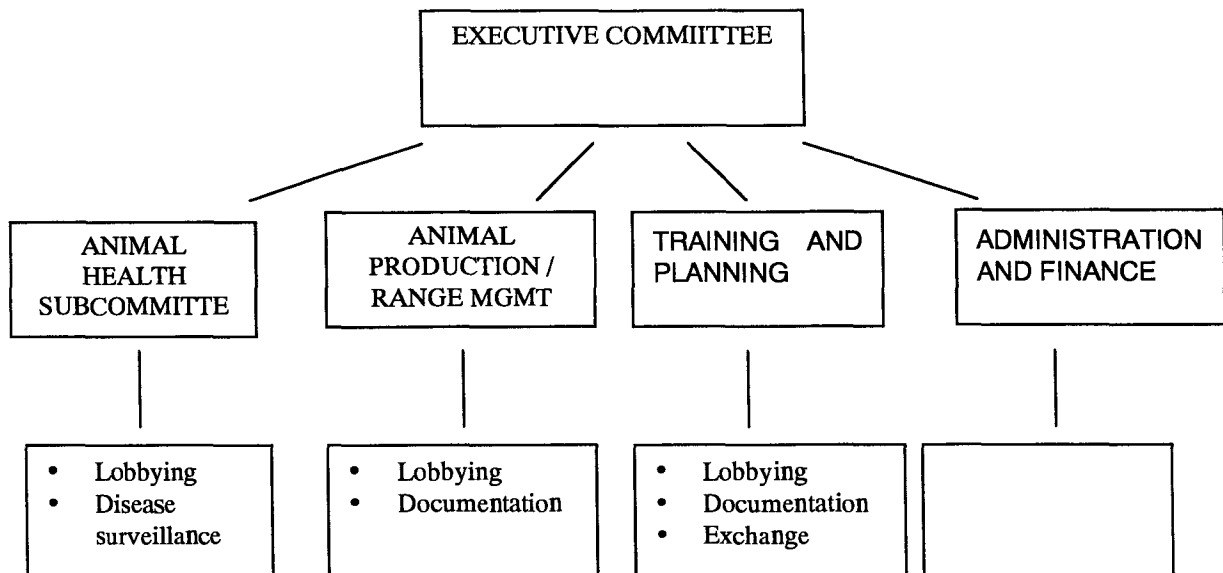
DAY 3

Managerial Skills, Co-ordination and Networking

TRANSJULPA, being an organization of professionals has a managerial role to play. The executive Committee will conduct management activities of the organization while the subcommittees will manage sectoral/professional activities entrusted to them.

Coordination and Networking

Making things, people, parts, etc. function together efficiently in an organized way. Without proper co-ordination, TRANSJULPA cannot function properly. The TRANSJULPA organogram demonstrates a well-structured and coordinated process.

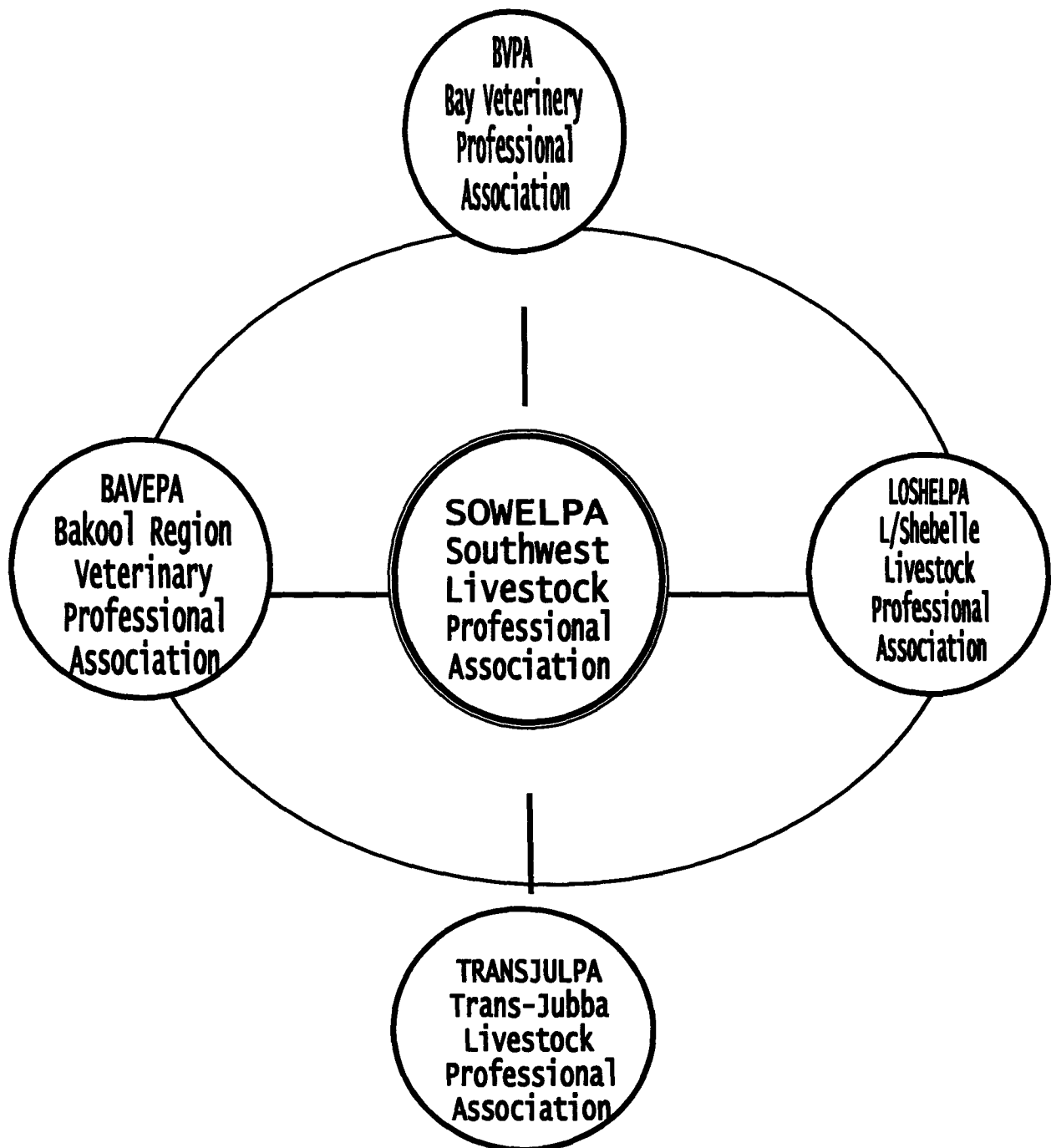


Networking

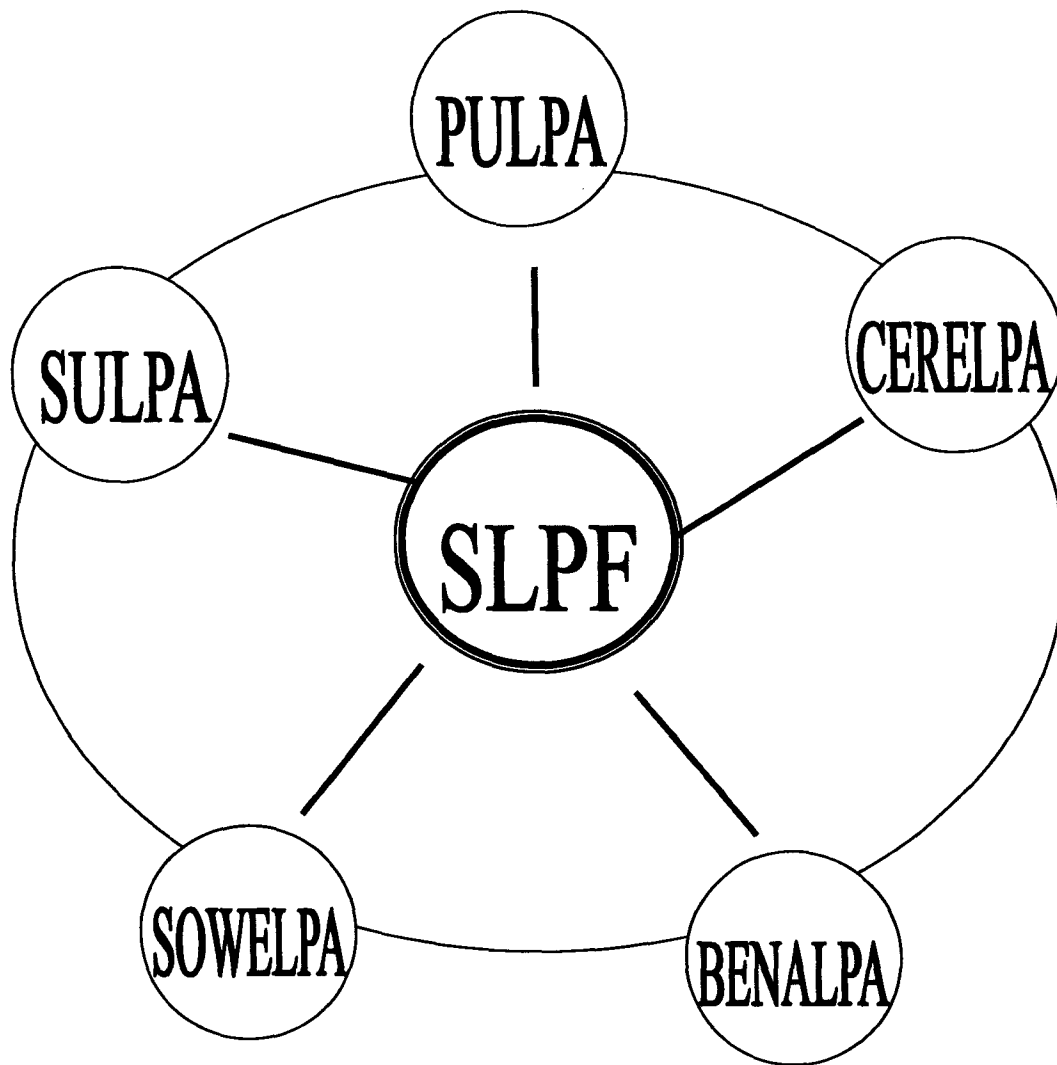
A network is a closely linked group of people, companies, etc.

Early Stages of a network

During the early stages, a network requires a coordinating body. TRANSJULPA is considered a sub-zonal organization and will coordinate its activities with the zonal Association which is SOWELPA (South West Livestock Professionals Association). With time, as the younger networks grow, all members become well linked (networked).



Later Stages of a network



Logical Framework Analysis for TRANSJULPA

Objective	Result	Activities ⁵	Indicators ⁶ (within 2 years of implementation)
<p>Safeguard interest and welfare of members.</p> <p>Promote the welfare and health of livestock and wild life in Trans-Juba region.</p>	<p>Professional welfare addressed</p> <p>Diseases controlled by treatment and vaccination.</p> <p>Awareness on health raised to the public.</p>	<p>Lobby authorities for sale of drugs by vet professionals.</p> <p>Prepare supporting documents</p> <p>Lobby authorities to conduct a census and establish a disease surveillance system for Central regions using Somali livestock professionals</p> <p>Public awareness activities e.g. meetings, field days, radio broadcasts, posters etc</p>	<p>Lobby government to license professionals to sell and handle drugs. A 30% increase in vet professionals licensed to sell drugs.</p> <p>Community awareness target groups to be doubled from the current status.</p> <p>No rejection of exported livestock and increased demand for export by 10%.</p>
Environmental conservation and development.	<p>Animal production improved (increased quality and quantity).</p> <p>Improved stocking rates, herding management, and environment improved.</p>	<p>Awareness raising activities on herding management and land use increased.</p> <p>Water catchments and other environmental conservation practices increased.</p> <p>Animal nutrition and steaming up prior to and during export/sale period emphasized.</p>	<p>Milk, meat, and egg production increased by 10%.</p> <p>10% Increase in production of calves, lambs, and kids.</p> <p>20% increases in domestic meat consumption.</p> <p>Hides, skins & other animal products demand for domestic and export by increased to 20%.</p> <p>Four new grazing reserves established.</p> <p>Four more water catchments established.</p>
Upgrade the skills and professional knowledge of its members.	Increased knowledge of livestock professionals.	<p>Look for opportunities for continuing education, e.g. seminars, scholarships, short courses.</p> <p>Establish linkages with sister organizations.</p> <p>Research – Prioritise and conduct research on diseases and issues of economic importance in the industry.</p>	<p>Two seminars every year.</p> <p>Scholarships abroad for one person in the first year, gradually increasing in subsequent years.</p> <p>One bulletin produced monthly from Jan 2002.</p> <p>Contacts with sister professional organizations such as KVA and TVA established by Jan 2002.</p> <p>Journals containing research findings published and circulated annually from Jan 2005.</p>

⁵ Prior to implementation of the proposed activities, TRANSJULPA should conduct a baseline survey on all areas they intend to influence intervention. It is against this baseline information that indicators presented will be measured. From the findings of the survey, past trends will be noted and proposed indicators revised so that they are SMART.

⁶ Indicators should always be specific, measurable, achievable, realistic, and time-bound (SMART).
Time bound means within a certain time frame.

TRANSJULPA

Profile:

The Trans-Juba Livestock Professional Association (TRANSJULPA) is a sub-zonal Somali voluntary association, which functions as a low cost co-operative professional group comprising of private, and public veterinary professionals.

The association is a professional association, which, is apolitical, not religious, and not tribal or clan based. TRANSJULPA is a part and parcel of SOWELPA and under the umbrella coordination of the Somali Livestock Professional Forum (SLPF). The membership of the association is open for all Somali livestock professionals and interested livestock stakeholders operating in the Trans-Juba region.

Goals:

The overall goal of TRANSJULPA is to support and initiate zonal rehabilitation and development of the livestock industry.

So the livestock sector makes sustainable contribution to:

- Food security
- Poverty alleviation
- Improving livestock status, and environmental protection.

Principles:

- Promote peace, stability, conflict prevention, mitigation and response in the country.
- Effective co-ordination and networking at small nomadic settlements, villages, districts and regional levels, and linkages with international organizations and networks.
- Linking relief and rehabilitation efforts to sustainable and long-term development policy and direction.
- Co-ordination and networking with the other livestock professionals association at different parts throughout the Somali region.

LIST OF WORKSHOP PARTICIPANTS.

No	Name	Region
1)	Dr. Mohamud H. Hassan(Jabra)	Kismayo/LJ
2)	Dr. Mohamud Mohamed Hersi	Kismayo/LJ
3)	Mr. Abdulkadir A/LLahi Elmi	Kismayo/LJ
4)	Mr. Mohamed Abdi Ahmed	kismayo/LJ
5)	Mr. Abdirashid Mohamed Suber	Kismayo/LJ
6)	Mr. Omar Ismail Addani	Jamame/LJ
7)	Mr. Mohamed Ali Omar	Jamame/LJ
8)	Mr. Abdulkadir Ibrahim Abdi	Jilib/MJ
9)	Mr. Osman Moallim Hussein	Jilib/MJ
10)	Dr. Ahmed Abdi Gedi	Bu'ale/MJ
11)	Mr. Nur Ali Nunow	Bu'ale/MJ
12)	Dr. Abdirashid Sh.Ahmed	Sakow/MJ
13)	Mr Ali Mudey Isaq	Sakow/MJ
14)	Mr. Abdi Mohamed Abdirahman	Bardere/Gedo
15)	Mr. Mohamed Aden Hassan	G/Horay/Gedo

16) Mr. Ibrahim Mohamed Osman	G/Harrey/Gedo
17) Mr. Hassan Moallim Ahmed	Afmadow/LJ
18) Mr. Abdullahi Ismail Mohamed	Afmadow/LJ
19) Mr. Qassim Abdi Hassan	Afmadow/LJ
20) Mr. Abdi Moallim Jibril	Qoqane/LJ
21) Mr. Mohamed Abdi Baji	Dobley/LJ
22) Mr. Ali Ahmed Abdi	Afmadow/LJ
23) Mr. Ahmed Abdi Moallim	Afmadow/LJ
24) Mr. Dahir Ali Egal	Bardere
25) Mr. Nur Bishar Aden	Dobley/LJ
26) Mr. Ibrahim Alio Aden	Afmadow/LJ
27) Mr. Qorane Mohamud Omar	Afmadow/LJ
28) Mr. Mohamed Abdi Hassan	Afmadow/LJ
29) Mr. Yassin H. Keynan	Afmadow/LJ
30) Mr. Ibrahim Yusuf Seed	Bu'ale/MJ
31) Mr. Aden Mohamed Olow	Bu'ale/MJ
32) Mr. Osman Omar Budul	Bardere
33) Mr. Shukri Abdi Kahin	Jilib/MJ
34) Mr. Aideed Suleiman Hashi	Kismayo/JH
35) Mr. Hassan Keynan Hussein	Qoqane/LJ
36) Mr. Ahmed Hussein Food	Dobley/LJ
37) Mr. Abdirazak Mohamed Osman	Kismayo/LJ
38) Mr. Dahir Aden Ali	Afmadow/LJ
39) Mr. Mohamed Sheikh Ahmed	Bu'ale/MJ
40) Mr. Hagi Salah Ibrahim	Bardere/Gedo

ANNEX D. 2

TRANS-JUBA LIVESTOCK PROFESSIONALS WORKSHOP HELD AT

**AFMADOW, SOMALIA, ON 27TH – 29TH MARCH 2002
REPORT BY CAPE CONSULTANT ABDI NOOR**

The main thrust of the workshop was to form a credible livestock professionals association, which aims at safeguarding the interests of its members and protecting the dignity of the profession. Although the workshop had a timetable, the time taken and method used in covering topics left much to be desired. Time management is a critical factor in all undertakings. Generally, the level of participation was fairly adequate. But there is need to develop more responsive techniques and approaches to enhance participation. Ideas and suggestion shared with the organizers for incorporation into the next workshops included:

- 1) An understanding of the concept of association. Brainstorming sessions be directed at understanding the concept of association, the need for an association, justification and formation of association.
- 2) The strength of an association lies in its membership. The role of the members in the ownership, management, and decision-making processes has to be understood within the association. A written and discussed constitution (Annex A) which clearly stipulates the governance structures is of vital importance in ensuring credibility and sustainability. A great deal of time has to be spent in constitution-making in a participatory manner so that the sense of ownership and commitment is shared. A constitution gives structures of accountability, responsibility, benefits, acquiring and losing membership, etc, and members should be well-conversant. Constitutions shared with organizers were the Maasai Group ranches, mobile extension teams and the Somalia Vet. Code.
- 3) The category of membership of the Nomadic Animal Health Auxillaries (NAHAs). The participants were unanimous in their decisions to have NAHAs as “honorary” members of the associations. This means that they will not be involved in the management of the associations. NAHAs have a key role as frontline personnel who gather information and give field reports besides administering treatments under supervision of vets. Participants felt that NAHAs operating independently would undermine the professional body since NAHAs may manipulate nomadic pastoralists to give credence to their claims of being vets. This may jeopardise the position of the vets supervising them in a society that is deeply divided on clan lines.
- 4) A key element in the success of associations is measures to improve the ability of the associations to promote and manage the collective interests of all members and to coordinate their collective obligations. Upholding professional ethics demands that the associations remain committed to the objectives of safeguarding the interests of its members, protecting the dignity of the profession, promoting continuing education of the vets and other livestock professionals, providing appropriate training to NAHAs as well as promoting the welfare of animals.
- 5) Stakeholder analysis was carried out to assess motives, interests and areas of encouragement in joining the network. The stakeholders are aware of the association and expressed great enthusiasm and support for the association. Stakeholder interests and attitudes towards the association and its impact is shown in Annex B of the report. The stakeholders at the Trans-Juba level were livestock traders, producers, butchers, local administration, traditional leaders

upon the association to market itself – what it is and the services it offers; information gathering and exchange and networking to publicise/awareness creation.

Recommendations

Capacity building is essential in increasing members' awareness and in inculcating a sense of ownership and commitment in working towards having a credible association. Participatory development planning would strengthen the association as it gives a broad-based perspective and focus on organizational goals. This training could go hand-in-hand with the association's activities. The trainees may be taken to a convenient place in each of the five zones. Trainers familiar with Somali traditions – culture, language, etc – could be recruited and taken to the selected areas to carry out the training which may not exceed two weeks. The focus of the training should be in the areas of:-

- (i) Participatory planning techniques/tools.
- (ii) Support and management communication.

Specifically, this should address the following:

- Fostering a sense of teamwork
- Clarifying organizational structures for support and management
- Clarifying procedures for establishing contractual relationships.
- Practising skills of group-based problem solving and decision-making.
- Enhancing understanding of factors affecting establishment, performance, and sustainability of associations.

(iii) NAHAs' capacity building by upgrading skills in animal health and husbandry. This could be practical-oriented. Recruitment and training of NAHAs should be done through the associations. The practical training may be conducted by the Vets of the relevant areas. Agencies/organizations wishing to provide animal healthcare in the regions should use the local associations as entry points to the pastoral communities.

(iv) Creation of a revolving fund through provision of Vet drugs and equipments. This would assist in setting-up a solid base for institutional development at the local level and go along way in promoting sustainable development.

SECTION E – SCIU NAIROBI OFFICE

**PACE SOMALI COORDINATION AND
IMPLEMENTATION UNIT**

SECTION E

E.1 PACE Somali Coordination and Implementation Unit

The above unit is a Nairobi based office and provides coordination, epidemiological and administrative and logistic support to the zonal bases Activities carried out addressed mainly:

E.1.1 Result 6: The programme is effectively coordinated

i) Recruitment of Expatriate and National Somali Staff

Expatriate staff for the Zonal bases in Central Somalia and Puntland were recruited by the implementing partners. The expatriate for southern Somalia was recruited but could not start due delay in processing visa by the Kenyan authorities.

The Somali Administrator was selected and recruited in January 2002.

ii) Linkages with OAU/IBAR and PACE Common Services Unit (CSU)

Introductory meetings were held with PACE coordinator on issues related with Somali PACE Project. The meetings explained the organogramme of Somali PACE Project and the modus operandi of the project describing the roles and responsibilities of all PACE staff. Likewise all sectors of the PACE CSU were explained and key persons introduced. Linkages with the main epidemiologist and the eastern Africa epidemiologist were establish in order to work towards developing the strategy on rinderpest eradication. A task force to be chaired by the eastern African epidemiologist was formed to work on the rinderpest strategy.

iii) Rinderpest eradication strategy

A task force comprising of Eastern African epidemiologists, Kenya Veterinary Department PACE Epidemiologist, Somali PACE Project advisor and epidemiologist, Somali Country coordinator and epidemiologist and the CAPE community based animal health advisor met on 2 occasions to discuss on how to go about developing the strategy. During the quarter the Somali PACE epidemiologist produced a strategy document, which was circulated to PACE Coordinator at OAU/IBAR and the National Coordinator at EC Somalia Unit. Annex E.1 gives the document "Rinderpest Eradication Strategy (working towards the eradication of rinderpest from Somalia).

iv) Public and Private Veterinary Sector Strategies

During the quarter the zonal advisors from VSF and UNA were given the task to work on these documents. Efforts were made by the Zonal advisors to collect relevant literature for the strategies. For private sector meetings were held with the Zonal advisor and the PACE CSU responsible for Privatisation and Legislation on Veterinary Services. Likewise the Zonal advisor had meetings with Veterinary Department to incorporate relevant public sector sections. Various laws and policy on livestock sector in Kenya were sought for information.

Before the first draft of these strategies was prepared, there was a need to further consult public sector authorities in Somaliland and Puntland. It is envisaged that these draft strategies be produced by the next quarter.

v) *Basic epidemiology and information gathering training manuals*

The Epidemiology Unit has prepared these manuals to be used for training in all four zones. These manuals are presented as Annex E.2 and E.3.

vi) *Training of Trainers in Epidemiology*

A basic training involving Zonal veterinary advisors and Somali epidemiologist and coordinator was carried out by the Project epidemiologist Dr Stefano Tempia and the Zonal Advisor for Somaliland, Dr Baba Soumare. The training was held in the documentation centre of Terra Nuova from 5th-7th February 2002.

vii) *Rift Valley Fever presentation ILRI*

In order to promote the activities of PACE as well as exchange ideas on the methodology and approach Somali PACE is planning to adopt, a presentation was made at ILRI on 23rd February 2002 by Dr Seif Maloo and Dr Stefano Tempia titled “ An epidemiological approach on disease surveillance in pastoral production systems in Somalia” (Annex E.4).

viii) *CAPE integration*

Following the MOU signed by the 4 implementing partners, the CAPE component for Somali Ecosystem relocated its office from Garisa to Nairobi and became based at the SCIU Office. The community based animal health advisor Dr Mohammed Dirie started working from mid January 2002. As part of their contribution, CAPE kindly provided a photocopying machine and a fax machine. In addition, they provided two lap-top computers for the PACE.

ix) *Administrative issues*

A document on internal procedures was prepared by the Administrator (Annex E.5). This document gives an insight on the administration of Somali PACE project.

This document is prepared after incorporating views and administrative procedures of most implementing partners so as to develop an acceptable guideline of operations. As the Project continues, this document may be subjected to change so as to address needs that could have been omitted or change existing rules as per situation. These adjustments will be done in consultation with the implementing partners and EC Somalia Unit.

x) *Budget breakdown*

In order to budget specific activities, a procedure was developed on advice and assistance from Dr. Vittorio Cagnolati of Terra Nuova. This breakdown of budget was done to get a better understanding of expenditure per activity and linking it with the main budget line. The initial breakdown has been done for the whole project and will be further broken down as per zonal sites. Annex E.6 gives the budget breakdown for 2 years and the notes for the budget. This breakdown is only indicative and can be subjected to change depending on how the funds are utilised.

xi) *Support Staff*

One secretary and a driver were recruited from January 2002 for the Nairobi office.

xii) *Office car*

The three NGO implementing partners provided funds to purchase one office car for Nairobi.

xiii) *Funds*

During the quarter funds utilised were from European Development Fund (EDF) and Swiss Humanitarian Aid (SHA). CAPE activities were directly funded by CAPE Unit of OAU/IBAR.

E.2 WORK PLAN FOR THE NEXT QUARTER

WORK PLAN FOR THE 3rd QUARTER SCIU OFFICE									
ACTIVITIES			APRIL		MAY		JUNE		
			From	To	From	To	From	To	
RESULT 1	The capabilities of Public sector (MoL) to regulate, coordinate and evaluate livestock development sector are strengthened								
	MEETING WITH MOL: FINALISATION OF MoU SPP-MoL, S'LAND		15	18					
	MEETING WITH MoLAE AND SUBMISSION OF MOU, P'LAND		18	24					
	PRELIMINARY PUBLIC SECTOR STRATEGY MEETING WITH SCIU, P'LAND		22						
	IDENTIFICATION WITH MoL OF OTHER RELEVANT ACTIV., S'LAND				8	9			
	TRAINING FOR EDMU: 1st COURSE (DATA MANAGEMENT), S,LAND						10	15	
RESULT 2	Private sector strengthening								
	SLPF SUPPORT TO VET ASSOCIATION SOUTHERN ZONE BAIDOA		5	7					
	TRAINING ON PARTICIPATORY EPIDEMIOLOGY, ARUSHA		15	29					
	SUPPORT TO PULPA AGM/SCIENTIFIC MEETING, P'LAND		20	24					
	WORKSHOP ON PRIVATISATION, CENTRAL SOMALIA			28	1				
	EPIDEMIOLOGY TRAINING FOR PRIVATE SECTOR, S'LAND				11	20			
	SLPF SUPPORT TO VET ASSOCIATION BENADIR				16	18			
	SLPF INAUGURAL MEETING BAIDOA						4	7	
	IDENTIFY AREAS FOR CBAHWS (COOMUNICATE TO sciu), PLAND						21		
	FIELD ASSESSMENT NEED OF CBAHWS, P'LAND								30
RESULT 3	Livestock disease surveillance system is functioning								
	ESTABLISHMENT OF DIS/EP&R UNIT IN THE MoL (ASSESS. PHASE), S'LAND				21	23			
	BASIC EPIDEMIOLOGY TRAINING (10 DAYS) PUNTLAND						5	14	
	BASIC EPIDEMIOLOGY TRAINING CENTRAL SOMALIA				15	26			
	PREPARATION OF MATERIAL FOR SURVEY, CENTRAL SOMALIA				10	20			
	TRAINING FOR CROSS-SECTIONAL SURVEY, CENTRAL SOMALIA					21	4		
	CROSS-SECTIONAL RANDOM SURVEY CENTRAL SOMALIA						5	30	
	WORKSHOP ON LIVESTOCK DISEASE SURVEILLANCE (SENSITIZATION), S'LAND				26	29			
	PREPARATION OF TRAINING MATERIAL, FOR S'LAND						1	8	
	TRAINING ON ADV EPIDEM (SURVEY DESIGN, MONITOR...), S'LAND						24	30	
	PREPARATION FOR EPIDEMIOLOGY TRAINING, SOUTH SOMALIA				7	14			
	EPIDEMIOLOGY TRAINING FOR SOUTHERN SOMALIA				15	30			
RESULT 4	Emergency preparedness and response								
	NO ACTIVITIES FORESEEN IN THE QUARTER								
RESULT 5	Local/Regional networks for animal health are functioning								
	RECRUITMENT OF CONSULTANT AND SOMALI COUNTERPART FOR NETWORKING						1	15	
RESULT 6	Programme is effectively coordinated								
	SOMALI PACE INTERNAL WORKSHOP (ALL ZONAL ADVISERS +SCIU)		8	12					
	ADMINISTRATIVE ISSUES IN SOUTHERN SOMALIA		12	22					
	LINKAGES WITH REFERENCE LABORATORY THROUGH OAU-IBAR-PACE			29	2				
	ADMINISTRATIVE ISSUES IN SOUTHERN SOMALIA		26			6			
	ADMINISTRATIVE ISSUES IN CENTRAL SOMALIA		29			2			
	SERUM BANK INITIATIVE WITH ILRI THROUGH PACE-CSU/EC SOMALIA UNIT								

ESTABLISH TEMPORARY SERUM BANK IN PACE SOMALIA OFFICE			9	15		
EC MONITORING PACE			14			
PROCUREMENT OF SAMPLING MATERIAL AND GPS			15	30		
EC MONITORING PACE MISSION TO S'LAND & P'LAND			15	22		
SWISS DELEGATION MISSION TO S'LAND & P'LAND			11	14		
SPP/NC MISSION TO S'LAND & P'LAND			18	22		
PACE-SOMALIA-OUA-IBAR QUARTERLY MEETING			27-31			
PACE-SOMALIA-ECSOMALIA UNIT MISSION TO CENTRAL SOMALIA					10	12
PACE CSU EASTERN AFRICA REGIONAL WORKSHOP ON RINDERPEST					17	19
DEVELOPMENT OF PUBLIC SECTOR STRATEGY	1	30				
CONSULTATIVE MEETING ZONAL AND SCIU WORKPLANS					22	30

E.3 UPDATED INVENTORY

As per the EC guidelines, an updated list of physical goods acquired by the project to date is included.

INVENTORY PACE PROJECT 01/01/02 to 31/03/02 - NAIROBI

PURCHASED WITH PROJECT FUNDS

ITEM	DATE	REF	DESCRIPTION	AMOUNT KSHS	LOCATION	ORGANIS.	REMARKS
			NO MOVEMENTS				

RECEIVED FROM EU PROJECTS

ITEM	DATE	REF	DESCRIPTION	AMOUNT KSHS	LOCATION	ORGANIS.	REMARKS
			NO MOVEMENTS				

RECEIVED FROM PACE PROJECT IMPLEMENTING ORGANISATIONS

ITEM	DATE	REF	DESCRIPTION	AMOUNT KSHS	LOCATION	ORGANIS.	REMARKS
C001	20-03-02	30047	KAP 556E- WHITE TOYOTA COROLLA STATION WAGON	450,000.00	NAIROBI	TN / VSF-CH / UNA	

ANNEX E.1

“Rinderpest Eradication Strategy (Working Towards the Eradication of Rinderpest from Somalia)”.



PAGE Somalia Project

Rinderpest Eradication Strategy

(Working toward the eradication
of Rinderpest from Somalia)

February 2002

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Rinderpest (RP) Eradication Strategy

(Working toward the eradication of RP from Somalia)

PACE Somalia Project

1. Executive summary

The Rinderpest eradication strategy for Somalia deals with operations in areas of suspected RP endemicity with the aim of demarcating the remaining foci of the infection for subsequent elimination. The identification of the last foci of RP infection will be carried out through active disease search and sero-surveillance using random map coordinates. After confirmation of infected foci RP eradication will be initiated. Ring / mass vaccination will be carried out and both resident and trade animals will be immunised. After vaccination, sero-monitoring and sero-surveillance activities will be implemented in order to verify the performances of the vaccination intervention. Animal health reporting systems, emergency preparedness and response will be planned to cope with the possibility of RP virus reappearance. All systems and measures implemented and planned will form the base for a national epidemic surveillance system for Somalia.

2. Background

According to the GREP (Global Rinderpest Eradication Programme) Blueprint for Africa, the continent should be free from infection by the end of the year 2008. This goal will be accomplished through the implementation of a regionally modified "OIE pathway", which will take into consideration animal movements inside eco-zones without respect to political borders and which is based on epidemiological surveillance. However, targeted vaccination campaigns will be carried out in those areas where the presence of the virus has been demonstrated.

While eradicating RP PARC has strengthened animal health services to the benefit of livestock producers. In areas where government services have not been functional due to civil conflict, economic depression and political instability, other partners have been assisting OAU/IBAR in the eradication of RP. This is also the case in Somalia, where NGOs are the implementers of PACE programme.

3. Interventions

The RP eradication strategy for Somalia will be based on historical data and on recent observations supported by laboratory examinations generated by different projects, which have been dealing with RP in Somalia during the last few years (e.g. PARC Somalia Phase I & II and ITP Programmes). In addition a review of relevant literature (see **Annex I**) will be carried out with the aim to summarise available information related to pastoralism and trade movements of livestock within Somalia and across its border. Available records will also assist in selecting areas of highest concentration of cattle in the country.

3.1. Objective

The formulated objective:

“Rinderpest infection eradicated from Somalia”

is in accordance with the 3rd thrust of the global PACE plan and with the framework provided for national PACE programmes. It is also included in three of the six results of the Somali component, although the formulation of the results has wider meaning to cover the variable priorities of the four Somali PACE zones in the global plan.

3.2. Outputs

Three outputs have been defined to be appropriated, in order to reach the final state of eradication and safeguard of achieved results:

- 1) *Areas of endemic RP infection defined*
- 2) *Elimination of RP infection from detected foci carried out and verified*
- 3) *Surveillance system introduced and functioning*

The **first result** aims at the demarcation of the core areas of endemicity. The primary methodology will be purposive disease search applying techniques of participatory epidemiology. This will concentrate in areas where cattle population occur in “significant” numbers and where there are reasons to suspect recent or current RP virus circulation.

One of the difficulties is that from extensive parts of Southern and Central Somalia the information about the disease is scanty, and that RP infection seems to remain clinically unapparent escaping the attention of stock keepers. The purposive search will be therefore supplemented by a survey based on a multi-stage

cluster sampling using random map coordinates. The information collection will be based on serological investigation, questionnaire survey and participatory techniques. The analysis of results will not only allow conclusions whether or not RP infection is or has been present in the recent past but will also provide information about livestock movements, permanent/seasonal watering points and serological data on other selected diseases.

The **second result** will aim at defining tactics for the elimination of the infection where detected, with follow-up measures to verify the success. This in accordance with the information generated during the active disease search / surveillance activities. It will also include the preparation of global emergency preparedness plans in accordance with the revised GREP guideline for the future.

The **third result** will aim at establishing a surveillance system, which will rely on a national animal health information network. It will have its primary informants in livestock keepers' communities. Through organised interfaces information will reach data management units at the zonal level, connecting onwards via PACE Somalia National Co-ordination and Implementation Unit to Somali Local Authorities and OAU/IBAR, from where the information dissemination will be ensured at regional and Pan-African levels, after consultation with the PACE Somalia National Co-ordination and Implementation Unit.

There is however concern on the life span of Somalia PACE Project, which is meant to terminate by the year 2004. RP eradication in Somalia should follow the "OIE pathways". The length of PACE Somalia project won't cover the temporal requirement indicated in the "OIE International Animal Health Code".

3.3. Activities and sub-activities

3.3.1. Output N° 1: "Areas of endemic RP infection defined"

3.3.1.1. Review available information about areas of potential / suspected RP infection

3.3.1.1.1. Historical data

Until 1994, when a mild form of Rinderpest was detected and diagnosed in Tsavo East National Park and subsequently in the Nairobi National Park (1994-96), the main endemically infected area in East Africa was believed to be Southern Sudan and from this source infection regularly invaded adjacent areas of Uganda, Kenya and occasionally Ethiopia. All virus isolates recovered from Southern Sudan and these neighbouring areas since 1983 were of the African type 1 lineage (classical RP). Initially the Tsavo Rinderpest outbreak was thought to have originated from here but the molecular evidence clearly showed that the Tsavo virus and the isolates from Nairobi National Park were completely different genetically and fell into the African type 2 lineage (mild form). Isolates of this lineage have been recovered from West Africa as late as 1983 but not since 1962 in East Africa. Thus a second main focus of Rinderpest in East Africa had been revealed after

having remained undetected throughout the period of JP15 campaign and eight years of PARC. The exact location of this focus was uncertain but surveillance has concentrated on North Eastern Kenya and Southern Somalia (Barrett *et Al.*; 1998).

In the North Eastern Kenya – Southern Somalia ecosystem RP reappeared periodically showing a cycle of about five years:

- 1980-1983 A moderately severe epidemic of Rinderpest entered Mandera and spread to extensive areas of Southern Somalia
- 1985-1988 A second wave of Rinderpest affected the Middle and Lower Juba Regions of Somalia
- 1991-1993 Coincident with the onset of drought in 1991, two waves of Rinderpest spread out from Wajir District, Kenya. The first in April travelled through Simper Fatima in central Mandera District to cause moderate mortality in Eastern Mandera District. The second wave passed Liboi, Kenya to enter Lower Juba causing moderate to severe mortality (30 to 70%) at Tabta, Bilis Qooqaani, Afmadow, and Badhade in Somalia
- 1994-1996 The Rinderpest in Mandera District persisted and assumed a mild form. From Mandera the disease spread to no-mans-land between El Wak, Kenya and El Wak, Somalia where it was sighted by Somali veterinary personnel in mid-1994. Subsequently, low to moderately severe outbreaks occurred in border regions on both sides of the border until the onset of the rains in early 1996. To date, the furthest known eastern extension of the focus was at Fafadum in the Western Gedo Region, Somalia. Clinically mild Rinderpest was observed in numerous herds in the Fino, Hashino, Lafey, Alunga, and Warengara areas of Mandera District. Ocular and nasal swabs from affected cattle at Fino and Hashino were positive for the presence of Rinderpest antigen in AGID tests conducted by the Government of Kenya at NVRC, Muguga. No clinical disease was observed in Somalia and no first-hand reports of active clinical disease were received from Somalia since the onset of the rain in April (Flanagan & Mariner 1993).

3.3.1.1.2. Recent observations

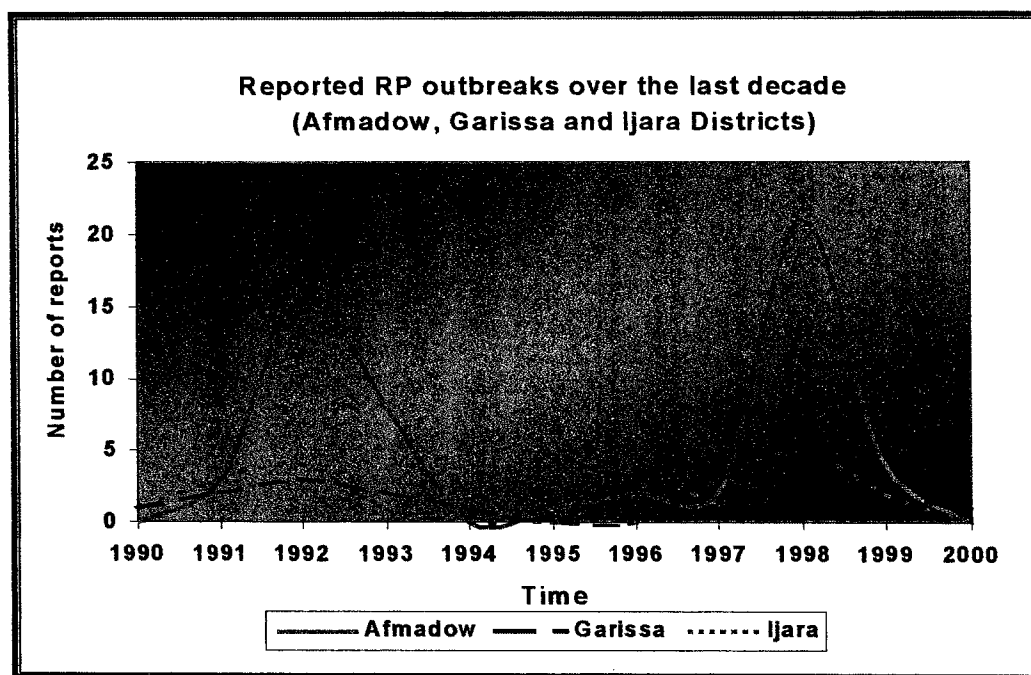
In Somalia endemic foci of African type 2 lineage were considered to be confined to the Trans-Juba Region (south from the Juba River). More recent investigations have shown RP Abs. presence also in unsuspected areas of Central Somalia.

- 1998-1999 Clinically mild cases of Rinderpest were detected in several locations of Afmadow District. Serum samples tested were detected RP Abs. positive (using the RP cELISA H) in Lower and Middle Juba and Gedo Regions of Somalia (Terra Nuova - Rinderpest Vaccination Campaign in Trans Juba Region, Somalia / Phase I; Final Report 1999).
- 1999-2001 Serological investigations carried out on unvaccinated young stock of cattle showed positive results (using the RP cELISA H) in various locations of Bay, Hiran, Mudug and Galgadud Regions of

Southern and Central Somalia (Terra Nuova – Itinerant Training Programme for Somali Veterinary Professionals / Phase II; Progress Reports 1999-2001)

- Oct. – Nov. 2001 An outbreak of mild RP was detected and confirmed on buffaloes in the Meru National Park, but so far no evidence of RP virus circulation was found in domestic animals (Ministry of Agriculture and Rural Development – Press Release on Rinderpest Situation in Meru National Park).

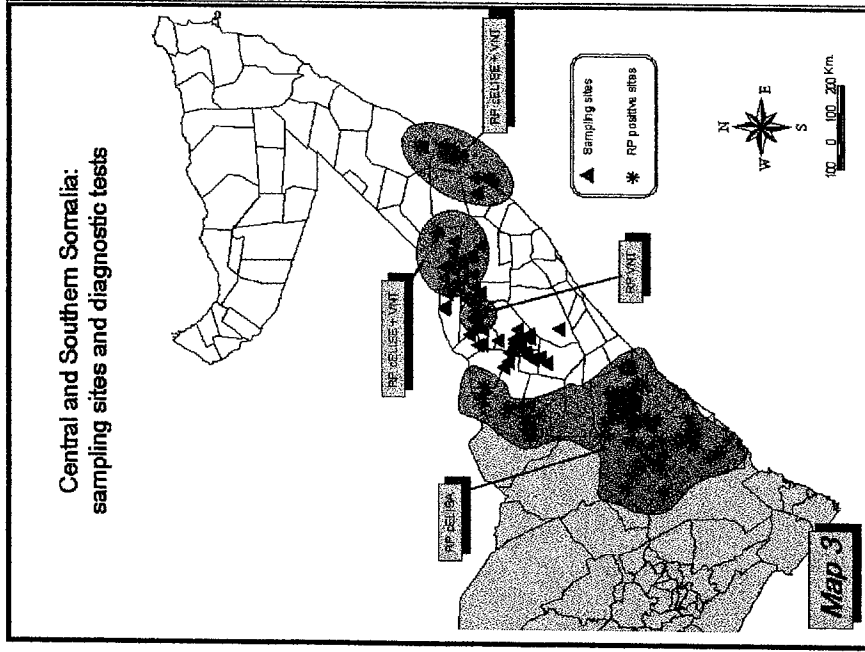
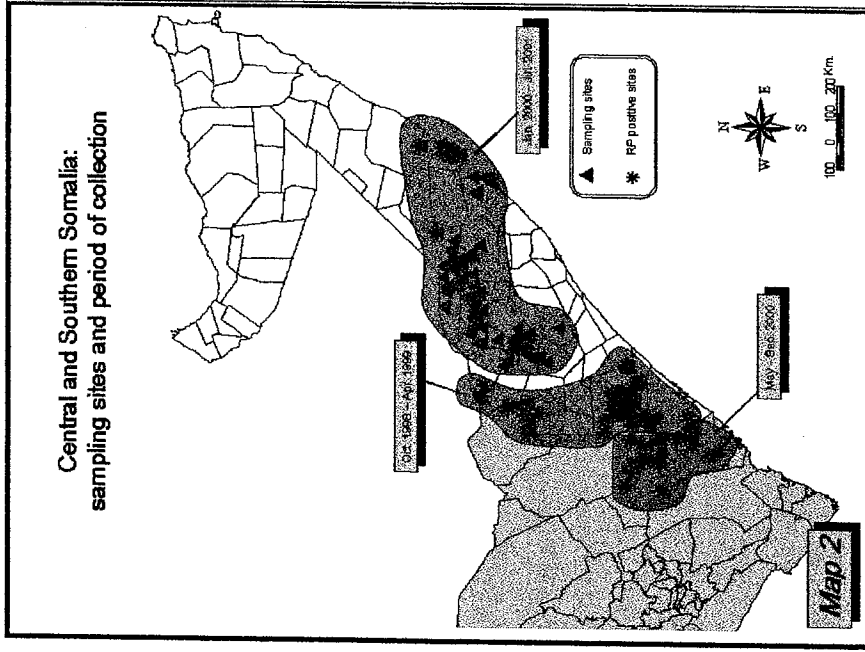
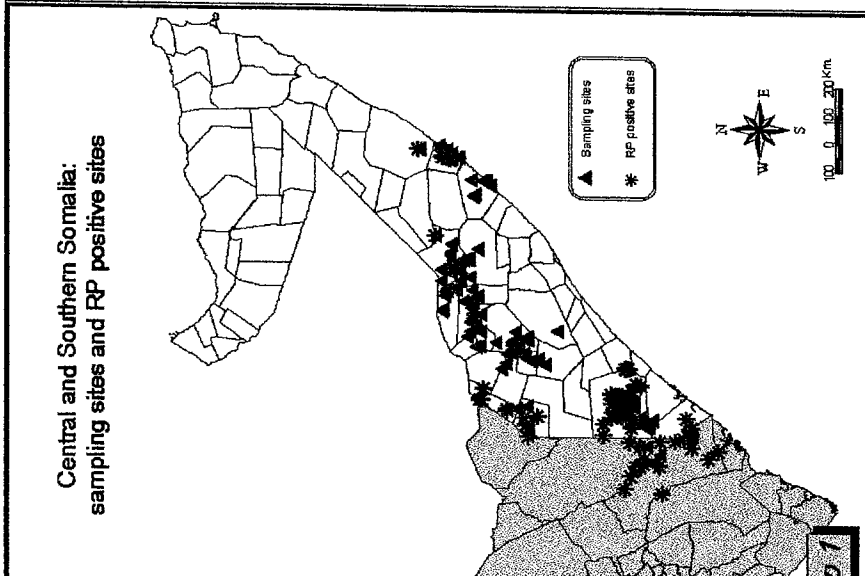
During PARC Somalia Project – Phase I & II, investigations were carried out to better understand RP occurrence and pattern in the project area (e.g. Afmadow, Garissa and Ijara Districts) according to the local knowledge. It appears that two main epidemics can be identified in the area during the last decade (see Graphic 1): the first one in 1991-93/94 and the second one in 1997-99. The results show a mean inter-epidemic period of about 2 years and a mean epidemic period of about 3 years (Terra Nuova - Rinderpest Vaccination Campaign in Trans Juba Region, Somalia / Phase II; Final Report 2000). If this cyclic behaviour of RP epidemic waves persists then the next onset of RP is expected in the year 2001/02 and it should persist till the year 2003/04. The Meru National Park outbreak is timely and coinciding with the expected RP epidemic wave¹.



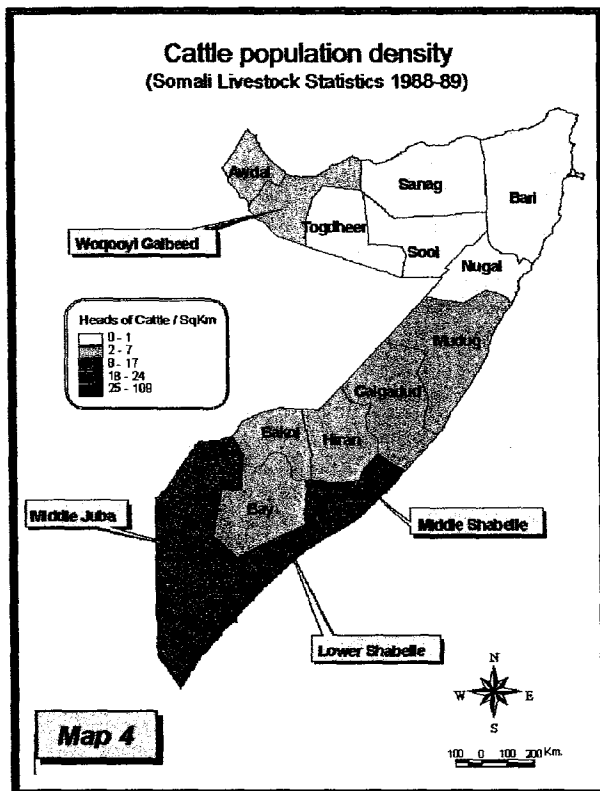
Graphic 1: Frequency distribution of reported RP outbreaks over the last decade.

Map 1 shows sample collection and positive sampling sites for Central and Southern Somalia and North Eastern Kenya. Map 2 shows the periods of sample collection and Map 3 the serological tests utilised for screening. 3285 samples collected in the Central and Southern Regions of Somalia (e.g. Hiran, Mudug, Galgadud, Bay, Bakol and Lower Juba) have still to be tested.

¹ It might be interesting to interpolate RP epidemic cyclic appearance with drought occurrence in the area, which may trigger long distance movement of cattle in search of water and pasture. Prolonged drought periods could also influence the "normal" livestock trade pattern, which closely interlink the North Eastern Kenya – Southern Somalia ecosystem.

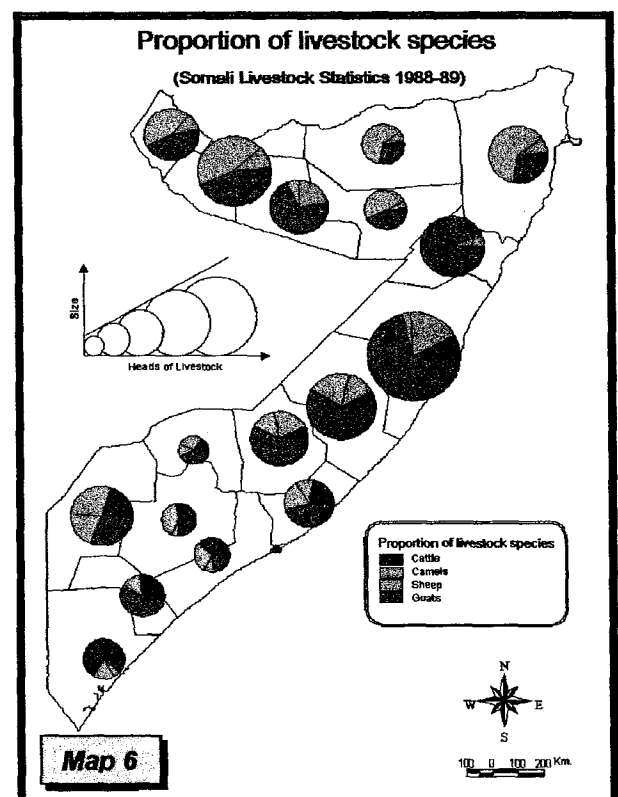
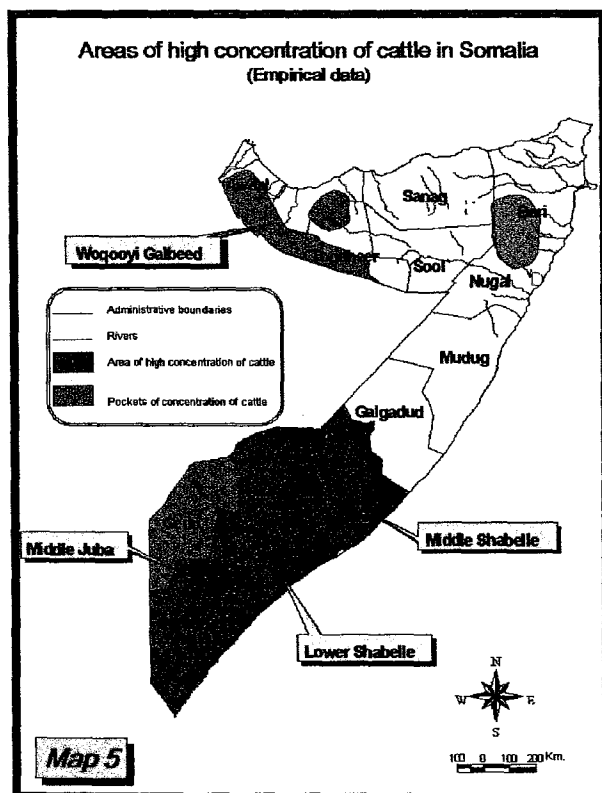


3.3.1.1.3. Areas of high concentration of cattle



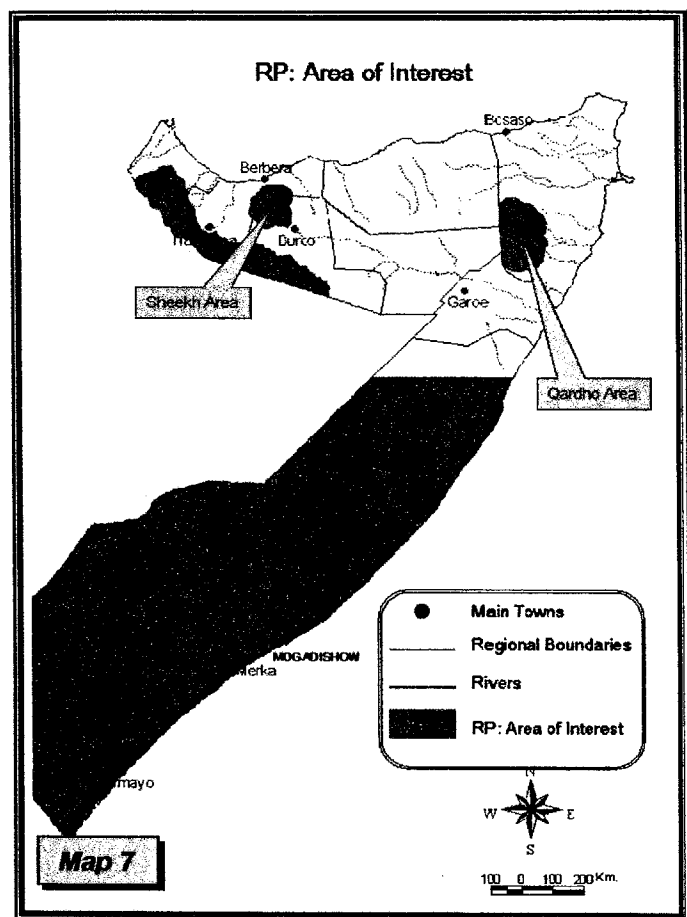
The latest quantitative livestock population data available for Somalia refer to the Somalia Livestock Statistics Document 1988-89 (see Map 4)

Although no recent quantitative data on the current livestock population distribution and density are available for Somalia, it is commonly believed and accepted that the highest concentration of cattle is still found in Lower and Middle Juba, Lower and Middle Shabelle, Bay, Bakol, Hiran and partially Gedo, Awdal, Woqooyi Galbeed, Togdheer and Bari Regions of Southern, Central and partially North Western and North Eastern Somalia (see Map 5). Small stock and camels prevail in Mudug, Galgadud and Gedo Regions of Central and Southern Somalia as well as in the majority of the North Western and North Eastern Regions of the country (see Map 6).



3.3.1.1.4. Identified areas of interest

Specific RP related activities will focus, during the initial phase of the PACE Somalia Project, on the Southern and Central Regions of Somalia, South from Galkayo and later on in selected areas along the Ethiopia-Somaliland border as well as in Sheekh and Qardho Districts (Somaliland and Puntland) (See Map 7).



The criteria utilised for the selection of the areas are:

1. Historical data
2. Recent data
3. Areas of high concentration of cattle

Although Galgadud and Southern Mudug Regions are not commonly considered “cattle areas”, recent sero-surveys have highlighted RP Abs. presence in the small ruminant population of Ceel Dheere and Harardheere Districts (coastal plain) (see Map 1).

Furthermore, cattle and small ruminants originating from Bay, Bakol and Hiran Regions are mainly transported to the port of Bosaso and some even to Berbera in order to be exported to the Gulf Countries.

Taking all these aspects into consideration, Galgadud and Southern Mudug Regions could provide relevant information on the Northern dispersion of RP virus, as well as constitute a buffer/surveillance zone between potentially infected and not infected areas.

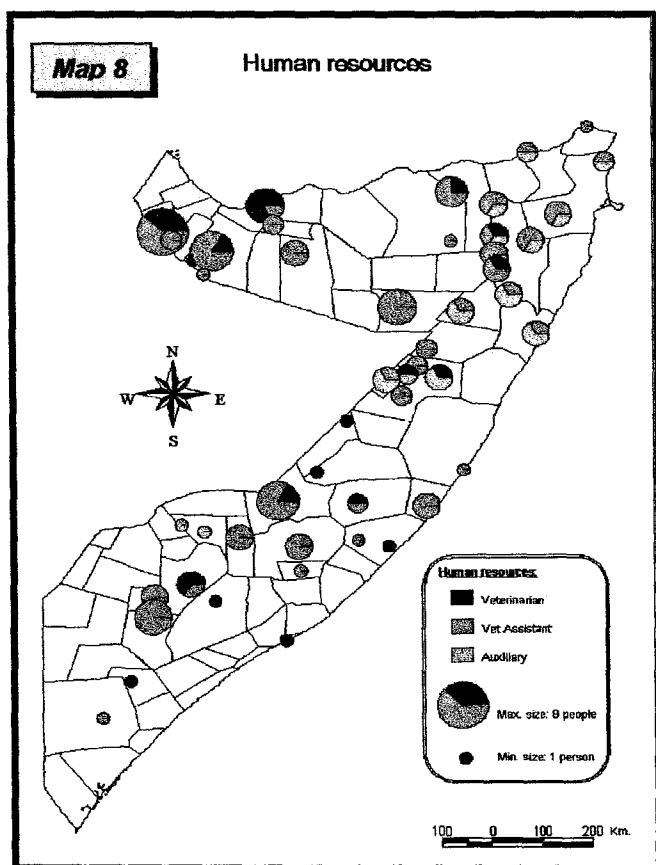
Despite the fact that no recent RP outbreaks have been observed in Sheekh and Qardho areas as well as in the buffer zone situated along the Ethiopia-Somaliland border, specific RP epidemio-surveillance activities will later on be carried out in this zones due to their relatively high concentration of cattle and the mild clinical expression of the African lineage 2 RP virus.

3.3.1.2. Active RP search

3.3.1.2.1 Training of Somali Veterinary Professionals (SVPs) and Community Animal Health Workers (CAHWs) in relevant technique for active RP search

RP surveillance will be carried out by SVPs. The teams will be selected and composed in the way that they are familiar with the areas, where they will operate in the field.

The selection will be carried out according to their experience and their recent involvement in epidemiological investigation. During the past few years the Itinerant Training Programme (ITP) for Somali Veterinary Professionals and the Livestock Export Related Veterinary Project (LEVP) have carried out extensive training to Somali Veterinary Professionals (see Map 8). **Annex II** gives an overview of the general concepts and topics tackled during the training. This core of human resources will represent the initial point of reference for the implementation of epidemio-surveillance activities.



Specific and refresher training in 1) epidemiological investigation methodologies; 2) clinical recognition of mild RP and differential diagnosis and 3) samples collection, processing and dispatching both for antibodies and antigen detection will be carried out at the level of: 1) SVP already trained; 2) other SVP not trained by ITP and LEVP.

Specific training in relevant techniques of participatory epidemiology will be carried out both for SVPs and CAHWs in selected areas.

Newly trained SVP and CAHWs will be linked to, and assisted by, already experienced SVP.

Local Veterinary Professionals will be subcontracted by PACE Somalia Project in order to carry out specific tasks. Contracts will be given through established local veterinary

associations and only veterinarians registered to the associations will be eligible to be subcontracted. This is to stimulate the private sector toward a better organised and recognised professional body. The supervision of the trained CAHWs will be also the responsibility of the Local Veterinary Association. All epidemio-surveillance activities will be carried out under the supervision of the Zonal Coordination Unit / Zonal SLPF Representative of PACE Somalia Project.

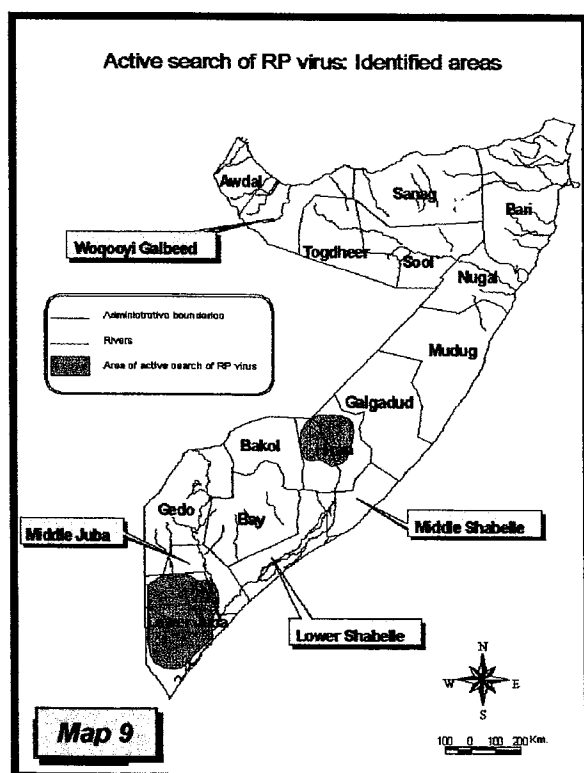
3.3.1.2.2. Set up of the active RP search

The active search of the disease will be initially conducted in combination with the RP sero-surveillance and will aim at clinically identifying cases of Rinderpest as well as collecting all rumours of Rinderpest outbreaks in cattle and wildlife (where present) in Central and Southern Somalia.

The sero-survey will target the population at risk (calves 1 to 3 years old) and will provide the serological evidence of recent Rinderpest virus circulation. All bled animals will be clinically inspected. Additional information will be collected on present and past situation of Rinderpest virus circulation in the area. This will be achieved through the use of questionnaire and group exercise as well as intense community dialogue.

All findings (clinical suspicion / RP rumours) will be reported to the PACE Zonal Coordination Unit of the area. The Zonal Coordination Unit will be responsible to communicate to the National Coordination Unit and OAU/IBAR and to further investigate the reported Rinderpest outbreaks / rumours for laboratory confirmation.

The outbreak investigation will be conducted by well-trained independent teams under the direct supervision of the PACE Zonal and National Coordination Units. Standard outbreaks investigation forms will be utilised (see **Annex III**) and a rumours / RP outbreaks register will be established. Information will be collected on main clinical and/or post mortem findings, morbidity and mortality rates, origin and extension of the outbreaks and wildlife involvement. Samples for antigen detection (both for virus isolation and for RNA identification) will be collected and forwarded to the Reference Laboratory as determined by OAU/IBAR/PACE.



The responsibility of the investigation teams will be also to continuously follow up all rumours or clinical suspicion of Rinderpest in the area or in adjacent areas in order to understand extension and potential for spreading of the RP epidemic. They will also report on the livestock movement patterns in the suspected areas.

Particular emphasis will be given to active disease search in the already suspected foci of Lower Juba, Middle Juba and Hiran Regions of Somalia (see Map 9). In these areas in addition to the above mentioned activities, purposive disease search will be carried out by well trained additional investigation teams which will only be responsible for information collection about suspicion / rumours of recent RP virus

circulation in the area and subsequent follow up. The main local markets (e.g. Buaale, Afmadow, Doble, Beledweyne, etc.) and watering points (e.g. Bilis Qooqaani, Tabta, etc.) will be closely monitored for RP virus circulation and spreading. Traders will be regularly interviewed and actively involved in reporting suspected RP outbreaks. All reported outbreaks will be communicated to the PACE Zonal Coordination Unit of the area and further investigated for laboratory confirmation.

In these areas a Community Animal Health Workers (CAHWs) network will be also established and it will be responsible of reporting any suspected RP outbreak to the local Veterinary Association. Sensitisation, awareness campaigns and community dialog will be extensively carried out throughout the implementation of PACE Somalia Project.

3.3.1.2.3. Searching the RP African type 2 lineage

The African type 2 lineage is characterised by a very mild clinical expression in domestic animals, while it seems to be more virulent and thus more clinically recognisable in wildlife.

Location	N° of outbreaks	Outbreaks reported by key informants		Mortality	
Bilis Qooqaani	1	Yes		2%	
Djaji	1	Yes			0%
Barjaa	1	Yes		15%	
Sabans gurraj	1		No		0%
Nexroba	1	Yes		5%	
Badane	1		No		0%
	1	Yes		5%	
Hilow	1	Yes		20%	
Afmadow	1	Yes			0%
Golba Birolei	1	Yes		5%	
Tortorra	1	Yes		3%	
	1	Yes		1%	
	1	Yes		2%	
Gigas	1		No		0%
Egey	1		No		0%
Bil Bil	1		No		0%
	1		No		0%
El-Fangal	1		No		0%
Jamar	1		No		0%
Dhimtu	1		No		0%
Socyaac	1		No		0%
Deef	1		No		0%
Argaisa	1		No		0%
Kamka	1		No		0%
Gududey	1		No		0%
Tabta	1		No		0%
Kalawilley	1		No		0%
23	27	11	16	9	18
Yes / Mor.+ : 9		Yes / Mor.- : 2		No / Mor.- : 16	

During the PARC Somalia Project – Phase I & II suspected outbreaks of Rinderpest were clinically investigated and samples for antigen detection were collected.

Table 1 shows mortality in relation to ability to recognise suspected RP outbreaks.

Table 1: Investigated suspected RP outbreaks: observed / reported mortality versus ability of key informants to recognise RP.

These results show that pastoralists seem to be able to recognise Rinderpest mainly when mortality occur in their herds.

Picture 1 shows the observed RP related clinical symptoms with the relative frequency and Graphic 2 shows the frequency of the observed RP related symptoms by class of age.

Observed clinical symptoms

Oral lesions



Frequency: 64%.

Ocular discharge



Frequency: 77%

Nasal discharge



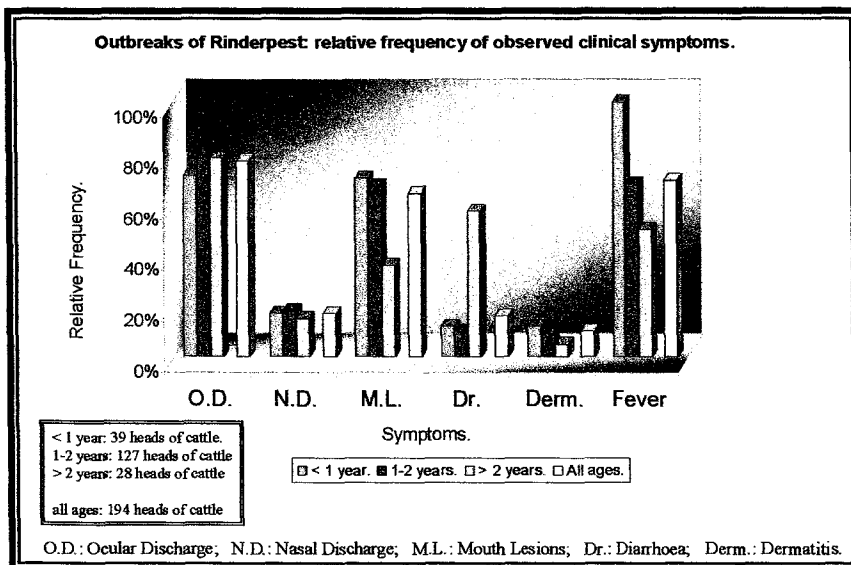
Frequency: 17%.

Diarrhoea



Frequency: 16%.

Picture 1: Observed RP related symptoms with relative frequency.



Graphic 2: Relative frequency of observed clinical symptoms by class of age.

Ocular discharge and mouth lesions appear to be the most frequent symptoms in young animals, while diarrhoea seem to be more important in adults. Lachrymation is also a commune feature of Trypanosomosis infection, which is a very common disease in the area. This makes difficult to differentiate which pathogen is truly responsible for the observed symptom. Nasal discharge and dermatitis are occasionally

observed in all classes of age. Notice that, over 194 animals presenting symptom related to RP, 127 ranged between 1-2 years of age.

This observation could be explained by the fact that adults could be already protected by previous not-lethal exposure to the RP virus. Furthermore the inter-epidemic period is estimated at about 2 years, which coincide with the age of the most affected class of age. These observations suggest that RP could be endemic in the area with epidemic waves throughout the young stock population. Under these circumstances, the clinical expression of the virus could be additionally reduced.

Experimental infections with the African type 2 lineage have shown that ocular discharge and diarrhoea are not common features of infected animals. Discharge from eyes may be noticed on 2nd day after the onset of fever, lasting over two days. It is mild, serous and associated with congestion of the 3rd eyelid. The consistency of faeces may become loose for up to 7 days but real diarrhoea is mostly absent (*R. Heinonen; Diagnosis of lineage 2 Rinderpest infection in its mild form in cattle*). In addition to that, historically the African type 2 lineage has never been isolated from cattle.

The clinical identification of infected animals remains one of the most problematic issues to be addressed during the active search of the disease.

The samples for laboratory confirmation will be eligibly collected from animals showing at least two evident clinical symptoms related to Rinderpest.

Since experimental infection and partially field observations have shown that diarrhoea and lachrymation are not symptoms very often observed in African type 2 lineage infection, the animals of choice will be the ones presenting the pick of fever and showing typical mouth lesions. An accurate inspection of the mouth must be routinely carried out in all herds where RP virus circulation is suspected. Animals showing evident RP related symptoms will be slaughtered and post mortem specimens will be collected.

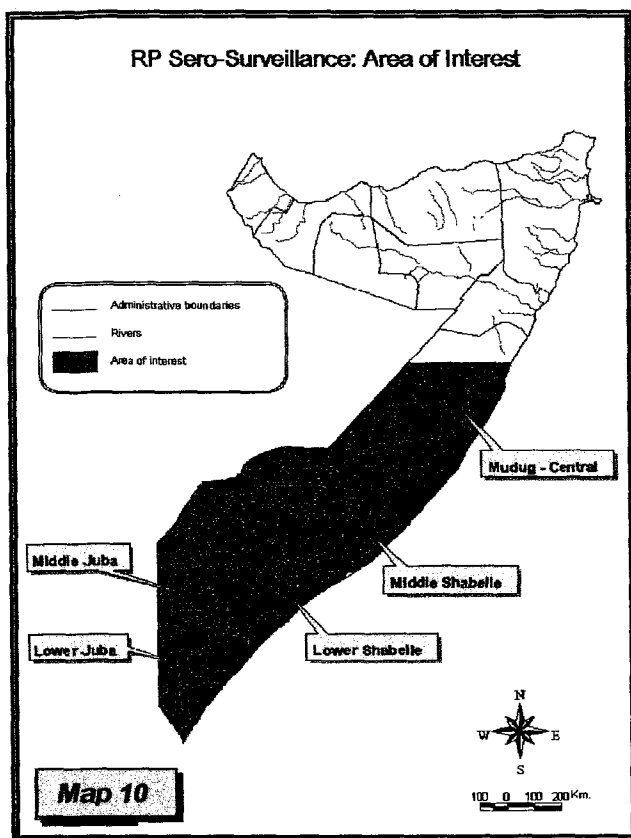
3.3.1.3. RP sero-surveillance based on random map coordinates

3.3.1.3.1. Set up of RP sero-surveillance based on random map coordinates

The very mild clinical expression of the African type 2 lineage makes the active search of the disease alone (mainly based on the recognition of the clinical symptoms) not a very sensitive tool for the identification of infected areas. This could lead to underestimate the extension of RP virus circulation in the country.

The purpose of the serological survey is to attempt to identify the remaining foci of RP virus by first estimating RP sero-prevalence in the area of interest. Moreover, the survey will be conducted in parallel with the active search of the disease and will provide supportive and complementary information to the clinical investigation.

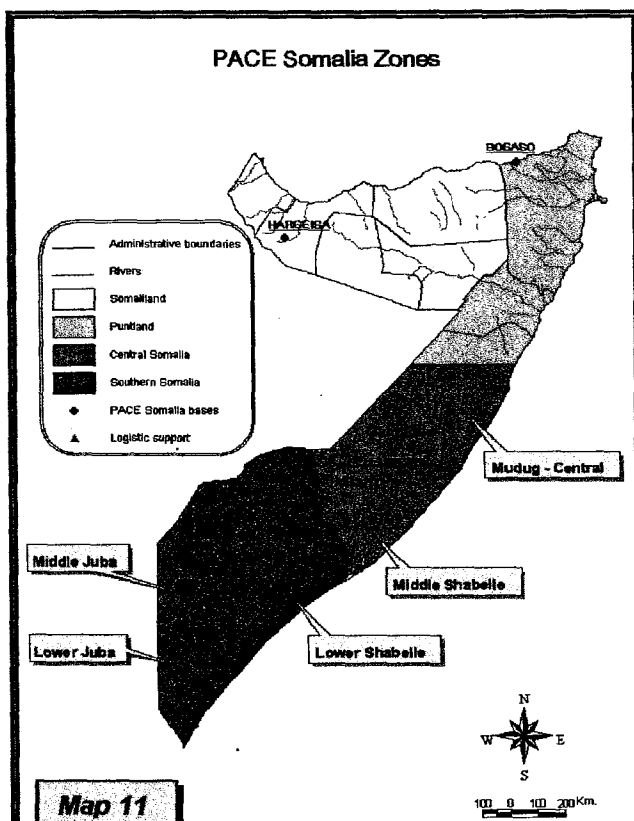
The investigation focuses in areas of the country where the majority of cattle population is located. This first survey will fall in 10 administrative regions of Central and Southern Somalia (see Map 10).



Each administrative region will be covered by two investigation teams and by two monitors in charge of the supervision of all field activities carried out by the investigation team. Each investigation team will be composed by a team leader and by one or two assistants.

A specific training on *“Basic applied epidemiology focused on RP investigation”* will be given to the team leaders and the monitors selected for the implementation of the survey before the implementation of the field operation.

Training activities will be carried out in the PACE Somalia Bases responsible for the area (e.g. Beledweyne Base: for Central Somalia and Baidoa Base for Southern Somalia) (see Map11). Due to the extension of Southern Somalia and its importance for RP eradication the Afmadow Base of Terra Nuova will provide logistic support for training and monitoring activities for Lower Juba, Middle Juba and Gedo Regions.



The investigation team will be paid 1 US\$ for each sample properly collected, processed and dispatched to the PACE Somalia Base responsible for the area. The monitors will be paid a flat rate of 20 US\$ a day.

All activities will be under the direct supervision of the PACE Somalia Zonal Coordination Unit responsible for the area.

The field operation should not last longer than 20 days in each zone. Over this period monitoring activities implemented by the monitors will be carried out over a maximum of 10 days.

3.3.1.3.2. Structure of RP sero-surveillance based on random map coordinates

The survey is based on a multi-stage cluster sampling. The first stratification has been carried out according to Region. This has the advantage that if one or more administrative region will be inaccessible (e.g. due to conflict) the rest of the survey can still be carried out without compromising the results of the survey for the other regions. Serological data from previous sero-surveys in Central and Southern Somalia have been utilised to calculate the between cluster variance in the area (V_c). Table 2 summarise the data of the above-mentioned survey.

Total Number of Samples	Total Number of Sampling Sites	Observed Prevalence	Observed V_c
2185	69	9%	0.006303408

TABLE 2: Summary of data deriving from a RP sero-survey carried out in Central and Southern Somalia

The test utilised for the survey (e.g. RP cELISA H) has recently shown a difference in sensitivity of about 30-40% for the RP African type 2 lineage when compared with other tests (e.g. RP VNT) (*R. Kock; Personal Communication*). The expected prevalence for the actual survey has thus been calculated for expected prevalence of 20% and above. The total sample size for the survey has been obtained by multiplying the sample size of each region by the number of region to be covered by the survey. Table 3 shows the sampling sizes for Expected Prevalence between 20 and 50%, 95% Confidence Interval and 0.5 Desired Absolute Precision.

Expected Prevalence	VcAdj	Number of Animals/Cluster	Average Number of Cluster/Region	Number of Regions	Total Number of Samples	Total Number of Sampling Sites
20%	0.0139811	13	40	10	5200	400
30%	0.0183503	15	50	10	7500	500
40%	0.0209717	13	60	10	7800	600
50%	0.0218445	15	60	10	9000	600

TABLE 3: Sampling size for an expected prevalence of 20 to 50%; 95% Confidence Interval and 0.5 desired absolute precision

Due to the low sensitivity of the H cELISA test, the real RP Abs. prevalence is expected to be higher than the one observed during the previous surveys (e.g. 9%). The sampling size derived from a 50% expected prevalence was thus selected for the actual survey. Furthermore, the collected sera will be tested for other important transboundary diseases (e.g. RVF and CBPP) for which the Abs. prevalence is unknown. The total number of sampling sites (e.g. 600 for an Expected Prevalence of 50%) has been proportionally allocated by

region according to the cattle population density of the regions of interest. The cattle density data is derived from the last estimates of Somali livestock of 1988-89 (see Map 12).

Within each region the number of sampling sites has been further proportionally allocated according to the identified areas of high and low concentration of cattle. These areas have been identified from the available literature and empirical knowledge (See Map 13).

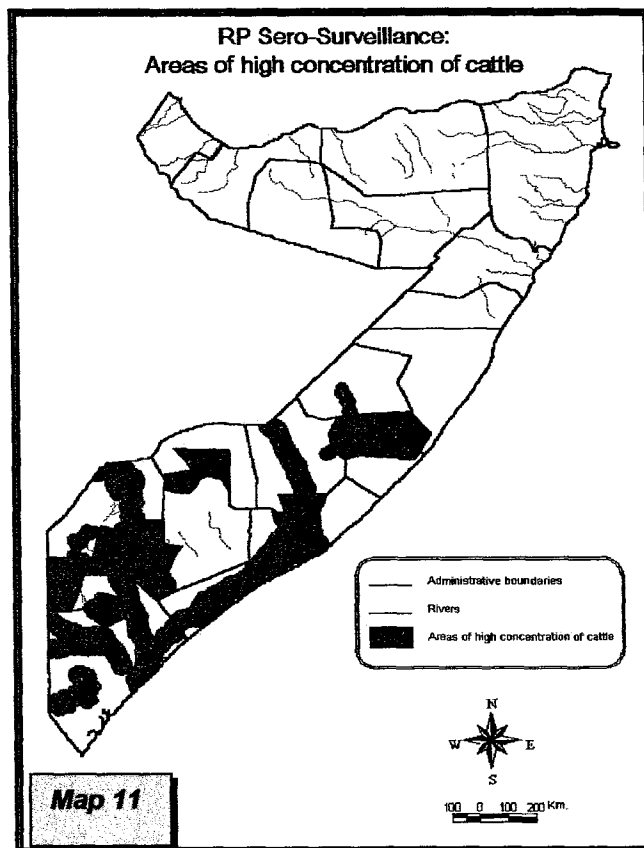
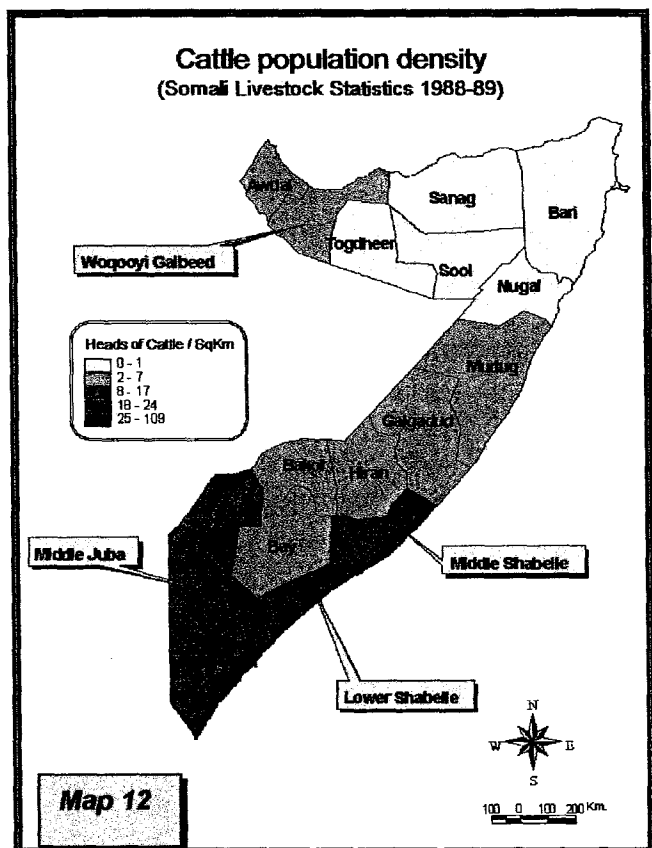


Table 4 shows the number of sampling sites by region for an expected prevalence of 50%.

Region	CatPop	CatDens	Number of Sampling Sites		
			Total	HighCattDens	LowCattDens
Galgaduud	282310	6	52	37	15
Bakol	116080	4	50	35	15
Bay	269000	6	52	31	21
Hiran	200750	6	52	37	15
Middle Shabelle	443420	24	74	48	26
Gedo	612900	13	58	41	17
Lower Shabelle	443940	17	64	51	13
Lower Juba	999450	21	70	49	21
Middle Juba	424860	23	73	58	15
Mudug - Central	239628	7	55	22	33
			600	409	191
			600		

TABLE 4: Proportional allocation of sampling sites by region (high and low concentration of cattle) for a 50% expected prevalence

The sampling sites have been obtained by randomly generating the needed number of geographical coordinates within each area of cattle concentration by region.

In each sampling site, previously selected and geo-referenced, 15 blood samples will be collected from animals between 1 and 3 years old. The purpose of this selection is to identify relatively recent circulation of RP virus and to avoid bleeding animals that could have being vaccinated during previous RP vaccination campaigns. The most recent RP vaccination campaigns were carried out in 1996-97 in Gedo Region and in 1998-99 in Trans-Juba Region of Somalia. Additionally to the 15 blood samples per sampling site, 15 blood samples will be collected in 60 sampling sites (10% of the total number of sampling sites) as follow:

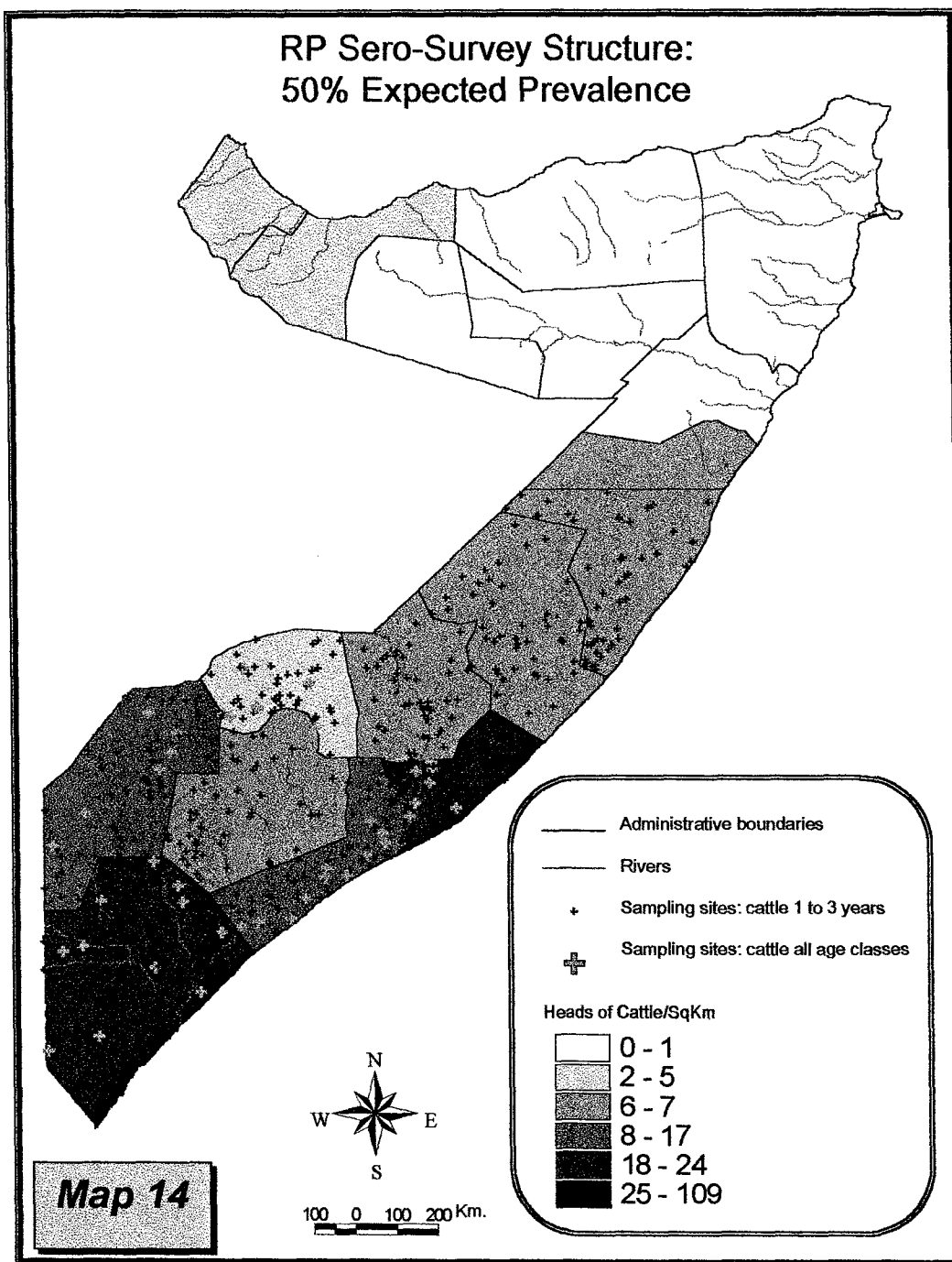
- 5 blood samples: cattle 3 to 4 years old
- 5 blood samples: cattle 4 to 5 years old
- 5 blood samples: cattle 5 to 7 years old

The 60 sampling sites have been randomly selected within the 600 sampling sites of the survey in the areas of high concentration of cattle. Table 5 give the total number of blood samples to be collected by region.

Region	Number of Sampling Sites			Total Number of Samples
	Total	15 Samples / Site	30 Samples / Site	
Galgadud	52	46	6	870
Bakol	50	43	7	855
Bay	52	48	4	840
Hiran	52	46	6	870
Middle Shabelle	74	67	7	1215
Gedo	58	52	6	960
Lower Shabelle	64	53	11	1125
Lower Juba	70	64	6	1140
Middle Juba	73	68	5	1170
Mudug - Central	55	53	2	855
Total	600	540	60	9900

TABLE 5: Total number of blood samples by region

Since the sampling points will be identified by randomly selected coordinates, the actual sampling site will become the village, watering point, market or grazing settlement closest to the selected point where animals can be found. All sampling sites will be geo-referenced. Ten spare coordinates for each sampling team has been additionally generated to cater for the possibility of not reaching a specific sampling site. Map 14 shows the overall structure of the survey for a 50% of expected prevalence.



In each sampling site 2 to 4 questionnaire will be administered. Information will be collected on (1) herd / flock size, composition, dynamic and seasonal movements; (2) present and past situation of “enteritis/stomatitis syndrome” in the area in cattle and wildlife; (3) last Rinderpest vaccination and Rinderpest epidemic history; (4) wildlife species present in the area and wildlife involvement in transmission of “enteritis/stomatitis syndrome”; (5) respiratory syndrome, abortion and mortality in new born (See **Annex IV**).

Group exercises will be carried out in those places in which a sufficient number of participants will be available. Information of recent and past RP virus circulation will be collected (See **Annex V**).

All rumours or suspicion of RP outbreaks will be clinically investigated and samples will be collected for laboratory diagnosis (See Active RP Search).

During the survey important market, watering points, villages and grazing settlement will be geo-referenced in order to provide the baseline information for future surveys and eradication strategies (See **Annex VI**).

A spatial analysis will be carried out in order to serologically define and identify extension of foci of recent circulation of RP virus and its potential risk for spreading. This will provide supportive and complementary information to the data generated by the active RP search and it will help in defining the extension of potential vaccination intervention.

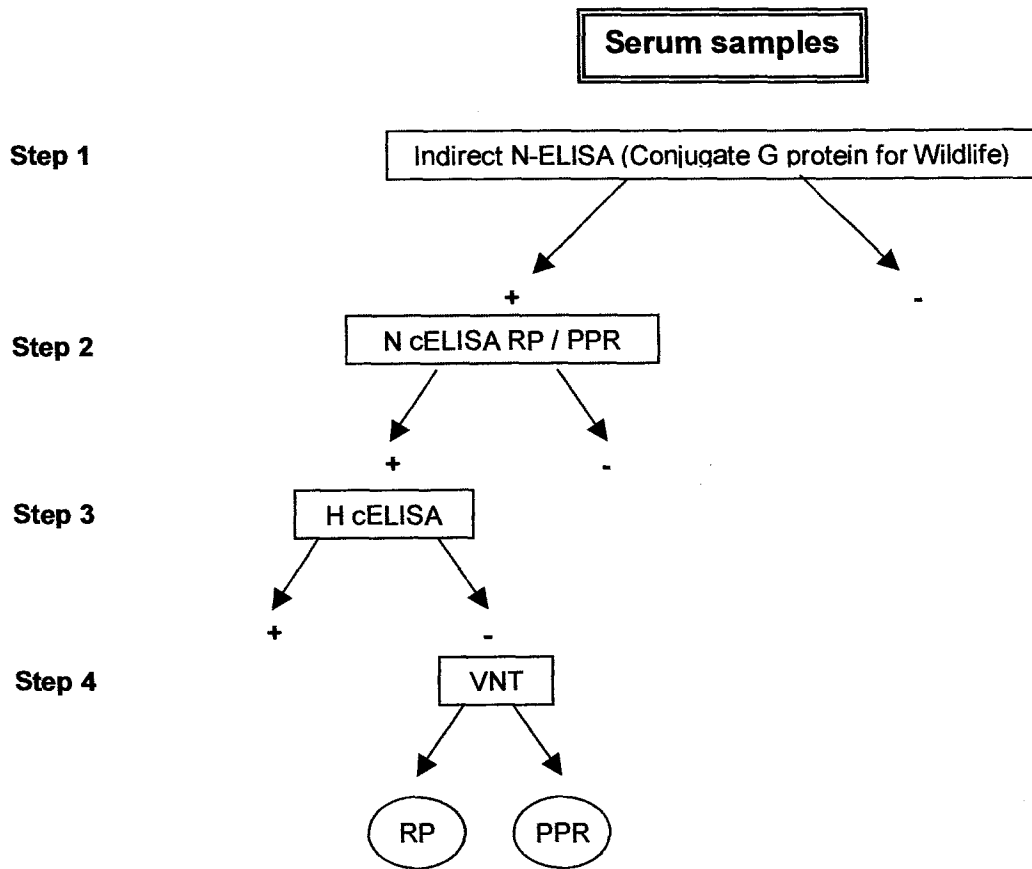
In case the active search of RP will fail to confirm the presence of RP virus, due to its very mild clinical expression, longitudinal studies could be foreseen in the suspected foci identified by the serological survey. A representative number of sentinel herds will be selected and regularly followed up by Somali Veterinary Professionals linked to the Zonal Coordination Unit / Zonal SLPF Representative of PACE Somalia Project. In order to guarantee the continuity of the longitudinal study the herd belonging to relatives of the Somali Veterinary Professionals actively involved in the PACE Somalia Project will be selected. The system will provide information about disease incidence in the area. Close monitoring of the sentinel herds could also provide a good opportunity to isolate the virus. Additional data will be gathered on herd/flock composition, size and dynamic, and seasonal movements. During the regular visits to the sentinel herds all rumours of RP outbreaks in the area will be collected and investigated.

3.3.1.4. Identification of appropriated reference laboratory (-ies) and testing methodology

Before the beginning of any sampling activities, appropriate reference laboratory (-ies) with capacity for required testing performances will be selected and contracted in collaboration with PACE CSUs (IAEA).

The procedures for antibodies and antigen detection will be as follow:

1) Antibody detection. All serum samples will be collected into two aliquots in order to have additional material for confirmatory screening. The testing protocol will follow the recommendation raised during the FAO/IAEA/PACE Regional Workshop on “Update on Technologies for Surveillance of Rinderpest Freedom”, held in Dakar the 19th to 30th November 2001. The testing protocol is as follow:



(Based on differentiation of VNT titres)

- Step 1 to 3: National Laboratory
- Step 4: International Laboratory

2) *Antigen detection.* Samples for antigen detection will include:

- Eye swab and Lymph Node Aspirate: alive animal
- Mesenteric Lymph Nodes, Prescapular Lymph Node, Ile-ocolic Entrance and Tonsils: post-mortem

Samples for antigen detection will be collected both for virus isolation (deep frozen with liquid nitrogen, when possible) and PCR (with RNA preservative).

All samples both for serology and virology will be forwarded to the Regional Reference Laboratory as identified in cooperation with PACE CSUs (IAEA).

3.3.1.5. Compilation of field information and laboratory results for analysis

All information collected during field activities (e.g. serology; virology, questionnaires, group exercises, outbreak investigation; location description; etc.) will be stored in specific databases. All data base system will be based on Microsoft Access 2000.

3.3.1.6. Analysis of data and distribution of results

All data will be analysed at the NCIU. STATA and SPSS will be utilised for statistical analysis and ArcView for mapping and spatial analysis. Results will be distributed to the Somali Local Authorities, OAU/IBAR/PACE and the EC Somalia Unit.

3.3.2. Output N° 2: “Elimination of RP infection from detected foci carried out and verified”

3.3.2.1. Ring / mass vaccination in the identified foci of RP virus circulation

3.3.2.1.1. General principles

In case the presence of RP virus will be demonstrated, targeted vaccination campaigns will be implemented in order to stop RP circulation in the identified infected foci.

An infected foci in nomadic pastoral system must still be defined. Its definition is crucial to plan the geographical extension of vaccination interventions (ring vaccination). An infected foci could be defined as follow:

- Virus isolation / identification of RPV RNA
- Serological evidence of recent RP virus circulation in neighbouring herds / suspected area
- Observation of clinical signs related to RP in the area
- Rumours of RP outbreaks in the area

This will give the extension of the ongoing outbreak (this requires a very efficient laboratory support).

The results of sero-surveillance activities will give the geographical extension of the “epidemic” as well as indications of its potential for spreading (e.g. not infected areas or very low prevalence areas). In nomadic pastoral system, the high mobility of herds and flocks over space and time, can lead to a very rapid spread of the infection. In that case, apart from ring vaccination, mass vaccination of wide areas could be important.

Trade cattle are the ones that move faster, covering very long distances in very short time in order to reach the final markets. Trade animals can easily cross wide sanitary cordons resulting in a very high potential for spreading of RP infection. Vaccination of all trade animals crossing infected areas must be carried out.

3.3.2.1.2. Sensitisation and mobilisation

Sensitisation and awareness campaign on the importance of the vaccination will be carried out before and throughout the vaccination activities. Local Authorities and Veterinary Associations, traders and CAHWs will be utilised for the sensitisation of the community.

3.3.2.1.3. Vaccination of the population at risk

Vaccination activities will start at the surrounding of the identified epicentre of the epidemic in order to stop the spreading of the disease. The areas identified as potentially at risk (because of animal movements and/or not infected) will be also vaccinated. The extension of the vaccination will be a function of the animal movements (in the area and for the specific season), which are the main risk factors for RP spreading. Information about seasonal animal movements will be collected during the questionnaire survey, which will be carried out in conjunction with the sero-survey (see RP sero-surveillance).

All trade animals crossing infected areas, will be vaccinated because of their potential susceptibility to RP infection.

Vaccination activity will be carried out by well-trained vaccination teams and CAHWs. All vaccinated animals will be ear-notched.

The target of the vaccination will be to reach a 85% coverage of the population at risk.

Around the areas of vaccination intense active disease search and sero-surveillance will be initiated in order to detect RP virus activity outside the ring/mass vaccination areas.

3.3.2.2. Verification of the efficiency of ring / mass vaccinations

3.3.2.2.1. Sero-monitoring

One month after the end of vaccination activities in one area, a representative number of serum samples will be collected in order to assess the sero-conversion rate after vaccination.

In each vaccination site the number of ear-notched and not ear-notched animals will be also recorded in order to attempt to estimate the coverage of the vaccination activities in each area.

3.3.2.2.2. Sero-surveillance

At least two years after the end of the vaccination interventions, sero-surveillance activities using random map coordinates will be carried out to ascertain the absence of RP virus circulation in the area.

3.3.2.3. Setting-up an appropriate animal health reporting system

The rapid increase in cattle exports from 1970 to 1983 created in the Somali regions a class of very large export traders. These traders were associated with the pastoral sector, and depended on large brokers and middlemen to procure their animals. The growth in cattle export and the insertion of large outside traders thus, altered the local market relations, as local middlemen and brokers began to serve as agents for the large traders. Several actors are involved in livestock trade. The bush traders are usually indistinguishable from the herders, but they are closely interlinked with the whole trade chain.

The smallest traders are the most numerous and are usually involved in the regional domestic trade, converges into the cross-border or over-seas ones. Agents of large traders are middlemen and brokers who have attached themselves to a large export trader. Middlemen are the responsible for purchasing the animals at production level. Both middlemen and bush traders are the source of animals for large traders (P.D. Little, 1995).

The already existing network utilised by traders could prove extremely useful also to report important transboundary diseases. CAHWs will be attached and even selected from the people already involved in trade related activities at a lower level. These people will provide the first animal health care to both producers and traders as well as they will benefit of the already existing network for disease reporting. Drug supply will be channelled through Somali Veterinary Professionals, which will expand their business to wider areas. They will be responsible for the correct use the drugs. In such a way, the vet service will be provided more at the production level both for producers and traders, reducing the losses in productivity for the former and the losses during the transport for the latter.

The CAHWs network will be responsible for reporting all important transboundary diseases. All reports of diseases outbreaks will be channelled though the Somali Veterinary Professionals who will report to the local veterinary association and then to the Zonal Coordination Unit/ Zonal SLPF Representative of PACE Somalia Project.

Thus, reporting disease outbreaks will be the responsibility at different levels of SVPs, traders and CAHWs attached to the system.

Local veterinary associations will be directly under the supervision of the Local Authorities and the Zonal Coordination Unit/ Zonal SLPF Representative of PACE Somalia Project.

3.3.2.4. Emergency preparedness

All reported RP outbreaks will be investigated by well-trained teams working under the direct supervision of the PACE Zonal Coordination Unit. Samples will be collected for laboratory confirmation.

3.3.2.5. Response

If in a suspected outbreak the presence of RP virus will be demonstrated targeted / mass vaccination will be carried out in order to stop the spreading of the virus.

3.3.3. Output N° 3: *“Epidemiological surveillance system introduced”*

The measures implemented will form the basis for an epidemiological surveillance system, which will be developed to a national animal health information gathering system initially for the most important transboundary diseases affecting the Somali livestock industry. Training and workshops will be organized at zonal and national level with all relevant stakeholders involved in animal disease control. The system will have the capacity to address cross-border related issues in order to pave the way for a regional declaration of freedom for RP infection.

4. Assumptions

A pre-condition for the overall objective to be reached is that peace continues to prevail in Somalia at least at the currently existing level. It is therefore assumed that major conflict does not prevent access to project work sites. However, it is inevitable that conflict will disrupt project activities from time to time. The PACE project will therefore attempt to build local capacity and institutions. Wherever possible it will work with local partners and stakeholders such as local communities, SVPs, the Somali Livestock Professional Forum (SLPF), Community Based Animal Health Workers (CBAHWs), and traders.

In order to attain the RP strategy results, the following are assumed:

- Trained Somali Veterinary Professionals and public veterinarians (where available), understand the importance of livestock diseases in relation to livestock trade with particular reference to “working towards RP eradication”.
- Livestock producers and traders agree to allow SVPs to conduct RP related activities
- Trained personnel continue to work and fully support RP related activities.
- Supplies and materials are readily available and easily transported into Somalia
- Biological materials, both for virology and serology are easily transported out of Somalia for testing
- Kenyan authorities give permission to bring in biological material from Somalia for testing
- Diagnostic laboratories have the capacity to handle samples from Somalia
- Laboratories provide results on timely basis
- That security and stability in the region is maintained or improved
- ECHO flight will continue to avail free flights between Kenya and different zones of Somalia

5. Risks and flexibility

Any programme working in Somalia is exposed to a constant risk of needing to change its strategies or even suspend its activities due to open conflicts or changing zonal, national or regional politics.

Apart from security, any private health delivery and disease surveillance system in Somalia depends on the support it obtains from livestock owners and traders. As it is a principle of Somali livestock owners and traders to maximise personal benefits by opportunistic and flexible business strategies, they will only request these services as long as there is a clear incentive expected. Project activities that might be seen to have a potential negative impact on livestock and livestock export are unlikely to be effectively implemented.

Development of disease reporting and active surveillance for RP may lead to the identification of new emergency diseases that may have to be taken into account under the project.

Somali PACE anticipates an increasing globalisation of trade and hence increasing pressure arising from WTO and OIE to standardise livestock trade regulations at a global level. Therefore Somali traders will experience increasing advantages of complying with international standards for livestock trade, as opportunities for informal trade even in the region are expected to decrease in future.

6. Logical frame

Eradication of Rinderpest infection in Somalia-specific intervention logic					
Results	Activities	Actions for Rinderpest	Zone	Time frame	Budget (Euro)
Capabilities of public sector HAWs to regulate, coordinate, monitor and evaluate the livestock development sector are strengthened	Workshops	-	-	-	-
	Study tours and training	Training of MoL staff on basic applied epidemiology using as example RP and RVF	Puntland Somaliland	Quarter II & III – Year I	2X 2250=4,500
	Public Infrastructure	-	-	-	-
	Awareness campaigns	Meetings with local authorities	Central South	Quarter II & III – Year I	
	CAPE	-	-	-	-
2. The capability of private animal health workers to engage curative and preventive services are enhanced	Workshop	-	-	-	-
	Awareness Campaign & Training	Training of Private animal Health Workers on Basic Applied Epidemiology using as example RP and RVF	Central South	Quarter II & III – Year I	2x4,500=9,000
		Training of Private Animal Health Workers on epidemiological investigation methodologies and active disease search focused on RP investigation	Central South	Quarter III – Year I	2x4,500=9,000
		Training of Private Investigation Teams and Monitors on Basic Applied Epidemiology and Sero-Surveys Techniques based on Random Map Coordinates focused on RP investigation	Central South	Quarter III – Year I	4x2,500=10,000
	CAPE	Training of private and public veterinarians in PRA & PE techniques. Supporting private vets establish network of CAHWs	Central South	Quarter II & III - Year I	18,000

			Contract Private Veterinarians through Zonal / Local Veterinary Associations for RP Purposive (Active Disease Search) and Random Investigations	Central South	Quarter III – Year I	-
		Others	Contract Private Veterinarians through Zonal / Local Veterinary Associations for RP vaccination / supervision activities	Central & South (Where needed)	When needed	-
			Contract Private Veterinarians through Zonal / Local Veterinary Associations for RP sero-monitoring activities	Central & South (Where needed)	When needed	-
			Contract Private Veterinarians through Zonal / Local Veterinary Associations for follow-up of sentinel herds	Central & South (Where needed)	If needed	-
A livestock disease surveillance system is functioning, initially to RP	Stakeholder Meeting & Awareness Campaign Training		One workshop for sensitisation on livestock disease surveillance	Central South Somaliland Puntland	Quarter III – Year I	4x2,500=10,000
	Cross-sectional	Random investigation	Sero-surveillance at randomised coordinates and questionnaire surveys and participatory data collection (Group discussion)	Central South	Quarter III & IV – Year I	39,600
			Active disease search (Clinical examinations & Collection of rumours of RP virus circulation) Reporting RP rumours / suspected RP outbreaks to the Zonal Coordination Unit of PACE Somalia	Central South	Quarter III & IV – Year I	20,000
			Laboratory testing	Identified Reference Laboratory (-ies)	Quarter IV – Year I	37,000
			Purposive investigation	Active RP search based on questionnaires, participatory data collection and clinical examination Reporting RP rumours / suspected RP outbreaks to the Zonal Coordination Unit of PACE Somalia	Central (Hiran Region) South (Lower and Middle Juba)	Quarter III, & ... – Year I
		Follow-up	Set-up of sentinel herds in case of active disease search fail to identify RP virus circulation	Central (Hiran Region) South (Lower and Middle Juba)	If needed	-

		Set-up of sentinel herds around vaccination areas and in the vaccination areas after vaccination	Central & South (Where needed)	When needed	-
	CAPE	CAH disease surveillance system for epizootic diseases designed, tested and implemented	Central South	Quarter III & IV - Year I	30,000
Emergency preparedness and response systems are functional, initially to RP	Training & Mobilisation	Training of team/s from the Zonal/National Coordination Units of PACE Somalia Project on RP rumours / suspected RP outbreaks investigation for outbreak confirmation	Central South	Quarter III – Year I	8,000
		Dry run of RP outbreaks investigation and sample collection for confirmation	Central South	Quarter III – Year I	2,000
		Investigation team/s from the Zonal/National Coordination Units of PACE Somalia Project to follow-up all reported RP rumours / suspected RP outbreaks (e.g. samples collection for Ab. and Ag. identification and relevant information gathering)	Central & South (When needed)	When needed	50,000
		Laboratory testing	Identified Reference Laboratory (-ies)	When needed	1,000
	Vaccination & Follow-up	Ring / mass vaccination of identified RP infected foci Sero-conversion assessment of a representative portion of the vaccinated herds Laboratory testing	Central & South (Where needed) and with Identified Reference Laboratory (-ies)	When needed	129,000
		Training of CAHWs in the participation of all field activities including; reporting, disease search and RP dry runs	Central South	When needed	70,000
	CAPE				
5. Local networks for promoting livestock health are functioning	Workshops	One workshop with Somali Livestock Traders on importance of RP	Central South	Quarter IV – Year I	2x2,000 =4,000
	Training	Training on information gathering and reporting by non-technical partners	Central South	Quarter IV - Year I	2x1,250 =2,500
	Awareness Campaign	Preparation and dissemination of material for awareness on the importance of RP eradication from Somalia	Central South	Quarter IV – Year I	3,500

	CAPE	Producing of appropriate radio programmes on various aspects of the livestock industry including; epizootic diseases, their effects on livestock trade and possible control measures	Nairobi	Year I	25,000
		Production and dissemination of formal and informal publications and videos	Nairobi		
	CAPE	Organizing a border-harmonization workshop for participants from Ethiopia and Somalia	Jig-jiga, Ethiopia	Quarter II - Year I	15,000.
6. The programme is effectively coordinated	Steering Meeting	Steering committee meetings (presentation and discussion of RP strategy, work plan, budget and progress reports of activities carried out)	Nairobi	2 per year	-
	Zonal Network	Zonal meetings with relevant stakeholders in animal disease control and the Zonal Coordination Unit of PACE Somalia Project	Central South	2 per year	-
	Regional Meeting	Attendance to PACE Meetings	Selected venue	When scheduled	-
		Attendance to International Conferences on RP	Selected venue	When scheduled	-
		Attendance to Cross-border meetings / workshops on RP	Selected venue	When scheduled	-
	Coordination support	Literature review and compilation of relevant historical and recent data on RP virus circulation in Somalia	Nairobi	Quarter I – Year I	-
		Preparation of the RP Eradication Strategy Document	Nairobi	Quarter I & II – Year I	-
		Preparation of the sero-survey structure with random map coordinates	Nairobi	Quarter I & II – Year I	-
		Preparation of the training material and manuals for the trainings on basic applied epidemiology, active disease search and sero-surveillance techniques	Nairobi	Quarter II – Year I	-
		Preparation of standard forms and questionnaires	Nairobi	Quarter II – Year I	-
		Translation into Somali of standard forms and questionnaires	Nairobi	Quarter II – Year I	-
		Preparation of the databases for compiling field data (e.g. serology, virology, RP rumours / outbreaks register, questionnaires, group exercises, location description forms)	Nairobi	Quarter II – Year I	-

		Identification of Reference Laboratory (-ies) in cooperation with PACE CSUs (IAEA)	Nairobi	Quarter II – Year I	-
		Data analysis and distribution of field data	Nairobi	Quarter II – Year I	-
		Link and coordination with OAU/IBAR/PACE and others relevant stakeholders	Nairobi	Quarter II – Year I	-
	CAPE	Preparation of training materials	Nairobi	Quarter I & II - Year I	-
		Development of appropriate curriculum in Somali	Nairobi	Quarter I & II - Year I	-
		Preparation of survey forms and questionnaires for CAHWs in Somali	Nairobi	Quarter I & II - Year I	-

Notes to the above work plan for RP

1. The budget provided is for activities in Somalia and does not include the cost of Somali PACE Staff (Both expatriates and Somali).
2. The time spent by Somali PACE Staff is provided in a separate sheet of "Manpower and time" (**Annex VII**)
3. SCIU represents Somali Coordination and Implementation unit and their staff based in Nairobi.
4. ZC represents Zonal Coordination and all PACE employed staff working in their respective zones (The zones are Somaliland, Puntland, Central and South Somalia)
5. Activities likely to be carried out in Year II is not budgeted
6. Budget provided are lump sums and detailed breakdown of the activities costs will follow later.

ANNEX I

(Relevant bibliography)

Somali eco-system: a review of livestock trade structure and pastoral husbandry system

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ANNEX II

**(ITP Programme –
Overall Aims & General Objectives)**

Itinerant Training Programme Phases I & II

Overall aims and general objectives

The Itinerant Training Programme has the overall aims of:

- supporting the livestock industry in Somalia/ Somaliland by improving disease control methods at regional level. This is done through the provision of appropriate veterinary services to meet the requirements of the different stake holders within the system.
- enhancing the capacity of the private and public veterinary sector in delivering effective veterinary services within a framework of common objectives and mutual co-operation for the establishment of a country-wide Disease Information and Surveillance System (DISS).
- advocating for an increasing involvement of Somali Veterinary Professionals (SVPs) in developing sectoral policies and in monitoring and evaluating their impact at central and field level.

General objectives - Phase I include:

a) strengthening the competence of the private veterinary services by:

- providing training on relevant topics to expand SVPs' skills in delivering targeted services to livestock owners. The following subjects are considered:

(i) Cattle health, Small ruminants health, Camel health. Support is given to SVPs to upgrade their clinical skills and increase their experience in reaching a tentative diagnosis. The 3 modules focus separately on the common health problems found in cattle, small ruminants and camels.

(ii) Ticks and tick control measures. Knowledge on the different species of ticks present in the Somali context, their distribution and morphological aspects is provided. This enables SVPs to better address the health problems caused by ticks, and to identify appropriate strategies of tick control.

(iii) Veterinary therapeutics. To enhance their professionalism with regard to livestock owners and drug merchants, SVPs are supported in their ability to provide the most cost-effective therapy for an animal suffering from health problems.

(iv) Management in private veterinary practice. Knowledge of basic managerial concepts and skills is fundamental to the provision of viable veterinary services. Issues addressed include pricing of drugs and services; establishing a record keeping system; using resources effectively; ways of expanding businesses (credit schemes, increasing purchases, payment modalities).

General objectives - Phase II include:

a) strengthening the competence of the public veterinary services by:

- providing institutional support to local administrations in developing a DISS and a credible health certification system for livestock export at regional level. The regulatory role of the local administration and the respective roles and responsibilities of the public and the private sector in delivering veterinary services will also be clearly defined. KARI (Kenya Agricultural Research Institute) will provide assistance in this field.
- training veterinary professionals in diagnostic techniques and basic epidemiology for the implementation and supervision of the DISS. KARI will act as the reference point for this activity.

b) further strengthening the competence of the private veterinary services by:

- providing training on relevant topics to complement and expand SVPs' skills in delivering targeted services to the different stake holders within the country livestock industry. The following subjects are considered:

(i) Information gathering and analysis in pastoral livestock production systems. Implementing a DISS implies developing skills in collecting data at field level and getting familiar with different direct and indirect tools used in this process.

(ii) Differential diagnosis in cattle, small ruminants and camel diseases. Clinical skills are directed towards the identification of transboundary diseases and relevant production diseases, so as to target field investigations (sampling) within the context of the DISS.

(iii) Business management in private veterinary practice. Upgrading SVPs managerial skills is considered a priority in running a viable private business, such as veterinary practice.

(iv) Basic epidemiology. Basic tools used to assess the presence and pattern of diseases in pastoral livestock production systems are introduced, in order to strengthen the SVPs' capacity in implementing the DISS.

- strengthening the veterinary drug supply system at regional level by expanding the capacity of well-established Somali traders to extend credit to SVPs.
- fostering regional professional veterinary associations according to veterinary professional guidelines.

ANNEX III

(RP outbreaks investigation form)

Base ID *	Date	Region	District

Name of location	GPS Coordinates
	N / S; E

Outbreak personally investigated (clinically)

☐

Reported outbreak

☐
Main clinical signs observed in the affected herd (tick the box or specify them in “Other (Specify)”)

Fever	Lachrymation	Salivation	Mouth Lesions	Nasal Discharge	Diarrhoea	Dermatitis

 Other (specify):

N° of affected animals in the herd	N° of dead animals in the herd	N° of survived animals in the herd

Beginning of the outbreak (N° of days ago)	Location in which the outbreak started	District in which the outbreak started

Number of affected herds in the area

Wildlife affected in the area:

YES

☐

NO

☐

Tentative Diagnosis	Local Name of the Health Problem

REMARKS:

.....

.....

.....

.....

.....

.....

.....

Name of the investigator:

Signature:

ANNEX IV

(Livestock health problems - Questionnaire)

Questionnaire N°:

Base ID:

(To be filled by the Zonal Vet Coordinator)

OAU/IBAR/PACE

LIVESTOCK HEALTH PROBLEMS

QUESTIONNAIRE

PACE-Somalia Project

LIVESTOCK HEALTH PROBLEMS QUESTIONNAIRE

The following information is collected to better understand the animal health problems affecting your livestock, with particular emphasis on the main diseases that are affecting or potentially could affect the export of Somali livestock.

This information will be used to identify possible activities to improve the quality of veterinary services so as to assist the livestock sector in Somalia, both at production and trade levels.

SECTION I – GENERAL DATA

Name of the interviewer
(Team ID:)

Date	Region	District

Name of location	GPS Coordinates
 N / S ; E

- - - - -

Name of the respondent	Sex	Age

Clan	Sub-clan	Family

SECTION II – HERD/FLOCK COMPOSITION AND DYNAMIC

Q1. What species of animals do you have now? *(tick the box or boxes indicating the species)*

CATTLE	SHEEP	GOATS	CAMELS

Ask each of the following questions according to the species given

- e.g. if the answer to question 1 was cattle + goats, ask question 2 as follow:
- How many new calves were born in your herd during the last one-year?
 - How many new kids were born in your flock during the last one-year?

Q2. How many calves / lambs / kids / calves (camels) were born in your herd / flock during the last one-year? *(write the number in the box below the given species)*

CALVES	LAMBS	KIDS	CALVES (CA)

Q3. How many cattle / sheep / goats / camels did you lose during the last one-year? *(write the number in the box below the given species)*

CATTLE	SHEEP	GOATS	CAMELS

Q4. How many cattle / sheep / goats / camels have remained in your herd / flock now? *(write the number in the box below the given species)*

CATTLE	SHEEP	GOATS	CAMELS

Q5. How many male calves (0-1 year) / lambs (0-6 months) / kids (0-6 months) / calves (camels) (0-2 years) there are in your herd / flock now, and how many females *(write the number in the box below the given species)*

Q6. How many young male cattle (1-3 years) / lambs (6months – 2 years) / kids (6months – 2 years) / camels (2-4 years) there are in your herd / flock now, and how many females *(write the number in the box below the given species)*

Q7. How many adults male cattle (3-6 years) / lambs (2-4 years) / kids (2-4 years) / camels (4-9 years) there are in your herd / flock now, and how many females *(write the number in the box below the given species)*

Q8. How many old male cattle (> 6 years) / lambs (> 4 years) / kids (> 4 years) / camels (> 9 years) there are in your herd / flock now, and how many females *(write the number in the box below the given species)*

		QUESTION 5	QUESTION 6	QUESTION 7	QUESTION 8
		CATTLE			
		0-1 Year	1-3 Years	3-6 Years	> 6 Years
Males					
Females					
		SHEEP			
		0-6 Months	6 Months – 2 Years	2-4 Years	> 4 Years
Males					
Females					
		GOATS			
		0-6 Months	6 Months – 2 Years	2-4 Years	> 4 Years
Males					
Females					
		CAMELS			
		0-2 Years	2-4 Years	4-9 Years	> 9 Years
Males					
Females					

Q9. Where your herd / flock of cattle / sheep / goats / camels has been during the last Jiilaal, Gu', Xagaa and Dayr seasons (one year)? (write the name of the locations in the boxes below the given species)

Season	CATTLE	SHEEP	GOATS	CAMELS
Jiilaal				
Gu'				
Xagaa				
Dayr				

Q10. Do you remember where your herd / flock of cattle / sheep / goats / camels has been during the previous Jiilaal, Gu', Xagaa and Dayr seasons (2 years ago)? (tick the box)

YES ☐

NO ☐

(if YES write the name of the locations in the boxes below the given species; if NO, go to question 11)

Season	CATTLE	SHEEP	GOATS	CAMELS
Jiilaal				
Gu'				
Xagaa				
Dayr				

Q11. How far your herd / flock of cattle / sheep / goats move daily to reach water and/or pasture during Jiilaal and Gu' seasons (Km. and hours)? (write the numbers in the boxes below the given species)

Season	CATTLE		SHEEP		GOATS	
	Km.	Hours	Km.	Hours	Km.	Hours
Jiilaal						
Gu'						

Q12. During prolonged drought (at least 1 rain season missed) where do you bring your herd / flock of cattle / sheep / goats / camels to graze and to water? (write the name of the locations in the boxes below the given species)

	CATTLE	
	Name of location	District
Grazing area		
Watering point		
	SHEEP	
	Name of location	District
Grazing area		
Watering point		
	GOATS	
	Name of location	District
Grazing area		
Watering point		
	CAMELS	
	Name of location	District
Grazing area		
Watering point		

Q13. How many cattle / sheep /goats / camels have you sold during the last one-year? (*write the numbers in the boxes below the given species*)

CATTLE	SHEEP	GOATS	CAMELS

Q14. Where do you normally sell your cattle / sheep / goats /camels? (*write the name of the main market/s reported by the respondent*)

	CATTLE	SHEEP	GOATS	CAMELS
Market 1				
Market 2				
Market 3				

SECTION III – STOMATITIS / ENTERITIS SYNDROME IN CATTLE

Fill this section only if the respondent has reported to own cattle;
If NOT go to SECTION V

Q15. Have you seen diarrhoea and/or stomatitis/salivation in your cattle during the last one-year? (*tick the box*)

YES ☐ NO ☐ (*if YES go to question 16; if NO, go to question 34*)

Q16. Sometime, did diarrhoea and stomatitis/salivation occur together? (*tick the box*)

YES ☐ NO ☐ (*if YES go to question 17 and skip questions 18, 19 and 20; if NO, go to question 18*)

Q17. When diarrhoea and stomatitis/salivation occurred together, which other symptoms did you observed? (*tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)"*) (**go to question 21**)

FEVER ☐ LACHRYMATION ☐ NASAL DISCHARGE ☐

Other symptoms (specify):

Q18. When diarrhoea occurred, which other symptoms did you observed? (*tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)"*)

FEVER ☐ LACHRYMATION ☐ NASAL DISCHARGE ☐

Other symptoms (specify):

Q19. Do you have a specific name/s for this health problem of your cattle? *(write the name/s of the health problem in Somali, as reported by the respondent)*

	Name/s of the reported health problem
Name 1	
Name 2	
Name 3	

(if the answer is Rinderpest go to question 21; otherwise go to question 20)

Q20. When stomatitis/salivation occurred, which other symptoms did you observed? *(tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)")*

FEVER ☐ LACHRYMATION ☐ NASAL DISCHARGE ☐

Other symptoms (specify):

.....

.....

Q21. How many animals were affected in your herd? *(write the number in the box)*

Number of affected animals

Q22. Out of the affected animals, how many died? *(write the number or tick the box)*

Number of dead animals None ☐ *(if the answer is NONE, go to question 24)*

Q23. How many animals survived? *(write the number in the box)*

Number of survived animals

Q24. When did this health problem occur in your herd? *(write the number in the box)*

Number of days / weeks / months ago Season

Q25. Where were your cattle at that time *(write the name of location and district in the boxes)*

Name of location District

Q26. Have you seen other herds presenting the same or similar symptoms? *(tick the box)*

YES ☐ NO ☐ *(if YES when and where; if NO, go to question 29)*

Number of days / weeks / months ago Season

Name of location District

Q27. Did your herd develop this health problem after being in contact or close to these sick animals? *(tick the box)*

Q28. If yes, where did the contact occur?

GRAZING AREA

☐

WATER SOURCE

☐

MARKET

☐

Name of location

District

Q29. Have you heard of other herds presenting the same or similar symptoms in the area? *(tick the box)*

YES

☐

NO

☐

(if YES when and where; if NO, go to question 30)

Number of days / weeks / months ago

Season

Name of location

District

Q30. Have you noticed the same or similar symptoms in wildlife? *(tick the box)*

YES

☐

NO

☐

(if YES when and where; if NO, go to question 34)

Number of days / weeks / months ago

Season

Name of location

District

Q31. Which wildlife species were affected? *(write the name of the wildlife species affected, as reported by the respondent)*

	Name of the affected wildlife species
Specie 1	
Specie 2	
Specie 3	
Specie 4	

Q32. Did your herd developed this health problem after being in contact or close to this sick wildlife animals? *(tick the box)*

YES

☐

NO

☐

Q33. Do you have a specific name for this health problem of your cattle? *(write the name/s of the health problem in Somali, as reported by the respondent)*

	Name/s of the reported health problem
Name 1	
Name 2	
Name 3	

(if the answer is Rinderpest go to question 34 and skip all the others in the section; otherwise continue with all questions)

Q34. When did your herd receive the last vaccination for Rinderpest, and by whom? (write year and implementer of the last vaccination in the boxes, if NEVER tick the box)

Year of last vaccination Implementer of the last vaccination

Never ☐

If the answer is Rinderpest (and/or you highly suspect a recent or ongoing Rinderpest outbreak), proceed with accurate clinical investigation of the suspected herd, add your remarks (in SECTION VII at the end of the questionnaire) and IMMEDIATELY report to the PACE Zonal Coordination Unit of your area!

Q35. When did you see Rinderpest personally last time? (Write the year or tick the box)

Year of last observation of Rinderpest Never ☐ (if NEVER, go to question 43 of SECTION IV)

Q36. Which symptoms did you observed at that time? (tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)")

FEVER ☐ LACHRYMATION ☐ NASAL DISCHARGE ☐

SALIVATION ☐ MOUTH LESIONS ☐ DIARRHOEA ☐

Other symptoms (specify):
.....
.....

Q37. How many animals were affected in your herd? (write the number in the box)

Number of affected animals

Q38. Out of the affected animals, how many died? (write the number in the box)

Number of dead animals None ☐ (if the answer is NONE, go to question 40)

Q39. How many animals survived? (write the number in the box)

Number of survived animals

Q40. Do you remember where was your cattle at that time (tick the box)

YES ☐ NO ☐ (if YES, where; if NO, go to question 41)

Name of location District

Q41. Have you noticed the same or similar symptoms in wildlife at that time? (tick the box)

☐ ☐

Q42. Which wildlife species were affected? *(write the name of the wildlife species affected, as reported by the respondent)*

	Name of the affected wildlife species
Specie 1	
Specie 2	
Specie 3	
Specie 4	

SECTION IV – RESPIRATORY SYNDROME IN CATTLE

Fill this section only if the respondent has reported to own cattle;
If NOT go to SECTION V

Q43. Have you seen respiratory problems in your cattle during the last one-year? *(tick the box)*

YES ☐ NO ☐ *(if YES go to question 44; if NO, go to question 57)*

Q44. When the respiratory problems occurred, which other symptoms did you observed? *(tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)")*

FEVER ☐ COUGH ☐ NASAL DISCHARGE ☐ ARTHRITIS IN CALVES ☐

Other symptoms (specify):

Q45. How many animals were affected in your herd? *(write the number in the box)*

Number of affected animals

Q46. Out of the affected animals, how many died? *(write the number or tick the box)*

Number of dead animals None ☐ *(if the answer is NONE, go to question 48)*

Q47. How many animals survived? *(write the number in the box)*

Number of survived animals

Q48. Have you ever seen the lungs of the animals affected by this health problem? *(tick the box)*

YES ☐ NO ☐ *(if YES go to question 49; if NO, go to question 50)*

Q49. Which "modification / lesion" did you noticed in the lungs? ? (tick the box if the reported "modification / lesion" of the lungs correspond to some/all the ones listed below, otherwise write them under "Other lesions (specify)")

NONE ☐ FLUID IN THE THORAX ☐ ONLY ONE LUNG AFFECTED ☐
 OPACITY OF THE SURFACE OF THE LUNG ☐ MULTI-COLORED LUNG ☐
 "SEQUESTRA IN THE LUNGS" ☐

Other lesions (specify):

.....

Q50. When did this health problem occur in your herd? (write the number in the box)

Number of days / weeks / months ago Season

Q51. Where were your cattle at that time (write the name of location and district in the boxes)

Name of location District

Q52. Have you seen other herds presenting the same or similar symptoms? (tick the box)

YES ☐ NO ☐

Q53. Have you heard of other herds presenting the same or similar symptoms in the area? (tick the box)

YES ☐ NO ☐

Q54. Did your herd developed this health problem after being in contact or close to these sick animals? (tick the box)

YES ☐ NO ☐

Q55. If yes, where did the contact occur?

GRAZING AREA ☐ WATER SOURCE ☐ MARKET ☐

Q56. Do you have a specific name for this health problem of your cattle? (write the name/s of the health problem in Somali, as reported by the respondent)

	Name/s of the reported health problem
Name 1	
Name 2	
Name 3	

(if the answer is CBPP go to question 57 and skip all the others in the section; otherwise continue with all questions)

Q57. When did your herd receive the last vaccination for CBPP, and by whom? *(write year and implementer of the last vaccination in the boxes, if NEVER tick the box)*

Year of last vaccination Implementer of the last vaccination

Never ☐

Q58. When did you see CBPP personally last time? *(Write the year or tick the box)*

Year of last observation of CBPP Never ☐ *(if NEVER, go to question 64 of SECTION V)*

Q59. Which symptoms did you observed at that time? *(tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)")*

FEVER ☐ RESPIRATORY PROBLEMS ☐ COUGH ☐

NASAL DISCHARGE ☐ ARTHRITIS IN CALVES ☐

Other symptoms (specify):
.....
.....

Q60. How many animals were affected in your herd? *(write the number in the box)*

Number of affected animals

Q61. Out of the affected animals, how many died? *(write the number in the box)*

Number of dead animals None ☐ *(if the answer is NONE, go to question 63)*

Q62. How many animals survived? *(write the number in the box)*

Number of survived animals

Q63. Do you remember where were your cattle at that time *(tick the box)*

YES ☐ NO ☐ *(if YES, where; if NO, go to question 64 of SECTION V)*

Name of location District

SECTION V – ABORTION AND MORTALITY IN NEW BORN

Ask each of the following questions according to the species reported to be owned by the respondent

Q64. Have you seen abortion and/or mortality in your new- born cattle / sheep / goats / camels during the last one-year? *(tick the box)*

	CATTLE	SHEEP	GOATS	CAMELS
Yes				
No				

(if YES go to question 65; if NO for all species, go to question 69)

Q65. How many abortions and death in new- born have you experienced in your cattle / sheep / goats / camels during the last one-year? *(write the number in the box below the given species)*

	CATTLE	SHEEP	GOATS	CAMELS
Abortion				
Death in new born				

Q66. In which season/s have you experienced the highest number of these abortions and/or deaths in new-born in your cattle / sheep / goats / camels? *(tick the box/s for the given season/s and species)*

Seasons	CATTLE	SHEEP	GOATS	CAMELS
Jiilaal				
Gu'				
Xagaa				
Dayr				

Q67. When the abortions and deaths in new- born occurred, which other symptoms did you observed in your cattle / sheep / goats / camels? *(tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)")*

Symptoms	CATTLE	SHEEP	GOATS	CAMELS
Fever				
Anorexia				
Weakness				
Foetid Diarrhoea				
Sometime nasal discharge				

Other symptoms (specify):

.....

.....

Q68. Do you have a specific name for this health problem of your cattle / sheep / goats /camels? *(write the name/s of the health problem in Somali, as reported by the respondent)*

	CATTLE	SHEEP	GOATS	CAMELS
Name 1				

Q69. When did you ever observe the highest number of abortion and/or deaths in your new -born cattle / sheep / goats / camels? (write the year in the box/s for the given species; if NEVER tick the box and go to question 72)

Never		CATTLE	SHEEP	GOATS	CAMELS
	Year				

Q70. How many abortion and death in new born have you experienced in your cattle / sheep / goats / camels at that time? (write the number in the box below the given species)

	CATTLE	SHEEP	GOATS	CAMELS
Abortion				
Death in new born				

Q71. Do you have a specific name for this health problem of your cattle / sheep / goats / camels? (write the name/s of the health problem in Somali, as reported by the respondent)

	CATTLE	SHEEP	GOATS	CAMELS
Name 1				
Name 2				
Name 3				

Q72. Did this very high number of abortion and/or deaths in new born in your cattle / sheep / goats / camels coincide with or followed a very abundant rainfall? (tick the box/s for the given species)

	CATTLE	SHEEP	GOATS	CAMELS
Yes				
No				

Q73. Did this very high number of abortion and/or deaths in new- born coincide with or followed a period in which your cattle / sheep / goats / camels were grazing near pools of floodplains? (tick the box/s for the given species)

	CATTLE	SHEEP	GOATS	CAMELS
Yes				
No				

Q74. Did you noticed an increase in mosquitoes and/or other biting flies during the abortion and mortality period of your cattle / sheep / goats / camels? (tick the box/s for the given species)

	CATTLE	SHEEP	GOATS	CAMELS
Yes				
No				

Q75. Were there cases of flu-like sickness in humans during (or just after) the abortion and mortality period of your cattle / sheep / goats / camels?

	CATTLE	SHEEP	GOATS	CAMELS
Yes				
No				

SECTION VI – WILDLIFE

**Ask Q76 and Q 77 according to the species
reported to be owned by the respondent**

Q76 Which wildlife species are present in this area? *(write the name of the wildlife species reported by the respondent)*

	Name/s of the reported wildlife species
Specie 1	
Specie 2	
Specie 3	
Specie 4	
Specie 5	
Specie 6	
Specie 7	
Specie 8	
Specie 9	
Specie 10	

Q77. Are sometime your cattle / sheep / goats / camels grazing with some of these wildlife species? *(tick the box below the given species)*

	CATTLE	SHEEP	GOATS	CAMELS
Yes				
No				

(if No applies for all species, skip question 78)

Q78. Which wildlife species is normally your cattle / sheep / goats / camels grazing with? *(write the name of the wildlife species reported by the respondent)*

	CATTLE	SHEEP	GOATS	CAMELS
Specie 1				
Specie 2				
Specie 3				
Specie 4				
Specie 5				

SECTION VII – REMARKS

In case of an outbreak of Rinderpest is reported / suspected and investigated add all remarks that could help to understand origin and potential for spread of the Rinderpest virus.

Clinical founding must also be detailed!

REMARKS:

ANNEX V

(Guidelines for group exercise)

Guidelines for group exercises

What is a group exercise?

A group exercise is an activity carried out with a group of people to collect or analyse specific information.

In the Itinerant Training Programme for Somali Veterinary Professionals 3 different exercises are used:

1. Disease listing
2. Disease ranking
3. Disease seasonal calendar

Why do we use these techniques?

Some of these techniques are suitable to collect data at community level on relevant livestock health problems in the visited areas (especially disease listings and disease calendar). Others such as the disease ranking are instead better suited for data analysis.

Who are the respondents?

Livestock owners are the most suitable respondents for these techniques. Pastoralists and agro-pastoralists according to the characteristics of the area visited, constitute the main target. Villagers owning a few animals for family needs should not be involved in the exercises.

What size should the group be?

For our purposes very small groups should be avoided since these techniques are not intended to gather information from individual livestock owners, on the other hand when groups become too large, it is difficult to manage them, as the group tends to split in small sub-groups. A manageable size is between 8 and 15 people.

How much time is required to carry out the 3 exercises?

Since people are usually busy during the day, you must not take too much of their time. The 3 exercises should not take more than a total of one hour, and should be organised according to the livestock owner's convenience.

Do not perform the exercise during praying time.

Be prepared that the number of people, present during the exercise, will fluctuate, with some coming and going. If the number decrease to less than 5, stop the session to find out if there is any particular problem.

How should the group implementing the exercise be organised?

To get the most out of the exercise the vet. professionals implementing the exercise must be well organised with clear tasks assigned to everyone. Remember to prepare the flip charts for the disease ranking and seasonal calendar beforehand. People may not appreciate watching you prepare the material for half an hour before starting the discussion.

Everybody should know what to do at any given moment. People who are not leading the session should support it, by replacing the flip charts when required, preparing the tape for fixing them to the board, following the discussion, accommodating new arrivals, etc. Teamwork is crucial for success of the exercise.

How to communicate with the group of respondents?

These exercises are intended to get information on relevant health problems from a group of people, not from individuals. Therefore it is important to stimulate discussion and where is possible arriving at a consensus amongst the group. Only after consensus has been reached should information be written down on the flip chart.

Pay attention to group-dynamics, especially when well-respected livestock owners who can influence the whole group are present. Some livestock owners, known to be good at handling a particular species, may take the lead within the group on certain issues. These situations should be addressed with due consideration and sensibility, in order not to sacrifice the contribution of such key informants.

Remember that the discussion must only reflect the opinions of the livestock owners and therefore veterinary professionals should not interfere. They should take a neutral approach on the matters debated, and not offer advise or lecture the group.

a) Disease listing

The exercises consists of listing diseases according to the following question: Which diseases have occurred in your area during the last three years?

The exercise aims at:

- 1) collecting information on the diseases which occur in the area where the livestock owners come from, and;
- 2) considering only a specific period of time: the last three years.

Diseases must be listed according to species considering camels, cattle, sheep and goats only. At this stage write all the diseases reported by the group on the flip chart.

Once the list has been completed check if for any of the species there are more than 6 diseases listed. If this is the case ask the group to select the six most common (most frequent) diseases occurring in the area.

The is because the two following exercises (disease ranking and seasonal calendar) are to be carried out with a maximum of six diseases only.

Please write on the flipchart the names of the diseases in Somali, as reported by the group. Do not attempt any change according to your personal interpretation.

b) Disease ranking

Ranking diseases means placing them in order according to a set of criteria. Five criteria are used for this exercise:

- Mortality
- Transmission within the herd/flock
- Reduction in milk yield

- Reduction in the number of deliveries
- Cost of treatments.

The selected diseases must be ordered according to this set of criteria, asking the group to rank the first disease, the second disease, etc. according to each criterion. The exercise is presented in the form of a matrix on flipcharts (example 1). Use one flipchart for each species.

It is very important to clearly explain the five criteria used in order to reach a common understanding within the group.

Mortality: the number of animals killed by the disease, e.g. which of the listed disease caused the highest number of losses in the area during the last three years? Which disease caused the second highest number of losses?, the third etc.

Transmission within the herd/flock: which of the listed diseases spread more rapidly within the herd/flock in terms of number of animals affected over time? Which disease spread second fastest? etc.

Reduction in milk yield: Which disease most affected milk yield during the last three years? Which is the second disease? etc.

Reduction in the number of deliveries: which diseases caused the greatest reduction in the number of deliveries during the last three years?

Cost of treatments: For which disease did you spend the most in veterinary drugs during the last three years? Which is the second?

This exercise aims at showing the importance livestock owners attach to the different diseases according to selected criteria.

c) **Disease calendar**

This is a calendar showing the most common livestock diseases throughout the different seasons of the year, Gu', Xagaa, Dayr and Jiilaal, in a matrix form on a flipchart (example 2). Use one flipchart for each species.

The exercise aims at identifying the season/s of greatest difficulty and vulnerability in terms of livestock health. Furthermore it provides the veterinary professionals with useful information for planning of treatments, vaccinations and drug stock.

Example 2: DISEASE SEASONAL CALENDAR

Use one flipchart for each specie

Write down on the flipchart the species to which the diseases refer

DISEASE (Goat)	JILAL	GU'	XAGAA	DAYR
Diif	X	X	X	X
Caalbarar	X			
Shuban dhiig	X	X	X	X
Cabeeb		X		X
Furuq	X	X	X	X
Raaf dilaac		X		X
Region: Hiran; District: Beledweyne; Location: Matoor; Date: 04/04/2002				

Write the place and date of exercise on the flipchart

Tick the appropriate box under the season/s when the disease is reported to occur

c) Disease calendar

This is a calendar showing the most common livestock diseases throughout the different seasons of the year, Gu', Xagaa, Dayr and Jiilaal, in a matrix form on a flipchart (example 2). Use one flipchart for each species.

The exercise aims at identifying the season/s of greatest difficulty and vulnerability in terms of livestock health. Furthermore it provides the veterinary professionals with useful information for planning of treatments, vaccinations and drug stock.

Example 2: DISEASE SEASONAL CALENDAR

Use one flipchart for each specie

Write down on the flipchart the species to which the diseases refer

DISEASE (Goat)	JILAL	GU'	XAGAA	DAYR
Diif	X	X	X	X
Caalbarar	X			
Shuban dhiig	X	X	X	X
Cabeeb		X		X
Furuq	X	X	X	X
Raaf dilaac		X		X
Region: Hiran; District: Beledweyne; Location: Matoor; Date: 04/04/2002				

Write the place and date of exercise on the flipchart

Tick the appropriate box under the season/s when the disease is reported to occur

ANNEX VI

(Location description form)

LOCATION'S DESCRIPTION FORM

FORM N°: _____

Base ID *	Date	Region	District

Name of location	GPS Coordinates
	N / S; E

1. Type of settlement (tick the box for the corresponding type of settlement; if in the village or town a livestock market is present, tick the "Market" box)

Grazing settlement	
--------------------	--

Village		Market	
---------	--	--------	--

Town	Market	
------	--------	--

Grazing settlement: a temporary accommodation consisting of huts for nomads

Village: a rural settlement smaller than a town

Town: a urban densely populated area larger than a village

2. Watering point description (tick the boxes for the types of water sources available in this location or specify them in "other (specify)")

[illegible]

3. Number of cattle / sheep / goats / camels drinking daily in this location *(write approximately the number according to species and seasons)*

Season	CATTLE	SHEEP	GOATS	CAMELS
Jiilaal				
Gu'				
Xagaa				
Dayr				

Fill this section only if a "LIVESTOCK MARKET" is present in the village or town

4. Number of cattle / sheep / goats / camels sold weekly in this local market *(write approximately the number according to species and seasons)*

Season	CATTLE	SHEEP	GOATS	CAMELS
Jiilaal				
Gu'				
Xagaa				
Dayr				

* Enter "AF" for "Afmadow" or "BA" for "Baidoba" or "BE" for "Beledweyne" or "HA" for "Hargesa" or "BO" for "Bosaso".

ANNEX VII

(Manpower & Time)

MANPOWER AND TIME DURATION FOR RINDERPEST ACTIVITIES- SOMALI PACE PROJECT

Results	Activities	Actions for Rinderpest	Duration (days)	Persondays
1. Capabilities of public Sector HAWs to regulate, coordinate, monitor and evaluate the livestock development sector are strengthened	Workshops	-	-	-
	Study tours and training	Training of MoL staff on basic applied epidemiology using as example RP and RFV Puntland Somaliland	10	Zonal expert 2x14= 28 SS 4x14 =56 SCIU 2x14 = 28
	Public Infrastructure	-	-	-
	Awareness campaigns	Meetings with local authorities Central South	14	ZE 2x28= 56 SS 2x14=28
	CAPE	-	-	-
2. The capability of private animal health workers to engage curative and preventive services are enhanced	Workshop	-	-	-
	Awareness Campaign & Training	Training of Private animal Health Workers on Basic Applied Epidemiology using as example RP and RVF Central South	10	ZE 2x14= 28 SS 4x14 =56 SCIU 2x14 = 28
		Training of Private Animal Health Workers on epidemiological investigation methodologies and active disease search focused on RP investigation Central South	10	ZE 2x14= 28 SS 4x14 =56 SCIU 2x14 = 28

are functioning	Training	Training on information gathering and reporting by non-technical partners- Central and South	10	ZE 2x14=28 SS 4x14=56 SCIU 2x14=28
	Awareness Campaign	Preparation and dissemination of material for awareness on the importance of RP eradication from Somalia Central South	60	ZE 2x30=60 SS 4x30=120 SCIU 2x60=120
	CAPE	Producing of appropriate radio programmes on various aspects of the livestock industry including; epizootic diseases, their effects on livestock trade and possible control measures.	170	SCIU 1x14=28 Consultant 1x170=170
		Production and dissemination of formal and informal publications and videos Organizing a border-harmonization workshop for participants from Ethiopia and Somalia	60 14	SCIU 1x7=7 Consultant 1x60 =60 SCIU 1x18=18
6. The programme is effectively coordinated	Steering Meeting	Steering committee meetings (presentation and discussion of RP strategy, work plan, budget and progress report of activities carried out	30	SCIU 3x30= 90
	Zonal Network	Zonal meetings with relevant stakeholders in animal disease control and the Zonal Coordination Unit of PACE Somalia Project Central South	14	SCIU 2 x18=36 ZE 2x7= 14 SS 4x7=28
	Regional Meeting	Attendance to PACE Meetings Scheduled venue	14	SCIU 2x14=28 manweeks
		Attendance to International Conferences on RP and Epidemiology Scheduled venue	14	SCIU 1x14=14 SS 2x14=28
		Attendance to Cross-border meetings / workshops on RP Scheduled venue	14	SCIU 2x14=28

4. Emergency preparedness and response systems are functional, initially to RP	Training & Mobilisation	Training of team/s from the Zonal/National Coordination Units of PACE Somalia Project on RP rumours / suspected RP outbreaks investigation for outbreak confirmation Central South	10	ZE 2x14=28 SS 4x14=56 SCIU 2x14=28
		Dry run of RP outbreaks investigation and sample collection for confirmation Central South	-	Inclusive with the above activity
		Investigation team/s from the Zonal/National Coordination Units of PACE Somalia Project to follow-up all reported RP rumours / suspected RP outbreaks (e.g. samples collection for Ab. and Ag. identification and relevant information gathering) Central & South (When needed)	-	On need basis
		Laboratory testing Identified Reference Laboratory (-ies)	-	On need basis
	Vaccination & Follow-up	Ring / mass vaccination of identified RP infected foci Sero-conversion assessment of a representative portion of the vaccinated herds Laboratory testing Central & South (Where needed) and with Identified Reference Laboratory (-ies)	-	To be decided on need basis (Other activities may be held over this priority)
	CAPE	Training of CAHWs in the participation of all field activities including; reporting, disease search and RP dry runs	14	SCIU 1x18=18 ZE 1x18=18 SS 2x18=36
5. Local networks for promoting livestock health	Workshops	One workshop with Somali Livestock Traders on importance of RP Central South	10	ZE 2x14=28 SS 4x14=56 SCIU 2x14=28

		Training of Private Investigation Teams and Monitors on Basic Applied Epidemiology and Sero-Surveys Techniques based on Random Map Coordinates focused on RP investigation Central South	10	ZE 2x14= 28 SS 4x14 =56 SCIU 2x14 = 28
	CAPE	Training of private and public veterinarians in PRA & PE techniques. Supporting private vets establish network of CAHWs	28	SCIU 1x14= 14 ZE= 1x7= 7 SS 2x28=56
	Others	Contract Private Veterinarians through Zonal / Local Veterinary Associations for RP Purposive (Active Disease Search) and Random Investigations Central South	21	ZE 2x21=42 SS 4x21=84 SCIU 2x14=28
		Contract Private Veterinarians through Zonal / Local Veterinary Associations for RP vaccination / supervision activities Central & South (Where needed)	-	On need basis
		Contract Private Veterinarians through Zonal / Local Veterinary Associations for RP sero-monitoring activities Central & South (Where needed)	21	ZE 2x21=42 SS 4x21=84 SCIU 2x14=28
		Contract Private Veterinarians through Zonal / Local Veterinary Associations for follow-up of sentinel herds Central & South (Where needed)	-	On need basis
3. A livestock disease surveillance system is functioning, initially to RP	Stakeholder Meeting & Awareness Campaign Training	One workshop for sensitisation on livestock disease surveillance Central South Somaliland Puntland	7	ZE 4x7=28 SS 8x7=56 SCIU 1x28 =28

	Cross-sectional	Random investigation	Sero-surveillance at randomised coordinates and questionnaire surveys and participatory data collection (Group discussion Central South)	50	ZE 2x50=100 SS 4x50=200 SCIU 3x50=150
			Active disease search (Clinical examinations & Collection of rumours of RP virus circulation) Reporting RP rumours / suspected RP outbreaks to the Zonal Coordination Unit of PACE Somalia Central South	Same as above	On going with the above activity
			Laboratory testing Identified Reference Laboratory (-les	35	SCIU 1x35=35
		Purposive investigation	Active RP search based on questionnaires, participatory data collection and clinical examination Reporting RP rumours / suspected RP outbreaks to the Zonal Coordination Unit of PACE Somalia Central (Hiran Region) South (Lower and Middle Juba)	40	ZE 2x40= 80 SS 4x40=160
	Follow-up		Set-up of sentinel herds in case of active disease search fail to identify RP virus circulation Central (Hiran Region) South (Lower and Middle Juba)	-	Do be decided on need basis
			Set-up of sentinel herds around vaccination areas and in the vaccination areas after vaccination Central & South (Where needed)	-	Do be decided on need basis
	CAPE		CAH disease surveillance system for epizootic diseases designed, tested and implemented	100	SCIU 1x30= 30 ZE 1x10=10 SS 2x100=200

	Coordination support	Literature review and compilation of relevant historical and recent data on RP virus circulation in Somalia Nairobi	14	SCIU 2x14=28
		Preparation of the RP Eradication Strategy Document Nairobi	60	SCIU 4x30=30 SCIU 1x60=60 ZE 1x10=10
		Preparation of the sero-survey structure with random map coordinates Nairobi	21	SCIU 1x21= 21
		Preparation of the training material and manuals for the trainings on basic applied epidemiology, active disease search and sero-surveillance techniques Nairobi	21	ZE 1x14= 14 SCIU 1x21 = 21 SCIU1x7=7
		Preparation of standard forms and questionnaires Nairobi	7	SCIU= 3x7=21
		Translation into Somali of standard forms and questionnaires Nairobi	7	SCIU 1x7= 7
		Preparation of the databases for compiling field data (e.g. serology, virology, RP rumours / outbreaks register, questionnaires, group exercises, location description forms) Nairobi	14	SCIU 1x 14= 28
		Identification of Reference Laboratory (-ies) in cooperation with PACE CSUs (IAEA) Nairobi	14	SCIU 3x14=42
		Data analysis and distribution of field data	30	SCIU 2x30=60
		Link and coordination with OAU/IBAR/PACE and others relevant stakeholders Nairobi	-	On need basis

	CAPE	Preparation of training materials Development of appropriate curriculum in Somali Preparation of survey forms and questionnaires for CAHWs in Somali	45	SCIU 1x45= 45 SS 1x30= 30
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Notes to the above work plan for RP

1. SCIU represents Somali Coordination and Implementation unit and their staff based in Nairobi.
2. ZE represents Zonal Expert PACE staff working in their respective zones (The zones are Somaliland, Puntland, Central and South Somalia)
3. SS represents PACE Somali staff employed at zonal levels
4. Activities likely to be carried out in Year II is not timed
5. It is assumed that expatriate staff are always working with Somali staff both at zonal and SCIU level.

ANNEX E.2

***Training Manual on Basic Applied Epidemiology focused on Rinderpest Surveillance
and Active Disease Search Using Random Map Coordinates***

**INVESTIGATING RINDERPEST IN CENTRAL
AND SOUTHERN SOMALIA**

***Training on Basic Applied
Epidemiology Focused on
Rinderpest Sero-Surveillance
and Active Disease Search
using Random Map
Coordinates***

February 2002



P A C E

- Somali Component -

**Funded by: - European Development Funds - Swiss Disaster Relief - Italian
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INVESTIGATING RINDERPEST IN CENTRAL AND SOUTHERN SOMALIA

Training on Basic Applied Epidemiology focused on RP Sero-Surveillance and Active Disease Search using Random Map Coordinates

1. Introduction

Over the years, veterinary science has attempted to control particularly the devastating diseases for the livestock industry. Great importance has been given also to diseases that are transmissible from livestock to humans (zoonosis) and to diseases that are causing ban to livestock trade.

Despite these efforts, the livestock sector continues to suffer from numerous animal diseases that affect large parts of the world to varying extents. Consequences of these diseases are seen in the national economies as well as the trade of livestock and livestock products at international levels.

Animal diseases can be classified according to the impact they have on an animal population. Thus, they are classified according to the speed in which they spread, the losses they cause and the risk they present to humans (zoonosis).

- Livestock transmittable diseases, which have the potential for very serious and rapid, *spread, irrespective of national borders*, which are of serious socio-economic or public health consequences and which are of *major importance* in the international trade of animal and animal products have been classified under the List A of OIE.

A010	Foot and mouth disease
A020	Vesicular stomatitis
A030	Swine vesicular disease
A040	Rinderpest
A050	Peste des petits ruminants
A060	Contagious bovine pleuropneumonia
A070	Lumpy skin disease
A080	Rift valley fever
A090	Bluetongue
A100	Sheep pox and goat pox
A110	African horse sickness
A120	African swine fever
A130	Classical swine fever
A150	Highly pathogenic avian influenza
A160	Newcastle disease

- Livestock transmittable diseases which are considered to be of serious socio-economic and/or public health importance *within countries* and which are *significant* in the international trade of animal and animal products have been classified under the List B of OIE.

Multiple species diseases

B051	Anthrax
B052	Aujeszky's disease
B053	Echinococcosis/ hydatidosis
B055	Heartwater
B056	Leptospirosis
B057	Q fever
B058	Rabies
B059	Paratuberculosis
B060	New world screwworm (<i>Cochliomyia hominivorax</i>)
B061	Old world screwworm (<i>Chrysomya bezziana</i>)

Cattle diseases

B101	Bovine anaplasmosis
B102	Bovine babesiosis
B103	Bovine brucellosis
B104	Bovine genital campylobacteriosis
B105	Bovine tuberculosis
B106	Bovine cysticerosis
B107	Dermatophilosis
B108	Enzootic bovine leukosis
B109	Haemorrhagic septicaemia
B110	Infectious bovine rhinotracheitis/ infectious pustular vulvovaginitis
B111	Theileriosis
B112	Trichomonosis
B113	Trypanosomosis (tse-tse borne)
B114	Malignant catarrhal fever
B115	Bovine spongiform encephalopathy

Sheep and goat diseases

B151	Ovine epididymitis (<i>Brucella ovis</i>)
B152	Caprine and ovine brucellosis (excluding <i>B. ovis</i>)
B153	Caprine arthritis/ encephalitis
B154	Contagious agalactia
B155	Contagious caprine pleuropneumonia
B156	Enzootic abortion of ewes (ovine chlamydiosis)
B157	Ovine pulmonary adenomatosis
B158	Nairobi sheep disease
B159	Salmonellosis (<i>S. abortusovis</i>)
B160	Scrapie
B161	Maedi-visna

Particular importance is given to diseases that, because of their potential for very serious and rapid spread, irrespective of national borders (list A), represent a high risk for the national and international livestock industry. Control efforts of these diseases may have a real impact on the economy of a country only if control measures are implemented at national or international livestock population level. A clinical approach, targeting a single or limited number of individuals, is insufficient to control such highly infectious and devastating diseases.

Rinderpest is a contagious viral disease of domestic and wild animals which can kill over 95% of susceptible animals. Rinderpest causes fever, discharge from the eyes and nose, dribbling, erosions

of mucous membranes, diarrhoea containing blood and mucus, and death. It is spread by close contact. In highly susceptible herds it will cause severe clinical signs and many deaths.

However, nowadays some strains are mild and RP may cause few clinical signs which make the disease difficult to be detected in the field. For instance, the African type 2 lineage is characterised by a very mild clinical expression in domestic animals, while it seems to be more virulent and thus more clinically recognisable in wildlife.

In fact, until 1994, when a [?]mild form of Rinderpest was detected and diagnosed in Tsavo East National Park and subsequently in the Nairobi National Park (1994-96), the main endemically infected area in East Africa was believed to be Southern Sudan and from this source infection regularly invaded adjacent areas of Uganda, Kenya and occasionally Ethiopia. All virus isolates recovered from Southern Sudan and these neighbouring areas since 1983 were of the African type 1 lineage (classical RP). Initially the Tsavo Rinderpest outbreak was thought to have originated from here but the molecular evidence clearly showed that the Tsavo virus and the isolates from Nairobi National Park were completely different genetically and fell into the African type 2 lineage (mild form). Isolates of this lineage have been recovered from West Africa as late as 1983 but not since 1962 in East Africa. Thus a second main focus of Rinderpest in East Africa had been revealed after having remained undetected throughout the period of JP15 campaign and eight years of PARC. The exact location of this focus was uncertain but surveillance has concentrated on North Eastern Kenya and Southern Somalia (Barrett et Al.; 1998).

In the North Eastern Kenya – Southern Somalia ecosystem RP reappeared periodically showing a cycle of about five years:

- 1980-1983 A moderately severe epidemic of Rinderpest entered Mandera and spread to extensive areas of Southern Somalia
- 1985-1988 A second wave of Rinderpest affected the Middle and Lower Juba Regions of Somalia
- 1991-1993 Coincident with the onset of drought in 1991, two waves of Rinderpest spread out from Wajir District, Kenya. The first in April travelled through Simper Fatima in central Mandera District to cause moderate mortality in Eastern Mandera District. The second wave passed Liboi, Kenya to enter Lower Juba causing moderate to severe mortality (30 to 70%) at Tabta, Bilis Qooqaani, Afmadow, and Badhade in Somalia
- 1994-1996 The Rinderpest in Mandera District persisted and assumed a mild form. From Mandera the disease spread to no-mans-land between El Wak, Kenya and El Wak, Somalia where it was sighted by Somali veterinary personnel in mid-1994. Subsequently, low to moderately severe outbreaks occurred in border regions on both sides of the border until the onset of the rains in early 1996. To date, the furthest known eastern extension of the focus was at Fafadum in the Western Gedo Region, Somalia. Clinically mild Rinderpest was observed in numerous herds in the Fino, Hashino, Lafey, Alunga, Warengara area of Mandera District. Ocular and nasal swabs from affected cattle at Fino and Hashino were positive for the presence of Rinderpest antigen in AGID tests

conducted by the Government of Kenya at NVRC, Muguga. No clinical disease was observed in Somalia and no first-hand reports of active clinical disease were received from Somalia since the onset of the rain in April (Flanagan & Mariner 1993).

In Somalia endemic foci of African type 2 lineage were considered to be confined to the Trans-Juba Region (south from the Juba River). More recent investigations have shown RP Abs. presence also in unsuspected areas of Central Somalia.

- 1998-1999 Clinically mild cases of Rinderpest were detected in several locations of Afmadow District. Serum samples tested were detected RP Abs. positive (using the RP cELISA H) in Lower and Middle Juba and Gedo Regions of Somalia (Terra Nuova - Rinderpest Vaccination Campaign in Trans Juba Region, Somalia / Phase I; Final Report 1999).
- 1999-2001 Serological investigations carried out on unvaccinated young stock of cattle showed positive results (using the RP cELISA H) in various locations of Bay, Hiran, Mudug and Galgaduud Regions of Southern and Central Somalia (see **Annex I**) (Terra Nuova – Itinerant Training Programme for Somali Veterinary Professionals / Phase II; Progress Reports 1999-2001)
- Oct. – Nov. 2001 An outbreak of mild RP was detected and confirmed on buffaloes in the Meru National Park, but so far no evidence of RP virus circulation was found in domestic animals (Ministry of Agriculture and Rural Development – Press Release on Rinderpest Situation in Meru National Park).

During PARC Somalia Project – Phase I & II, investigations were carried out to better understand RP occurrence and pattern in the project area (e.g. Afmadow, Garissa and Ijara Districts) according to the local knowledge. It appears that two main epidemics can be identified in the area during the last decade. The first one in 1991-93/94 and the second one in 1997-99. The results show a mean inter-epidemic period of about 2 years and a mean epidemic period of about 3 years (Terra Nuova - Rinderpest Vaccination Campaign in Trans Juba Region, Somalia / Phase II; Final Report 2000). If this cyclic behaviour of RP epidemic waves persists then the next onset of RP is expected in the year 2001/02 and it should persist till the year 2003/04. The Meru National Park outbreak is timely and coinciding with the expected RP epidemic wave.

During the last two decades the Somali livestock industry has been suffering for the imposition of several livestock ban from the importing countries. Some of them were related to the suspicion of RP virus circulating among the Somali cattle population.

- 1983: Rinderpest ban imposed by Saudi Arabia
- 2000: Kenya – Somalia border close to the cattle trade due to the suspicion of RP virus introduced into Kenya from Somalia
- 2001: Rinderpest vaccination requirement imposed by Yemen for cattle imported from Somalia

"The creation of WTO and the subsequent signing of the Agreement on the application of sanitary and phytosanitary measures (SPS Agreement) have laid the foundation for the reduction of tariff barriers to trade. As a result, sanitary barriers will now be the only legitimate non-tariff barriers to trade in livestock and livestock products. Alternatively, countries wishing to export livestock and livestock products will be requested to substantiate claims of being free from specific livestock diseases. Both will require animal health data of a quality and quantity, which is currently not available in a large number of countries, particularly developing ones. To prove freedom from disease, a passive and historical register of disease occurrence, although valuable, is not enough. Official Veterinary Services **must have a credible surveillance system** where (a) any suspicious signs of disease activity are reported and (b) **statistically selected samples from the host population** are collected in order to detect clinical signs or other evidence of transmission of infection. In either case, suspicion of disease must be followed by quarantine, confirmatory diagnostic work and any necessary disease control activities".¹

*For the specific case of RP, according to the GREP (Global Rinderpest Eradication Programme) Blueprint for Africa, the continent should be free from infection by the end of the year 2008. This goal will be accomplished by the implementation of the "OIE pathway" (see **Annex II**), which plans to discontinue mass vaccination campaigns and implement disease surveillance and sero monitoring. However, targeted vaccination campaigns will be implemented in those areas where the presence of the virus has been demonstrated.*

During PARC Somalia (Phase 1 & 2), recent immunization campaigns and sero-surveillance activities were carried out in Southern Somalia in order to control the disease and to lower the risk of spreading to the neighboring Kenya.

The final eradication of RP will however require the identification of all remaining foci and the implementation of appropriate control measures.

The RP Sero-Survey, together with an Active Disease Search, is an attempt to identify the remaining foci of RP virus circulation in Somalia in order to generate the baseline information for the subsequent eradication. To do so the cattle population of Somalia must be investigated.

In order to carry out those activities, a focused training (on 'Basic Applied Epidemiology with a particular emphasis on RP Investigation') of the Somali Veterinarians selected to lead each investigation team is required.

In recent years, veterinary epidemiology has developed as a tool for investigating the health status of animal populations through the analysis of factors that enhance their occurrence and development

¹ Supporting claims of freedom from disease. Second FAO Electronic Conference on Veterinary Services. 22 June 1998.

and through the quantification of the spread of animal diseases over space and time.

Epidemiology may be defined as ***“the study of the health status of populations”*** or ***“the study of disease and its determinants in a population”***.

All information gathered through epidemiological investigations is essential to design proper animal health surveillance and control systems.

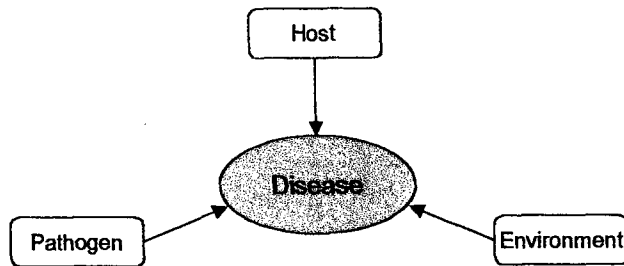
2. Determinants of disease

The key words coming from the definition of epidemiology - *“the study of disease and its determinants in a population”* - are **‘disease’**, **‘determinants’** and **‘population’**.

Epidemiology is distinguished from clinical examination by its concern with health problems at a population level, rather than the individual or herd/ flock level. However, there are a number of steps that both approaches follow in their attempt to gather information on which to base a decision and subsequent intervention.

Individual approach	Population approach
Methods	
Clinical examination	Epidemiology
Anamnesis	Knowing a disease and its determinants
Visual appraisal	Selecting parameters for investigation
Physical examination/ post mortem	Investigating (qualitatively + quantitatively)
Differential diagnosis	Analysing + processing results
Tentative diagnosis	Describing a disease
Decision maker	
Veterinarian / AHA	Veterinarian institutions at national, regional, worldwide levels
Intervention	
Do nothing	Do nothing
Treat	Control
Prevent (e.g. vaccination)	Eradicate
Impact	
Benefit for the single livestock owner	Benefit for the whole sector / country

The first step to undertake when planning an epidemiological investigation is to find out about a disease and its determinants. Disease occurrence is the result of the interaction among a host, an agent (or pathogen) and the environment in which the host population is living. The host, pathogen and environment are called determinants of disease.



Each determinant has its own particular characteristics, for example:

Host: susceptibility, sensibility, receptivity, carrier, and reservoir.

HOST		
Characteristic	Rinderpest (RP)	Rift Valley Fever (RVF)
Susceptibility	Cattle, Buffaloes, Kudus, etc.	Sheep, Goats, Cattle, Camels and Humans
Sensibility	Small Ruminants, Camels, Impala, etc.	Several species (if experimentally infected)
Receptivity	Hippopotamus, Dogs and Rabbits, Hamsters, etc. (if experimentally infected)	Several species (if experimental infected)
Carrier	None	None
Reservoir	Large, heterogeneous population of animals with A sufficient supply of susceptible animals	Aedes mosquitoes / eggs

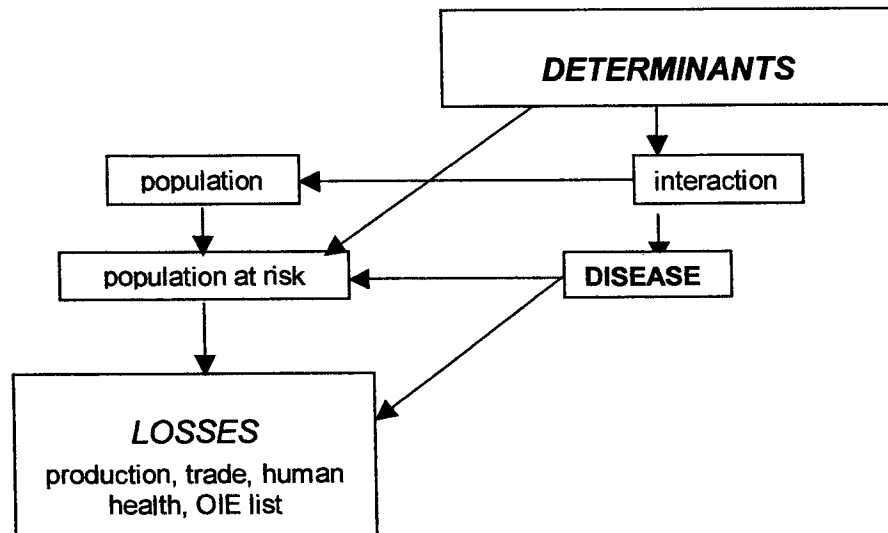
Pathogen: pathogenicity, tropism, and resistance.

PATHOGEN		
Characteristic	Rinderpest (RP)	Rift Valley Fever (RVF)
Pathogenicity	Severe or Mild form	Peracute or Acute in domestic animals. Mild or Acute in humans.
Tropism	Endothelio- / Lymph-trope	Hepato- / Viscero- / Pan-trope
Resistance	Not resistant in the environment	For some month in dry blood at ambient temperature

Environment: vector, climate, and husbandry system.

ENVIRONMENT		
Characteristic	Rinderpest (RP)	Rift Valley Fever (RVF)
Vector	None	Mosquitoes (e.g. Aedine) and Biting Flies
Climate	Normally not related to climate even if prolonged drought periods can lead to massive gathering (aggregation) of animals around available watering points, favouring the spread of the virus	Normally related with heavy, prolonged and often unseasonal rainfalls
Husbandry System	Highly dynamic husbandry systems (e.g. transhumant or nomadic) favour the widespread of the disease	Normally not related to any particular husbandry system. Contact between host and vector is normally a condition for a first outbreak

Below, Figure 1 shows how interactions between determinants give diseases and havoc loses at population level.

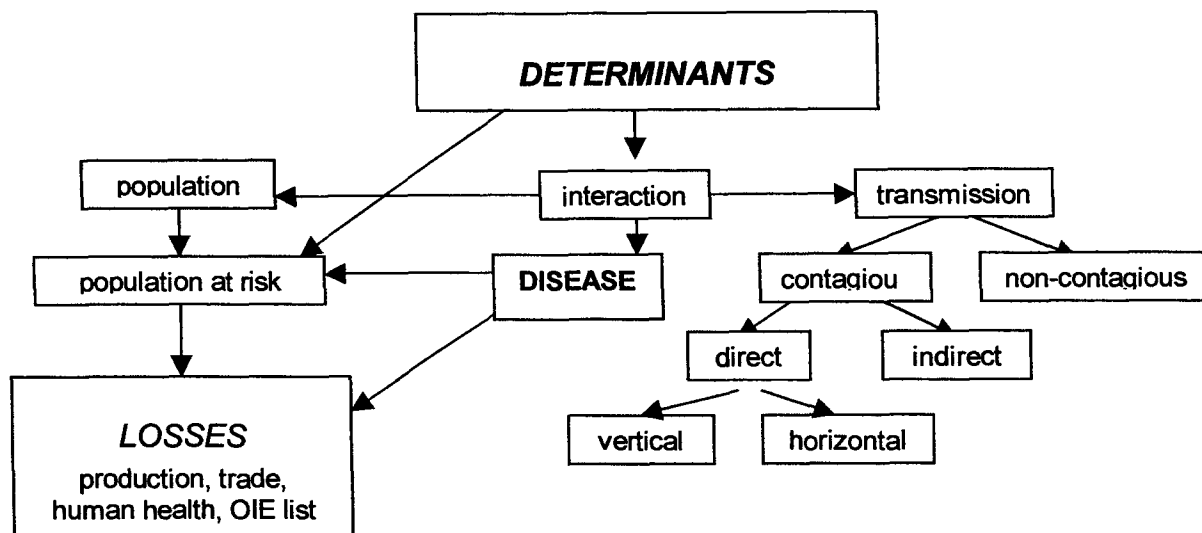


The interaction between disease determinants, according to their characteristics, gives different ways of disease transmission within a population at risk.

Transmission is another essential factor for the spread of a disease. It can be classified as contagious and non-contagious. Contagious diseases can be transmitted directly (direct transmission) and/ or indirectly (indirect transmission). Direct transmission can further be classified as vertical and horizontal.

TRANSMISSION		
Types	Rinderpest (RP)	Rift Valley Fever (RVF)
Contagious (disease)	Yes	Yes
Direct	Yes	Yes
Indirect	Theoretically is possible (e.g. by air) but unlikely to happen under natural condition.	Human infection trough contact with dry biological material.
Vertical	No	Infection <i>in utero</i>
Horizontal	Yes	Contact with abortion and infected materials, inhalation, milk and colostrums.
Non-Contagious (disease)	No	Mosquitoes (biological vector) and Biting Flies (mechanical vector).

Below, Figure 2 shows how characteristics of each disease determinant give different ways of transmission.



A thorough knowledge of disease determinants, their characteristics and the related way(s) of transmission of a pathogen within a population at risk are the basis for a successful epidemiological investigation.

3. Selecting parameters and investigating a disease

When investigating a disease in a population it is essential to select parameters that can provide relevant information about the disease itself. Appropriate parameters can be selected only if you have a thorough knowledge of the disease. This knowledge comes from knowing disease determinants and their interactions. For instance, *cattle are the host species for RP but Kudus, buffaloes and warthogs are also highly susceptible species. Small Ruminants are poorly susceptible but can be good indicators of RP virus circulation. Such information is useful to select the relevant species to be investigated in a survey that aims to detect the presence of the disease or the circulation of RP virus. Rinderpest is transmitted by direct contact. The disease is identifiable by its symptoms on affected cattle. The virus can be isolated in specimens when collected from the sick animal at the febrile phase. Otherwise the infection can be detected using serological methods.*

When the relevant parameters according to disease determinant characteristics have been selected, each parameter needs to be investigated using appropriate techniques. In epidemiological investigation, there are two main ways of collecting data: qualitative and quantitative.

3.1. Qualitative investigation

Data collected using qualitative methods usually **describe** disease characteristics or patterns in an objective and standard way. Relevant information can be gathered on animal movements, important markets and trade routes. It is possible to find out if a disease is epidemic or not (retrospective studies) and the presence of relevant wildlife species in the study area, clinical symptoms, etc. In epidemiology, qualitative data are usually collected using questionnaires; group exercises, studying records of clinical and post-mortem findings, etc. During an outbreak investigation, which is normally detected by identifying disease-related symptoms, relevant samples for antigen detection can be collected. Once again, the choice of the samples for disease confirmation is based upon the knowledge of the disease itself. *For example, knowing that RP virus is lymphotrope and endotheliotrope can give an idea of the organs or body fluids where the virus can be isolated from.*

The most appropriate samples to collect to detect antigens are:

- from live animals:
 - EDTA blood samples to look for the presence of the virus in the blood
 - lymph nodes aspirate to look for the presence of the virus in the lymphatic tissue
 - Eye-Mouth-Nasal swab to look for the presence of the virus in the ocular, mouth and nasal discharges.
- from dead animals:
 - Mesenteric lymph-nodes, pre-scapular lymph-nodes, tonsils, ileo-cecal entrance

All samples must be properly collected, recorded, processed, stored and submitted to competent laboratories.

3.2. Quantitative investigation

Data collected with quantitative methods usually **measure** disease variables, distribution, etc., in an objective and standard way. Relevant information can be gathered on morbidity, mortality, prevalence (e.g. sero-prevalence), incidence, case fatality, etc. of a disease. Most of these measurements of a biological event are calculated as rates, ratios or proportions.

Example: A flock of 500 small ruminants has been affected by a disease for 3 months. When the veterinarian visited the herd, 68 animals were sick and 36 had died. The veterinarian visited the same flock a week later. The number of sick had reached 77, but no new animals had died and no sick animals had recovered.

- The *morbidity* at the first visit was $36+68 = 104$, as 104 is the total number of animals that got sick since the beginning of the outbreak (number of sick (68) plus number of dead after getting sick (36)). Morbidity is normally calculated as *morbidity rate* $104/500$ (number of animals that got sick (104) out of the total number of animals composing the herd (500)). Morbidity rate is expressed as a percentage $104/500 \times 100 = 20.8\%$.
- The *mortality* in the herd was 36, as 36 animals had died during the period. Mortality, like morbidity, is normally calculated as *mortality rate* $36/500$ (number of animals that died (36) out of the total number of animals composing the herd (500)). Mortality rate is expressed as a percentage $36/500 \times 100 = 7.2\%$.
- The *prevalence* of the disease at the first visit was 68, as 68 animals were found sick by the veterinarian. Also prevalence is usually calculated as a ratio $68/(500-36)$ (prevalence considers the number of animals found sick (68) out of the total number of animals still alive ($500-36 = 464$) at the time of the visit). Prevalence is expressed as a percentage $68/464 \times 100 = 14.6\%$.
- The *incidence* of the disease at the second visit was $77-68 = 9$. Incidence represents the number of new cases (e.g. new sick animals) over a period of time. In this case the period of time is 1 week.
- The *case fatality* at the first visit was $36/104$. Case fatality considers the number of animals that died (36) out of the total number of animals that got sick (104). It is expressed as a percentage $36/104 \times 100 = 34.6\%$.

Appropriate techniques must be used according to the selected parameters. In epidemiology, sero-surveillance (surveillance) is an important quantitative technique to investigate sero-prevalence and incidence of a disease in a study area. The "RP Sero-Surveillance structure for Central and Southern Somalia is given in **Annex III**.

4. Sampling

As we have seen, information on diseases and other events can be obtained from *surveys* (investigations). If all animals in a population are investigated, the survey is considered a *census*. A census is the only way of measuring the exact distribution of a variable in a population (e.g. sero-prevalence). Carrying out a population census is costly and time consuming, and therefore it is not also possible to obtain these exact measures. However, if a survey is well designed, a fairly accurate and acceptable *estimate* of a variable can be made by examining some of the animals in the relevant population. This is called a *sample*.

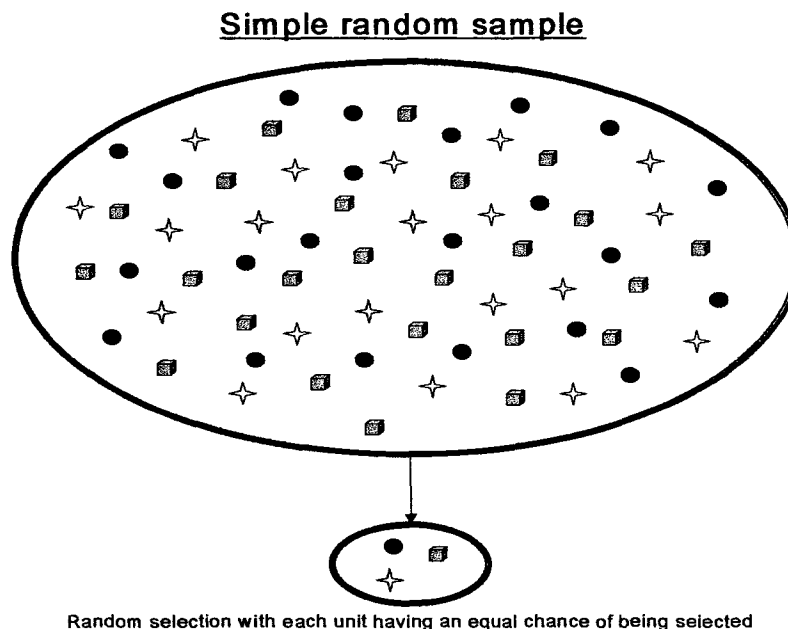
From a theoretical point of view, sampling is based on the idea that a population (a group of units) can be divided into sub-units (sample) that are *representative* of the whole. From these sub-units or sample it is possible to estimate certain characteristics or variables. In order to obtain a good estimate of a population variable, the sample must be representative of the population itself.

A representative sample is obtained by using a *deliberate, unbiased* process, so that *each sampling unit* (e.g. animal, herd, location, etc.) *in a group has an equal probability* (chance) *of being selected*. This is the basis of random sampling. Different types of random sampling can be used according to the needs and “environment” in which the survey is being carried out. Here only methods that are relevant to the Somali situation are discussed.

4.1. Random sampling

4.1.1. Simple random sampling

Simple random sampling is commonly used, but is not applicable to the Somali situation. Briefly, a simple random sample is selected by preparing a list of all animals or other relevant sampling units (e.g. herds) in a study population, and then selecting the sampling units randomly.



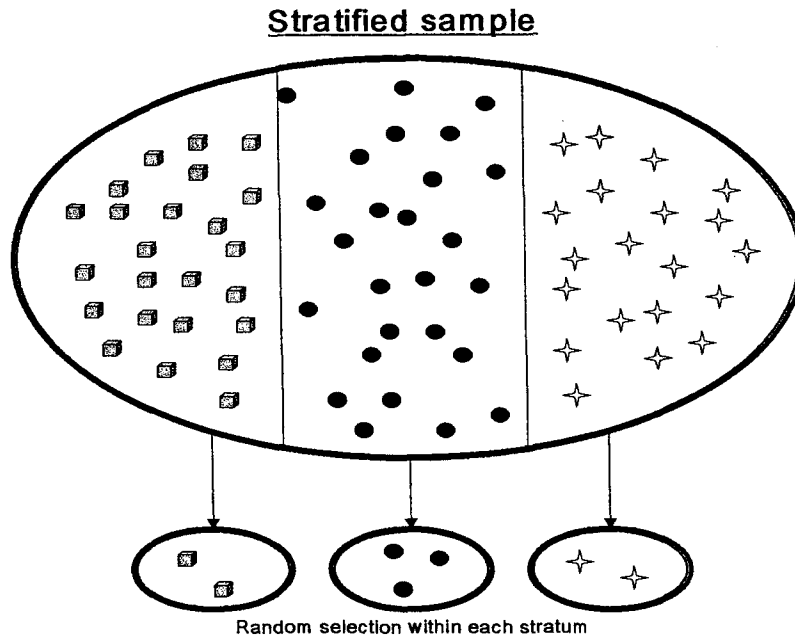
This method implies that all individuals / herds / etc... in the study population can be identified individually so as to select each unit before starting the survey. These conditions make this method unsuitable for the Somali context (as well as most developing countries).

4.1.2. Stratified sampling

A stratified random sample is obtained by dividing the study population into independent groups (strata), and randomly selecting units from each of the individual strata. Stratification can improve the accuracy of a sample as it overcomes the tendency of a simple random sample to either over- or under-represent some section of the sampling frame.

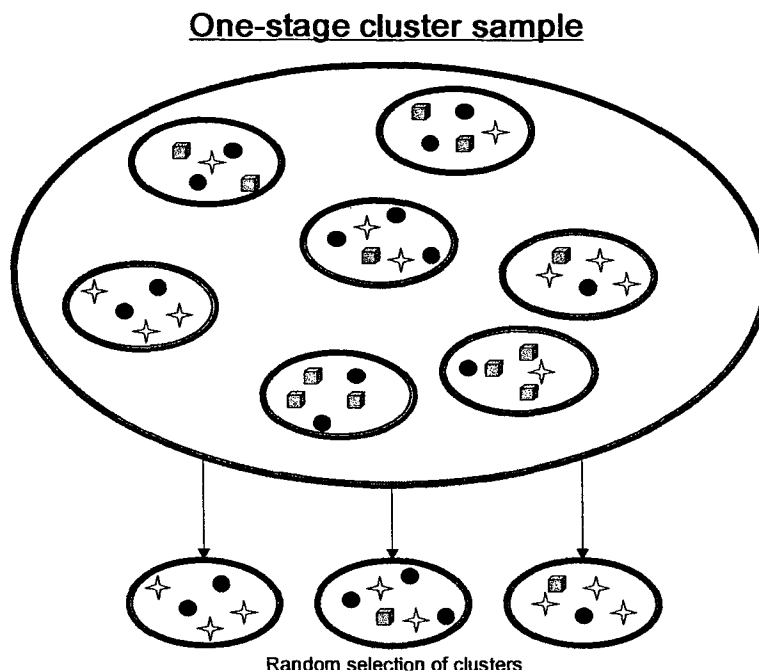
Strata can be age or sex of an animal, districts, vaccination status, etc. Information explaining the difference between strata should be given to help understand the disease pattern (e.g. a higher RP

sero-prevalence in an age group can provide information on the years of occurrence of an epidemic of the disease in the area).



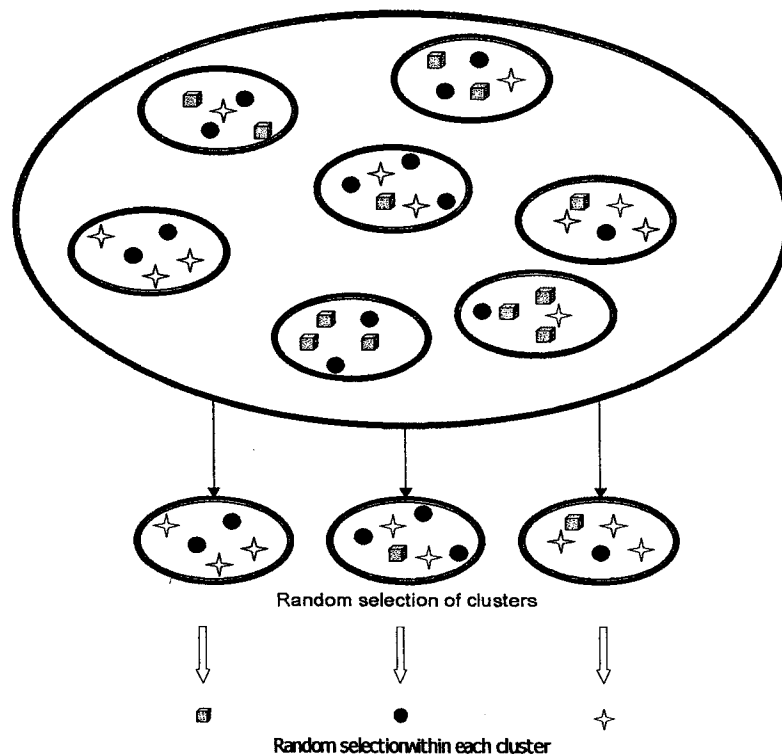
4.1.3. Cluster sampling

Strata can be defined as geographical locations, such as countries, villages, watering points, etc. These strata are called clusters. Sampling from these types of clusters can be time consuming and costly. Selecting a few clusters, and sampling the animals only in these clusters can overcome this disadvantage. If all animals in the selected cluster are sampled, it is called a *one-stage cluster sampling*. The stratification is the clusters themselves. For example, in the Somali context, villages and watering points are often considered as clusters (animals share the same risk of exposure to a pathogen).



Often huge animal populations are found in each cluster so that further selection of individuals within each sampling site (cluster) is needed. This means that the sample is selected in more than one stage. In this case, a sample of clusters is selected and then a sub-sample is made of some animals in the cluster (in contrast to all animals in one-stage cluster sampling). Other stratifications can be done within the selected animals in each selected cluster (e.g. sex and age of animals, etc.). This procedure is called *multi-stage cluster sampling*.

Multi-stage cluster sample



Sometimes, certain areas within a study zone are inaccessible and it is not possible to randomly select sampling sites. In these cases, the survey results can be applied only to the visited areas and not generalised to the whole zone.

4.2. Non random sampling

4.2.1. Convenience sampling

Is the collection of easily accessible sampling units. When convenience (ease) is the main criterion for selecting a sample, it is unlikely that the sample will be truly representative of the study population. Despite its disadvantages, convenience sampling may be the only means of providing information quickly and cheaply. However, care must be taken in interpreting the results of surveys based on this method of sampling.

4.2.2. Purposive selection

Is when a sample is chosen because it has characteristics similar to those of the target population. Before starting an investigation, the purpose of the survey must be identified. For example, if it is decided to carry out a RP survey in Somalia to understand if the disease is present and to what extent, the objectives and constraints of the study need to be identified first. If the purpose of the survey is to investigate a recent circulation of the virus, only young animals (i.e. 1-2 years) should be selected for the sampling unit. Furthermore, if the survey wants to detect naturally infected animals and not positive animals that have reacted to the virus after vaccination, only unvaccinated calves should be included in the survey. In this kind of survey, only categories of animals that correspond to the purpose of the investigation are selected. Different sampling methods for survey are given in Annex IV.

4.3. Precision of a sample

When investigating a disease, the results coming from the selected samples must be representative of the target population. This is obtained by randomly selecting the individuals within the sample. In this way, all individuals within the target population have the same chance of being selected. Another important parameter to respect during an investigation is the number of units (e.g. animals, herds, locations, etc.) to be sampled (**sample size**). When measuring a variable (e.g. prevalence) in a population, using a sampling method, the results obtained from the sample must be as close as possible to the true ones in the target population. The precision (or accurateness) of estimating the value of a variable of a target population is directly proportional to the sample size. In other words, the more units sampled, the more precise the results. However, increasing the sample size does not increase the precision if the sampling units are not selected at random. A balance must be found between the cost of sampling a huge number of animals and an acceptable precision in measuring a variable. In order to know the level of precision obtained from different sample sizes, certain formulas are used. These formulas use three parameters:

- 1) **Expected prevalence:** this is the prevalence expected to be found in the study area. It is obtained by consulting previous results (e.g. publications, results of previous surveys or surveys carried out in neighbouring areas). If this information is not available, a 50% expected prevalence is used as a default. It gives the biggest sample size.
- 2) **Confidence interval:** this is the trust given to the results from a survey. In epidemiology, a 95% confidence interval is normally used. This means that if a survey was repeated, there is a 95% chance that the results obtained would correspond to the results of first survey.

- 3) **Desired absolute precision:** this is the precision with which the survey intends to estimate the prevalence in a given population. In epidemiology, a 1 or 5% desired absolute precision is normally used. This means that the observed results will differ 1 or 5% from the value of the target population.

The higher the desired absolute precision (e.g. 1%) and confidence interval (e.g. 99%), the bigger the sample size must be. The conclusions drawn from the results of an investigation can be misleading if the characteristics of a good sample (e.g. representative and precise) are not respected.

Different survey sampling methods are given in **Annex IV**.

*Procedures to investigate RP in Central and Southern Somalia are given in **Annex V**. Basically a serological survey is to be carried out. A questionnaire aiming at gathering information on outbreak rumours and occurrence of Stomatitis-Enteritis Syndrome is concurrently carried out.*

5. Results, interpretation, decision-making, control strategies and evaluation

5.1. Interpreting laboratory results

Samples are sent to a laboratory in order to confirm the presence of antigen and/or antibodies of a specific pathogen. Serological results can show sero-positive or sero-negative animals. But when interpreting the biological meaning of these results, it is important to remember that the results may be false. A positive result can be a true positive (the animal is/was really infected by a pathogen), but it may also be a false positive (the animal is/was not infected by the pathogen, although the result is positive). In the same way, a sero-negative animal may be free from infection (true negative) or it may be infected (false negative).

A false positive result can be caused by a non-specific reaction. This means that the test has detected an antibody induced by an agent other than the one targeted. This may occur when an animal has been infected by a pathogen whose antibodies cross-react with those of the targeted pathogen (e.g. PPR c-ELISA test cannot selectively differentiate between antibodies induced by RP or PPR infections).

False positive results are thus caused by the lack of *specificity* of the test used.

The specificity of a test can be defined as the ability of the test to give a negative result when the animal is not infected (a truly non-infected animal). The specificity can be calculated using the following formulae:

$$Sp = \frac{\text{number of non-infected animals negative to the test}}{\text{total number of non-infected animals tested}}$$

A test with low specificity tends to classify non-infected animals as sero-positive. Therefore if, for example, a farm or country wants to prove that a given disease has been eradicated in order to lift an exportation ban, the use of a test with low specificity could result in false positive results and the maintenance of the ban.

A false negative result is mainly due to the lack of *sensitivity* of the test used.

Sensitivity can be defined as the ability of a test to detect infected animals. When a test is not sensitive, it tends to miss infected individuals and to identify them as negative (false negatives as they are really positive). The sensitivity of a test can be calculated using the following formulae:

$$Se = \frac{\text{number of diseased animals detected by the test}}{\text{number of diseased animals tested}}$$

Example: A RP virus has been detected to circulate in an area. In order to investigate prevalence and extension of the infection in the population a sero-survey is organized. Two tests are available with different levels of sensitivity and specificity.

- Test 1: Se = 65%; Sp = 96%
- Test 2: Se = 95%; Sp = 70%

Test 2 is selected as it is more sensitive. Test 1 is less sensitive and would give more false negative results, which would mean that prevalence, and extent of the infection would be underestimated.

5.2. Laboratories involved in disease surveillance diagnostic work in the Somali case

No diagnostic facilities are currently available within the Somali context for the examination of the statistically selected samples collected within the framework of surveillance activities. For this reason, samples collected in Somalia, particularly for the main transboundary diseases under investigation – Rinderpest (RP), Peste des Petits Ruminants (PPR), Contagious Bovine Pleuropneumonia (CBPP) and Rift Valley Fever (RVF) – are sent to the United Nations Food and Agricultural Organisation (FAO) regional reference laboratories.

Within the Eastern Africa region, the bodies acting as the FAO reference laboratories for the above diseases are KARI/ NVRC (Kenya Agricultural Research Institute/ National Veterinary Research Centre). They work together under OAU/ IBAR and provide technical assistance.

Regional laboratories must be able to meet specific technical and financial (either direct or through confirmed donor support) criteria set by FAO and / or OIE (International Office of Epizootics). For example, in the case of RP, they must be able to carry out virus isolation.

Higher up the hierarchy from the regional reference laboratories are the World Reference Laboratories. To be licensed as a World Reference Laboratory, additional criteria must be met. For example, for RP, the laboratory must be able to undertake molecular studies on virus isolates, so as to be able to identify other viruses that may confuse the diagnosis of RP, and to provide regional laboratories with positive identification of suspect virus isolates. Such a laboratory should also have a functioning research programme on RP.

The International Animal Health (IAH) in Pirbright, UK, is the world reference laboratory for RP.

5.3. Information from a disease investigation

Interpreting results from an investigation can provide information such as:

- a) the presence or absence of disease depending on whether a pathogen, its antigens or antibodies following infection are found;
- b) the level or prevalence of the disease – laboratory results allow for quantification as a certain number of sera are found to be positive out of the total tested;
- c) the distribution in geographical terms – whether the disease is focused or spread, with a high or low prevalence in some areas;
- d) the evolution over geographical area and over time – how the disease spreads and over what time frame.

Over time: if a number of surveys are carried out or if a disease is monitored for a period of time, information on its pattern can be obtained. Looking at the time frame of a disease – it can be seen if it is endemic, epidemic, pandemic or sporadic.

The way in which a disease evolves over time determines the urgency (speed) and type of measures that need to be taken for control purposes.

Over space: animal movements are important for disease investigation. Nomadic forms of herd movement present a particular challenge to carrying out surveys due to their unpredictability. Understanding the main paths followed by Somali livestock can help predict how a disease that may break out in one area can spread to another. With this knowledge, it is possible to take appropriate preventive measures (such as barrier vaccination) and prevent the pathogen from spreading.

5.4. Feedback to the field

During a field investigation or survey, livestock owners and local authorities will have contributed to the activities. They will be expecting feedback on the health status of their animals, information on any preventive or control measures that may be undertaken as well as the type of involvement or collaboration that may be requested from them.

5.5. Decision – making

Depending on the results of the survey, different decisions may be taken regarding the most suitable strategy of intervention. The strategy should however be cost effective: the cost of the control method should not be more expensive than the losses incurred by the disease when no control is carried out.

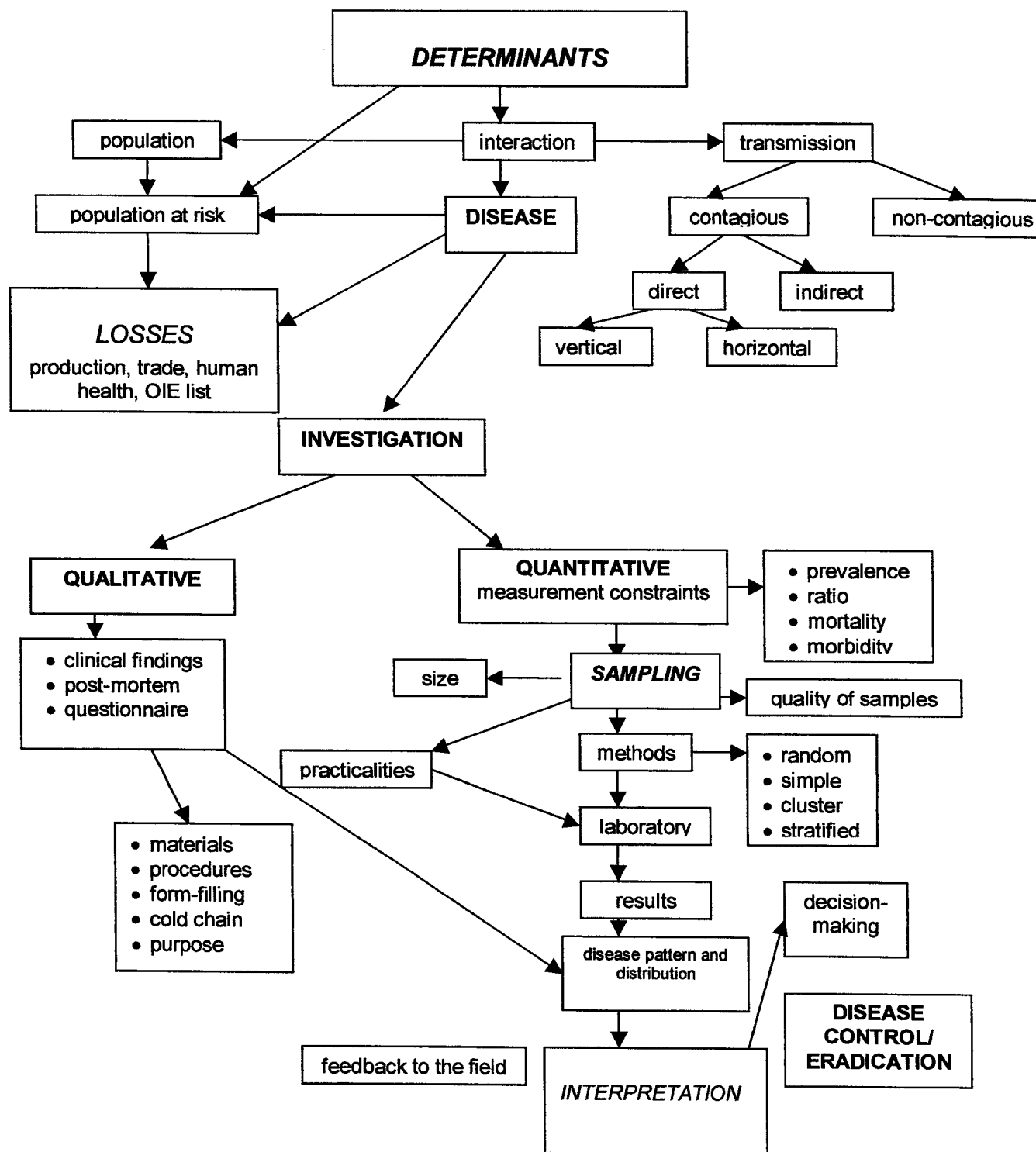
Nevertheless, for zoonosis and transboundary diseases of List A, the impact on public health and the trade restrictions imposed often make control and eradication necessary. This means that if people are at risk of contacting a disease or if trade in livestock or livestock products are going to be badly effected, the disease needs to be controlled whatever the cost.

5.6. Strategies of control

Strategies of control can be:

- immunising susceptible animals through mass vaccination
- stamping out (where feasible)
- control of animal movements; quarantine
- vector control, improvement of environment, improvement of husbandry
- 'doing nothing' – not all diseases need to be controlled. For example, with an endemic disease with no consistent losses or with decreasing incidence, there may be no need to control it.

Below, Figure 3 shows the inter-relations between the different concepts.



An example of the epidemiology process to investigate RP is given in **Annex V**.

5.7. Evaluation of control measures

Measures taken for the control or eradication of a disease need to be evaluated to see how effective the strategy has been and to what extent the objectives have been obtained. Criteria and points for evaluation need to be set at the same time that objectives are defined.

5.8. Ways to maintain a disease – free status

A country or area that is free from a disease or that has managed to eradicate a transboundary disease needs to make sure that it maintains its freedom. This requires:

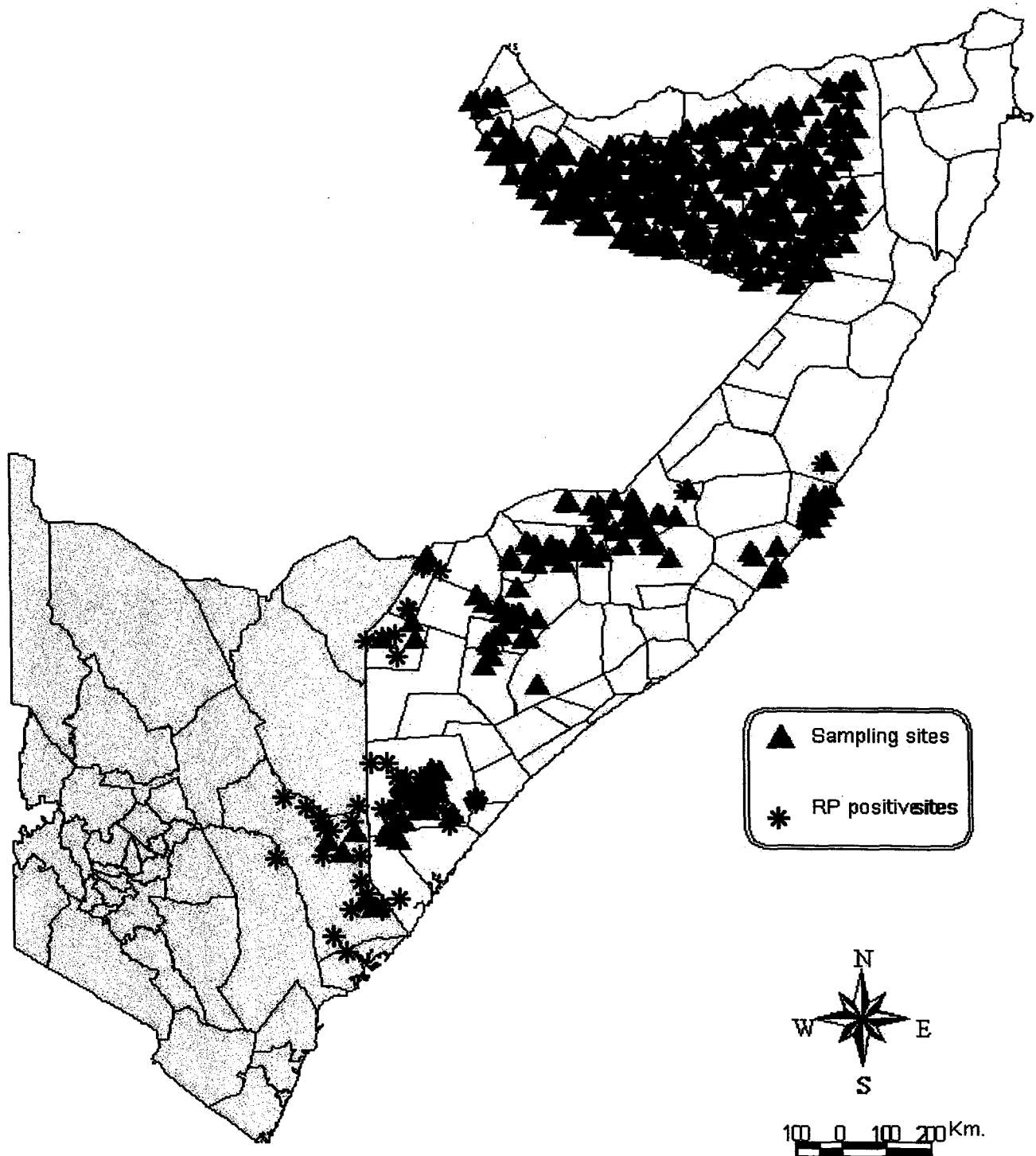
- continuing surveillance activities
- controlling the health status of animals at entry points
- not importing animals from infected countries or areas

A Glossary on Epidemiological Terms is given in **Annex VI**.

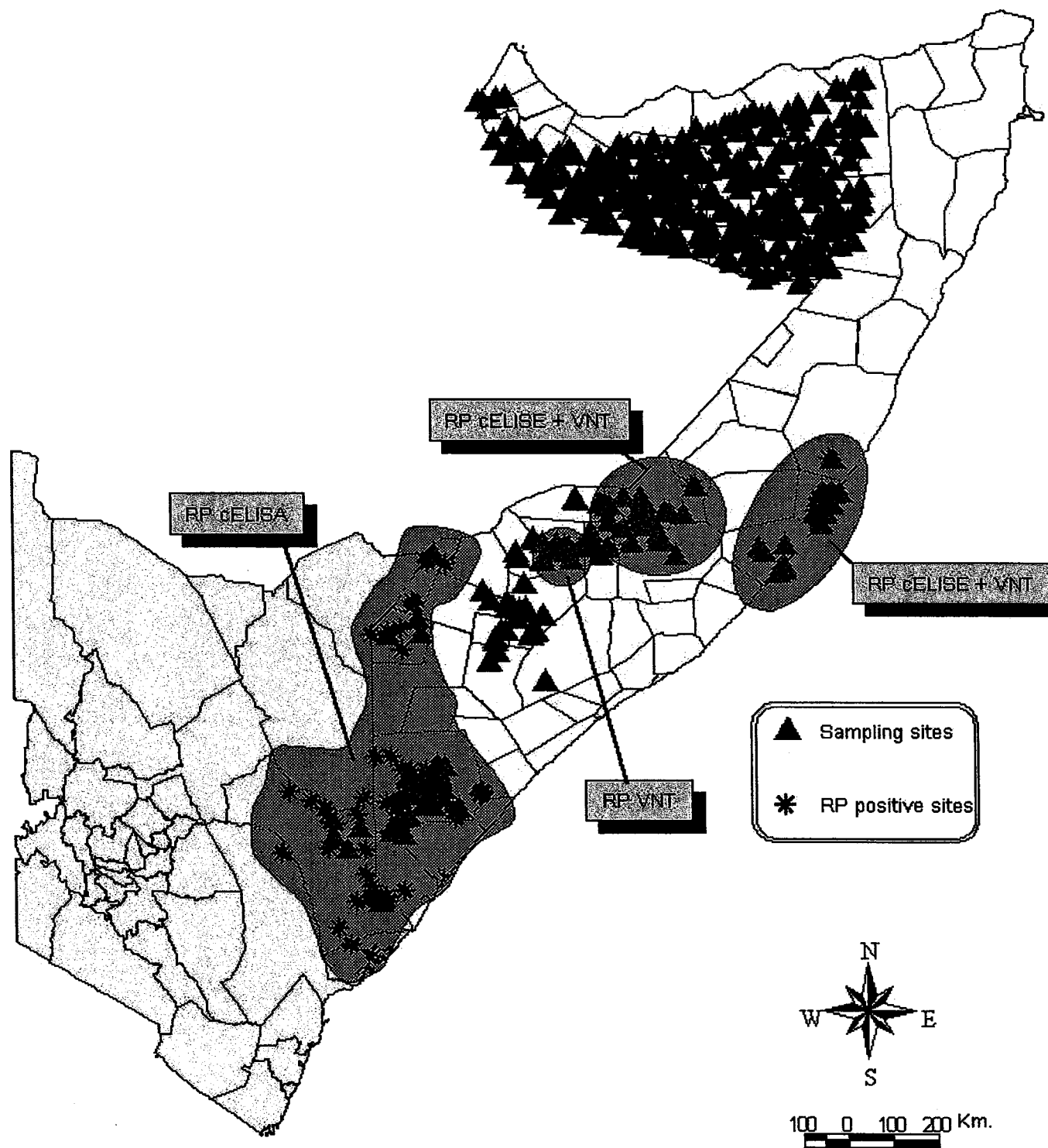
Annex I

(Recent Rinderpest data for Somalia)

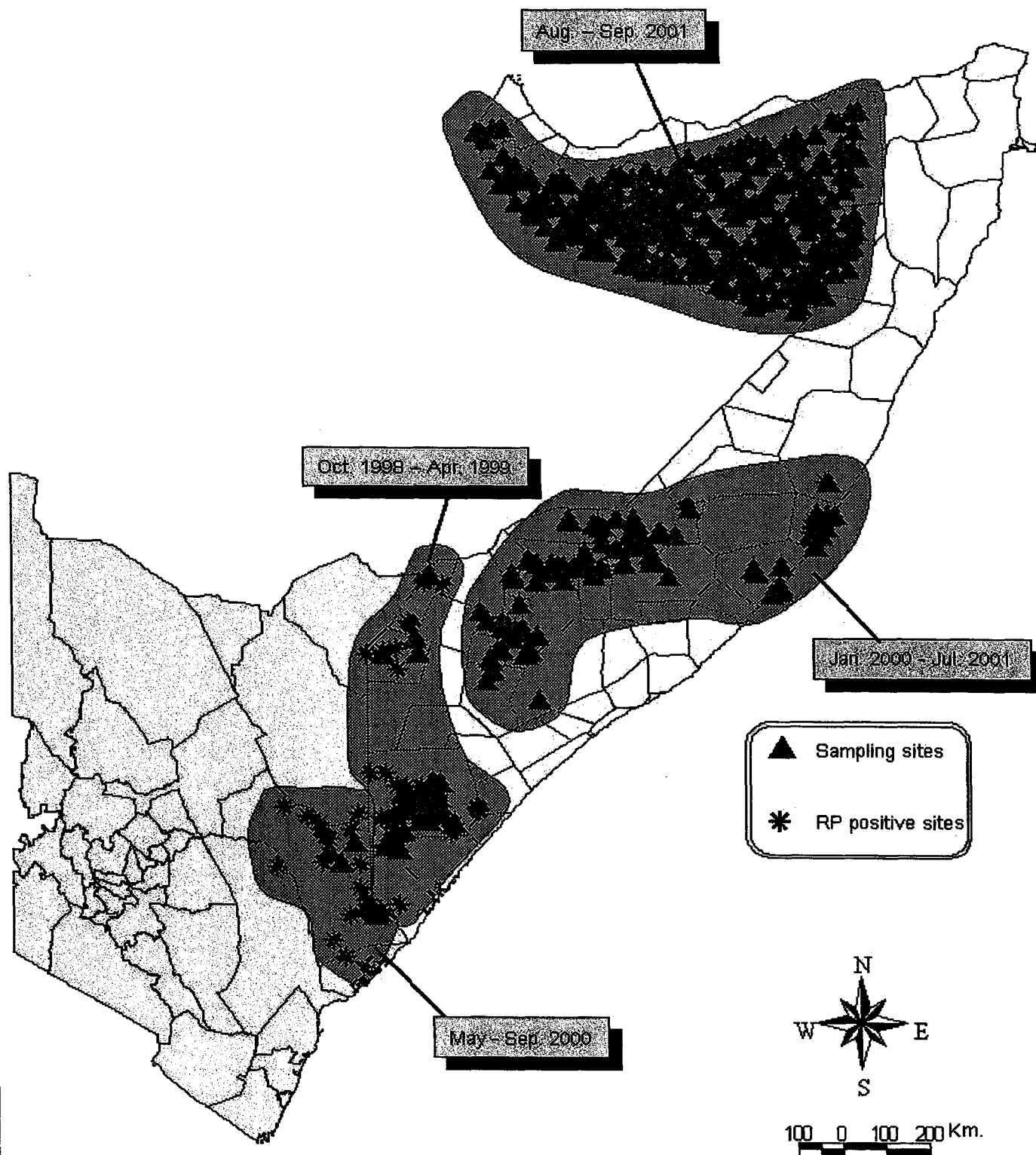
Sampling site and RP positive sites



Sampling sites and RP positive sites



Sampling sites and period of collection



Annex II

(OIE International Animal Health
Code for Rinderpest)

CHAPTER 2.1.4.

RINDERPEST

Preamble: Standards for diagnostic tests and vaccines are described in the *Manual*.

Article 2.1.4.1.

For the purposes of this *Code*, the *incubation period* for rinderpest shall be 21 days.

Article 2.1.4.2.

For the purposes of this *Code*:

Infection free country

To be considered free from infection, a country should fulfil the requirements contained in Appendix 4.5.1.1.

Should a localised rinderpest outbreak occur in an infection free country, the waiting period before infection free status can be regained shall be as follows:

- 1) 6 months after the last case where stamping-out without vaccination and serological surveillance are applied; or
- 2) 6 months after the slaughtering of the last vaccinated animal where stamping-out complemented by emergency vaccination (vaccinated animals should be clearly identified with a permanent mark) and serological surveillance are applied; or
- 3) 12 months after the last case or last vaccination (whichever occurs later) where emergency vaccination without slaughter (vaccinated animals should be clearly identified with a permanent mark) and serological surveillance are applied.

Disease free country or zone

To be considered free from the disease, a country or a zone should fulfil the requirements contained in Appendix 4.5.1.1.

Provisionally free country or zone

To be considered provisionally free from the disease, a country or a zone should fulfil the requirements contained in Appendix 4.5.1.1.

Infected country or zone

Where the requirements for acceptance as an infection free country, a disease free country or zone, or a provisionally free country or zone are not fulfilled, a country or zone shall be considered as infected.

Ban on vaccination against rinderpest

Ban on vaccination against rinderpest means a ban on administering a rinderpest vaccine to any susceptible species and a heterologous vaccine against rinderpest to any large ruminants or pigs.

Animal not vaccinated against rinderpest

Animal not vaccinated against rinderpest means:

-
- 1) for large ruminants and pigs: an animal that has received neither a rinderpest vaccine nor a heterologous vaccine against rinderpest;
 - 2) for small ruminants: an animal that has not received a rinderpest vaccine.

Article 2.1.4.3.

Veterinary Administrations of countries shall consider whether there is a risk with regard to rinderpest in accepting importation or transit through their territory, from other countries, of the following *commodities*:

- 1) ruminants and swine;
- 2) semen of ruminants and swine;
- 3) embryos/ova of ruminants and swine;
- 4) products of animal origin (from ruminants and swine);
- 5) *pathological material and biological products* (see Chapter 1.5.6. and Section 1.6.).

For the purposes of this Chapter, ruminants include animals of the family of Camelidae.

Article 2.1.4.4.

When importing from infection free countries, *Veterinary Administrations* should require:

for ruminants and swine

the presentation of an *international animal health certificate* attesting that the animals:

- 1) showed no clinical sign of rinderpest on the day of shipment;
- 2) remained in an infection free country since birth or for at least 30 days prior to shipment.

Article 2.1.4.5.

When importing from disease free countries or zones, *Veterinary Administrations* should require:

for domestic ruminants and swine, and wild ruminants and swine reared under confined conditions

the presentation of an *international animal health certificate* attesting that the animals:

- 1) showed no clinical sign of rinderpest on the day of shipment;
- 2) were kept in a disease free country or zone since birth or for at least the past 3 months;
- 3) have not been vaccinated against rinderpest;
- 4) were kept isolated in their *establishment* of origin for the 30 days prior to shipment and were subjected to a diagnostic test for rinderpest on two occasions with negative results, at an interval of not less than 21 days;
- 5) were not exposed to any source of infection during their transportation from the *establishment* of origin to the *place of shipment*.

Article 2.1.4.6.

When importing from disease free countries or zones, *Veterinary Administrations* should require:

for wild ruminants and swine not reared under confined conditions

the presentation of an *international animal health certificate* attesting that the animals:

- 1) showed no clinical sign of rinderpest on the day of shipment;
- 2) come from a disease free country or zone;
- 3) have not been vaccinated against rinderpest;
- 4) were kept in a *quarantine station* for the 30 days prior to shipment and were subjected to a diagnostic test for rinderpest on two occasions with negative results, at an interval of not less than 21 days;
- 5) were not exposed to any source of infection during their transportation from the *quarantine station* to the *place of shipment*.

Article 2.1.4.7.

When importing from provisionally free countries or zones, *Veterinary Administrations* should require:

for domestic ruminants and swine, and wild ruminants and swine reared under confined conditions

the presentation of an *international animal health certificate* attesting that the animals:

- 1) showed no clinical sign of rinderpest on the day of shipment;
- 2) were kept in the *establishment* of origin since birth or for at least 21 days before introduction into the *quarantine station* referred to in paragraph 2) below;
- 3) have not been vaccinated against rinderpest, were isolated in a *quarantine station* for the 30 days prior to shipment, and were subjected to a diagnostic test for rinderpest on two occasions with negative results, at an interval of not less than 21 days.

Article 2.1.4.8.

When importing from infected countries or zones, *Veterinary Administrations* should require:

for domestic ruminants and swine, and wild ruminants and swine reared under confined conditions

the presentation of an *international animal health certificate* attesting that:

- 1) in the country or zone, routine vaccination is carried out for the purpose of the prevention of rinderpest;
- 2) rinderpest has not occurred within a 10-km radius of the *establishment* of origin of the animals destined for export for at least 21 days prior to their shipment to the *quarantine station* referred to in paragraph 3)b) below;
- 3) the animals:
 - a) showed no clinical sign of rinderpest on the day of shipment;
 - b) were kept in the *establishment* of origin since birth or for at least 21 days before introduction into the *quarantine station* referred to in paragraph c) below;
 - c) have not been vaccinated against rinderpest, were isolated in a *quarantine station* for the 30 days prior to shipment, and were subjected to a diagnostic test for rinderpest on two occasions with negative results, at an interval of not less than 21 days;
 - d) were not exposed to any source of infection during their transportation from the *quarantine station* to the *place of shipment*;
- 4) rinderpest has not occurred within a 10-km radius of the *quarantine station* for 30 days prior to shipment

Article 2.1.4.9.

When importing from disease or infection free countries, or from disease free zones, *Veterinary Administrations* should require:

for semen of domestic ruminants and swine

the presentation of an *international animal health certificate* attesting that:

- 1) the donor animals showed no clinical sign of rinderpest on the day of collection of the semen;
- 2) the animals were kept in a disease or infection free country, or disease free zone, for at least 3 months prior to collection;
- 3) the semen was collected, processed and stored in conformity with the provisions of either Appendices 4.2.1.1. and 4.2.1.2., or Appendix 4.2.2.1. or Appendix 4.2.2.2., as relevant.

Article 2.1.4.10.

When importing from provisionally free countries or zones, *Veterinary Administrations* should require:

for semen of domestic ruminants and swine

the presentation of an *international animal health certificate* attesting that:

- 1) the donor animals:
 - a) showed no clinical sign of rinderpest on the day of collection of the semen;
 - b) were vaccinated against rinderpest before the ban referred to in paragraph 3a) of Appendix 4.5.1.1.; or
 - c) have not been vaccinated against rinderpest, and were subjected to a diagnostic test for rinderpest on two occasions with negative results, at an interval of not less than 21 days within the 30 days prior to collection;
- 2) the semen was collected, processed and stored in conformity with the provisions of either Appendices 4.2.1.1. and 4.2.1.2., or Appendix 4.2.2.1. or Appendix 4.2.2.2., as relevant.

Article 2.1.4.11.

When importing from infected countries or zones, *Veterinary Administrations* should require:

for semen of domestic ruminants and swine

the presentation of an *international animal health certificate* attesting that:

- 1) in the country or zone, routine vaccination is carried out for the purpose of the prevention of rinderpest;
- 2) the donor animals:
 - a) showed no clinical sign of rinderpest on the day of collection of the semen;
 - b) were kept in an *establishment* where no rinderpest susceptible animal had been added in the 21 days before collection, and that rinderpest has not occurred within 10 km of the *establishment* for the 21 days before and after collection;
 - c) were vaccinated against rinderpest for at least 3 months prior to collection; or
 - d) have not been vaccinated against rinderpest, and were subjected to a diagnostic test for rinderpest on two occasions with negative results, at an interval of not less than 21 days within the 30 days prior to collection.

- 3) the semen was collected, processed and stored in conformity with the provisions of either Appendices 4.2.1.1. and 4.2.1.2., or Appendix 4.2.2.1. or Appendix 4.2.2.2., as relevant.

Article 2.1.4.12.

When importing from disease or infection free countries, or from disease free zones, *Veterinary Administrations* should require:

for embryos/ova of domestic ruminants

the presentation of an *international animal health certificate* attesting that:

- 1) the donor females:
 - a) showed no clinical sign of rinderpest at the time of collection of the embryos/ova;
 - b) were kept in a disease or infection free country, or disease free zone, since birth or for at least the past 3 months prior to collection;
- 2) the embryos/ova were collected, processed and stored in conformity with the provisions of Appendices 4.2.3.1., 4.2.3.2., 4.2.3.3., 4.2.3.8. or 4.2.3.9., as relevant.

Article 2.1.4.13.

When importing from provisionally free countries or zones, *Veterinary Administrations* should require:

for embryos/ova of domestic ruminants

the presentation of an *international animal health certificate* attesting that:

- 1) the donor females:
 - a) were kept in an *establishment* where no rinderpest susceptible animal had been added in the 30 days before collection of the embryos/ova;
 - b) were vaccinated against rinderpest before the ban referred to in paragraph 3a) of Appendix 4.5.1.1.; or
 - c) have not been vaccinated against rinderpest, and were subjected to a diagnostic test for rinderpest on two occasions with negative results, at an interval of not less than 21 days within the 30 days prior to collection;
 - d) showed no clinical sign of rinderpest at the time of collection and for the following 21 days;
- 2) the embryos/ova were collected, processed and stored in conformity with the provisions of Appendices 4.2.3.1., 4.2.3.2., 4.2.3.3., 4.2.3.8. or 4.2.3.9., as relevant.

Article 2.1.4.14.

When importing from infected countries or zones, *Veterinary Administrations* should require:

for embryos/ova of domestic ruminants

the presentation of an *international animal health certificate* attesting that:

- 1) in the country or zone, routine vaccination is carried out for the purpose of the prevention of rinderpest;
- 2) the donor females:
 - a) were kept in an *establishment* where no rinderpest susceptible animal had been added in the 30 days before collection of the embryos/ova;

-
- b) were vaccinated against rinderpest for at least 3 months prior to collection; or
 - c) have not been vaccinated against rinderpest, and were subjected to a diagnostic test for rinderpest on two occasions with negative results, at an interval of not less than 21 days within the 30 days prior to collection;
 - d) showed no clinical sign of rinderpest at the time of collection and for the following 21 days;
- 3) the embryos/ova were collected, processed and stored in conformity with the provisions of Appendices 4.2.3.1., 4.2.3.2., 4.2.3.3., 4.2.3.8. or 4.2.3.9., as relevant.

Article 2.1.4.15.

When importing from infection free countries, *Veterinary Administrations* should require:

for fresh meat or meat products of ruminants and swine

the presentation of an *international sanitary certificate* attesting that the entire consignment comes from animals which have been kept in the country since birth or for at least 3 months prior to slaughter.

Article 2.1.4.16.

When importing from disease free countries or zones, *Veterinary Administrations* should require:

for fresh meat or meat products of domestic ruminants and swine

the presentation of an *international sanitary certificate* attesting that:

- 1) the entire consignment comes from animals which have been kept in the country or zone since birth or for at least 3 months prior to slaughter;
- 2) the animals were slaughtered in an *approved abattoir* located in a disease free zone.

Article 2.1.4.17.

When importing from provisionally free countries or zones, *Veterinary Administrations* should require:

for fresh meat (excluding offal) of domestic ruminants and swine

the presentation of an *international sanitary certificate* attesting that the entire consignment of meat:

- 1) comes from animals which:
 - a) have remained in the country or zone for at least 3 months prior to slaughter;
 - b) were kept in the *establishment* of origin since birth or for at least 30 days prior to shipment to the *approved abattoir*;
 - c) were vaccinated against rinderpest before the ban referred to in paragraph 3a) of Appendix 4.5.1.1.; or
 - d) were not vaccinated against rinderpest, and were subjected to a diagnostic test for rinderpest with negative results during the 21 days prior to slaughter;
 - e) showed no clinical sign of rinderpest within 24 hours before slaughter;
- 2) comes from deboned carcasses from which the major lymphatic glands have been removed.

Article 2.1.4.18.

When importing from infected countries or zones, *Veterinary Administrations* should require:

for fresh meat (excluding offal) of domestic ruminants and swine

the presentation of an *international sanitary certificate* attesting that the entire consignment of meat:

- 1) comes from a country or zone where routine vaccination is carried out for the purpose of the prevention of rinderpest;
- 2) comes from animals which:
 - a) have remained in the country or zone for at least 3 months prior to slaughter;
 - b) were kept in the *establishment* of origin since birth or for at least 30 days prior to shipment to the *approved abattoir*, and that rinderpest has not occurred within a 10-km radius of the *establishment* during that period;
 - c) were vaccinated against rinderpest at least 3 months prior to shipment to the *approved abattoir*;
 - d) had been transported, in a *vehicle* which was cleansed and disinfected before the animals were loaded, directly from the *establishment* of origin to the *approved abattoir* without coming into contact with other animals which do not fulfil the required conditions for export;
 - e) were slaughtered in an *approved abattoir* in which no rinderpest has been detected during the period between the last *disinfection* carried out before slaughter and the date on which the shipment has been dispatched;
 - f) showed no clinical sign of rinderpest within 24 hours before slaughter;
- 3) comes from deboned carcasses from which the major lymphatic glands have been removed.

Article 2.1.4.19.

When importing from provisionally free countries or zones, or from infected countries or zones, *Veterinary Administrations* should require:

for meat products of domestic ruminants and swine

the presentation of an *international sanitary certificate* attesting that:

- 1) only *fresh meat* complying with the provisions of Article 2.1.4.17. or Article 2.1.4.18., as relevant, has been used in the preparation of the *meat products*; or
- 2) the *meat products* have been processed to ensure the destruction of the rinderpest virus in conformity with one of the procedures referred to in Appendix 4.3.2.1.;
- 3) the necessary precautions were taken after processing to avoid contact of the *meat products* with any possible source of rinderpest virus.

Article 2.1.4.20.

When importing from infection free countries, or from disease free countries or zones, *Veterinary Administrations* should require:

for milk and milk products intended for human consumption and for products of animal origin (from rinderpest susceptible animals) intended for use in animal feeding or for agricultural or industrial use

the presentation of an *international sanitary certificate* attesting that these products come from animals which have been kept in the country or zone since birth or for at least 3 months.

Article 2.1.4.21.

When importing from provisionally free countries or zones, or from infected countries or zones, *Veterinary Administrations* should require:

for milk and cream

the presentation of an *international sanitary certificate* attesting that:

- 1) these products originate from herds or flocks which were not subjected to any restrictions due to rinderpest at the time of milk collection;
- 2) the products have been processed to ensure the destruction of the rinderpest virus in conformity with one of the procedures referred to in Appendix 4.3.2.3.;
- 3) the necessary precautions were taken after processing to avoid contact of the products with any potential source of rinderpest virus.

Article 2.1.4.22.

When importing from provisionally free countries or zones, or from infected countries or zones, *Veterinary Administrations* should require:

for milk powder and milk products

the presentation of an *international sanitary certificate* attesting that:

- 1) these products are derived from milk complying with the above requirements;
- 2) the necessary precautions were taken after processing to avoid contact of the milk powder or the milk products with a potential source of rinderpest virus.

Article 2.1.4.23.

When importing from provisionally free countries or zones, or from infected countries or zones, *Veterinary Administrations* should require:

for blood and meat-meals (from domestic or wild ruminants and swine)

the presentation of an *international sanitary certificate* attesting that the manufacturing method for these products included heating to a minimum internal temperature of 70°C for at least 30 minutes.

Article 2.1.4.24.

When importing from provisionally free countries or zones, or from infected countries or zones, *Veterinary Administrations* should require:

for wool, hair, bristles, raw hides and skins (from domestic or wild ruminants and swine)

the presentation of an *international sanitary certificate* attesting that:

- 1) these products have been processed to ensure the destruction of the rinderpest virus in conformity with one of the procedures referred to in Appendix 4.3.2.2.;
- 2) the necessary precautions were taken after processing to avoid contact of the products with any potential source of rinderpest virus.

Veterinary Administrations can authorise, without restriction, the import or transit through their territory, directly or indirectly, of semi-processed hides and skins (limed hides, pickled pelts, and semi-processed leather -e.g. wet blue and crust leather), provided that these products have been submitted to the usual chemical and mechanical processes in use in the tanning industry.

Article 2.1.4.25.

When importing from provisionally free countries or zones, or from infected countries or zones, *Veterinary Administrations* should require:

CHAPTER 2.1.4.

RINDERPEST

SUMMARY

Rinderpest is an acute, fatal disease of domestic cattle, buffaloes and yaks caused by a morbillivirus. Sheep, goats, pigs and wild ungulates may also be affected. Clinically the disease is characterised by pyrexia, the progressive development of shallow erosions on the gums, tongue, cheeks and hard palate together with serous or mucopurulent ocular and nasal discharges. Alimentary tract involvement is marked by the development of severe diarrhoea and dysentery.

Two lineages of the virus still occur in eastern Africa and a third lineage occurs in Asia. Except for part of the Arabian Peninsula, West Asia is probably rinderpest-free, but periodic outbreaks could continue to occur until the virus is eradicated from Pakistan, the only South Asian country in which the disease remains endemic. The Food and Agriculture Organization of the United Nations (FAO) has launched a Global Rinderpest Eradication Programme (GREP) calling for eradication of the virus by the year 2010.

Identification of the agent: Laboratory confirmation is based on demonstrating the presence of the virus, virus-specific RNA or (group specific) precipitating antigens in samples from the spleen, lymph nodes, or ocular or nasal secretions of acutely infected animals. It is particularly important to isolate the virus if a geographical extension or significant zoonosantary deterioration has occurred. In countries reporting peste des petits ruminants (PPR), rinderpest cannot be confirmed in sheep or goats on the basis of precipitating antigens because they will be common to both viruses. Under these circumstances, differentiation must be made on the basis of an enzyme-linked immunosorbent assay (ELISA) reaction following specific antigen capture or by viral-specific RNA detection methods including molecular techniques such as in situ nucleic acid probe hybridisation and reverse-transcription polymerase chain reaction.

Post-mortem examinations should pay particular attention to the abomasum, which may be highly engorged or show a grey discoloration; to the Peyer's patches, which may show lymphoid necrosis; and to the development of linear engorgement and blackening of the crests of the folds of the caecum, colon and rectum. The principal differential diagnoses are PPR in sheep and goats, and bovine viral diarrhoea/mucosal disease and malignant catarrhal fever in cattle; differentiation of these diseases requires the use of appropriate laboratory methods.

Serological tests: The OIE has drawn up a set of Recommended Standards for Epidemiological Surveillance for Rinderpest (commonly referred to as the 'OIE Pathway') that govern the actions of Member Countries wishing to demonstrate that they have achieved freedom from infection. To this end, a competitive ELISA test is available that will determine the presence of rinderpest antibodies in animals that have been infected with field virus or with rinderpest vaccine. Neutralising antibody estimations may be used for the same purpose. The possible occurrence of PPR must be considered.

Requirements for vaccines and diagnostic biologicals: A live attenuated cell culture vaccine is available that confers lifelong immunity in cattle after a single inoculation. In countries undertaking serosurveillance for the presence of wild virus, if protection against PPR is required, a homologous vaccine should be used to avoid the creation of rinderpest-immune small ruminant populations.

for hooves, claws, bones and horns, hunting trophies and preparations destined for museums (from domestic or wild ruminants and swine)

the presentation of an *international sanitary certificate* attesting that these products:

- 1) were completely dried and had no trace on them of skin, flesh or tendon; and/or
- 2) have been adequately disinfected.

[Note: Animal health/sanitary certificates for animal products coming from provisionally free countries or zones, or infected countries or zones, may not be required if the products are transported in an approved manner to premises controlled and approved by the Veterinary Administration of the importing country for processing to ensure the destruction of the rinderpest virus as described in Appendix 4.3.2.2.]

A. DIAGNOSTIC TECHNIQUES

Rinderpest is a highly fatal disease of domestic cattle, buffaloes and yaks caused by a morbillivirus of the family Paramyxoviridae. The virus also affects sheep, goats and some breeds of pigs and a large variety of wildlife species within the order Artiodactyla, although not always in a clinically apparent form.

Historically the virus was widely distributed throughout Europe, Africa, Asia and West Asia, but never became established in either the Americas or Australia/New Zealand. The Food and Agriculture Organization of the United Nations (FAO) has launched a Global Rinderpest Eradication Programme (GREP); the application of which will probably result in a rapid change in the list of countries in which endemic rinderpest still occurs. In Africa and Asia gene sequencing analysis places both historical and contemporary virus isolates into three nonoverlapping lineages. In Africa there have been no reports of rinderpest in any Central or West African country for over 10 years, but in southern Sudan lineage 1 remains endemic and a constant and immediate threat to Ethiopia, Kenya and Uganda. Of similar concern is the fact that lineage 2 virus, isolated in central Kenya in 1952, reappeared in southern Kenya in 1994, drawing attention to the possibility of long-term cryptic persistence; this virus subsequently spread to neighbouring Tanzania. Rinderpest has not been found in Ethiopia since 1995. In Pakistan, the Asian lineage virus remains endemic, but the Indian subcontinent and Sri Lanka are free from the virus. In West Asia it is still too early to be confident that rinderpest has died out in the Yemen and Saudi Arabia.

Following an incubation period of between 1 and 2 weeks, the ensuing clinical disease is characterised by an acute febrile attack within which prodromal and erosive phases can be distinguished. The prodromal period lasts approximately 3 days, during which affected animals develop a pyrexia of between 40 and 41.5°C with partial anorexia, constipation, congestion of visible mucosae, serous ocular and nasal discharges, depression and drying of the muzzle. However, it is not until the onset of the erosive phase, and the development of necrotic mouth lesions, that a tentative clinical diagnosis of rinderpest can be made. Still at the height of fever, small pin-head sized flecks of raised, whitish, necrotic epithelium appear on the lower lip and gum and in rapid succession may also appear on the margin between the upper gum and dental pad, on the underside of the tongue, on the cheeks and cheek papillae and on the hard palate. Through the enlargement of existing lesions and the development of new foci, the extent of the oral necrosis can increase dramatically over the following 2–3 days. Much of the necrotic material works loose giving rise to shallow, nonhaemorrhagic mucosal erosions.

Diarrhoea is another characteristic feature of rinderpest and develops 1–2 days after the onset of mouth lesions. The diarrhoea is usually copious and watery at first, but later on may contain mucus, blood and shreds of epithelium, and it may be accompanied by tenesmus. During the erosive phase, necrosis may be observed in the nares, in the vulva and vagina, and on the preputial sheath. Anorexia becomes absolute, the muzzle dries out completely, the animal is profoundly depressed, and mucopurulent ocular and nasal discharges develop. The breath is fetid and, in the terminal stages of the disease, the animal may become recumbent for 24–48 hours; during this period a characteristic delayed, grunted exhalation may be noted.

Animals may die while showing severe necrotic lesions, high fever and diarrhoea or while similarly affected but after a precipitous fall in body temperature, often to subnormal values. Alternatively, the pyrexia may remit slightly in the middle of the erosive period and then, 2–3 days later, return rapidly to normal accompanied by a rapid resolution of the mouth lesions, a halt to the diarrhoea and an uncomplicated convalescence.

Most virus strains circulating in Africa or Asia produce a disease picture that more or less conforms to the above description. On the Arabian Peninsula, however, and in association with highly susceptible imported cattle, peracute disease has been seen in which deaths occurred at the end of the prodromal period. Mild strains, which may be difficult to diagnose clinically because of the fleeting and greatly reduced number of mouth lesions, still occur in parts of Africa.

Typically, the carcass is dehydrated, emaciated and soiled. The nose and cheeks bear evidence of mucopurulent discharges, the eye is sunken and the conjunctiva congested. In the oral cavity, there is often extensive desquamation of necrotic epithelium, which always appears sharply demarcated from adjacent areas of healthy mucosa. The lesions frequently extend on to the soft palate and may also involve the pharynx and the upper portion of the oesophagus; the rumen, reticulum and omasum are usually unaffected, although necrotic plaques are occasionally encountered on the pillars of the rumen. The abomasum, especially the pyloric region, is severely affected and shows congestion, petechiation and oedema of the submucosa. Epithelial necrosis gives the mucous membrane a slate-like colour. The small intestine is not commonly involved except for striking changes in the Peyer's patches where lymphoid necrosis and sloughing leave the supporting architecture engorged or blackened. In the large intestine, changes involve the ileocaecal valve, the caecal tonsil and the crests of the longitudinal folds of the caecal, colonic and rectal mucosae. The folds appear highly engorged in acute deaths or darkly discoloured in long-standing cases; in either event, the lesions are referred to as 'zebra striping'.

1. Identification of the agent

A variety of laboratory tests are available for the identification of rinderpest, but it is important to understand the limitations of some of the older methods and the complexity of diagnosing rinderpest in small ruminants in countries with a history of concurrent infection with both rinderpest and peste des petits ruminants (PPR). In view of the efforts now being directed towards the global eradication of rinderpest, any outbreak assumes a high level of epidemiological significance, even in countries where the disease is still regarded as endemic. Consequently, samples from all outbreaks diagnosed as rinderpest on clinical or pathological grounds must be routinely submitted for laboratory confirmation.

Although rapid diagnostic procedures will become increasingly common, the future availability of virus isolates for epidemiological studies or pathogenicity trials makes it absolutely essential to retain virus isolation routines within the diagnostic process (1).

Rinderpest virus can be cultured from the leukocyte fraction of whole blood that has been collected into heparin or EDTA (ethylene diamine tetra-acetic acid) anticoagulants at a final concentration of 10 International Units [IU]/ml and 0.5 mg/ml, respectively. Samples should be thoroughly mixed and transferred to the laboratory on ice, but not frozen. Virus may also be isolated in samples obtained from the spleen, or the prescapular or mesenteric lymph nodes of dead animals; these samples may be chilled to subzero temperatures.

To isolate the virus from blood, uncoagulated blood is centrifuged at 2500 *g* for 15 minutes to produce a buffy coat layer at the boundary between the plasma and red blood cells. This is removed as cleanly as possible, mixed in 20 ml physiological saline and recentrifuged in a washing procedure designed to remove any neutralising antibody present in the plasma. The resulting cell pellet is suspended in cell culture maintenance medium, and 2 ml aliquots are distributed on to established monolayers of B95a Marmoset lymphoblastoid cells, primary calf kidney cells or African green monkey kidney (Vero) cells. The monolayers should be re-fed periodically and observed microscopically for the development of cytopathic effects (CPE) characterised by refractility, cell rounding, cell retraction with elongated cytoplasmic bridges (stellate cells) or syncytial formation. Isolates of virus can be partially identified by the demonstration of morbillivirus-specific precipitinogens in infected cell debris, or completely identified by the demonstration of specific immunofluorescence using a conjugated monoclonal antibody (MAb).

Alternatively, 20% suspensions (w/v) of lymph node or spleen may be used for virus isolation. These should be made by macerating the solid tissues in serum-free culture maintenance medium using standard grinding or shearing techniques¹ and inoculating monolayers as before.

In bovines only, either an agar gel immunodiffusion (AGID) or a counter immunoelectrophoresis (CIEP) test can be used as a rapid diagnostic test to demonstrate the presence of precipitinogens in the ocular secretions of infected animals. Secretions should be collected during either the prodromal or erosive phases using cotton wool buds manoeuvred beneath both the upper and lower eyelids.

a) Agar gel immunodiffusion

The AGID tests may be conducted in Petri dishes or on glass microscope slides (1, 6). In either instance the surface should be covered with agar to a depth of about 4 mm using a 1% aqueous solution of any high quality agar or agarose. Wells are usually cut in a hexagonal pattern of six peripheral wells around a single central well. For slides, wells should be 3 mm in diameter and 2 mm periphery to periphery. For Petri dishes, the wells can be increased to 4 mm in diameter and the distance between wells to 3 mm. The closer the wells are placed, the shorter will be the reaction time.

Using a Pasteur pipette, rinderpest hyperimmune rabbit serum should be placed in the central well. Similarly, control positive antigen prepared from rinderpest-infected cell debris or from the macerated mesenteric lymph nodes of a rabbit infected with the Nakamura III strain of lapinised virus, should be placed in peripheral wells one, three and five. Negative control antigen is placed in well four. Test antigens are obtained as exudates from the cut surface of spleen or lymph nodes submitted for testing; if no exudate can be obtained, a small portion of the sample should be ground with a minimum of saline. Ocular exudates may be squeezed directly from the swabs or, alternatively, by compression in a microtip (the cotton wool should be cut off the swab and placed into the wide end of a plastic 50–250 µl pipette tip; the stem of the

1 The release of virus from solid tissue can be achieved in several ways. Perhaps the easiest is with a pestle and mortar, but this technique requires the use of sterile sand as an abrasive. Alternatively, tissues may be ground without an abrasive using all-glass grinders, for example, a Ten Broeck grinder. Shearing techniques are equally applicable using, for example, Silverson or Waring blenders. Virus-containing suspensions are clarified by low speed centrifugation. The volume of the inoculum is not critical; a working answer would be a volume of between 1 and 2 ml. Commonly used

swab may then be used to compress the cotton wool and force a small volume of exudate out of the narrow end of the tip). Test samples are added to wells two and six. Tests are best developed at 4°C or low ambient temperatures. The reaction area should be inspected from 2 hours onwards for the appearance of clean, sharp lines of precipitation. The result is not acceptable unless precipitation reactions are also obtained giving a line of identity with the control positive antigen preparation.

b) Counter immunoelectrophoresis

CIEP tests may yield a positive reaction slightly ahead of the AGID test (1, 6). Reactions are carried out on standard microscope slides coated to a depth of 2.0 mm with 1% agar or agarose in 0.025% veronal acetate buffer, pH 8.6. Wells are cut in pairs at an interperipheral distance of 6 mm, the left-hand side is anodal and is filled with rinderpest hyperimmune serum; the right-hand side is cathodal and the wells are filled with test samples or positive and negative antigen preparations. Samples are run for 40–60 minutes at a constant current of 10 mAmp/slide or a constant voltage of 6 volts/cm, after which the reaction area is examined for precipitation.

At post-mortem examination, tissues should be collected and placed in 10% buffered formalin for histopathology and immunohistochemistry; the base of the tongue, retropharyngeal lymph node and eyelid are suitable tissues. Sections stained with haematoxylin and eosin should be examined for the presence of syncytial cell formation, and cells with intranuclear viral inclusions. The presence of rinderpest antigens can be demonstrated in the same formalin-fixed tissues by immunoperoxidase staining following the quenching of endogenous peroxidase activity. If a polyclonal antiserum is used, this test will fail to differentiate between rinderpest and PPR. However, this problem can be circumvented by using a negative-sense RNA probe to the rinderpest N protein gene (3).

• Differentiation between rinderpest and peste des petits ruminants

a) Differential immunocapture

Given the inability of clinical observations or precipitinogen detection tests to differentiate between rinderpest and PPR, in countries where both diseases occur, tests capable of differentiating the two diseases are mandatory for all rinderpest-like outbreaks in sheep or goats. Although such differentiation can follow the inoculation of experimental animals, it can be undertaken more rapidly and cost-effectively using a differential immunocapture enzyme-linked immunosorbent assay (ELISA) (8). This test employs MAb directed against the N protein of the two viruses. One MAb, with a reactivity against both viruses, is used as a capture antibody, while a second biotinylated MAb specific for a nonoverlapping antigenic N protein site, and specific against either rinderpest or PPR, is used to determine which N protein has been captured.

High protein binding ELISA plates (or strips) are coated with 100 µl/well of capture antibody. After three washes, the wells are loaded with 50 µl of test sample diluted 1/10 in a lysis buffer, 25 µl of the manufacturer's recommended dilution of the virus-specific MAb and 25 µl of streptavidin-peroxidase at a final dilution of 1/3000. The wells are then placed on an orbital shaker for 1 hour at 37°C, after which time they are again washed; following the addition of 100 µl of ortho-phenylenediamine (OPD), the wells are reincubated at room temperature for 10 minutes. Reactions are halted by the addition of 100 µl of 1 N sulphuric acid, and the results, measured at 492 nm with an automated ELISA reader, are expressed as absorbance values. The test can be used to confirm the identity of rinderpest or PPR viruses in field samples (11) or those grown in tissue culture.

b) Polymerase chain reaction

The reverse-transcription polymerase chain reaction (RT-PCR) provides a method for the differential diagnosis of rinderpest from PPR (7); it also produces DNA suitable for gene sequence analysis. The viral RNA used in the test can be purified from any of the following: tissues (spleen [but not ideal due to its high blood content], lymph node and tonsil [ideal], and gum scrapings and eye swabs [contingent]), peripheral blood lymphocytes (PBLs), or swabs from eyes or mouth lesions. RNA is extracted using the acid guanidinium thiocyanate-phenol-chloroform method of Chomczynski & Sacchi (4). Solid tissues (0.5–1.0 g) are minced and homogenised with 4.0 ml denaturing solution², eye and mouth swabs are treated with

2 Solution D (disruption solution): the procedure is that recommended by Chomczynski & Sacchi (4) to minimise the hazard of handling the poisonous guanidinium thiocyanate. It should be carried out in a chemical safety hood. The following are the amounts of guanidinium thiocyanate for a 250 g bottle, but the volumes can be adjusted for the other quantities available from Fluka, the supplier. Do not attempt to weigh out the guanidinium thiocyanate, but dissolve it in the manufacturer's bottle by adding 293 ml sterile distilled water, 17.6 ml 0.75 M sodium citrate, pH 7.0, and 26.4 ml 10% sarcosyl. Heat to 65°C in a water bath to dissolve. This solution can be kept for several months in the dark at room

1.0 ml, and purified PBLs (from 5 to 10 ml whole blood) are treated with 0.4 ml according to the published procedure. The resulting RNA is precipitated with 2.5 volumes of ethanol, washed in 70% ethanol, dissolved in sterile water or TE buffer (Tris/EDTA, 10 mM, pH 7.5, 1 mM EDTA), and stored at -70°C or -20°C until required. The cDNA synthesis is carried out using random hexanucleotide primers to enable several different specific primer sets to be used in the PCR amplification step. Aliquots of the resulting cDNA are amplified using at least three primer sets that can detect and differentiate between the two morbilliviruses. These primer sets include two 'universal' sets based on highly conserved regions in the phosphoprotein and nucleoprotein genes that should detect all morbilliviruses, and rinderpest virus-specific and PPR virus-specific sets based on sequences in the fusion protein genes of each virus. The PCR products are analysed on a 1.5% agarose gel along with a suitable DNA marker to identify the specific DNA product. A positive control such as measles or canine distemper virus RNA, and a negative control using sterile distilled water instead of RNA, must be included in each RT-PCR. Positive reactions should be confirmed either by using 'nested' primer sets based on the F gene sequences or by sequence analysis of the DNA product. It is important to use more than one set of primers for the PCR step when testing for the presence of RNA viruses, as their nucleotide sequences can vary significantly and one change at the 3'-end of the primer sequence may result in failure of the primers to amplify the DNA. The FAO World Reference Laboratory in the United Kingdom (UK), which is also an OIE Reference Laboratory for rinderpest, and the OIE Reference Laboratory in France (see Table given in Part 4 of this *Manual*), can advise on the use of the technique for field sample analysis.

2. Serological tests

a) Competitive enzyme-linked immunosorbent assay (the prescribed test for international trade)

A competitive ELISA test is available for the detection of rinderpest antibodies in the serum of animals of any species previously exposed to the virus. The test is based on the ability of positive test sera to compete with a rinderpest anti-H protein MAb for binding to rinderpest antigen. The presence of such antibodies in the test sample will block binding of the MAb, producing a reduction in the expected colour reaction following the addition of enzyme-labelled anti-mouse IgG conjugate and a substrate/chromogen solution. As this is a solid-phase assay, wash steps are required to ensure the removal of any unbound reagents.

The rinderpest antigen is prepared from Madin-Darby bovine kidney cell cultures infected with the attenuated Kabete 'O' strain of rinderpest virus. The antigen is concentrated from the infected cell culture supernate by ammonium sulphate precipitation. The MAb was obtained by fusing the splenocytes of hyperimmunised mice with the NS0 myeloma cell line, and then shown to be rinderpest specific (2); this MAb has now been designated as C1. Both C1 and standardised rinderpest antigen are directly available from the OIE Reference Laboratory for Rinderpest in the UK (see Table given in Part 4 of this *Manual*). Kits are available commercially.

• Test procedure

- i) Reconstitute the freeze-dried rinderpest antigen with 1 ml of sterile water and further dilute it to the manufacturer's recommended working dilution using 0.01 M phosphate buffered saline (PBS), pH 7.4.
- ii) Immediately dispense 50 μl volumes of the diluted antigen into an appropriate number of wells of a flat-bottomed, high protein-binding ELISA microplate using two wells per test serum. Tap the sides of the microplate to ensure that the antigen is evenly distributed over the bottom of each well and, having sealed the plate, incubate it on an orbital shaker for 1 hour at 37°C . Wash the wells three times with 0.002 M PBS, pH 7.4.
- iii) Add 40 μl of blocking buffer (0.01 M PBS, 0.1% [v/v] Tween 20 and 0.3% [v/v] normal bovine serum) to each test well followed by 10 μl volumes of all test sera.
- iv) Follow the manufacturer's recommendations to prepare a working dilution of the MAb in blocking buffer, and add 50 μl of this to each test well. Seal the plates and reincubate on an orbital shaker for 1 hour at 37°C .
- v) Follow the manufacturer's recommendations to prepare a working dilution of rabbit anti-mouse immunoglobulin horseradish-peroxidase conjugate in blocking buffer and add 50 μl to each test well. Seal the plates and reincubate on an orbital shaker for 1 hour at 37°C .
- vi) At the end of this period, the plates are washed as before and immediately refilled with 50 μl volumes of substrate/chromogen mixture (1 part 3% H_2O_2 to 250 parts OPD), and incubate at room temperature for 10 minutes without shaking. Add 50 μl of a stopping solution consisting of 1 M sulphuric acid.
- vii) The test system must include known rinderpest positive and negative serum samples, an MAb control and a conjugate control.

- viii) Measure the resulting absorbance values on an ELISA reader with a 492 nm interference filter and express the test results as percentage inhibition values compared with the value obtained using the MAb control. Inhibition values of 50% or more are considered to be positive and values below 50% are considered to be negative.

b) Virus neutralisation

The standard virus neutralisation test is undertaken in roller-tube cultures of calf kidney or Vero cells. Inactivated sera are diluted at intervals of 1 in 2 or 1 in 10 and, starting with neat serum, mixed with approximately $10^{3.0}$ TCID₅₀ (50% tissue culture infective dose) per ml of the vaccine strain of the virus. Mixtures containing equal volumes of virus and serum are held overnight at 4°C, after which 0.2 ml volumes are inoculated into each of five roller tubes, immediately followed by 1 ml of dispersed indicator cells suspended in growth medium at a rate of 2×10^5 per ml. Tubes are sloped for 3 days at 37°C, after which those showing virus-specific cytopathology are discarded; the medium in the remaining tubes is changed to a maintenance formulation, after which they are rolled pending final examination at 10 days.

For calculating end-points, the virus dose is regarded as satisfactory if it falls within the range $10^{1.8}$ – $10^{2.8}$ TCID₅₀/tube; serum dilutions are considered to double after mixing with the virus dose. This test can be used to measure the antibody levels present in individual sera or to qualify susceptible cattle for vaccine testing or for export. Under these circumstances, the presence of any detectable antibody in the 1/2 final serum dilution is considered to be positive.

In the microplate method, 50 µl volumes of serum are incubated with 50 µl volumes of virus diluted to contain between $10^{1.8}$ and $10^{2.8}$ TCID₅₀ (15). Following a 45-minute or an overnight incubation period at 4°C, between 1 and 2×10^5 calf kidney, lamb kidney or Vero cells are added as indicators. Tests are terminated after 6 or 7 days. Such tests may give indications of nonspecific neutralisation at high serum concentrations. (There appear to be factors in some normal [with respect to prior rinderpest exposure] sera that bring about the failure of the virus to penetrate and replicate in the indicator cells. In the older tube test method these factors were probably removed during changes of the maintenance medium; in the microplate they remain present the whole time. The result is that a serum that fails to neutralise the virus in the more sensitive tube test apparently neutralises it in the microwell test. If the most concentrated final serum dilution is limited to 1/10, the effect disappears. The nature of the factors involved have not been investigated.)

B. REQUIREMENTS FOR VACCINES AND DIAGNOSTIC BIOLOGICALS

Susceptible animals may be immunised with a live attenuated tissue culture rinderpest vaccine (TCRV), which induces a lifelong immunity. TCRV was developed at the former East African Veterinary Research Organisation by serial passage of the virulent bovine rinderpest strain Kabete 'O' (RBOK). It is safe for use in cattle, buffalo, sheep and goats of all ages and in zoological collections. If vaccinated animals are fully susceptible, immunologically competent and correctly vaccinated by the subcutaneous route, they will develop a long-lived immunity. In the past TCRV has been used in conjunction within annual vaccination programmes designed to protect the national bovine population of countries with endemically infected regions. Due to individual variations in the duration of passive immunity, animals were not regarded to be fully immunised until they were vaccinated once when over 1 year of age; such animals were generally marked by branding or ear notching. Although younger animals were often included in such campaigns in case they had not developed an adequate maternal immunity, such animals were not marked.

Where the regional eradication of rinderpest has been attempted, vaccine has been the principal tool for endeavouring to create a large pool of bovines in which the prevalence of immunity exceeds 85%. Although such campaigns have made considerable contributions to reducing the global incidence of rinderpest, eliminating the final pockets of infection probably requires a somewhat different approach based on a careful preliminary investigation to establish the extent of the infected area. When this is known, TCRV should be employed in a manner designed to produce a very high level of coverage in the shortest possible period. The effectiveness of such campaigns should be assessed serologically immediately the campaign ends as a campaign quality control procedure. Any short-falls should be rectified immediately.

1. Seed management

a) Characteristics of the seed

Seed lots used in the manufacture of TCRV must produce a cell culture vaccine that is safe, that confers an

passages in cattle, and that lacks the ability to spread by contact. Substrains of RBOK used in the manufacture of TCRV must be identifiable by written historical records, which must include information on the origin of the strain and of its subsequent manipulations.

b) Method of culture

Vaccine seed must be maintained in a seed-lot system between passage levels 90 and 120. Seed-lot virus must be preserved in a freeze-dried state at a temperature of -20°C or lower. The virus must be cultured in Vero cells or primary or serially cultivated kidney cells derived from a normal bovine fetus or a very young calf. Serially cultivated cells may not be more than ten passages removed from the primary cultivation.

c) Validation as a vaccine

Seed lots must be shown to be:

- i) *Pure*: Free from contamination with viruses, bacteria, fungi or mycoplasmas.
- ii) *Safe*: Inducing no abnormal clinical reaction on inoculation into rinderpest-susceptible cattle.
- iii) *Efficacious*: Inducing an immunity to rinderpest in rinderpest-susceptible cattle.

2. Method of manufacture

Individual vaccine batches are prepared by infecting cell cultures and, after an appropriate incubation period, harvesting the overlying media into which large numbers of live virus particles have been released. To facilitate long-term storage and cold-chain distribution, this fluid is freeze-dried in the presence of a cryoprotectant consisting of 5% lactalbumin hydrolysate and 10% sucrose. Virus may be grown in primary kidney cells from bovine embryos or calves, or cells derived in a homogeneous manner by up to ten serial subcultures from either of these sources. In addition, vaccine may be manufactured in approved continuous cell lines provided the cells are known to be noninfected with bovine viral diarrhoea (BVD) virus and are maintained in a seed-lot system; Vero cells have been used for this purpose. To constitute a batch, infected cultures must have been inoculated with the same seed virus and incubated and harvested together. Two harvests are permissible from the same set of cultures and may be pooled to form a bulk suspension. Written records must accompany all stages of vaccine manufacture.

3. In-process control

Cells: Primary cells, serially cultivated primary cells or continuous cell lines must have been derived from normal-looking animals or embryos, and must retain a normal morphology during cultivation. They must be shown to be free from contamination with adventitious viruses, particularly BVD virus. Whatever cells are committed for vaccine production, uninfected control cultures must be maintained using the same media and incubation conditions as the rinderpest-infected cells. They must be subjected to frequent microscopic examinations. After harvesting the vaccine, the control cultures should be washed to remove ox serum and reincubated for 10 days in media containing ox serum substitutes. They are again subject to frequent microscopic examinations for evidence of cytopathic change. Simultaneously a sample of the cultures should be examined for the presence of noncytopathic BVD virus using an immunofluorescence or immunoperoxidase test or RT-PCR. The serum used in the culture media must come from rinderpest-susceptible animals.

Virus: A virus titration must be undertaken on the seed lot using tenfold virus dilutions in a microplate or roller tube system and employing ten replicates per dilution. A similar titration must be undertaken on the final bulk. Virus should be derived from cultures maintained in roller bottles and may not be harvested more than 10 days after the date that these cultures were infected. The harvest should be clarified by low-speed centrifugation before mixing with cryoprotectant. Prior to lyophilisation it may be held for not more than 5 days at 4°C , but for considerably longer if frozen at between -20°C and -60°C . As adventitious viral contamination may arise during a manufacturer's manipulations or from the use of contaminated media, rabbit hyperimmune rinderpest antiserum should be used to neutralise the rinderpest content of a sample of the bulk suspension, after which the mixture should be used to infect calf kidney or Vero cells, which are handled as described above. The final bulk must be tested for freedom from bacteria, fungi and mycoplasmas.

4. Batch control

a) Identity

The contents of one container from each filling lot must be exposed to neutralisation by rabbit hyperimmune rinderpest antiserum, using a varying virus/constant serum method, and inoculated into bovine kidney cells. The identity of the product is established if no rinderpest-specific CPE develop.

b) Sterility

Tests for sterility and freedom from contamination of biological materials may be found in Chapter I.4.

c) Safety and efficacy

Using rinderpest-susceptible cattle, the contents of five randomly selected vials are pooled and used to inoculate one ox with a volume equivalent to 100 cattle field doses and one ox with a volume equivalent to 1/10 of a cattle field dose. These animals are maintained in close contact with an uninoculated ox for the following 3 weeks. During this period the animals are subjected to daily temperature recording and frequent clinical inspections. At the end of the 3 weeks, the cattle are examined for rinderpest neutralising antibodies and challenged with a strain of rinderpest capable of inducing a pyrexia. The vaccine is considered to be safe and efficacious if it does not induce any abnormal clinical reaction, if both animals receiving vaccine are protected, and if there is no evidence that the vaccine virus has been transmitted. This test is not a potency test. Each vaccine lot must also be tested for innocuity in small animals.

d) Potency

The close relationship between immunising potency and infectivity allows the latter to be used as the basis for potency estimations. Three infectivity titrations are undertaken using cells of an approved continuous line or cells grown from each of three different bovine calf or embryonic kidneys. For the first titration, the pool of vials used for the safety test may be employed. The second and third estimates are made on further pools, each of three final containers. The sensitivity of the cells used in each working session must be measured using a standard laboratory rinderpest virus preparation. The final titre is the geometric mean of the three estimates, each undertaken using tenfold dilutions and ten observations per dilution.

For field use, the minimum dose of vaccine is defined as $10^{2.5}$ TCID₅₀.

e) Duration of immunity

It is unnecessary to routinely establish the duration of immunity to TCRV. The reported results (12) indicate that lifelong immunity can be expected following the successful vaccination of cattle free of all vestiges of maternal immunity.

f) Stability

TCRV is highly stable when correctly freeze-dried and will keep for long periods at either 4°C or -20°C (14) provided the product is stored under vacuum. Recent evidence indicates that the rate of degradation of lyophilised TCRV can be altered by the choice of stabiliser and by variations in the drying cycle. The most advantageous results were associated with the use of a 5% lactalbumin hydrolysate/10% sucrose stabiliser, a 72-74-hour drying cycle under reduced vacuum (100 milliTor), initial drying for 16 hours at -30°C, and a final shelf temperature of 35°C (9, 10). With high release titres, such vaccine can be used in the field for 30 days without refrigeration. Following reconstitution in either normal saline or 1 M magnesium sulphate, the virus becomes much more thermolabile (13). The period for field distribution of reconstituted vaccine should not exceed its half-life, but as this parameter is temperature dependent and varies between 8 and 24 hours over a range from 4°C to 37°C, a common-sense limit must be applied; this can be determined by National Control Authorities, but a universal period of 4 hours can be recommended.

g) Preservatives

TCRV contains lactalbumin hydrolysate and sucrose, which are added as cryoprotectants; otherwise it contains no specific chemical preservative.

h) Precautions (hazards)

There are no known hazards associated with the manufacture or field use of TCRV.

5. Tests on the final product

a) Safety

As in Section B.4.c.

b) Potency

As in Section B.4.d.

Quality control procedures have been documented (5).

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Annex III

(Rinderpest sero-surveillance structure
for Central and Southern Somalia)

RINDERPEST SERO-SURVEILLANCE STRUCTURE FOR CENTRAL AND SOUTHERN SOMALIA

The very mild clinical expression of the African type 2 lineage makes the active search of the disease alone (mainly based on the recognition of the clinical symptoms) not a very sensitive tool for the identification of infected areas. This could lead to underestimate the extension of RP virus circulation in the country.

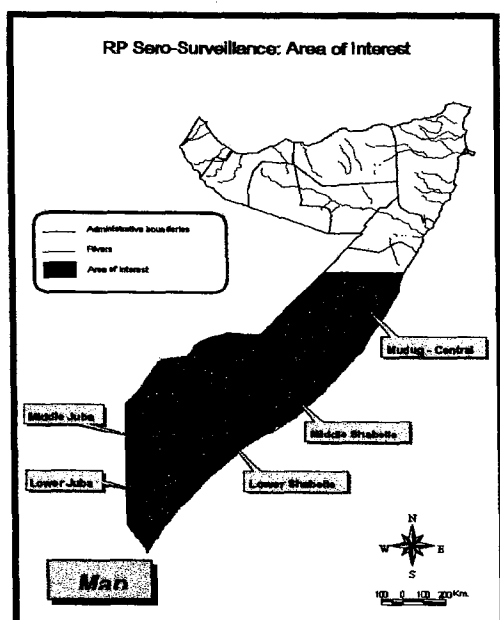
The purpose of the survey is to attempt to identify the remaining foci of RP virus by first estimating RP sero-prevalence in the area of interest. Moreover this survey will be conducted in parallel with the active search of the disease and it will provide supportive and complementary information to the clinical investigation.

The investigation focuses in the areas of the country where the majority of cattle population is located. This survey will fall in 10 administrative regions of Central and Southern Somalia (see Map 1).

The survey is based on a multi-stage cluster sampling. The first stratification has been carried out according to administrative regions. This has the advantage that if one or more administrative region will be inaccessible (e.g. due to conflict) the rest of the survey can still be carried out without compromising the results of the survey for the other regions. Serological data from previous sero-surveys in Central and Southern Somalia have been utilised to calculate the between cluster variance in the area (Vc). Table 1 summarise the data of the above mentioned survey.

Total Number of Samples	Total Number of Sampling Sites	Observed Prevalence	Observed Vc
2185	69	9%	0.006303408

TABLE 1: Summary of data deriving from a RP sero-survey carried out in Central and Southern Somalia



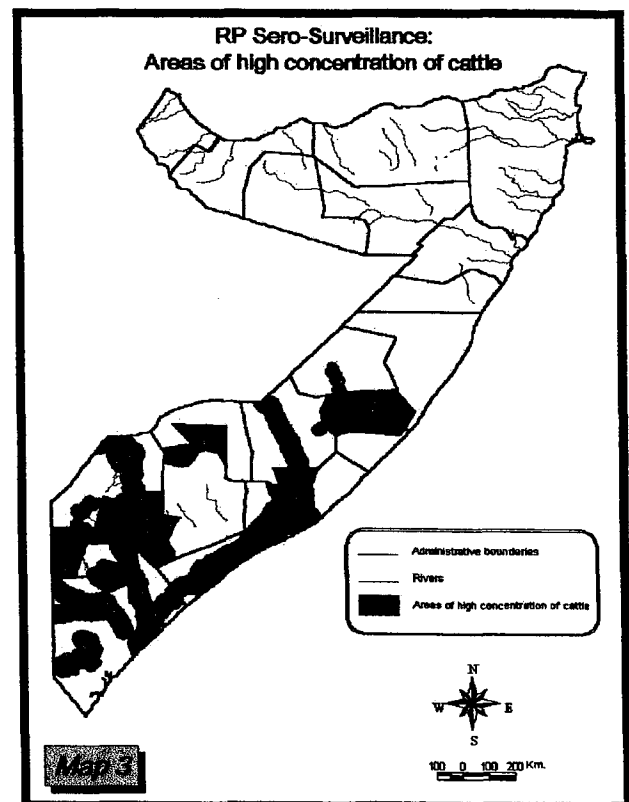
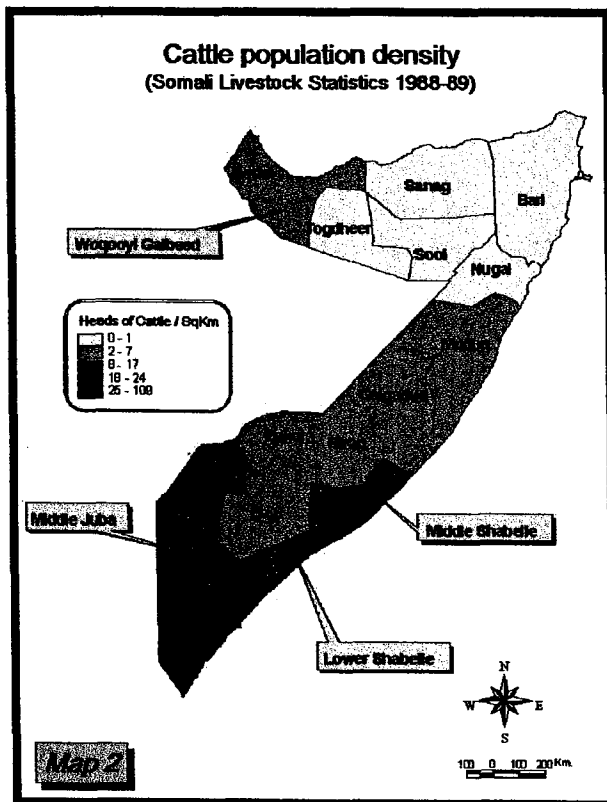
The test utilised for the survey (e.g. RP cELISA H) has recently shown a difference in sensitivity of about 30-40% for the RP African type 2 lineage when compared with other tests (e.g. RP VNT) (R. Kock; Personal Communication). The expected prevalence for the actual survey has thus been calculated for 20% and above. The total sample size for the survey has been obtained by multiplying the sample size of each region by the number of region to be covered by the survey. Table 2 shows the sampling sizes for Expected Prevalence between 20 and 50%, 95% Confidence Interval and 0.5 Desired Absolute Precision.

Expected Prevalence	VcAdj	Number of Animals/Cluster	Average Number of Custer/Region	Number of Regions	Total Number of Samples	Total Number of Sampling Sites
20%	0.0139811	13	40	10	5200	400
30%	0.0183503	15	50	10	7500	500
40%	0.0209717	13	60	10	7800	600
50%	0.0218445	15	60	10	9000	600

TABLE 2: Sampling size for an expected prevalence of 20 to 50%; 95% Confidence Interval and 0.5 desired absolute precision

Due to the low sensitivity of the H cELISA test, the real RP Abs. prevalence is expected to be higher than the one observed during the previous surveys (e.g. 9%). The sampling size derived from a 50% expected prevalence was thus selected for the actual survey. Furthermore, the collected sera will be tested for other important transboundary diseases (e.g. RVF and CBPP) for which the Abs. prevalence is unknown. The total number of sampling sites (e.g. 600 for an Expected Prevalence of 50%) has been proportionally allocated by region according to the cattle population density of the regions of interest. The cattle density data is derived from the last census of Somali livestock carried out in 1988-89 (see Map 2).

Within each region the number of sampling sites has been further proportionally allocated according to the identified areas of high and low concentration of cattle. These areas have been identified from the available literature and empirical knowledge (See Map 3). Table 3 shows the number of sampling sites by region for an expected prevalence of 50%.



Region	CatPop	CatDens	Number of Sampling Sites		
			Total	HighCattDens	LowCattDens
Galgadud	282310	6	52	37	15
Bakol	116080	4	50	35	15
Bay	269000	6	52	31	21
Hiran	200750	6	52	37	15
Middle Shabelle	443420	24	74	48	26
Gedo	612900	13	58	41	17
Lower Shabelle	443940	17	64	51	13
Lower Juba	999450	21	70	49	21
Middle Juba	424860	23	73	58	15
Mudug - Central	239628	7	55	22	33
			600	409	191
			600		

TABLE 3: Proportional allocation of sampling sites by region (high and low concentration of cattle) for a 50% expected prevalence

The sampling sites have been obtained by randomly generating the needed number of geographical coordinates within each area of cattle concentration by region.

In each sampling site, previously selected and geo-referenced, at least 15 blood samples will be collected from animals between 1 and 3 years old. The purpose of this selection is to identify relatively recent circulation of RP virus and to avoid bleeding animals that could have being vaccinated during previous RP vaccination campaigns. The most recent RP vaccination campaigns were carried out in 1996-97 in Gedo Region and in 1998-99 in Trans-Juba Region of Somalia. Additionally to the 15 blood samples per sampling site, 15 blood samples will be collected in 60 sampling sites (10% of the total number of sampling sites) as follow:

- 5 blood samples: cattle 3 to 4 years old
- 5 blood samples: cattle 4 to 5 years old
- 5 blood samples: cattle 5 to 7 years old

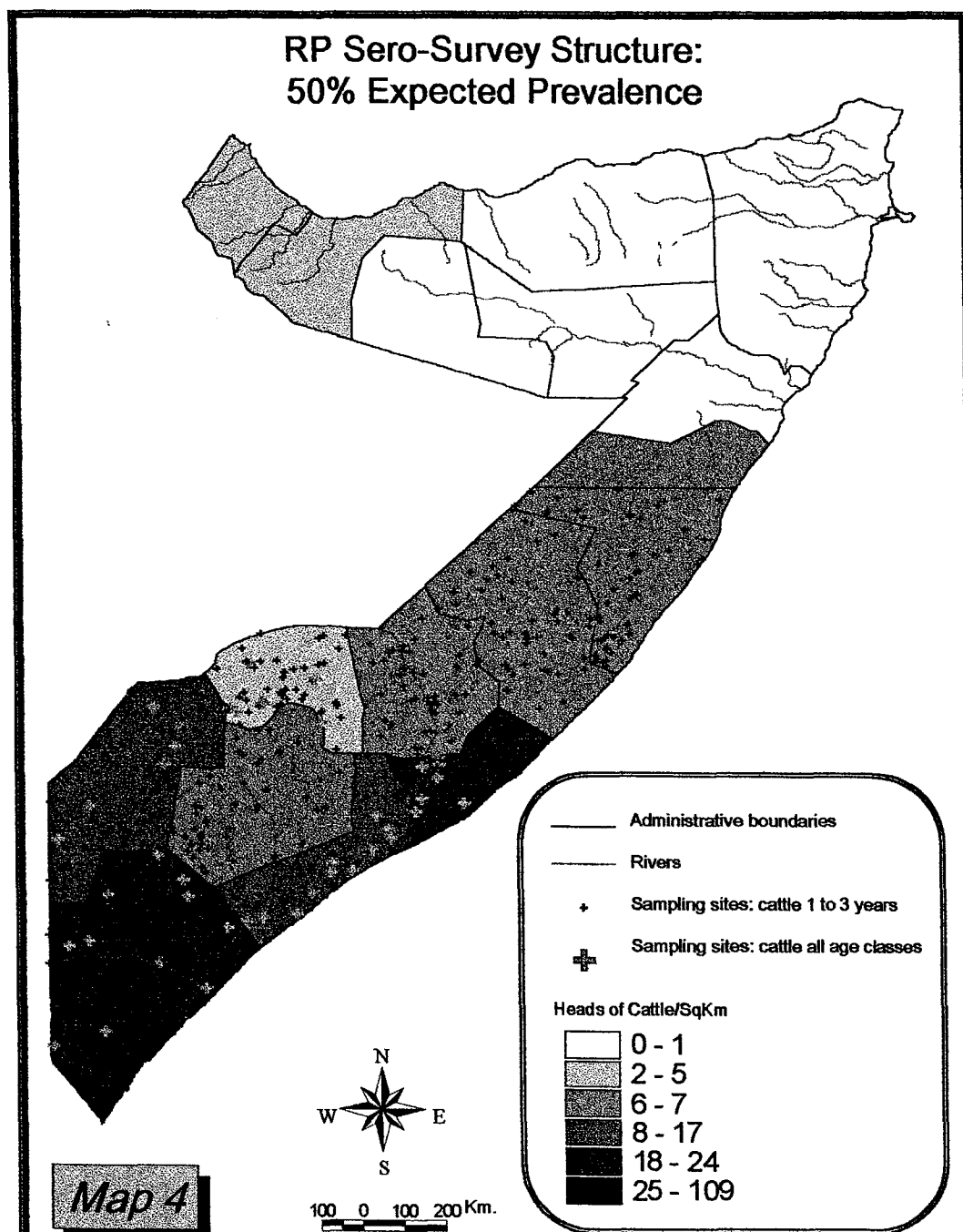
The 60 sampling sites have been randomly selected within the 600 sampling sites of the survey in the areas of high concentration of cattle. Table 4 give the total number of blood samples to be collected by region.

Region	Number of Sampling Sites			Total Number of Samples
	Total	15 Samples / Site	30 Samples / Site	
Galgadud	52	46	6	870
Bakol	50	43	7	855
Bay	52	48	4	840
Hiran	52	46	6	870
Middle Shabelle	74	67	7	1215
Gedo	58	52	6	960
Lower Shabelle	64	53	11	1125
Lower Juba	70	64	6	1140
Middle Juba	73	68	5	1170
Mudug - Central	55	53	2	855
Total	600	540	60	9900

TABLE 4: Total number of blood samples by region

Since the sampling points will be identified by randomly selected coordinates, the actual sampling site will become the village, watering point, market or grazing settlement closest to the selected point where animals can be found. All sampling sites will be geo-referenced.

Ten spare coordinates for each sampling team has been additionally generated to cater for the possibility of not reaching a specific sampling site. Map 4 shows the overall structure of the survey for a 50% of expected prevalence.



A spatial analysis will be carried out in order to serologically define and identify extension of foci of recent circulation of RP virus and its potential risk for spreading. This will provide supportive and complementary information to the data generated by the active RP search and it will help in defining the extension of potential vaccination intervention.

Structure of the survey for South Western Regions of Somalia

The overall survey will cover the Central and Southern Zones of Somalia. For the South Western area 3 administrative regions will be covered (e.g. Gedo, Lower Juba and Middle Juba). All field activities will be coordinate and supervised from the PACE-Somalia Base of Baidoa. For the field operation logistic support will be provided by the SLPF Base of Afmadow.

In each sampling site, previously selected and geo-referenced (see Maps and List of Coordinates), at least 15 serum samples must be collected using plain vacutainers (10 ml) from resident cattle aged between 1 and 3 years. In specific sampling sites, identified with a triangle (▲) in the Maps and in bold in the List of Coordinates a total of 30 serum samples must be collected as follow:

- 15 blood samples: cattle 1 to 3 years old
- 5 blood samples: cattle > 3 to 4 years old
- 5 blood samples: cattle > 4 to 5 years old
- 5 blood samples: cattle > 5 to 7 years old

The blood samples effectively collected should not be less than 16 to 17 in each sampling site in order to cater for poor clotting samples. One vacutaines and one sterile needle will be utilised for each bled animal.

Specific serology forms will be filled to record specific data on sampled animals (see Annex III.I) and serum samples must be collected, processed, packed and dispatched according to standard procedure. Each serum sample must be split into two aliquots (see Annex III.II).

Each sampling site will be reached with the use of GPS tools. The actual sampling site will become the town, village, watering point, market or grazing settlement closest to the selected point where animals can be found. The actual sampling site will be geo-referenced. If one sampling site cannot be reached (e.g. because land mines, geographical inaccessibility of the area, conflict, etc.) or animals cannot be found within a certain distance, the sampling site must be replaced by one of the spare sampling sited allocated to each team (ten spare sampling sites have been allocated to each team). Procedures on how to use GPS tools are given in Annex III.III.

In each sampling site 2 to 4 specifically designed questionnaire (see **Annex III.IV**) will be administered to livestock owner (key informants). Information will be collected on (1) herd / flock size, composition, dynamic and seasonal movements; (2) present and past situation of "enteritis/stomatitis syndrome" in the area in cattle and wildlife; (3) last Rinderpest vaccination and Rinderpest epidemic history; (4) wildlife species present in the area and wildlife involvement in transmission of "enteritis/stomatitis syndrome".

Group exercises will be carried out in those places in which a sufficient number of participants will be available (See **Annex III.V**).

All rumours or suspicion of RP outbreaks will be clinically investigated and reported to the Zoonal coordination Unit of PACE Somalia Project. Samples will be collected for laboratory diagnosis by independent teams. **Annex III.VI** gives the RP Outbreaks / Rumours Recording Form.

During the survey important market, watering points, villages and grazing settlement will be geo-referenced in order to provide the baseline information for future surveys and eradication strategies (See **Annex III.VII**).

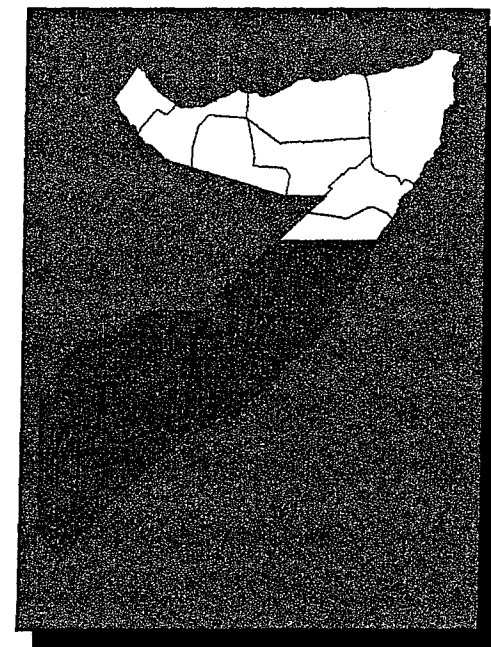
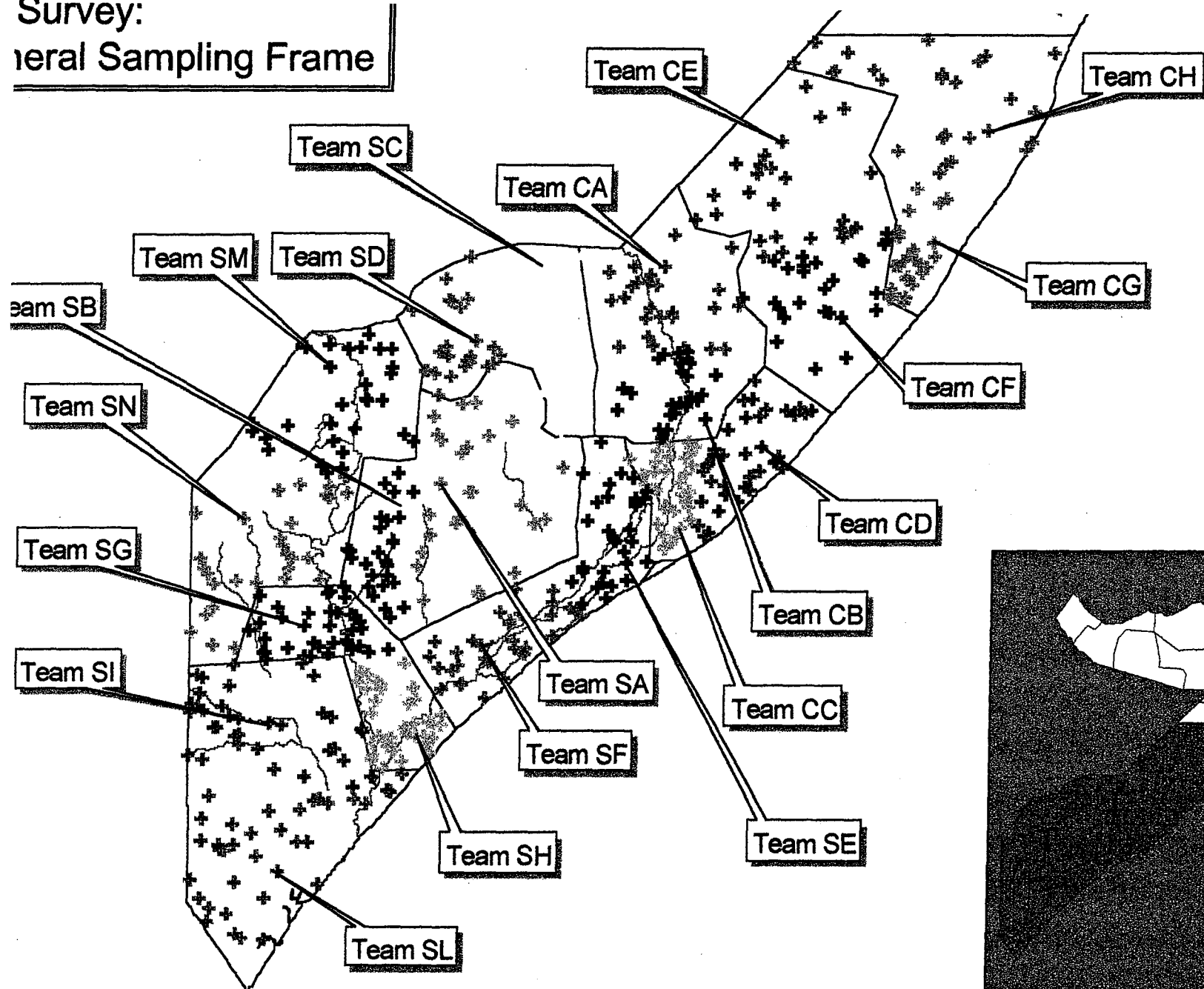
For the South Western Regions of Somalia six teams will implement the survey activities as follow:

Team ID	Sampling Area	Total Num. of Sampling Sites	Num. of Sampling Sites (15 Samples)	Num. of Sampling Sites (30 Samples)	Total Number of Samples
SG	Middle Juba (North)	37	33	4	615
SH	Middle Juba (South)	36	35	1	555
SI	Lower Juba (North)	35	32	3	570
SL	Lower Juba (South)	35	32	3	570
SM	Gedo (North)	29	25	4	495
SN	Gedo (South)	29	27	2	475
TOTAL (South Western Regions)		201	184	17	3270

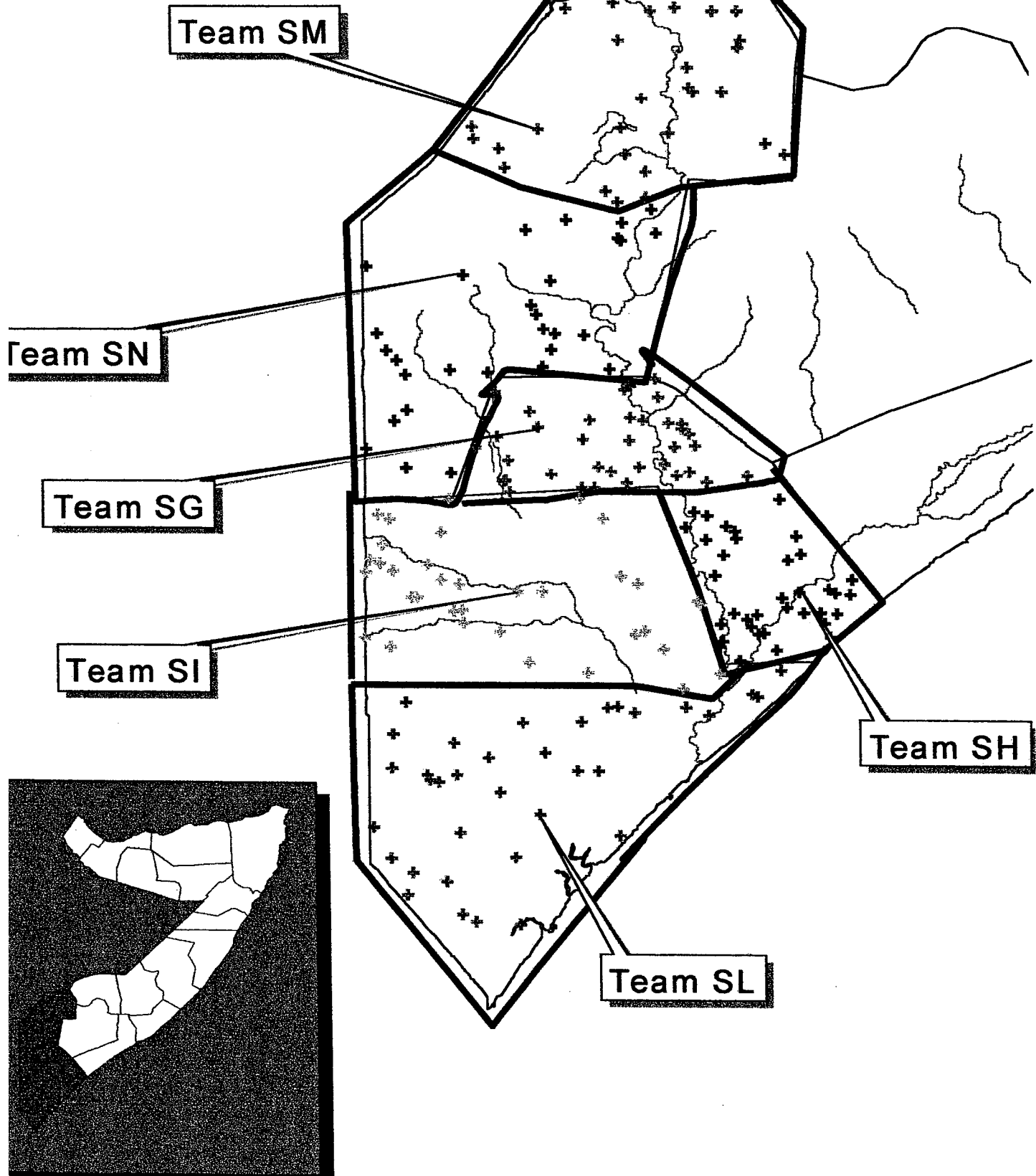
The tentative time frame required to carry out the activities in the selected sampling areas must be set up before the beginning of the activities using a specific Sampling Frame – Record Sheet (See **Annex III.VIII**). Sampling activities should not last longer than 20 days.

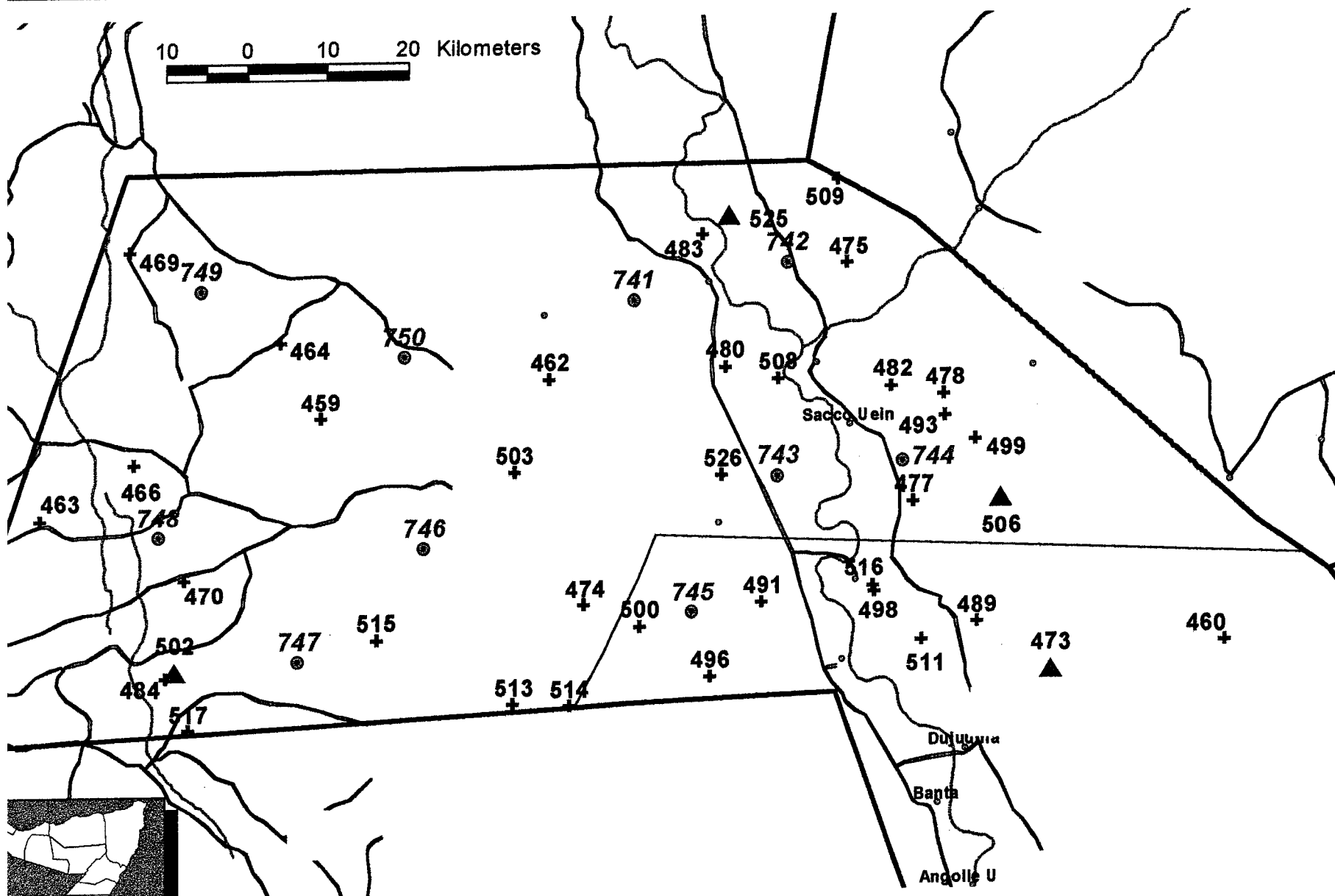
The following set of Maps and List of Actual and Spare Sampling Sites will be utilised by the sampling teams to reach the target sampling sites.

Survey: General Sampling Frame



IP Survey:
Sampling frame
for South Western
Somalia





- ✚ Sampling sites: Cattle 1 to 3 years
- ▲ Sampling Sites: Cattle all classes of age
- Spare Sampling Sites

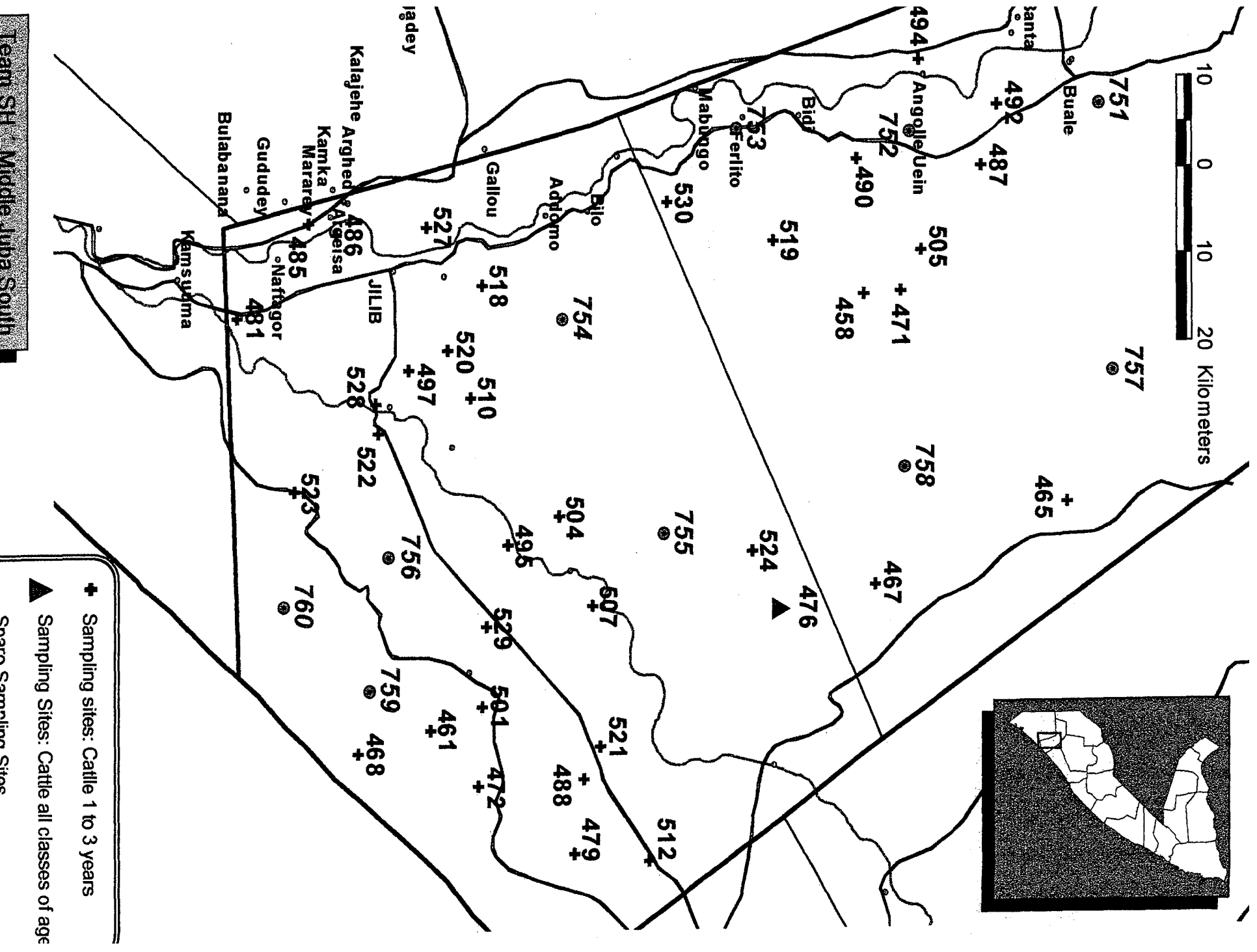
Team SG Middle Juba North

**List of Coordinates for
TEAM SG**

ID	Latitude	Longitude	REGION	Class of Age
459	1.65038	41.85638	Middle Juba	1 to 3 Years
460	1.37680	42.86542	Middle Juba	1 to 3 Years
462	1.69421	42.11094	Middle Juba	1 to 3 Years
463	1.53506	41.54378	Middle Juba	1 to 3 Years
464	1.74184	41.81159	Middle Juba	1 to 3 Years
466	1.59870	41.64764	Middle Juba	1 to 3 Years
469	1.84977	41.64258	Middle Juba	1 to 3 Years
470	1.46216	41.70261	Middle Juba	1 to 3 Years
473	1.34522	42.66991	Middle Juba	All Age Classes
474	1.42556	42.14961	Middle Juba	1 to 3 Years
475	1.82838	42.44595	Middle Juba	1 to 3 Years
477	1.54620	42.51822	Middle Juba	1 to 3 Years
478	1.67162	42.55285	Middle Juba	1 to 3 Years
480	1.70770	42.30848	Middle Juba	1 to 3 Years
482	1.68180	42.49481	Middle Juba	1 to 3 Years
483	1.86488	42.28304	Middle Juba	1 to 3 Years
484	1.34463	41.68224	Middle Juba	1 to 3 Years
489	1.40177	42.58948	Middle Juba	1 to 3 Years
491	1.42759	42.34918	Middle Juba	1 to 3 Years
493	1.64542	42.55387	Middle Juba	1 to 3 Years
496	1.33993	42.29012	Middle Juba	1 to 3 Years
498	1.43968	42.47544	Middle Juba	1 to 3 Years
499	1.61768	42.58848	Middle Juba	1 to 3 Years
500	1.39948	42.21172	Middle Juba	1 to 3 Years
502	1.35342	41.69242	Middle Juba	All Age Classes
503	1.58478	42.07122	Middle Juba	1 to 3 Years
506	1.55079	42.61495	Middle Juba	All Age Classes
508	1.69239	42.36754	Middle Juba	1 to 3 Years
509	1.92796	42.43476	Middle Juba	1 to 3 Years
511	1.38114	42.52737	Middle Juba	1 to 3 Years
513	1.30974	42.06916	Middle Juba	1 to 3 Years
514	1.30616	42.13229	Middle Juba	1 to 3 Years
515	1.38760	41.91643	Middle Juba	1 to 3 Years
516	1.44693	42.47341	Middle Juba	1 to 3 Years
517	1.28226	41.70768	Middle Juba	1 to 3 Years
525	1.88720	42.31155	Middle Juba	All Age Classes
526	1.57882	42.30440	Middle Juba	1 to 3 Years
TOTAL: 37 Sampling Sites				

**List of Spare Coordinates for
TEAM SG**

ID	Laditude	Longitude	REGION
741	1.78763	42.20526	Middle Juba
742	1.83058	42.37706	Middle Juba
743	1.57826	42.36632	Middle Juba
744	1.59437	42.50590	Middle Juba
745	1.41721	42.26969	Middle Juba
746	1.49774	41.96905	Middle Juba
747	1.36352	41.82947	Middle Juba
748	1.51384	41.67379	Middle Juba
749	1.80374	41.72210	Middle Juba
750	1.72321	41.94758	Middle Juba
TOTAL: 10 Spare Sampling Sites			



**List of Coordinates for
TEAM SH**

ID	Latitude	Longitude	REGION	Class of Age
458	1.02337	42.80734	Middle Juba	1 to 3 Years
461	0.53952	43.24513	Middle Juba	1 to 3 Years
465	1.24796	43.02323	Middle Juba	1 to 3 Years
467	1.03641	43.10365	Middle Juba	1 to 3 Years
468	0.45971	43.26854	Middle Juba	1 to 3 Years
471	1.06409	42.80429	Middle Juba	1 to 3 Years
472	0.59363	43.30419	Middle Juba	1 to 3 Years
476	0.93222	43.12706	Middle Juba	All Age Classes
479	0.70095	43.37446	Middle Juba	1 to 3 Years
481	0.32430	42.82356	Middle Juba	1 to 3 Years
485	0.40315	42.72684	Middle Juba	1 to 3 Years
486	0.43501	42.73906	Middle Juba	1 to 3 Years
487	1.15312	42.67600	Middle Juba	1 to 3 Years
488	0.71176	43.29810	Middle Juba	1 to 3 Years
490	1.01532	42.66784	Middle Juba	1 to 3 Years
492	1.17068	42.61389	Middle Juba	1 to 3 Years
494	1.08439	42.56908	Middle Juba	1 to 3 Years
495	0.62602	43.05982	Middle Juba	1 to 3 Years
497	0.51566	42.87857	Middle Juba	1 to 3 Years
501	0.59770	43.22172	Middle Juba	1 to 3 Years
504	0.68270	43.03132	Middle Juba	1 to 3 Years
505	1.08691	42.76255	Middle Juba	1 to 3 Years
507	0.72078	43.12194	Middle Juba	1 to 3 Years
510	0.58413	42.90708	Middle Juba	1 to 3 Years
512	0.78527	43.38160	Middle Juba	1 to 3 Years
518	0.59701	42.79406	Middle Juba	1 to 3 Years
519	0.92236	42.75031	Middle Juba	1 to 3 Years
520	0.55859	42.85922	Middle Juba	1 to 3 Years
521	0.73042	43.26348	Middle Juba	1 to 3 Years
522	0.48151	42.94271	Middle Juba	1 to 3 Years
523	0.38762	43.00278	Middle Juba	1 to 3 Years
524	0.89895	43.06800	Middle Juba	1 to 3 Years
527	0.53467	42.73296	Middle Juba	1 to 3 Years
528	0.47921	42.91216	Middle Juba	1 to 3 Years
529	0.60261	43.14331	Middle Juba	1 to 3 Years
530	0.80475	42.70957	Middle Juba	1 to 3 Years

TOTAL: 36 Sampling Sites

**List of Spare Coordinates for
TEAM SH**

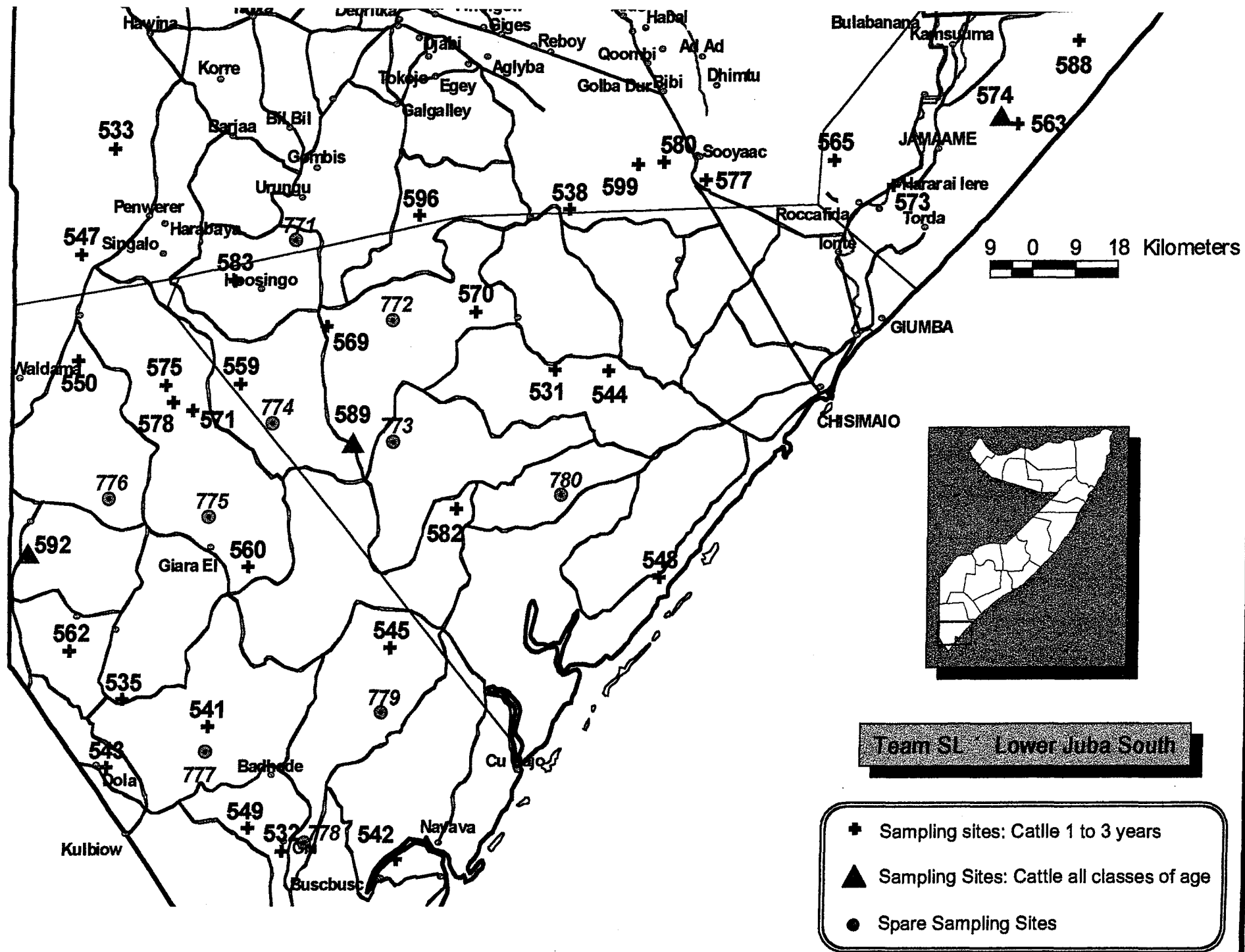
ID	Laditude	Longitude	REGION
751	1.28300	42.61327	Middle Juba
752	1.07363	42.64011	Middle Juba
753	0.88036	42.63474	Middle Juba
754	0.68710	42.82801	Middle Juba
755	0.79983	43.04812	Middle Juba
756	0.49383	43.06959	Middle Juba
757	1.29910	42.88706	Middle Juba
758	1.06826	42.98369	Middle Juba
759	0.47236	43.20380	Middle Juba
760	0.37572	43.11791	Middle Juba
TOTAL: 10 Spare Sampling Sites			

**List of Coordinates for
TEAM SI**

ID	Latitude	Longitude	REGION	Class of Age
534	0.38510	42.46108	Lower Juba	1 to 3 Years
536	0.82237	40.99793	Lower Juba	1 to 3 Years
537	0.30350	41.79821	Lower Juba	1 to 3 Years
539	0.76045	42.33282	Lower Juba	1 to 3 Years
540	0.79935	42.25544	Lower Juba	1 to 3 Years
546	1.04639	41.36350	Lower Juba	1 to 3 Years
551	1.23721	41.40527	Lower Juba	1 to 3 Years
552	0.86547	41.07227	Lower Juba	1 to 3 Years
553	0.64521	42.63930	Lower Juba	1 to 3 Years
554	0.71209	41.74734	Lower Juba	1 to 3 Years
555	1.15076	41.06110	Lower Juba	1 to 3 Years
556	0.89277	41.01831	Lower Juba	1 to 3 Years
557	0.59952	41.42862	Lower Juba	1 to 3 Years
558	0.47041	42.32261	Lower Juba	All Age Classes
561	0.25179	42.72682	Lower Juba	1 to 3 Years
564	1.24669	42.05388	Lower Juba	1 to 3 Years
566	0.97940	41.08348	Lower Juba	1 to 3 Years
567	0.67359	41.25146	Lower Juba	1 to 3 Years
568	0.66466	42.62606	Lower Juba	1 to 3 Years
572	0.82643	41.13234	Lower Juba	1 to 3 Years
576	0.52842	41.47342	Lower Juba	1 to 3 Years
579	0.86405	41.30442	Lower Juba	1 to 3 Years
581	1.12412	41.11710	Lower Juba	1 to 3 Years
584	0.43968	40.99179	Lower Juba	1 to 3 Years
585	0.60796	41.47037	Lower Juba	1 to 3 Years
586	0.67398	41.22397	Lower Juba	All Age Classes
587	0.24799	42.08840	Lower Juba	1 to 3 Years
590	0.48069	41.65262	Lower Juba	1 to 3 Years
591	0.70828	41.86851	Lower Juba	1 to 3 Years
593	0.39618	41.12110	Lower Juba	1 to 3 Years
594	0.16273	42.54964	Lower Juba	1 to 3 Years
595	0.75343	41.45817	Lower Juba	All Age Classes
597	1.13268	42.17096	Lower Juba	1 to 3 Years
598	0.77944	41.36653	Lower Juba	1 to 3 Years
600	0.48846	42.36945	Lower Juba	1 to 3 Years
TOTAL: 35 Sampling Sites				

**List of Spare Coordinates for
TEAM SI**

ID	Laditude	Longitude	REGION
761	0.83741	41.73284	Lower Juba
762	0.83205	41.93684	Lower Juba
763	0.63341	41.99053	Lower Juba
764	0.83205	41.63084	Lower Juba
765	0.77299	41.85095	Lower Juba
766	1.00384	41.98516	Lower Juba
767	1.13805	41.84021	Lower Juba
768	0.44552	42.10863	Lower Juba
769	0.32204	42.30190	Lower Juba
770	0.70857	42.26432	Lower Juba
TOTAL: 10 Spare Sampling Sites			



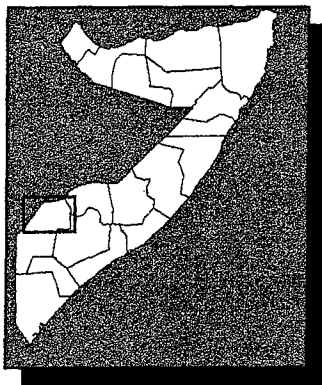
**List of Coordinates for
TEAM SL**

ID	Latitude	Longitude	REGION	Class of Age
531	-0.31459	42.03030	Lower Juba	1 to 3 Years
532	-1.16446	41.52110	Lower Juba	1 to 3 Years
533	0.07707	41.18521	Lower Juba	1 to 3 Years
535	-0.89493	41.21464	Lower Juba	1 to 3 Years
538	-0.03005	42.05375	Lower Juba	1 to 3 Years
541	-0.94367	41.37857	Lower Juba	1 to 3 Years
542	-1.18014	41.74205	Lower Juba	1 to 3 Years
543	-1.01600	41.18510	Lower Juba	1 to 3 Years
544	-0.31720	42.13416	Lower Juba	1 to 3 Years
545	-0.80534	41.72376	Lower Juba	1 to 3 Years
547	-0.10965	41.12308	Lower Juba	1 to 3 Years
548	-0.68253	42.23696	Lower Juba	1 to 3 Years
549	-1.12457	41.45594	Lower Juba	1 to 3 Years
550	-0.29770	41.12103	Lower Juba	1 to 3 Years
559	-0.33887	41.43158	Lower Juba	1 to 3 Years
560	-0.66428	41.44886	Lower Juba	1 to 3 Years
562	-0.80983	41.11283	Lower Juba	1 to 3 Years
563	0.11784	42.90907	Lower Juba	1 to 3 Years
565	0.05691	42.56083	Lower Juba	1 to 3 Years
569	-0.23884	41.59247	Lower Juba	1 to 3 Years
570	-0.21154	41.87758	Lower Juba	1 to 3 Years
571	-0.38556	41.34197	Lower Juba	1 to 3 Years
573	0.01120	42.67283	Lower Juba	1 to 3 Years
574	0.13536	42.87649	Lower Juba	All Age Classes
575	-0.34146	41.29106	Lower Juba	1 to 3 Years
577	0.02142	42.31442	Lower Juba	1 to 3 Years
578	-0.37205	41.30328	Lower Juba	1 to 3 Years
580	0.05454	42.23296	Lower Juba	1 to 3 Years
582	-0.56149	41.84496	Lower Juba	1 to 3 Years
583	-0.15613	41.41734	Lower Juba	1 to 3 Years
588	0.26727	43.02313	Lower Juba	1 to 3 Years
589	-0.44035	41.64438	Lower Juba	All Age Classes
592	-0.63813	41.02935	Lower Juba	All Age Classes
596	-0.04135	41.76763	Lower Juba	1 to 3 Years
599	0.04818	42.18613	Lower Juba	1 to 3 Years
TOTAL: 35 Sampling Sites				

**List of Spare Coordinates for
TEAM SL**

ID	Laditude	Longitude	REGION
771	-0.08596	41.52884	Lower Juba
772	-0.22554	41.71673	Lower Juba
773	-0.44028	41.72210	Lower Juba
774	-0.40807	41.49126	Lower Juba
775	-0.57450	41.37315	Lower Juba
776	-0.54228	41.17989	Lower Juba
777	-0.98787	41.37315	Lower Juba
778	-1.14892	41.56105	Lower Juba
779	-0.91808	41.70600	Lower Juba
780	-0.53692	42.04421	Lower Juba
TOTAL: 10 Spare Sampling Sites			

Team SM Gedo North

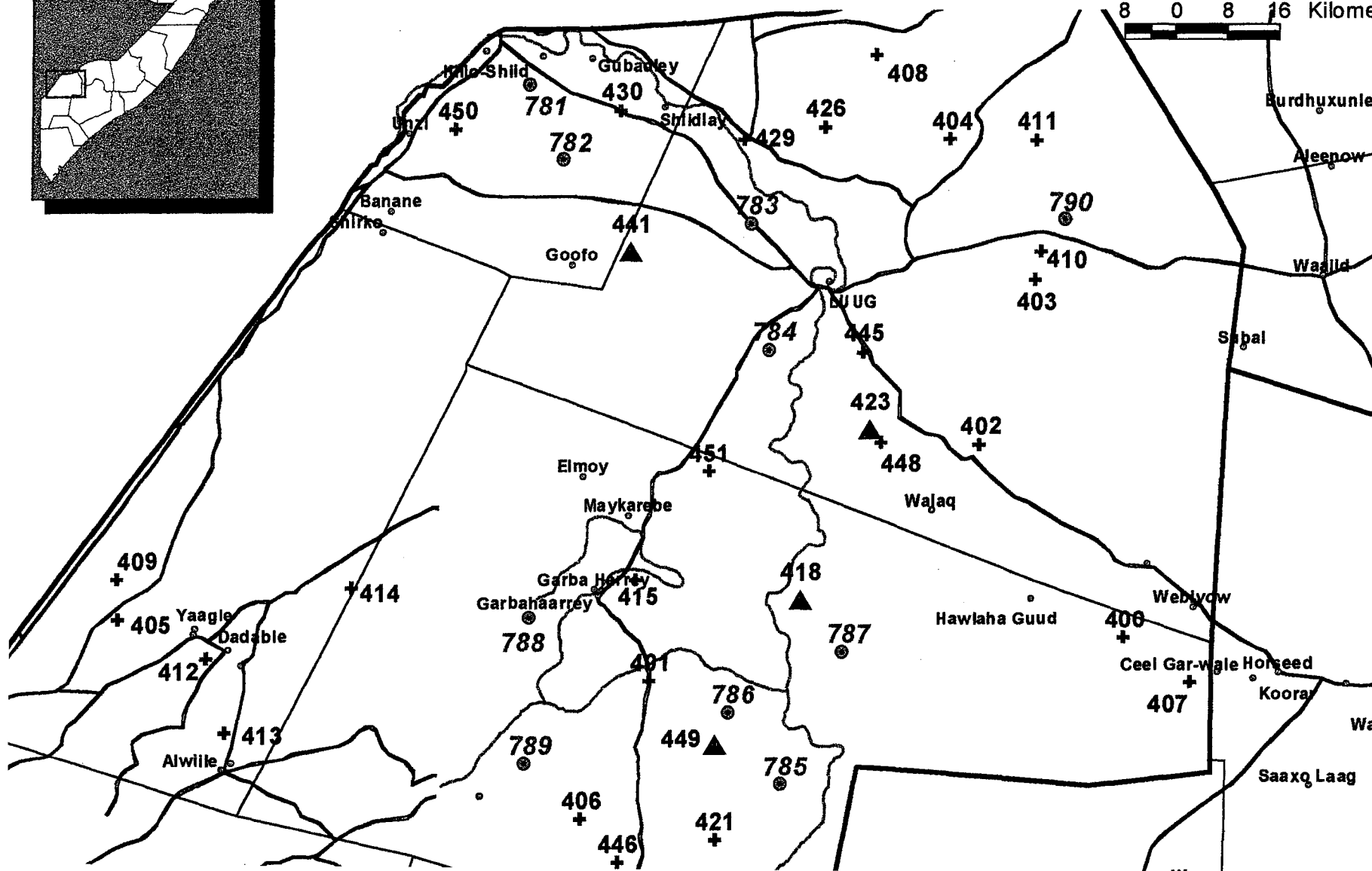


✚ Sampling sites: Cattle 1 to 3 years

▲ Sampling Sites: Cattle all classes of age

● Spare Sampling Sites

8 0 8 16 Kilometers

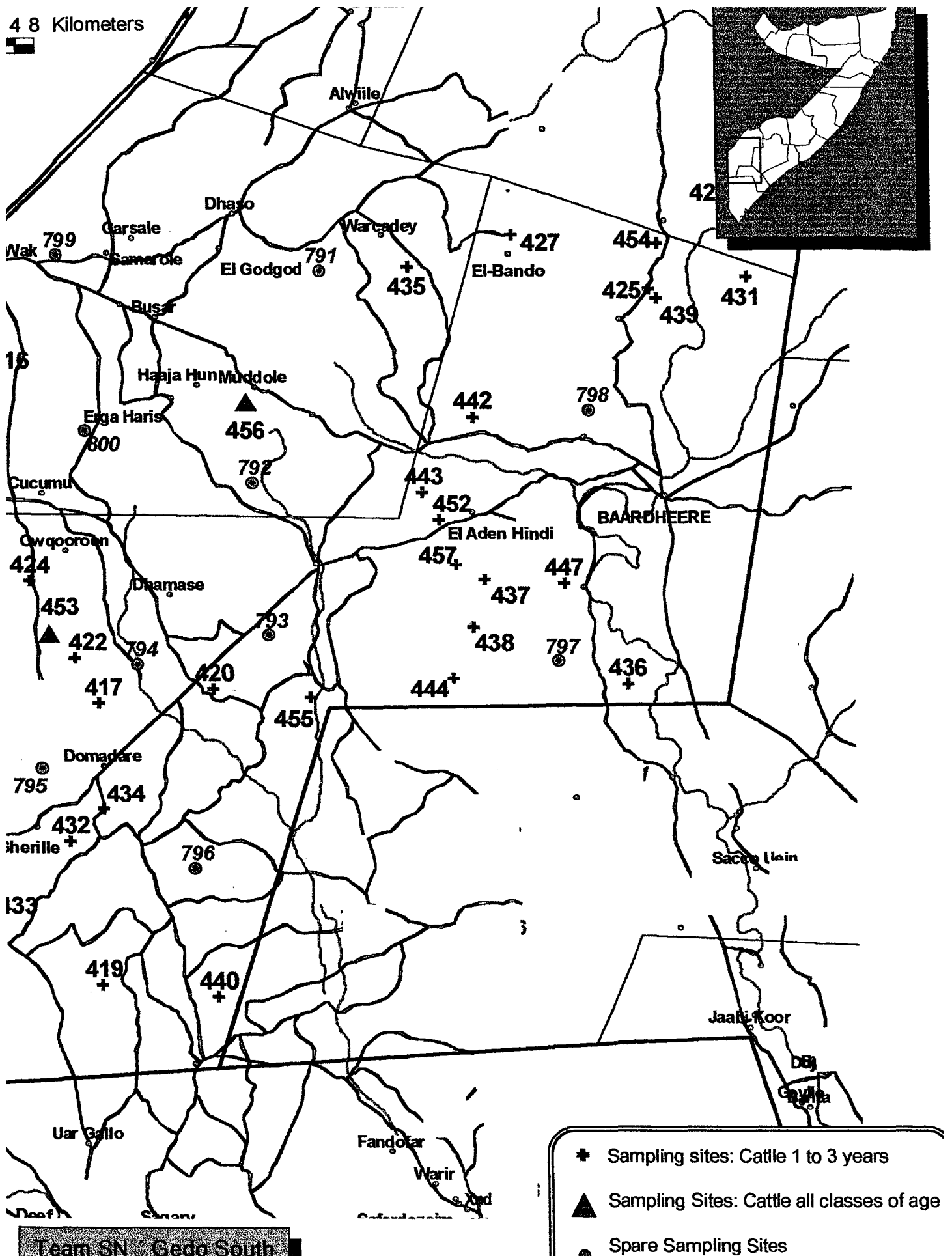


**List of Coordinates for
TEAM SM**

ID	Latitude	Longitude	REGION	Class of Age
400	3.26472	42.97761	Gedo	1 to 3 Years
401	3.20054	42.30354	Gedo	1 to 3 Years
402	3.55611	42.76993	Gedo	1 to 3 Years
403	3.80344	42.84632	Gedo	1 to 3 Years
404	4.01434	42.72517	Gedo	1 to 3 Years
405	3.29351	41.55006	Gedo	1 to 3 Years
406	2.99361	42.20679	Gedo	1 to 3 Years
407	3.19814	43.07128	Gedo	1 to 3 Years
408	4.14104	42.61929	Gedo	1 to 3 Years
409	3.35605	41.54702	Gedo	1 to 3 Years
410	3.84704	42.85549	Gedo	1 to 3 Years
411	4.01303	42.84634	Gedo	1 to 3 Years
412	3.23511	41.67530	Gedo	1 to 3 Years
413	3.12323	41.70176	Gedo	1 to 3 Years
414	3.34340	41.87794	Gedo	1 to 3 Years
415	3.35487	42.28218	Gedo	1 to 3 Years
418	3.32330	42.51738	Gedo	All Age Classes
421	2.96248	42.39923	Gedo	1 to 3 Years
423	3.57869	42.61414	Gedo	All Age Classes
426	4.03247	42.54596	Gedo	1 to 3 Years
429	4.01410	42.43294	Gedo	1 to 3 Years
430	4.05747	42.25475	Gedo	1 to 3 Years
441	3.84553	42.27102	Gedo	All Age Classes
445	3.69754	42.60397	Gedo	1 to 3 Years
446	2.92947	42.25973	Gedo	1 to 3 Years
448	3.55953	42.62941	Gedo	1 to 3 Years
449	3.10383	42.39619	Gedo	All Age Classes
450	4.02976	42.02260	Gedo	1 to 3 Years
451	3.51687	42.38605	Gedo	1 to 3 Years
TOTAL: 29 Sampling Sites				

**List of Spare Coordinates for
TEAM SM**

ID	Laditude	Longitude	REGION
781	4.09608	42.12474	Gedo
782	3.98334	42.17305	Gedo
783	3.88671	42.44148	Gedo
784	3.69881	42.46832	Gedo
785	3.04386	42.48979	Gedo
786	3.15123	42.41464	Gedo
787	3.24249	42.57569	Gedo
788	3.29618	42.13011	Gedo
789	3.07607	42.12474	Gedo
790	3.89208	42.88706	Gedo
TOTAL: 10 Spare Sampling Sites			



**List of Coordinates for
TEAM SN**

ID	Latitude	Longitude	REGION	Class of Age
416	2.56693	41.02153	Gedo	1 to 3 Years
417	1.94999	41.20169	Gedo	1 to 3 Years
419	1.41604	41.20266	Gedo	1 to 3 Years
420	1.97669	41.42163	Gedo	1 to 3 Years
422	2.03441	41.15690	Gedo	1 to 3 Years
424	2.18028	41.07240	Gedo	1 to 3 Years
425	2.72929	42.25971	Gedo	1 to 3 Years
427	2.82824	42.00313	Gedo	1 to 3 Years
428	2.89260	42.42264	Gedo	1 to 3 Years
431	2.75102	42.44605	Gedo	1 to 3 Years
432	1.68529	41.14261	Gedo	1 to 3 Years
433	1.53260	41.00513	Gedo	1 to 3 Years
434	1.74792	41.20880	Gedo	1 to 3 Years
435	2.77176	41.80457	Gedo	1 to 3 Years
436	1.98408	42.20872	Gedo	1 to 3 Years
437	2.18042	41.94400	Gedo	1 to 3 Years
438	2.09269	41.92058	Gedo	1 to 3 Years
439	2.71147	42.27702	Gedo	1 to 3 Years
440	1.39255	41.42259	Gedo	1 to 3 Years
442	2.48678	41.92571	Gedo	1 to 3 Years
443	2.34744	41.82794	Gedo	1 to 3 Years
444	1.99509	41.88086	Gedo	1 to 3 Years
447	2.17546	42.09063	Gedo	1 to 3 Years
452	2.29456	41.85645	Gedo	1 to 3 Years
453	2.08357	41.10803	Gedo	All Age Classes
454	2.81262	42.27805	Gedo	1 to 3 Years
455	1.95985	41.60389	Gedo	1 to 3 Years
456	2.51891	41.48787	Gedo	All Age Classes
457	2.20950	41.88902	Gedo	1 to 3 Years
TOTAL: 29 Sampling Sites				

**List of Spare Coordinates for
TEAM SN**

ID	Laditude	Longitude	REGION
791	2.76470	41.63084	Gedo
792	2.36743	41.49663	Gedo
793	2.07753	41.52347	Gedo
794	2.02385	41.27652	Gedo
795	1.82521	41.08862	Gedo
796	1.63732	41.37852	Gedo
797	2.02922	42.07642	Gedo
798	2.50164	42.14084	Gedo
799	2.79691	41.13157	Gedo
800	2.46406	41.17989	Gedo
TOTAL: 10 Spare Sampling Sites			

Annex III.1

(Serology form)

Date:

Sampling Site N°:

Region:

District:

LOCATION:

GPS Coordinates:N / S; E

[illegible]

D: Team's Identification Letter (e.g. For Team A, fill in A)

PACE - Somalia Project

Annex III.11

(Flowcharts for sera processing
and dispatching)

FILLING IN THE SAMPLING FORM

As you start your blood samples collection you should at the same time record all the required information in the sampling form. Do not wait as you may forget information that you can not get later on



For each location where you carry out sampling fill in:
Date,
Region,
District,
Location,
GPS co-ordinates (e.g. North & East)
As you can see only one location with the related GPS co-ordinates can be recorded in one form



For each animal sampled the **owner's name, species, sex, and age of animal** must be recorded in the proper columns.

The full name of the owner must be recorded, do not use abbreviations.

Sex should only be recorded as **F** for female and as **M** for male.

Age should be recorded as follows:
Y for years.

Above one year of age the number of years will be followed by **Y**, referred to whole of half year e.g. **1Y; 1.5Y; 2Y**.



```
graph TD; A[ ] --> B[Blood sample must be numbered sequentially from n°1, for the first collected in the session, to the last blood sample of the session. The numbers are filled in the proper column of the form.]; B --> C[Numbers of serum samples must be followed by the letter identifying the Team (e.g. Team A; fill in "A"). Serum samples must be numbered sequentially. The first serial number must be allocated according to the last serial number of the former session and recorded in the proper form (last serum sample n° record sheet). Starting from the blood samples of one species their serial numbers are matched with the newly allocated serial numbers for the serum samples. The serial numbers for the sera are filled in the proper column of the form. This column is located next to the column for the blood serial numbers so that checks may be carried out easily. The process is repeated for all the blood samples to the last sample collected. If the process is carried out properly you must end up with serum samples numbers sequentially arranged for the whole session. In case of discarded blood samples jump their numbers in the form and allocate the serum sample numbers to the following blood samples.]; C --> D[Fill in the column labelled "duplicates" the exact number of duplicates obtained for each serum sample]; D --> E[Keep the sampling forms properly and dispatch them along with the samples to the];
```

Blood sample must be numbered sequentially from n°1, for the first collected in the session, to the last blood sample of the session.

The numbers are filled in the proper column of the form.

Numbers of serum samples must be followed by the letter identifying the Team (e.g. Team A; fill in "A").

Serum samples must be numbered sequentially.

The first serial number must be allocated according to the last serial number of the former session and recorded in the proper form (last serum sample n° record sheet).

Starting from the blood samples of one species their serial numbers are matched with the newly allocated serial numbers for the serum samples.

The serial numbers for the sera are filled in the proper column of the form. This column is located next to the column for the blood serial numbers so that checks may be carried out easily.

The process is repeated for all the blood samples to the last sample collected.

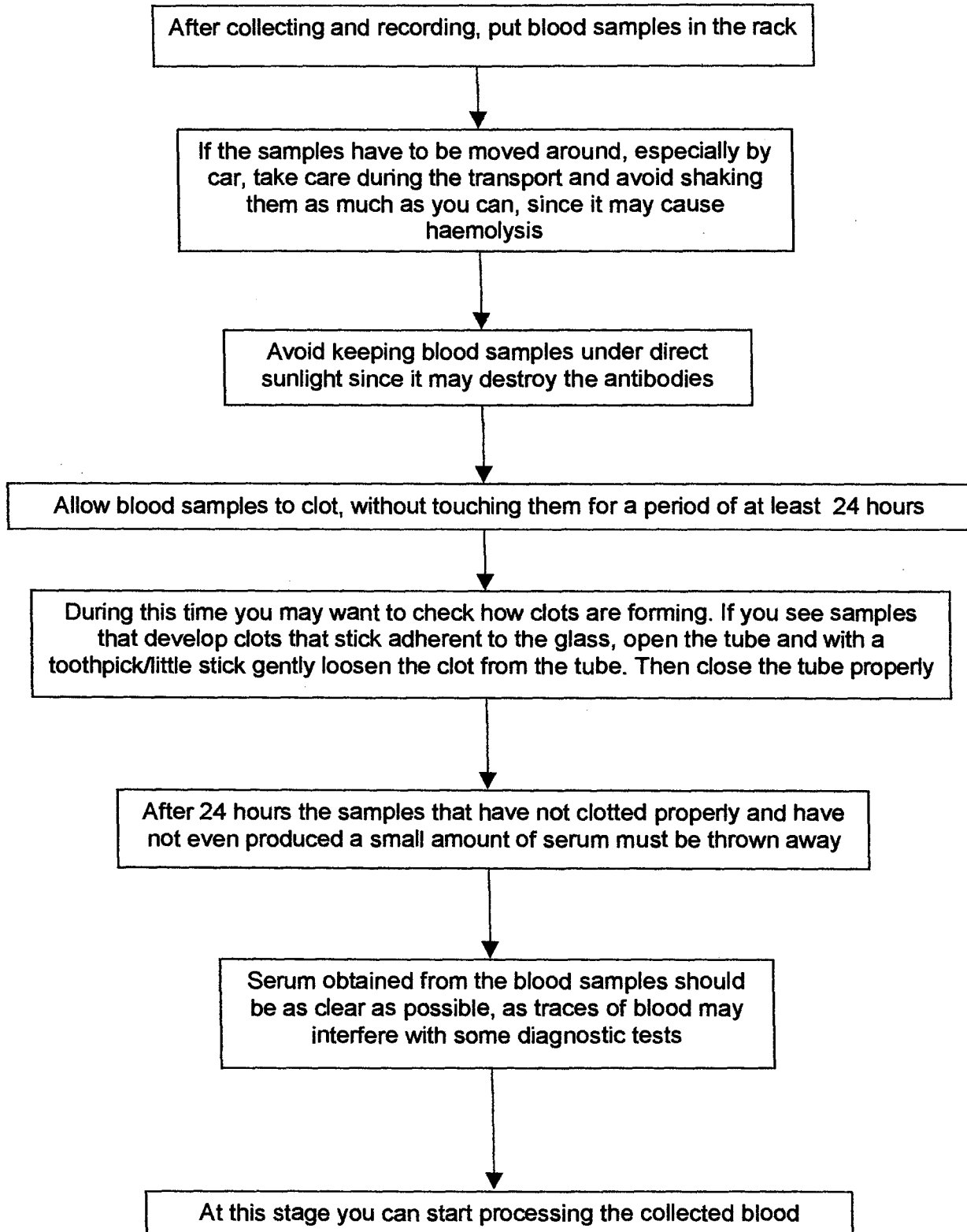
If the process is carried out properly you must end up with serum samples numbers sequentially arranged for the whole session.

In case of discarded blood samples jump their numbers in the form and allocate the serum sample numbers to the following blood samples.

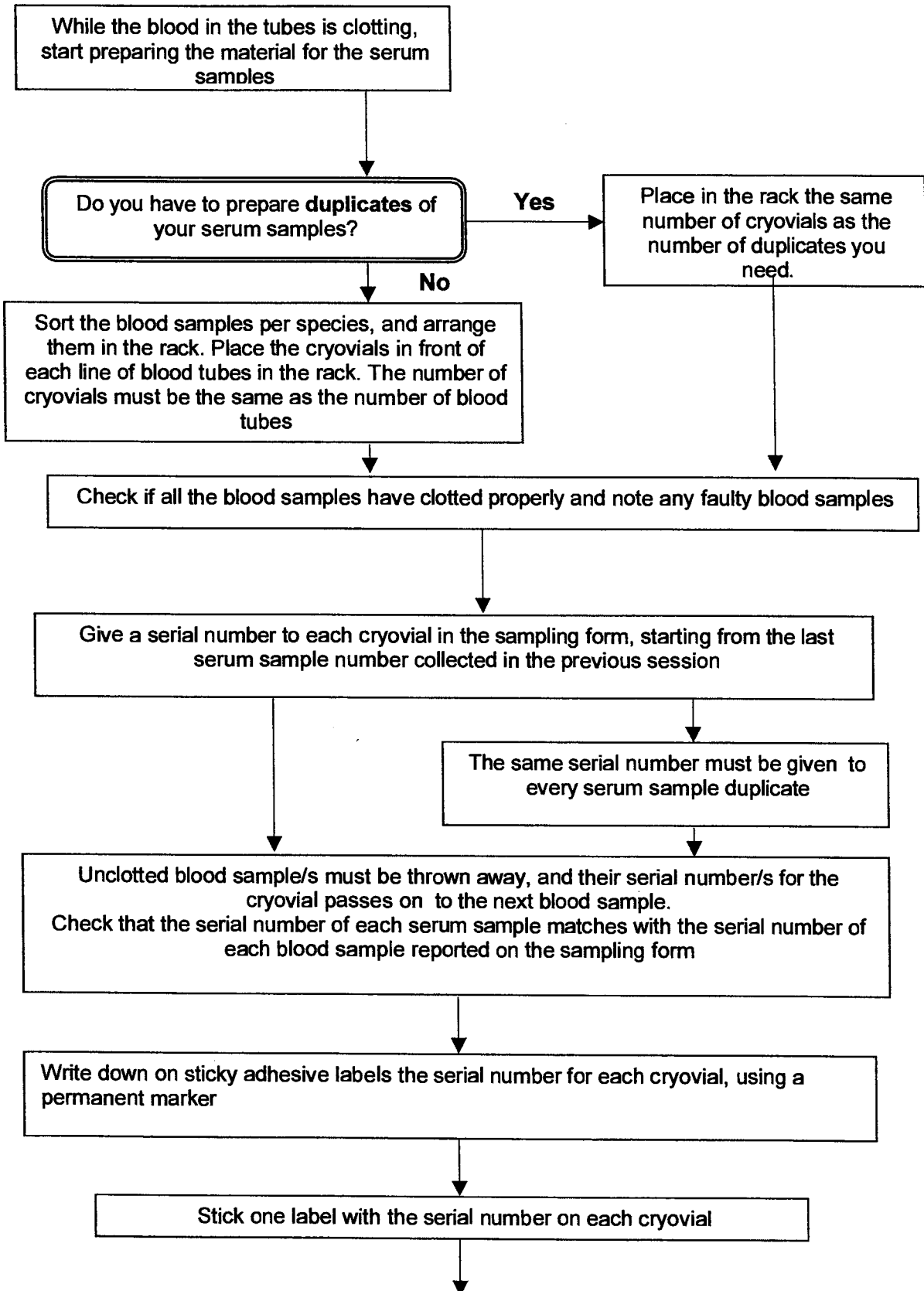
Fill in the column labelled "duplicates" the exact number of duplicates obtained for each serum sample

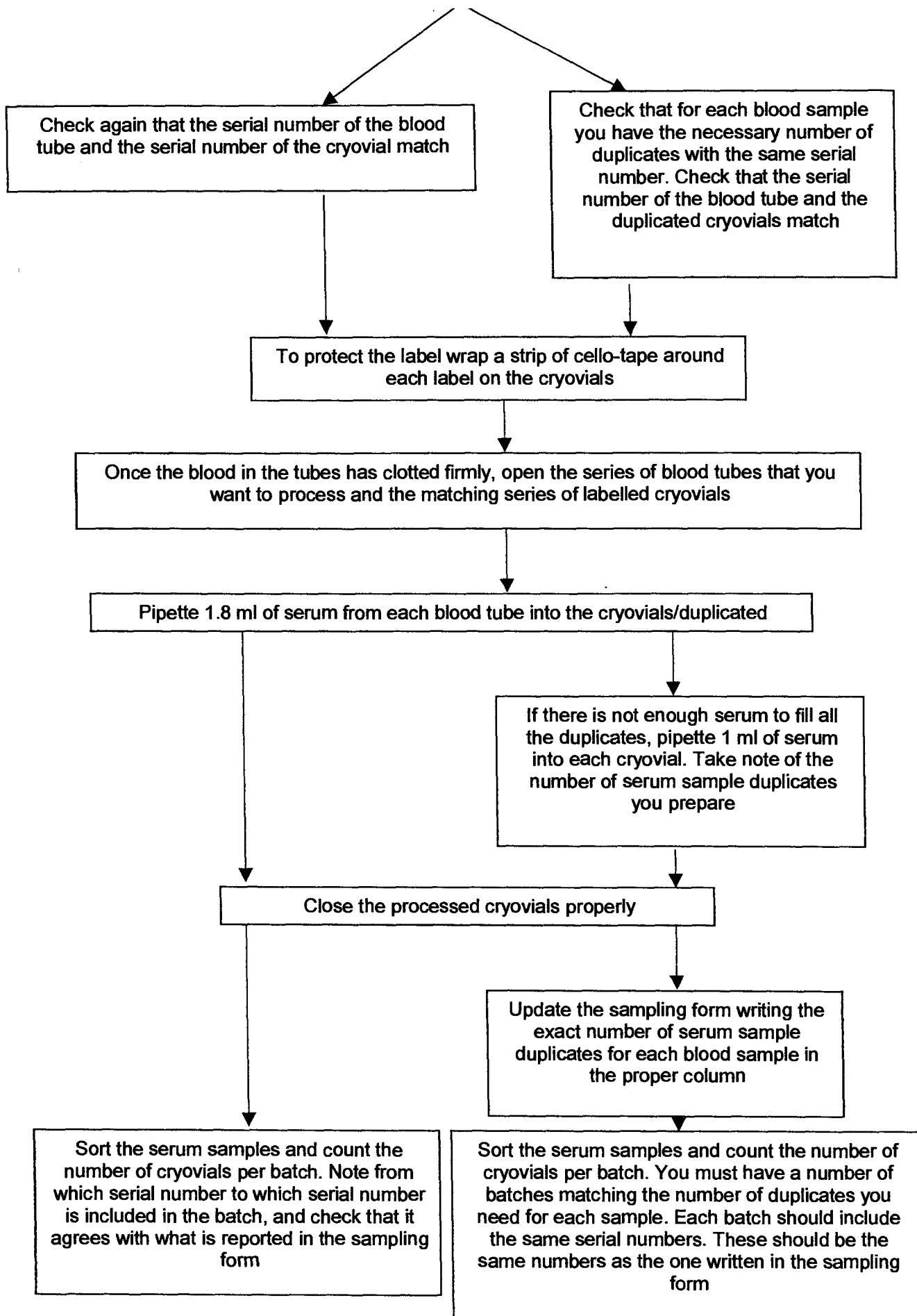
Keep the sampling forms properly and dispatch them along with the samples to the

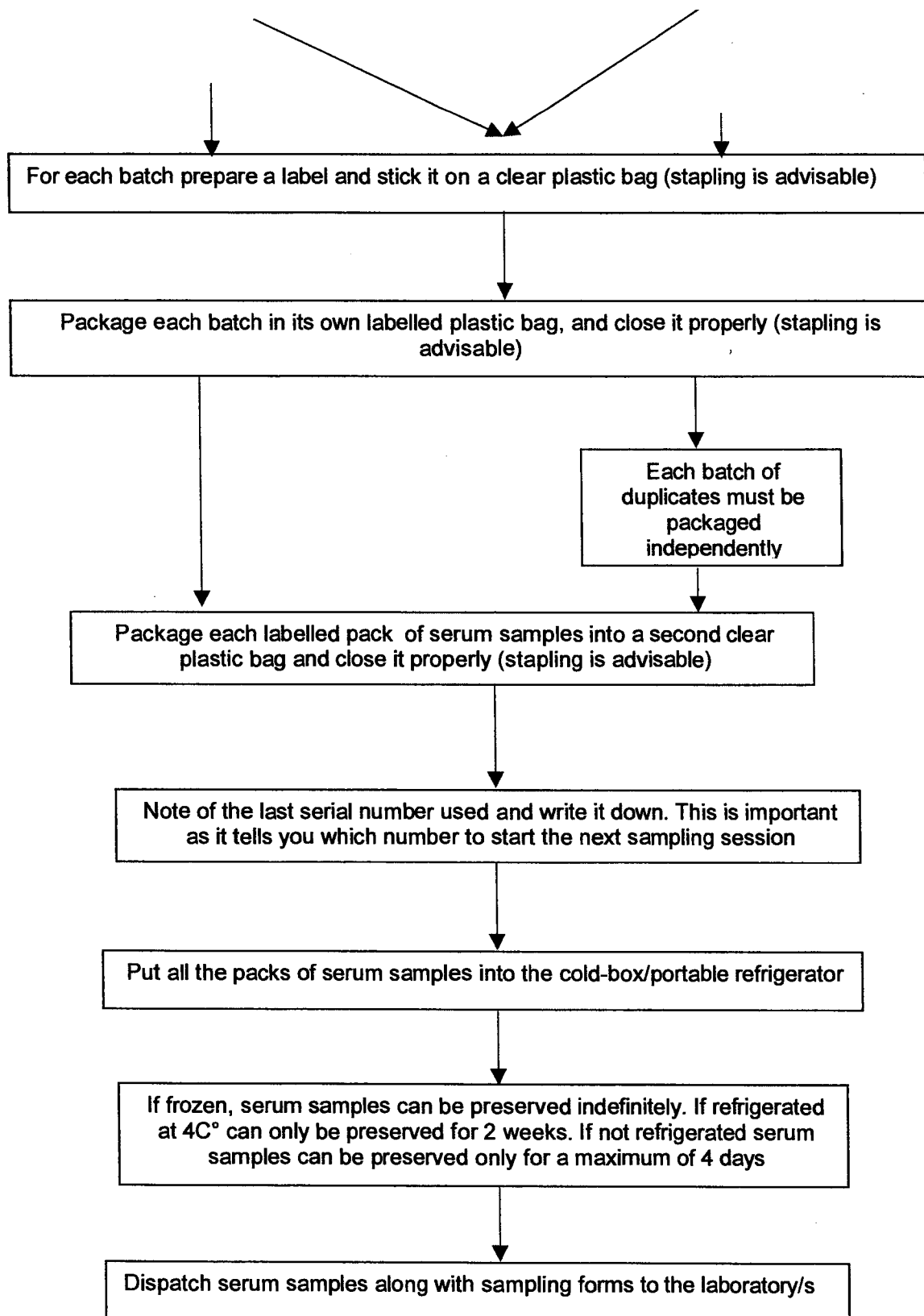
WAITING FOR THE COLLECTED BLOOD SAMPLES TO CLOT PROPERLY



SERUM SAMPLES PREPARATION







Annex III.III

(Procedures for the use of GPS tools)

GPS User Guide

The coordinate system that will be used to geo-reference the sampling sites will be in Decimal Degrees (DD). The digits before the dot represent the degrees of latitude or longitude. The last five digits after the dot represent a decimal fraction of one degree. Thus the coordinates will be displayed in the screen of the GPS as follow:

- 06.09876 N
- 045.87692 E

The Latitude is always displayed before the Longitude. Latitude North from the Equator will be indicated by "N", while Latitude South by "S". Longitude East from the Greenwich Meridian will be indicated by "E", while Longitude West by "W". Somalia is all East from the Greenwich Meridian and most of it in the North Hemisphere. Only an area South from Afmadow (Lower Juba Region) is South from the equator.

1. How to switch on and initialize the GPS

1.1. Press the red (bulb-like) button

1.2. **Garmin GPS III Plus** does not require input such as country or altitude for its initialization. However information such as date, time might need to be adjusted from *the menu and system setup*.

2. How to geo-reference your current position

2.1. When the GPS is on, it displays after a short while the coordinates of the *position* where you're currently in.

2.2. Record the coordinates in the "GPS textbox" of the "Location's Description Form", "Serology Form" and "Livestock Health Problem Questionnaires"

- 2.3. The coordinates must be recorded as displayed on the screen of the GPS (e.g. Latitude: 06.76543 (N for North or S for South); Longitude: 045.76834 (E for East))

3. How to enter a point (or a list of points)

- 3.1. Press the "PAGE" button till the "*Main Menu*" window is displayed. Then select the "*waypoint*" option by pressing the "ENTER" button; it displays empty space for the name of the site, the coordinates and the date and time
- 3.2. Enter the "*Sampling Site ID*" (Identification Number) and the coordinate in the corresponding space.
- 3.3. If points have already been entered, selecting "*waypoint*", it will display the characteristic of the first position on the list of positions. In that case, select "*new*". The screen will display empty space for the characteristics of the position you wish to record (name, coordinates)
- 3.4. Display "*waypoint list*" option to check if the position you've added is properly recorder

4. How to retrieve (to display) a point

- 4.1. Go to the "*Main Menu*" window and select the "*waypoint list*". Then select the site you want to visualize.
- 4.2. Press the "ENTER" button: the site will appear with its *name* on top, *the coordinates and its distance from your current position*.
- 4.3. Other functions such as *rename*, *delete*, *new* are also displayed to allow you to change the characteristic of the site.
- 4.4. To go back, always press the "QUIT" button.

5. How to navigate and reach a selected point

- 5.1. Press the "GO TO" button: the list of recorded positions will be displayed on the screen.
- 5.2. Select the *position* you want to reach and press *enter*: the navigating screen will display the *direction* (arrow), *the tracking*, *the distance* from your position to the selected point and *the speed* at which you are moving.
- 5.3. To indicate the right direction, the GPS must be kept well oriented even while moving.

6. How to switch off

Press the red button and hold it for 3 seconds: a count down will show (2,1) and the GPS will go off.

Annex III.IV

(Livestock health problems -
questionnaire)

Questionnaire N°:

Base ID:

(To be filled by the Zonal Vet Coordinator)

OAUIBAR/PACE

LIVESTOCK HEALTH PROBLEMS

QUESTIONNAIRE

PACE-Somalia Project

LIVESTOCK HEALTH PROBLEMS QUESTIONNAIRE

The following information is collected to better understand the animal health problems affecting your livestock, with particular emphasis on the main diseases that are affecting or potentially could affect the export of Somali livestock.

This information will be used to identify possible activities to improve the quality of veterinary services so as to assist the livestock sector in Somalia, both at production and trade levels.

SECTION I – GENERAL DATA

Name of the interviewer
(Team ID:)

Date	Region	District

Name of location	GPS Coordinates
 N / S ; E

- - - - -

Name of the respondent	Sex	Age

Clan	Sub-clan	Family

SECTION II – HERD/FLOCK COMPOSITION AND DYNAMIC

Q1. What species of animals do you have now? *(tick the box or boxes indicating the species)*

CATTLE	SHEEP	GOATS	CAMELS

Ask each of the following questions according to the species given

- e.g. if the answer to question 1 was cattle + goats, ask question 2 as follow:
- How many new calves were born in your herd during the last one-year?
 - How many new kids were born in your flock during the last one-year?

Q2. How many calves / lambs / kids / calves (camels) were born in your herd / flock during the last one-year? (write the number in the box below the given species)

CALVES	LAMBS	KIDS	CALVES (CA)

Q3. How many cattle / sheep / goats / camels did you lose during the last one-year? (write the number in the box below the given species)

CATTLE	SHEEP	GOATS	CAMELS

Q4. How many cattle / sheep / goats / camels have remained in your herd / flock now? (write the number in the box below the given species)

CATTLE	SHEEP	GOATS	CAMELS

Q5. How many male calves (0-1 year) / lambs (0-6 months) / kids (0-6 months) / calves (camels) (0-2 years) there are in your herd / flock now, and how many females (write the number in the box below the given species)

Q6. How many young male cattle (1-3 years) / lambs (6months – 2 years) / kids (6months – 2 years) / camels (2-4 years) there are in your herd / flock now, and how many females (write the number in the box below the given species)

Q7. How many adults male cattle (3-6 years) / lambs (2-4 years) / kids (2-4 years) / camels (4-9 years) there are in your herd / flock now, and how many females (write the number in the box below the given species)

Q8. How many old male cattle (> 6 years) / lambs (> 4 years) / kids (> 4 years) / camels (> 9 years) there are in your herd / flock now, and how many females (write the number in the box below the given species)

		QUESTION 5	QUESTION 6	QUESTION 7	QUESTION 8
		CATTLE			
		0-1 Year	1-3 Years	3-6 Years	> 6 Years
Males					
Females					
		SHEEP			
		0-6 Months	6 Months – 2 Years	2-4 Years	> 4 Years
Males					
Females					
		GOATS			
		0-6 Months	6 Months – 2 Years	2-4 Years	> 4 Years
Males					
Females					
		CAMELS			
		0-2 Years	2-4 Years	4-9 Years	> 9 Years
Males					
Females					

Q9. Where your herd / flock of cattle / sheep / goats / camels has been during the last Jiilaal, Gu', Xagaa and Dayr seasons (one year)? (write the name of the locations in the boxes below the given species)

Season	CATTLE	SHEEP	GOATS	CAMELS
Jiilaal				
Gu'				
Xagaa				
Dayr				

Q10. Do you remember where your herd / flock of cattle / sheep / goats / camels has been during the previous Jiilaal, Gu', Xagaa and Dayr seasons (2 years ago)? (tick the box)

YES ☐

NO ☐

(if YES write the name of the locations in the boxes below the given species; if NO, go to question 11)

Season	CATTLE	SHEEP	GOATS	CAMELS
Jiilaal				
Gu'				
Xagaa				
Dayr				

Q11. How far your herd / flock of cattle / sheep / goats move daily to reach water and/or pasture during Jiilaal and Gu' seasons (Km. and hours)? (write the numbers in the boxes below the given species)

Season	CATTLE		SHEEP		GOATS	
	Km.	Hours	Km.	Hours	Km.	Hours
Jiilaal						
Gu'						

Q12. During prolonged drought (at least 1 rain season missed) where do you bring your herd / flock of cattle / sheep / goats / camels to graze and to water? (write the name of the locations in the boxes below the given species)

CATTLE	
	Name of location
Grazing area	
Watering point	
SHEEP	
	Name of location
Grazing area	
Watering point	
GOATS	
	Name of location
Grazing area	
Watering point	
CAMELS	
	Name of location
Grazing area	
Watering point	

Q13. How many cattle / sheep /goats / camels have you sold during the last one-year? (write the numbers in the boxes below the given species)

CATTLE	SHEEP	GOATS	CAMELS

Q14. Where do you normally sell your cattle / sheep / goats /camels? (write the name of the main market/s reported by the respondent)

	CATTLE	SHEEP	GOATS	CAMELS
Market 1				
Market 2				
Market 3				

SECTION III – STOMATITIS / ENTERITIS SYNDROME IN CATTLE

Fill this section only if the respondent has reported to own cattle:
If NOT go to SECTION V

Q15. Have you seen diarrhoea and/or stomatitis/salivation in your cattle during the last one-year? (tick the box)

YES ☐ NO ☐ (if YES go to question 16; if NO, go to question 34)

Q16. Sometime, did diarrhoea and stomatitis/salivation occur together? (tick the box)

YES ☐ NO ☐ (if YES go to question 17 and skip questions 18, 19 and 20; if NO, go to question 18)

Q17. When diarrhoea and stomatitis/salivation occurred together, which other symptoms did you observed? (tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)") (go to question 21)

FEVER ☐ LACHRYMATION ☐ NASAL DISCHARGE ☐

Other symptoms (specify):

Q18. When diarrhoea occurred, which other symptoms did you observed? (tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)")

FEVER ☐ LACHRYMATION ☐ NASAL DISCHARGE ☐

Other symptoms (specify):

Q19. Do you have a specific name/s for this health problem of your cattle? *(write the name/s of the health problem in Somali, as reported by the respondent)*

	Name/s of the reported health problem
Name 1	
Name 2	
Name 3	

(if the answer is Rinderpest go to question 21; otherwise go to question 20)

Q20. When stomatitis/salivation occurred, which other symptoms did you observed? *(tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)")*

FEVER ☐ LACHRYMATION ☐ NASAL DISCHARGE ☐

Other symptoms (specify):

.....

.....

Q21. How many animals were affected in your herd? *(write the number in the box)*

Number of affected animals

Q22. Out of the affected animals, how many died? *(write the number or tick the box)*

Number of dead animals None ☐ *(if the answer is NONE, go to question 24)*

Q23. How many animals survived? *(write the number in the box)*

Number of survived animals

Q24. When did this health problem occur in your herd? *(write the number in the box)*

Number of days / weeks / months ago Season

Q25. Where were your cattle at that time *(write the name of location and district in the boxes)*

Name of location District

Q26. Have you seen other herds presenting the same or similar symptoms? *(tick the box)*

YES ☐ NO ☐ *(if YES when and where; if NO, go to question 29)*

Number of days / weeks / months ago Season

Name of location District

Q27. Did your herd develop this health problem after being in contact or close to these sick animals? *(tick the box)*

YES ☐ NO ☐

Q28. If yes, where did the contact occur?

GRAZING AREA ☐ WATER SOURCE ☐ MARKET ☐

Name of location District

Q29. Have you heard of other herds presenting the same or similar symptoms in the area? *(tick the box)*

YES ☐ NO ☐ *(if YES when and where; if NO, go to question 30)*

Number of days / weeks / months ago Season

Name of location District

Q30. Have you noticed the same or similar symptoms in wildlife? *(tick the box)*

YES ☐ NO ☐ *(if YES when and where; if NO, go to question 34)*

Number of days / weeks / months ago Season

Name of location District

Q31. Which wildlife species were affected? *(write the name of the wildlife species affected, as reported by the respondent)*

	Name of the affected wildlife species
Specie 1	
Specie 2	
Specie 3	
Specie 4	

Q32. Did your herd developed this health problem after being in contact or close to this sick wildlife animals? *(tick the box)*

YES ☐ NO ☐

Q33. Do you have a specific name for this health problem of your cattle? *(write the name/s of the health problem in Somali, as reported by the respondent)*

	Name/s of the reported health problem
Name 1	
Name 2	
Name 3	

(if the answer is Rinderpest go to question 34 and skip all the others in the section; otherwise continue with all questions)

Q34. When did your herd receive the last vaccination for Rinderpest, and by whom? (write year and implementer of the last vaccination in the boxes, if NEVER tick the box)

Year of last vaccination Implementer of the last vaccination

Never ☐

If the answer is Rinderpest (and/or you highly suspect a recent or ongoing Rinderpest outbreak), proceed with accurate clinical investigation of the suspected herd, add your remarks (in SECTION VII at the end of the questionnaire) and IMMEDIATELY report to the PACE Zonal Coordination Unit of your area!

Q35. When did you see Rinderpest personally last time? (Write the year or tick the box)

Year of last observation of Rinderpest Never ☐ (if NEVER, go to question 43 of SECTION IV)

Q36. Which symptoms did you observed at that time? (tick the box if the reported symptoms correspond to some/all the ones listed below, otherwise write them under "Other symptoms (specify)")

FEVER ☐ LACHRYMATION ☐ NASAL DISCHARGE ☐
SALIVATION ☐ MOUTH LESIONS ☐ DIARRHOEA ☐

Other symptoms (specify):
.....
.....

Q37. How many animals were affected in your herd? (write the number in the box)

Number of affected animals

Q38. Out of the affected animals, how many died? (write the number in the box)

Number of dead animals None ☐ (if the answer is NONE, go to question 40)

Q39. How many animals survived? (write the number in the box)

Number of survived animals

Q40. Do you remember where was your cattle at that time (tick the box)

YES ☐ NO ☐ (if YES, where; if NO, go to question 41)

Name of location District

Q41. Have you noticed the same or similar symptoms in wildlife at that time? (tick the box)

YES ☐ NO ☐ (if YES go to question 40; if NO, go to question 43 of SECTION IV)

Q42. Which wildlife species were affected? (write the name of the wildlife species affected, as reported by the respondent)

	Name of the affected wildlife species
Specie 1	
Specie 2	
Specie 3	
Specie 4	

Annex III.V

(Guidelines for Group Exercise)

Guidelines for group exercises

What is a group exercise?

A group exercise is an activity carried out with a group of people to collect or analyse specific information.

In the Itinerant Training Programme for Somali Veterinary Professionals 3 different exercises are used:

1. Disease listing
2. Disease ranking
3. Disease seasonal calendar

Why do we use these techniques?

Some of these techniques are suitable to collect data at community level on relevant livestock health problems in the visited areas (especially disease listings and disease calendar). Others such as the disease ranking are instead better suited for data analysis.

Who are the respondents?

Livestock owners are the most suitable respondents for these techniques. Pastoralists and agro-pastoralists according to the characteristics of the area visited, constitute the main target. Villagers owning a few animals for family needs should not be involved in the exercises.

What size should the group be?

For our purposes very small groups should be avoided since these techniques are not intended to gather information from individual livestock owners, on the other hand when groups become too large, it is difficult to manage them, as the group tends to split in small sub-groups. A manageable size is between 8 and 15 people.

How much time is required to carry out the 3 exercises?

Since people are usually busy during the day, you must not take too much of their time. The 3 exercises should not take more than a total of one hour, and should be organised according to the livestock owner's convenience.

Do not perform the exercise during praying time.

Be prepared that the number of people, present during the exercise, will fluctuate, with some coming and going. If the number decrease to less than 5, stop the session to find out if there is any particular problem.

How should the group implementing the exercise be organised?

To get the most out of the exercise the vet. professionals implementing the exercise must be well organised with clear tasks assigned to everyone. Remember to prepare the flip charts for the disease ranking and seasonal calendar beforehand. People may not appreciate watching you prepare the material for half an hour before starting the discussion.

Everybody should know what to do at any given moment. People who are not leading the session should support it, by replacing the flip charts when required, preparing the tape for fixing them to the board, following the discussion, accommodating new arrivals, etc. Teamwork is crucial for success of the exercise.

How to communicate with the group of respondents?

These exercises are intended to get information on relevant health problems from a group of people, not from individuals. Therefore it is important to stimulate discussion and where is possible arriving at a consensus amongst the group. Only after consensus has been reached should information be written down on the flip chart.

Pay attention to group-dynamics, especially when well-respected livestock owners who can influence the whole group are present. Some livestock owners, known to be good at handling a particular species, may take the lead within the group on certain issues. These situations should be addressed with due consideration and sensibility, in order not to sacrifice the contribution of such key informants.

Remember that the discussion must only reflect the opinions of the livestock owners and therefore veterinary professionals should not interfere. They should take a neutral approach on the matters debated, and not offer advice or lecture the group.

a) Disease listing

The exercise consists of listing diseases according to the following question: Which diseases have occurred in your area during the last three years?

The exercise aims at:

- 1) collecting information on the diseases which occur in the area where the livestock owners come from, and;
- 2) considering only a specific period of time: the last three years.

Diseases must be listed according to species considering camels, cattle, sheep and goats only. At this stage write all the diseases reported by the group on the flip chart.

Once the list has been completed check if for any of the species there are more than 6 diseases listed. If this is the case ask the group to select the six most common (most frequent) diseases occurring in the area.

This is because the two following exercises (disease ranking and seasonal calendar) are to be carried out with a maximum of six diseases only.

Please write on the flipchart the names of the diseases in Somali, as reported by the group. Do not attempt any change according to your personal interpretation.

b) Disease ranking

Ranking diseases means placing them in order according to a set of criteria. Five criteria are used for this exercise:

- Mortality
- Transmission within the herd/flock
- Reduction in milk yield

- Reduction in the number of deliveries
- Cost of treatments.

The selected diseases must be ordered according to this set of criteria, asking the group to rank the first disease, the second disease, etc. according to each criterion. The exercise is presented in the form of a matrix on flipcharts (example 1). Use one flipchart for each species.

It is very important to clearly explain the five criteria used in order to reach a common understanding within the group.

Mortality: the number of animals killed by the disease, e.g. which of the listed disease caused the highest number of losses in the area during the last three years? Which disease caused the second highest number of losses?, the third etc.

Transmission within the herd/flock: which of the listed diseases spread more rapidly within the herd/flock in terms of number of animals affected over time? Which disease spread second fastest? etc.

Reduction in milk yield: Which disease most affected milk yield during the last three years? Which is the second disease? etc.

Reduction in the number of deliveries: which diseases caused the greatest reduction in the number of deliveries during the last three years?

Cost of treatments: For which disease did you spend the most in veterinary drugs during the last three years? Which is the second?

This exercise aims at showing the importance livestock owners attach to the different diseases according to selected criteria.

Example 1: DISEASE RANKING

Use one flipchart for each specie

Write down on the flipchart the species to which the diseases refer

DISEASE (Goat)	MORTALITY	REDUCTION OF MILK	REDUCTION OF DELIVERIES	TRANSMISSION	COST OF TREATMENT
Diif	1	1	4	1	3
Caalbarar	4	6	1	5	1
Shuban dhiig	1	1	-	4	2
Cabeeb	6	3	2	3	6
Furuq	3	4	3	1	4
Raaf dilaac	5	5	5	6	5
Region: Hiran; District: Beledweyne; Location: Matoor; Date: 04/04/2002					

Write the region, district, location and date of the exercise on the flipchart

Rank each disease using a crescent number from 1 to 6

If 2 diseases are given the same rank, use the same number for both. Remember to jump 1 number when you rank the next disease

If a creterion is not one applicable to one of the listed disease, put a dash in the appropriate box. Remember that the following disease is ranked without jumping a number

c) **Disease calendar**

This is a calendar showing the most common livestock diseases throughout the different seasons of the year, Gu', Xagaa, Dayr and Jiilaal, in a matrix form on a flipchart (example 2). Use one flipchart for each species.

The exercise aims at identifying the season/s of greatest difficulty and vulnerability in terms of livestock health. Furthermore it provides the veterinary professionals with useful information for planning of treatments, vaccinations and drug stock.

Example 2: DISEASE SEASONAL CALENDAR

Use one flipchart for each specie

Write down on the flipchart the species to which the diseases refer

DISEASE (Goat)	JILAL	GU'	XAGAA	DAYR
Diif	X	X	X	X
Caalbarar	X			
Shuban dhiig	X	X	X	X
Cabeeb		X		X
Furuq	X	X	X	X
Raaf dilaac		X		X
Region: Hiran; District: Beledweyne; Location: Matoor; Date: 04/04/2002				

Write the place and date of exercise on the flipchart

Tick the appropriate box under the season/s when the disease is reported to occur

Annex III.VI

(RP outbreak / rumours
recording form)

Base ID *	Date	Region	District

Name of location	GPS Coordinates
	N / S; E

Outbreak personally investigated (clinically)

☐

Reported outbreak

☐

Main clinical signs observed in the affected herd (tick the box or specify them in "Other (Specify)")

Fever	Lachrymation	Salivation	Mouth Lesions	Nasal Discharge	Diarrhoea	Dermatitis

Other (specify):

.....

.....

.....

N° of affected animals in the herd	N° of dead animals in the herd	N° of survived animals in the herd

Beginning of the outbreak (N° of days ago)	Location in which the outbreak started	District in which the outbreak started

Number of affected herds in the area

Wildlife affected in the area:

YES

☐

NO

☐

Tentative Diagnosis	Local Name of the Health Problem

REMARKS:

.....

.....

.....

.....

.....

.....

.....

Name of the investigator:

Signature:

Annex III.VII

(Location's description form)

11

12

LOCATION'S DESCRIPTION FORM

FORM N°: _____

Base ID *	Date	Region	District

Name of location	GPS Coordinates
	N / S; E

Type of settlement (tick the box for the corresponding type of settlement; if in the village or town a livestock market is present, tick the "Market" box)

Market	
--------	--

Market	
--------	--

azing settlement: a temporary accommodation consisting of huts for nomads

age: a rural settlement smaller than a town

wn: a urban densely populated area larger than a village

Watering point description (tick the boxes for the types of water sources available in this location or specify them in "other (specify)")

[illegible]

3. Number of cattle / sheep / goats / camels drinking daily in this location (write approximately the number according to species and seasons)

Season	CATTLE	SHEEP	GOATS	CAMELS
Jiilaal				
Gu'				
Xagaa				
Dayr				

Fill this section only if a "LIVESTOCK MARKET" is present in the village or town

4. Number of cattle / sheep / goats / camels sold weekly in this local market (write approximately the number according to species and seasons)

Season	CATTLE	SHEEP	GOATS	CAMELS
Jiilaal				
Gu'				
Xagaa				
Dayr				

* Enter "AF" for "Afmadow" or "BA" for "Baidoba" or "BE" for "Beledweyne" or "HA" for "Hargesa" or "BO" for "Bosaso".

Annex III.VIII

(Sampling frame – Record Sheet)

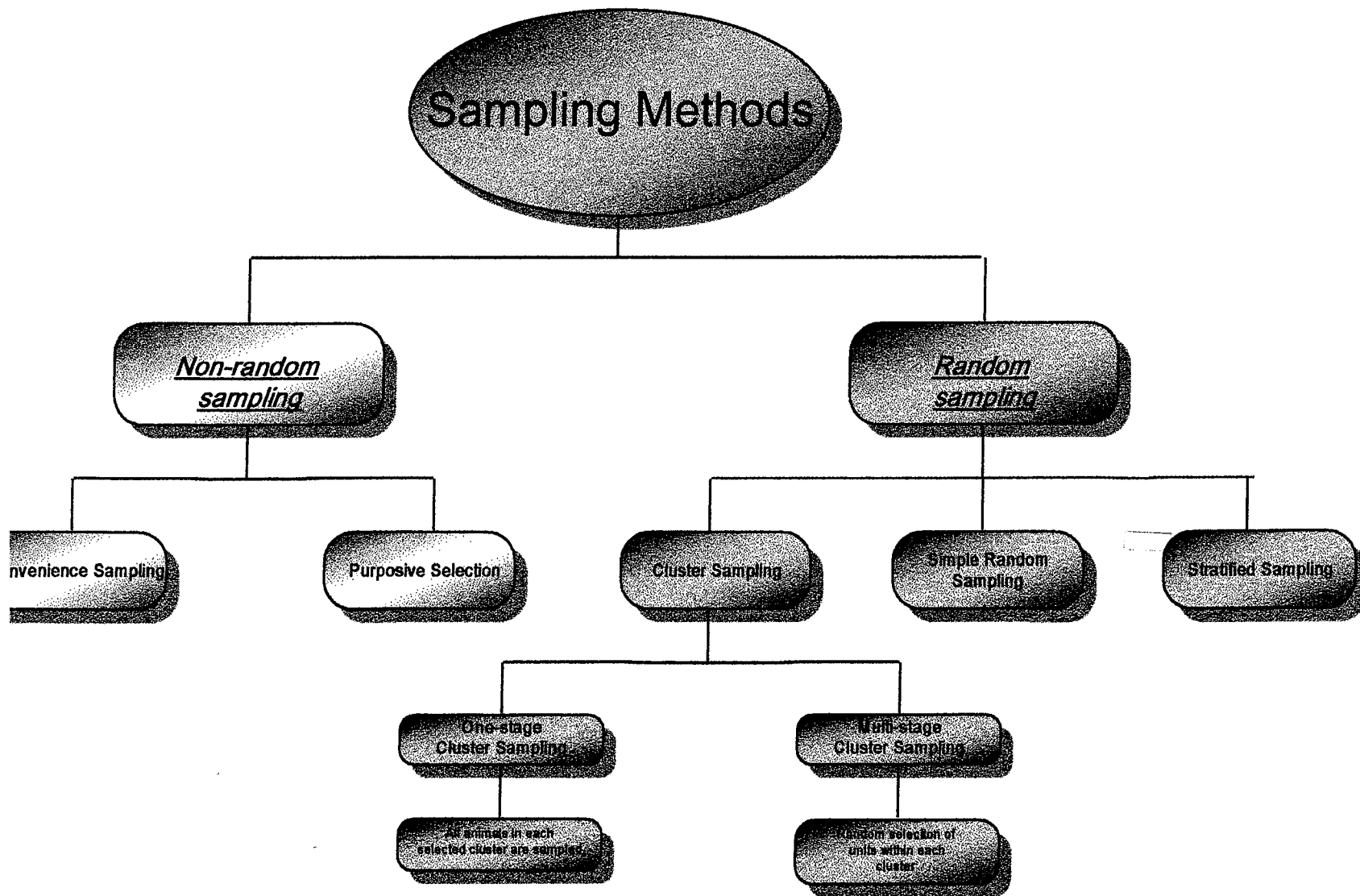
Sampling Frame - Record Sheet

[illegible]

Annex IV

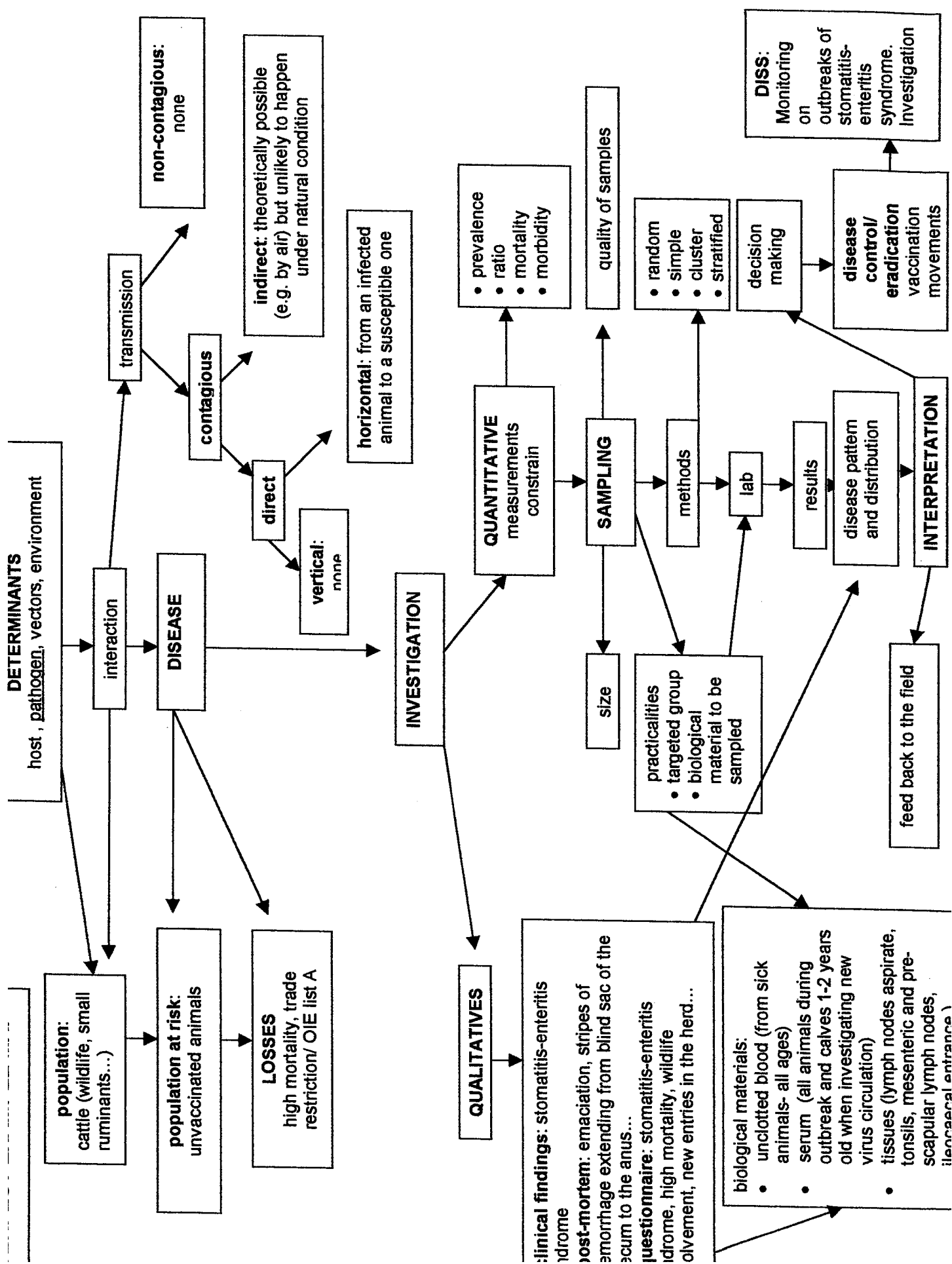
(Sampling methods for survey)

Sampling Methods for Surveys



Annex V

(Rinderpest investigation process)



Annex VI

(Glossary on epidemiological terms)

GLOSSARY ON EPIDEMIOLOGICAL TERMS

Carrier: is any animal that can have a pathogen (infectious agent) without demonstrating clinical signs.

Case: is an animal in a population or study group identified as having a particular disease or other health-related problem that is being investigated.

Case fatality: is the tendency for a condition to cause the death of affected animals in a specified time. It is the proportion of diseased animals that die.

Contagious disease: is a disease transmitted by the direct transfer of an infectious agent from one infected host to another. It may be by direct or indirect contact (see below).

Determinant: is a factor that defines (determines) the health condition of the population.

Direct transmission of infections: occurs when a susceptible host contracts an infection with by physical contact with an infected host or by contact with the latter's discharges (e.g. the transmission of foot and mouth disease in infected saliva).

Disease: is a disorder with a specific cause and recognisable signs and symptoms. It may be any bodily abnormality or failure to function properly, with the exception of that resulting directly from physical injury. Physical injuries may open the way for disease, for example by allowing infectious agents to enter the body.

Endemic: is when the speed of transmission of a disease remains the same over time; or is when there is a usual presence of disease, infection, antibodies, etc.

Environment: are conditions and elements that make up the surroundings and influence the development of the animal such as location, climate and husbandry.

Epidemic: is when the incidence of a disease suddenly increases. The occurrence of the disease is greater than its expected frequency.

Exposure: is the initial (first) act of contacting an agent, or the entrance of the agent into or on an individual.

Parameter: is a quantity (amount of something) that can differ in different circumstances, but it remains constant in the case that is being considered.

Pathogen: is an organism that produces disease.

Pathogenicity: is the ability of an infectious agent to cause disease.

Population: is a group of individuals that have certain distinguishing characteristics (e.g. live in the same geographical area, belong to the same species, etc).

Population at risk: is the population that is naturally susceptible to a disease.

Prevalence: is the number of occurrences of disease, infection, antibody presence, and so on in a population. It usually is related to a particular point of time, and is commonly expressed as a proportion of the population at risk.

Proportion: is a ratio in which the numerator is part of the denominator. It is the extent to which a piece of something is part of the whole.

Random or probabilistic sampling: also known as 'formal sampling', is based on the assumption that every member of the sample has a known, equal and non-zero probability of selection (although this is the case only in simple random sampling).

Rate: a ratio that indicates the change in one quantity with respect to another over time. Thus, incidence rate is the number of new cases of disease occurring in a population observed for a defined period of time.

Ratio: is a value obtained by dividing one quantity (the numerator) by another (the denominator). For example, the number of males borne per female births. Both proportions and rates are ratios.

Receptivity: (to a pathogen) is the potential or ability of an individual to live with (harbour) a pathogen, and allowing its development or multiplication.

Reservoir: is an animate (human, animal, insects, etc) or inanimate (plant, soil, faeces, etc.) object or any combination of these that provide a living environment for an infectious agent, which reproduces itself in such a way that it is transmitted to a susceptible host. It is the 'container' or environment in which an infectious agent lives and passes on to a host that is ready to accept it.

Resistance: is the ability of the pathogen to survive in the environment (the definition in epidemiological terms is different to the one used in pharmacology).

GLOSSARY ON EPIDEMIOLOGICAL TERMS

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Environment: are conditions and elements that make up the surroundings and influence the development of the animal such as location, climate and husbandry.

Epidemic: is when the incidence of a disease suddenly increases. The occurrence of the disease is greater than its expected frequency.

Exposure: is the initial (first) act of contacting an agent, or the entrance of the agent into or on an individual.

Horizontal (lateral) transmission: is when an agent is passed onto a healthy individual. For example, it may occur by 1) muzzle to muzzle; 2) cutaneous or mucosal contact; 3) offspring suckling breast milk; 4) venereal contact; 5) contact with animal carcasses (due to feeding for animals, or due to work factors (occupational hazards) for humans).

Host: is an animal that is capable of being infected with, and therefore giving sustenance to, an infectious agent. The infectious agent can multiply or develop within the host.

Incidence: is the number of new cases that occur over a specified period of time. It is usually expressed in relation to the population at risk and the time during which the population is being observed.

Indirect transmission of infections: involves an intermediate vehicle, living or inanimate, that transmits infection between infected and susceptible hosts. Living carriers are usually called vectors (e.g. flies, ticks).

Infection: is the invasion of micro-organisms, which reproduce themselves in susceptible individuals.

Interaction: is the coming together of 2 or more beings. It may be 1) biological, where the inter-dependant meeting of 2 or more causes produce an effect; or 2) statistical (correlation). In epidemiology, a quantitative inter-dependence is when the combined effects of 2 or more factors (such as the frequency of disease) either represent more than what is expected (positive correlation) or less than what is expected (negative correlation).

Morbidity: is the number of affected animals (sick) over a period of time.

Mortality: is a measure of the number of deaths in a population.

Non-contagious disease: is a disease that is not transmitted by physical contact between an infected and a susceptible host, or by contact with the infected host's discharges. Vector borne diseases are an example of non-contagious diseases (e.g. trypanosomiasis in cattle).

Non-random or not probabilistic sampling: also known as 'informal sampling', refers to any procedure that does not give specific values to the selection probabilities. In these cases, probabilities of some members of the target population are unknown or may be zero.

Outbreak of disease: an identified occurrence of disease involving one or more animals. The term generally implies that several animals are affected.

Pandemic: is an epidemic disease that spreads over a wide geographical area.

Parameter: is a quantity (amount of something) that can differ in different circumstances, but it remains constant in the case that is being considered.

Pathogen: is an organism that produces disease.

Pathogenicity: is the ability of an infectious agent to cause disease.

Population: is a group of individuals that have certain distinguishing characteristics (e.g. live in the same geographical area, belong to the same species, etc).

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Resistance: is the ability of the pathogen to survive in the environment (the definition in epidemiological terms is different to the one used in pharmacology).

Sampling Frame: list of the members of the study population.

Sampling Unit: each member of the sampling frame.

Sensitivity: in terms of a pathogen - is the potential or ability of an individual to show clinical signs of the activity or presence of a pathogen; in terms of a test – is the proportion of affected animals that are detected by a test. A test is said to be sensitive when it is able to detect the presence of even small amounts of antibodies, antigen, enzyme, nucleic acid, etc.

Sporadic: is defined when the incidence is low and haphazard, and cases (or outbreaks) are separated by periods of time during which there are no new cases (incidence is nil).

Study population: is the population from which a sample is drawn (it should be representative of the target population).

Surveillance: is a continuous / on-going form of monitoring designed so that action can be taken to improve the health status of a herd or population. It is frequently used in disease control campaigns. The control measures are decided after the surveillance has been carried out.

Susceptibility: in terms of a pathogen – determines the ability to transmit infection.

Target population: is the total population about which information is required (ideally the population at risk).

Tropism: is the affinity of an organism (pathogen) for a special material or entity (tissue). In other words, it indicates the ease with which a pathogen can survive or thrive in a tissue.

Variable: is an observable event that can change or vary. Variables can be either continuous or discrete. A continuous variable could be the weight of an animal; a discrete variable could be the number of cases of a disease.

Vector: broadly speaking, it is anything that allows the transmission of a causal agent. More strictly defined, it is a living creature, usually an invertebrate that, due to its ecological relationship to others, acquires an infectious agent from one living host and transmits it to another.

Vertical transmission: is the transmission of an infection from one individual to its offspring.

ANNEX E.3

***Training Manual on Information Gathering and Data Analysis in Pastoral Livestock
Production Systems***

Training on Information Gathering and Data Analysis in Pastoral Livestock Production Systems

***(Module prepared by TERRA NUOVA
under the Itinerant Training Programme
for Somali Veterinary Professionals – Phase II)***

February 2002



P A C E

- Somali Component -

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INFORMATION GATHERING AND DATA ANALYSIS IN PASTORAL LIVESTOCK PRODUCTION SYSTEMS

1. Importance of Information Gathering and Data Analysis

A country's livestock industry is a system covering everything from livestock production to marketing of livestock and animal products. Different actors are involved in the system: livestock producers, traders and veterinary professionals, the Ministry of Livestock and local administrations (including policy makers), as well as importing countries.

For the system to run well (efficiently), each actor has to perform its own role, including taking decisions. Taking decisions depends on having information, and therefore it is important that information is of good quality. The type of decision taken depends on who is going to use the information and for what purpose.

Figure 1 shows the connections between the actors (WHO); the use the actors make of the information (WHY), the type of information the different actors need (WHAT) and the way in which the information is collected (HOW).

- **WHO** - may include livestock producers, livestock traders, private veterinarians or Somali Veterinary Professionals (SVPs), Ministry of Livestock and local administrations (including policy makers).

- **WHY** - each actor may have a different use for the information. For example:

Information is needed by:

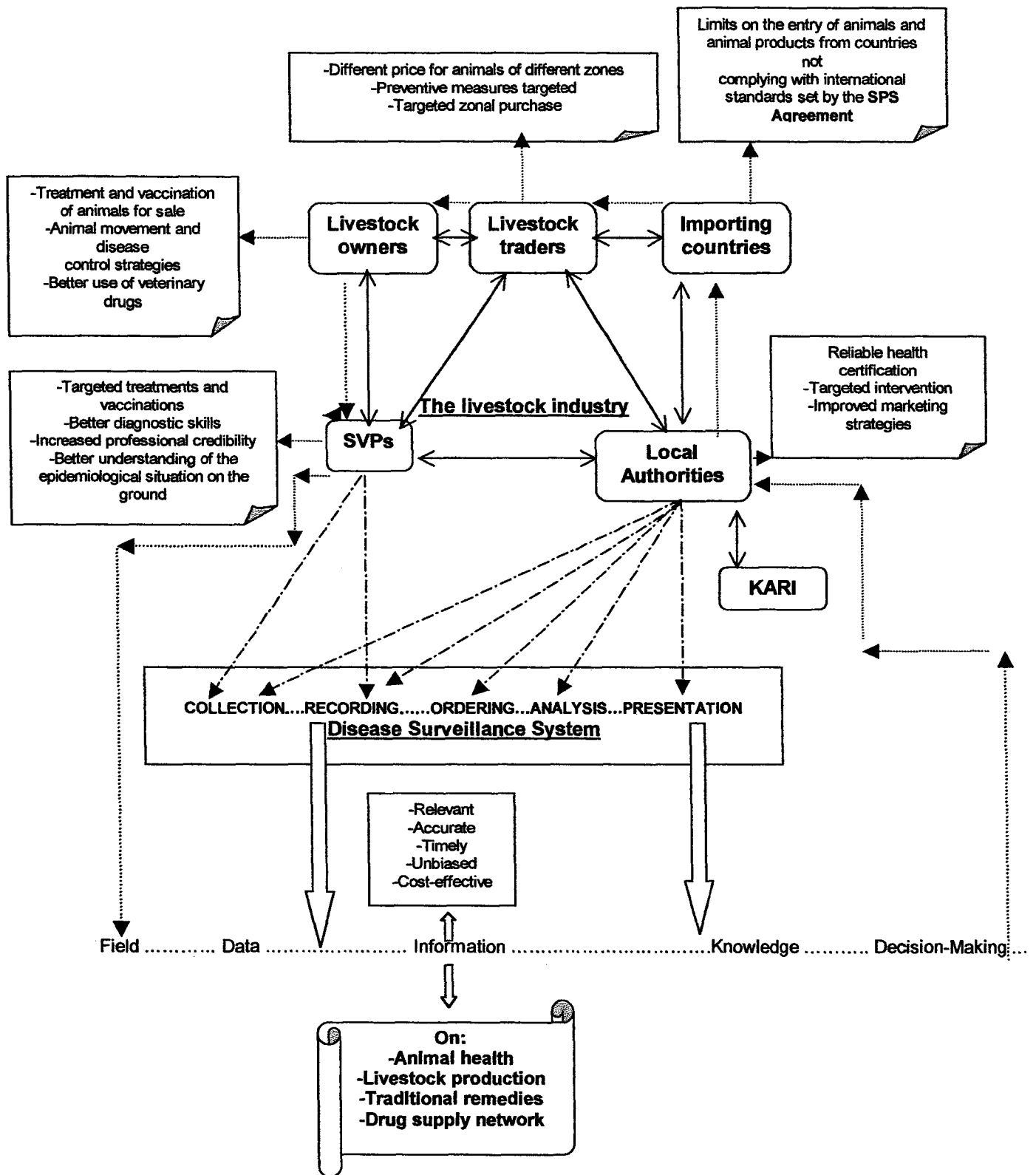
Livestock producers, to:

- treat and vaccinate animals so that they can be sold for export;
- make decisions about where and how to move their animals so as to prevent diseases;
- make better use of curative drugs.

Livestock traders, to:

- help them decide on prices for animals coming from different areas;
- select the appropriate preventive measures to be taken prior to export;
- contribute to the tests of targeted diseases and certification;
- purchase animals from specific areas.

Figure 1. The decision-making flow within the livestock industry and the DISS



Private veterinarians / SVPs, to:

- plan the treatments and vaccinations they should do, particularly according to seasonal patterns of disease;

- improve their ability to diagnose diseases;
- improve their professional status in front of the livestock owners;
- have a better understanding of the animal health situation in specific areas.

Ministry of Livestock / local administrations (including policy makers), to:

- set up a reliable certification system to prove the health status of animals;
- organise interventions (such as control or eradication of animal diseases) according to needs;
- improve the selling (marketing) of livestock.

Importing countries, to:

- limit the entry of animals and animal products from countries that have not followed international standards set by the SPS Agreement.

- **WHAT** - four main types of information is needed

- information on animal health - presence or absence of disease; if present – level of occurrence, in what areas, due to what causes, in what species, etc.;
- information on livestock production systems - species present, herd management, animal movements, grazing resources, water sources;
- information on traditional remedies - treatments used by livestock owners for different diseases, advantages and disadvantages of treatments;
- information on the veterinary drug supply network in pastoral areas - types of outlets selling drugs, frequency and amount of sales, how drugs are delivered, how drugs are used.

- **HOW** - 'How' information is collected is divided into two parts: 1) the steps taken in gathering and analysing information; and 2) the process involved from collecting data to turning it into information and knowledge, and finally using it in decision-making.

The STEPS include:

Data Collection:

- can be done either directly or indirectly (see below).

Data Recording:

- can be done either in a structured or unstructured way (see below).

Data Validation (checking):

- means checking the data to ensure that it is complete, correct and consistent. Only with these characteristics can data be turned into good quality information. Quality information is accurate (correct); relevant (useful for a particular decision); representative of the situation

as a whole (not biased); timely (with regard to the timing of decisions); cost effective (providing information as cheaply as possible and in proportion to the potential benefits).

Also, the same findings - may be information for one decision maker, but data for another decision maker. For example: a private practitioner will use the results of a clinical examination of a single animal to help him make a diagnosis. A policy maker, local administrations or the Ministry of Livestock will not be interested in the clinical examination of a single animal. For them, the information is only interesting if, together with many other animals, it is confirmed through a laboratory test and helps them understand if a disease is present in a particular area.

Data Ordering (collation):

- involves putting the data together according to different criteria. Data may be put together according to herds/ flocks, a particular geographical area, a specific time frame, etc.

Data Analysis:

- involves studying the data and trying to understand it. Analysis may be done according to trends (patterns that repeat themselves), epidemiology, cost/ benefit (does an action make sense economically?). Analysis turns data into information.

Data Presentation:

- information needs to be shown to the different actors for them to understand. Presentation means deciding on how the information should be presented or given to the various actors. The type of presentation changes depending on the purpose of the information and the people to whom it is presented.

The PROCESS refers to the different stages involved in moving from the situation being studied to the collection of data, turning it into information and knowledge, and using it in decision-making (Figure 2).

The process goes from:

field -> data -> information -> knowledge -> decision-making.

Field: - is the situation which is being studied.

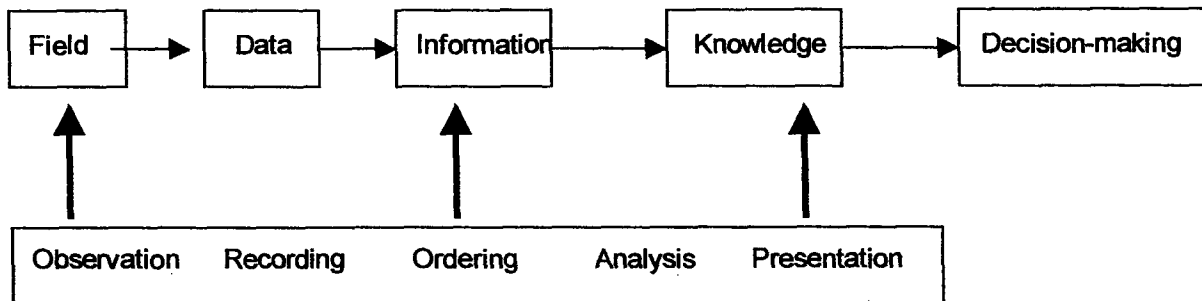
Data: - is raw (unanalysed) findings (facts and figures) that are collected.

Information: - is analysed data, presented in a format that helps someone (an actor) take decisions.

Knowledge: - is when the information is understood.

Decision-making: - is when the information is used in some way.

Figure 2. Information and decision-making



2. Data Collection

Data collection is the gathering of facts for a specific purpose. A basic aim of data collection is to ensure that what is gathered for analysis is as near as possible to the real situation. There are many different ways of gathering facts, but they can be divided into two main groups: direct and indirect.

Figure 3 shows the division between direct and indirect data collection and some of the different methods used.

2.1. DIRECT DATA COLLECTION

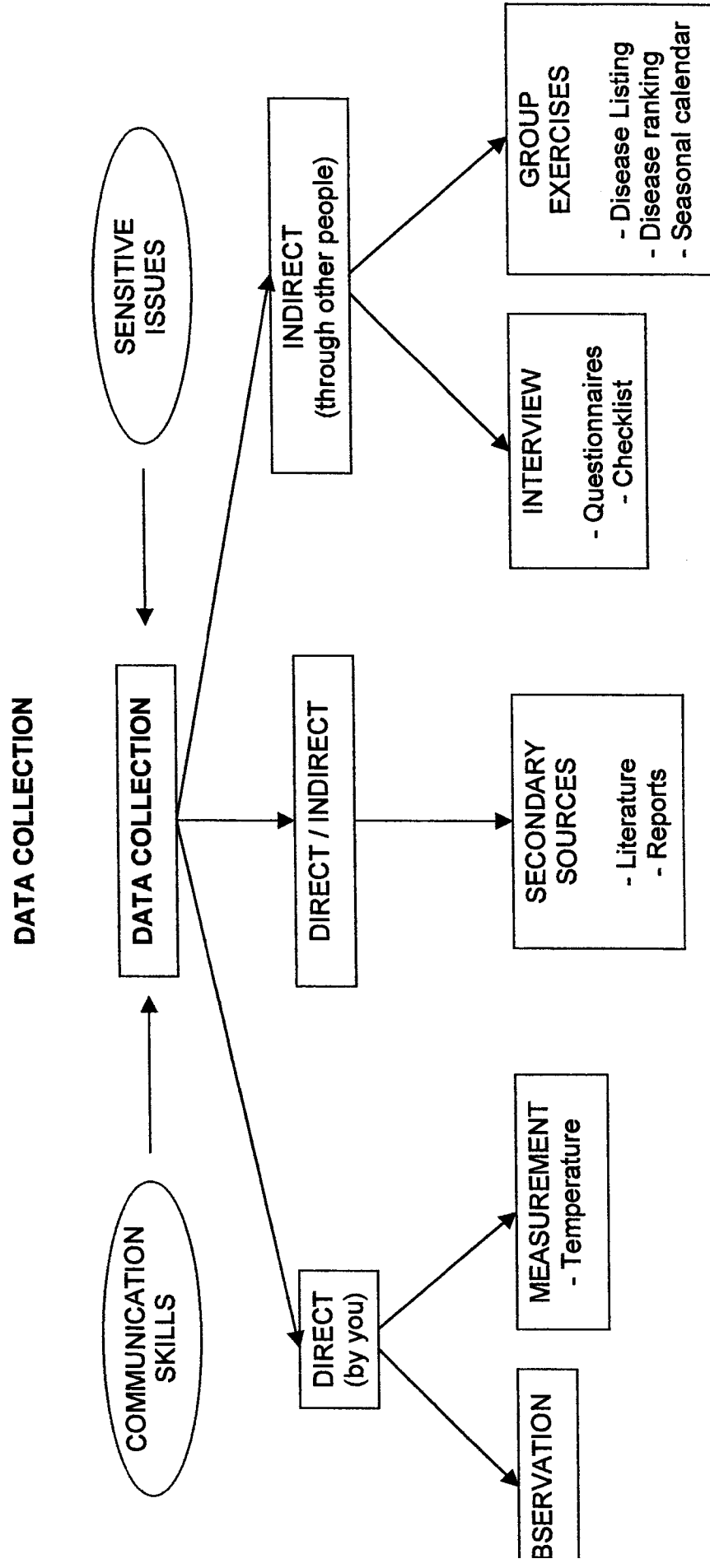
Direct data collection refers to data that YOU personally collect. You might collect the data by observing (observation) a situation - such as looking at an animal to assess the body condition.

You might collect it by measuring (measurement) different things - such as a goat's temperature, or the number of cattle exported from a specific place.

2.2. INDIRECT DATA COLLECTION

Indirect data collection refers to data that you collect THROUGH OTHER PEOPLE. It depends on the other people remembering things. There are many different ways of collecting data through people. Interviewing is one important way of collecting data, and the person asking the questions usually has a checklist or a questionnaire. The interview is done between two people: one asking the questions (interviewer) and one answering the questions (respondent). Questionnaires are discussed below. Another way of collecting data indirectly is by using group exercises involving a group of people. Examples are disease listing, disease ranking and seasonal calendars (see below).

Figure 3.



2.2.1. Questionnaires

Questionnaire development is a skilled task. It is important to think about the questions from the point of view of the person answering the question (respondent); the person asking the question and writing down the answer on the questionnaire form (enumerator); and the person trying to analyse the information afterwards.

Some of the basic rules about preparing a questionnaire are to:

- include the minimum (least) number of topics
- limit the amount of time you need to keep the respondent answering questions. He or she probably has something else to do.
- make sure it is easy to use for the enumerator (clear questions, easy to fill-in)
- make sure that it is self-contained - with the enumerator's name, date of interview, location, and any other information that may be necessary

Questionnaires can be prepared in different ways, but a common way is as follows:

- prepare a list of questions about the topics of interest
- for each topic, write the question carefully so that it is easily understood
- list the questions in an order that make sense (logical)
- decide for each question how to record the respondent's answer
- prepare the questionnaire form
- test the questionnaire form on a limited number of people
- make any necessary changes to the form by looking at the results
- finish the final version of the questionnaire form

The following features are important to consider when preparing a questionnaire:

Question phrasing: The question must have:

- a clear meaning
- the same meaning to every person asked
- an answer which the respondent should know
- an answer which can be given clearly by the respondent

Order the questions in a logical time sequence (from present to past). A good flow would be one that is almost like a conversation.

Order the questions with regard to sensitivity (embarrassing or private information). Sensitive questions should come at the end when the person feels more confident with you.

Common problems of questions:

Open or closed statements: open statements are ones in which the respondent can give any answer without any limitation on the range or complexity of the answer. For example:

What diseases do your cattle have?

The answer could be diseases the cattle have now, during any or all seasons, it could be the most common or every disease that cattle can suffer from, it could refer to the whole herd or only some cattle. A better wording of the question would be:

What diseases have you seen in your cattle this GU?

What diseases did your cattle have last JILAAL?

Closed statements are ones where the answer is limited to Yes or No. For example:

Does this goat have diarrhoea?

The answer 'Yes' - could then lead to a set of questions about diarrhoea. The answer 'No' - would tell you to go to the next set of questions.

Open and closed questions are used in different situations. Often a mixture of open and closed questions are used. Open questions are more difficult for the enumerator to record and for the person analysing the data to understand, but they can collect useful information. Closed questions are easier for the enumerator to record. They are useful for separating out sections of the interview which do not apply to all respondents. They also enable difficult questions with many clauses to be broken down into specific subjects.

Leading questions: are questions that suggest the answer you want. They are not neutral. For example:

You use modern veterinary drugs, don't you?

This implies that you should use modern veterinary drugs, and therefore the person may feel that she or he must answer Yes even if the truth is NO. A better question would be:

Do you use modern veterinary drugs?

Ambiguous questions: are questions that are not clear. The answers will depend on the respondents understanding of the question and may not be the same for everyone. For example:

Do you usually buy veterinary drugs?

The answer will depend on the person's interpretation of the word 'usually'. A better question would be:

Did you buy veterinary drugs this year?

Multiple questions: are questions that ask more than one question at a time. For example:

What types of health problems have you seen in your cattle, sheep, goats and camels?

The person cannot answer easily as there are too many questions at one time. A better question would be:

What types of health problems have you seen in your cattle this last GU'?

Jargon and language: make sure that the wording used is appropriate to the respondent. Do not use technical terms which the respondent may not understand. Respondents may fail to ask for clarification if they feel that this will make them appear ignorant and they may give an answer even if they do not fully understand the question. For example:

Did you suffer mortality of animals due to wrong posology last year?

The person might not understand mortality (death) or posology (drug dosage and administration). A better question would be:

Did any of your animals die due to overdosage of acaricides last year?

Probing questions: are questions that try to understand the issue in greater depth than the answer given. They are questions that push the respondent to give a more complete answer or that attempt to crosscheck the information received. It is difficult to write these questions on the question form, but the enumerator should consider the responses given to earlier questions and rephrase the questions to 'probe' the subject further. It is not easy to probe, as the person may not want to answer a question and consider it rude if the enumerator insists. Do not insist too much and accept an answer even if you do not believe it, if the respondent is reluctant. Some information cannot be found out.

Sensitivity: be careful about sensitive topics. These are not always obvious and they are different for each culture. In the Somali context it may be sensitive to ask, for example:

How many camels do you have?

Also use words that will not offend the respondent. Words like “clan” or “tribe” might cause offense.

Filling in a questionnaire:

Filling in a questionnaire may look easy, but it is possible to make many mistakes. Mistakes means that the quality of information is not good and therefore this effects the decisions that might be taken.

It is important to read the instructions carefully at the beginning of the questionnaire and for each question. Sometimes the instruction explains how the answer should be recorded; sometimes it indicates whether some questions should be left out if the answer was Yes or No.

Filling in answers incorrectly is a common mistake. Sometimes there is a matrix, with a list of headings along the top and down the side, and the enumerator needs to tick or fill in the appropriate box; sometimes the enumerator is required to tick or circle the appropriate answer.

2.2.2. Disease listing

Disease listing involves asking people to name or list diseases. Specific guidelines such as - causing a particular sign or symptom; seen in a specific area; occurring in a particular season - should be given so that the list is focused and not too extensive. Very long lists become difficult to manage. For the purpose of the exercises in this context, people are asked to list the most common diseases occurring in their area during the last 3 years. The names should be written on a flip chart or piece of paper.

2.2.3. Disease ranking

Ranking is a tool for analysing information on specific problems. It involves deciding which is the most important issue amongst a number of issues (for example - deciding which is the most important disease from those listed in the exercise above). Ranking is used to find out what people think about an issue, according to a set of criteria. It helps to understand the choices people make with regard to an issue.

The advantages of ranking are that it:

- provides a focus for attention while discussing an issue
- generates a lot of discussion as people decide what is more important to them
- helps you understand what people think about an issue according to a set of criteria
- is easier to obtain than absolute measurements
- assists in decision-making and monitoring

The disadvantages of ranking are that it:

- is sometimes difficult for people to understand the difference between issues being discussed (or the criteria being used)
- requires a lot of practice for the SVP to effectively manage the group

Ranking can be difficult if there are too many issues. Therefore, it is useful to make a short list (for example - choosing the 6 most common diseases occurring in the last 3 years from those listed in the exercise above). Different criteria can be used to arrange diseases in order of importance. The exercises used in this context refer to a time frame of the last 3 years and adopt the following 5 criteria:

- mortality (disease causing the highest mortality among those occurring in a specific area over the last 3 years, the disease causing the 2nd highest mortality....., the 3rd highest mortality, etc),
- speed of disease transmission within the herd/ flock (disease that spread fastest amongst the herd/ flock),
- decrease in milk yield (disease causing the greatest loss in milk yield),
- decrease in number of deliveries (disease causing the greatest loss in number of deliveries),
- cost of treatment (disease that lead to the greatest expenditure).

2.2.4. Disease seasonal calendars

Seasonal calendars are diagrams that help people organise information according to the various seasons. For livestock it is important to know what health problems can be expected at different times of the year, so as to take the necessary precautions.

The advantages of seasonal calendars are that they:

- provide a focus for attention while discussing an issue
- generate a lot of discussion about issues with regard to seasons
- help organise information and ideas according to the different seasons
- help generate useful information for decision-making

The disadvantages of seasonal calendars are that it:

- is sometimes difficult for people to keep to specific definitions of seasons
- requires a lot of practice for the SVP to properly manage the group

Disease ranking and seasonal calendars are tools to use with a group of people. The group should be similar to each other with regard to the topic under discussion (for example - all livestock owners). The size of the group can vary from 4 - 12 people, although it is more common to have 7 - 10 people.

The whole exercise - disease listing, disease ranking and seasonal calendars - should last for about 1 hour.

2.3. DIRECT AND INDIRECT DATA COLLECTION

Another form of data collection can be considered as direct and indirect. This form of data collection involves reviewing (studying) reports or literature (books) that are prepared by other people or organisations. These reports and literature are known as secondary sources, as you look at the information that a second person has put together, even if their purpose was different from yours. This is a very important part of data collection, as you can learn a lot from other sources.

3. Important Aspects of Data Collection

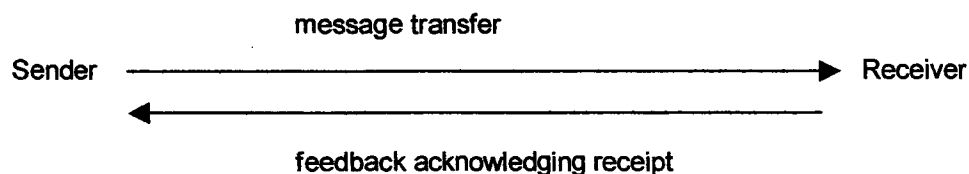
3.1. COMMUNICATION SKILLS

Many forms of data collection involve interacting with people. The people collecting data need to think carefully how they approach the people who have the information they want, as they will be asking them for their time, as well as their knowledge.

Communication can be verbal (spoken) and non-verbal (body language). People are communicating all the time even when they do not know it. When collecting data, it is very important to be aware of what you are communicating.

Effective communication involves a person sending a message, a second (or more) person receiving that message and sending some signal or feedback to confirm their receipt.

Thus:



3.1.1. Verbal communication

Verbal communication must be appropriate to the audience you are speaking to. The following points should be considered:

- do not use technical words that will make some people feel ignorant;
- do not use jargon or words that only mean something to some people;
- speak clearly and make sure everybody can hear;
- do not lecture or give advice;
- allow the respondent enough time to think and respond before asking another question.

3.1.2. Non-verbal communication

Non-verbal communication can sometimes express more than words. It is important to consider the following:

- that your body language is open to everybody in the group;
- that you invite all members to talk freely, using your eyes to involve them;
- that you watch the non-verbal communication of the group members to understand how they feel.

Communication also involves being sensitive to and respectful of the respondent. There may be topics that the respondent is not happy to discuss either with you individually or in a group. It is important to respect this decision. Also some people find talking easier than others, and therefore you have to be very sensitive trying to get information out of the more reserved people.

Finally it is important to be able to judge the atmosphere of the respondent(s). If there is not an open and relaxed atmosphere, it is better to stop the interview or discussion politely. You will not be getting quality information from people who do not want to talk. To help establish a good environment, make sure that you introduce yourself and clearly explain the objectives of the exercise.

3.2. SELECTION OF RESPONDENTS

The selection of respondents is very important in data collection. Some data collection methods tell you what type of respondent you need - for example a group exercise should consist of similar people with regard to the issue under discussion. It is important that the respondent is willing to answer questions and does not feel forced. The respondent should be ideally the person who has the best, closest and most direct knowledge of the subject under investigation. Wherever possible people who are/ were directly involved in the activity should be questioned. The further away the person is from the subject, the greater the number of mistakes.

3.3. DATA COLLECTION SITE

The site in which data collection takes place is also important, as it must encourage participation. The site should not be too noisy or have distractions; it should allow for privacy if necessary. If a questionnaire is being used, it is better to decide on a suitable place with the respondent beforehand, so that there are not other people around which might influence the answers.

3.4. TIMING OF DATA COLLECTION

Collecting data means asking people for their time. It is important to keep this in mind, and be grateful to the people. Time management can be difficult. The following points can help you to keep

good time:

- make sure that the time allocated for data collection is suitable for the respondents;
- make sure you (or the team) have all the necessary materials ready before starting data collection, so that you do not waste time when the respondents are present;
- keep people focused so that the discussion or exercise moves forward, but finish each topic before moving on;
- be flexible and adapt your time table to the respondent's needs. Avoid carrying out these activities during busy work periods (milking, watering, etc.).

4. Decision-Making Process for Epidemiological Surveillance

4.1. WHY IS A DISEASE INFORMATION AND SURVEILLANCE SYSTEM IMPORTANT?

Disease Information and Surveillance Systems (DISS) are systems that are set up to look for signs of the presence of disease or infection in a country or region (see below).

An important part of the livestock industry is the trading of live animals and products of livestock origin. The conditions and rules about exporting and importing live animals are more and more controlled by international organisations and trading partners. For this reason it is essential that Somali traders understand and follow the international rules.

In the past, rules regarding trade were decided on a more local basis. If there was a disease in an area, the government of that area was responsible for reporting it to the relevant international organisations and trading partners. Under this system, there was no need for a government to investigate the presence of a disease as it was considered free of disease as long as there was no evidence. Furthermore it could have been in their interest to hide any outbreak of disease to avoid restrictive measures being placed in the trade of livestock and livestock products.

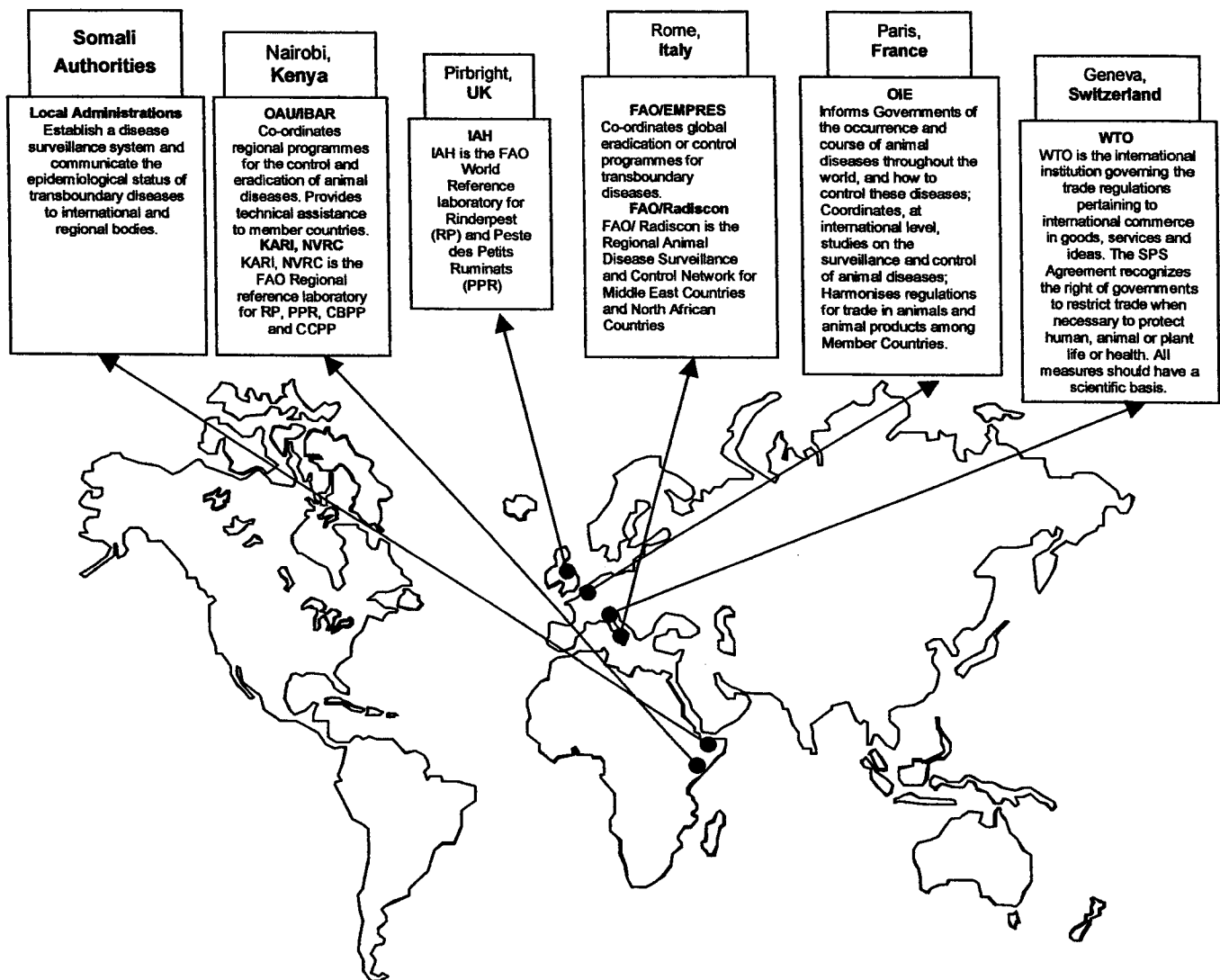
Now, rules regarding trade are decided on a more international basis. It is necessary for governments to demonstrate scientifically that their area does not have a specific disease. For this reason, they are forced to look for signs of disease or infection through a valid investigation system to show that they are not there. Claims of freedom from disease or infection need to be supported with evidence.

The idea is like a judiciary or legal system. In the past the judge considered that a person was innocent until he was proven guilty. Now the judge considers that the person is guilty until he is proven innocent. In terms of a DISS, international bodies and trading partners play the role of the judge to determine 'innocence' by continuously checking the disease investigation system.

4.2. WHO IS INVOLVED AT INTERNATIONAL LEVEL?

Trading in live animals involves many actors from the local to the international level. **Figure 4** shows the different actors.

Figure 4.



Ministry of Livestock, Hargeisa, Somaliland / Local Administrations:

The Ministry of Livestock and local administrations need to set up a DISS, and communicate their findings on the situation of disease in the area to international and regional bodies.

Organisation of African Unity/ Inter African Bureau of Animal Resources (OAU/ IBAR), Nairobi, Kenya:

OAU/IBAR is the organisation that coordinates programmes in the region for the control and eradication (disappearance) of animal diseases. It provides technical assistance to countries in the region to help them set up programmes to control diseases in animals.

Kenya Agricultural Research Institute/ National Veterinary Research Centre (KARI/ NVRC):

KARI/ NVRC are the bodies working under OAU/IBAR and providing technical assistance. They act as the United Nations Food and Agricultural Organisation (FAO) reference laboratory for the region, for Rinderpest (RP), Peste des Petits Ruminants (PPR), Contagious Bovine Pleuropneumonia (CBPP) and Contagious Caprine Pleuropneumonia (CCPP).

International Animal Health (IAH), Pirbright, UK:

IAH is part of the FAO. It is the biggest reference laboratory for the world on RP and PPR. All information coming out of the DISS set up by either the Ministry of Livestock in Hargeisa or local administrations should be sent to the IAH.

FAO/ EMPRES and FAO/ RADISCON, Rome, Italy:

These organisations are part of the FAO. EMPRES (Emergency Prevention System) is responsible for coordinating all programmes in the world that try to eradicate or control diseases that pass from one area to another (transboundary diseases). RADISCON is responsible for the DISS and control networks that exist in countries in the Middle East and North Africa.

Office International des Epizooties (OIE), Paris, France:

The OIE is responsible for informing all governments about diseases occurring in animals throughout the world, and how to control them. It informs the governments of the type of diseases that occur and how the disease develops.

It is also responsible for coordinating, at international level, studies on animal diseases. The OIE tries to facilitate the trade of live animals and animal products by setting up rules and conditions. For example the OIE made the Sanitary and Phytosanitary (SPS) Agreement, which calls for the implementation of systems of disease investigation and control. These are based on a systematic collection of information using an effective sampling strategy. The system must be able to detect up to minimal levels of presence of disease or infection within the livestock population of a country or region.

World Trade Organisation (WTO), Geneva, Switzerland:

The WTO is an international organisation that sets up regulations for trading goods, services and ideas on an international basis. The SPS Agreement, adopted by the WTO, recognises the right of governments that want to stop the importation of livestock or livestock products from a specific country or region when necessary to protect human, animal or plant life or health. Restrictive

measures on the trade of livestock and livestock products can be imposed on health grounds only. These governments are required to explain their decision by providing a scientific study that shows the risks of importing these goods.

Any country wanting to export livestock or livestock products has to demonstrate scientifically that it does not have a specific livestock disease or infection.

All these actors are involved in the trading across borders of live animals and animal products. It is very important for the Somali environment that it understands who the different actors are and what they are doing.

4.3. WHAT IS A DISEASE INFORMATION AND SURVEILLANCE SYSTEM?

The literature contains a lot of technical terms. The meanings of these terms change over time. Below are some of the definitions given.

RECOMMENDED STANDARDS FOR EPIDEMIOLOGICAL SURVEILLANCE SYSTEMS FOR RINDERPEST

"2. Definition and purposes of surveillance

Disease surveillance is necessary to provide evidence that a country or region is free from a disease or an infection.

Disease surveillance should be implemented by both:

- a) a system of reporting of any signs of disease activity that come to the notice of livestock owners or veterinarians, and
- b) an active programme of examination of statistically selected samples from within host populations in order to detect clinical signs or other indications of the occurrence of disease or transmission of infection.

In either case, any suspicion of disease activity should be followed up by quarantine, confirmatory diagnostic work and any necessary disease control measures. Surveillance thus implies that official action will follow from the discovery of evidence of disease or infection. It can be contrasted with monitoring, in which the gathering of data from the field takes place similarly, but no official action based on the findings is implied in the data-gathering activity."

OIE International Animal Health Code (Eighth Edition, 1999)

Other definitions are:

Disease surveillance means searching for signs of disease or infection. It is the process of looking. The disease signs could be clinical findings (such as high temperature or abortion). Or, they could be evidence of antibodies indicating that the animal had already been exposed to the disease (such as Brucella antibodies).

Disease surveillance includes two levels -

- a) a system of reporting of any disease signs in animals, and
- b) a programme of studying or examining a certain number of animals to see if they show clinical signs or antibodies. The selection and number of animals to be studied is decided by scientific means - in technical terms it is referred to as sampling units which are taken from within a host population (see below).

If signs of disease are found, then official action must be taken - for example - quarantine, confirming the diagnosis and disease control measures.

The purpose of surveillance is to demonstrate that a disease or infection is not found in animals in a certain area, or to confirm that the disease or infection has not been reintroduced (for example the disease was absent, but returned).

Disease monitoring is carried out when the government thinks that a disease is present in animals. The purpose is to find out more about the disease (numbers affected, etc). Monitoring does not have the purpose of taking any action if disease signs are found.

Disease reporting is the registration or reporting of the signs of disease. It does not include the active search for signs (like in disease surveillance). It is not done because the government thinks the disease exists (like in disease monitoring). It is the simplest way of reporting to the authorities what is heard from livestock owners or any person at any time. Before the war, the Somali veterinary services carried out disease reporting.

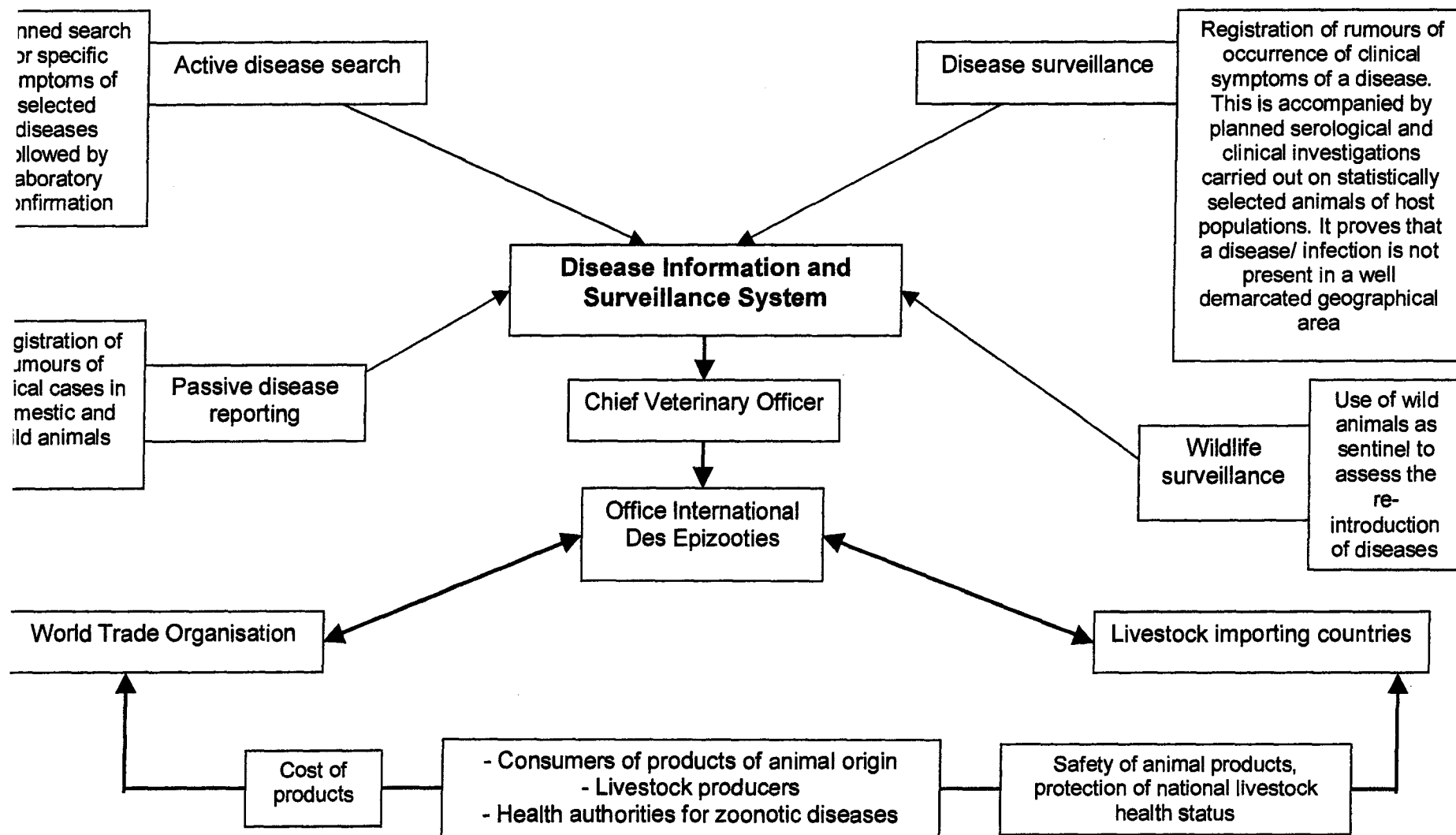
Disease reporting and disease monitoring are important parts of a DISS. Disease reporting and a disease surveillance system are both necessary for a country to be recognised internationally as not having a specific disease. Together they form a DISS.

4.4. HOW DOES A DISEASE INFORMATION AND SURVEILLANCE SYSTEM WORK?

Figure 5 shows the different parts of a disease information system (DISS) for transboundary diseases. It can be looked at on two levels.

ire 5.

ase Information and Surveillance System for Transboundary Diseases



The top half shows what the country or specific authorities have to do. The DISS is under the Chief Veterinary Officer. He is responsible for coordinating all the different activities of the DISS.

The DISS consists of:

Passive disease reporting:

This entails the registration of rumours of clinical cases in domestic and wild animals. The rumours may come from any person and at any time.

Active disease reporting, investigation and laboratory diagnosis:

This means that diseases are reported on a regular basis, and the reports are followed up by laboratory tests.

Active disease search:

This involves planning a search to find out about specific symptoms of selected diseases or evidence of infection. It is independent from reports.

Active purposive surveillance:

This involves planning a search on certain serological and clinical investigations for a specific disease.

Planned random surveillance:

This is a study that is planned so as to prove that a disease or an infection is not present in a defined geographical area. Random is the term used for the scientific method used to select a certain number of animals (a sample) to be included in the study (see below). A sample selected randomly helps ensure that it is representative of the whole population studied.

Wildlife surveillance:

This involves studying wildlife to see if a disease is reintroduced (returned) to a specific area.

The lower half of Figure 4 shows the main actors who are interested in receiving the information collected through the DISS. These actors are those involved in trading in live animals or animal products.

The Chief Veterinary Officer is responsible for passing the information gathered through the DISS to the Office International des Epizootes (OIE).

The OIE passes the information to the World Trade Organisation (WTO) and the governments of countries interested in importing live animals and animal products.

The WTO is interested in the information as easier movements of livestock may lower the cost of the products of animal origin, which would favour consumers. The livestock importing countries are interested in the information so that they can be sure that the animal products are safe and that the health of their own livestock is protected.

The whole DISS is important for:

- a) consumers of products of animal origin (meat, milk, skins) to be sure that the quality is good;
- b) livestock producers to raise animals that will be acceptable for the international market; and
- c) health authorities for zoonotic diseases to protect the health status of animals.

4.5. IMPLICATIONS OF HAVING A DISEASE INFORMATION AND SURVEILLANCE SYSTEM

Setting up a DISS is not an easy process. Personnel have to be trained in surveillance systems, the government has to spend money on establishing and maintaining the system. Also proving that an area is disease free or infection free takes many years, and therefore the government has to look at a DISS as being an investment in the future. **Figure 6** illustrates the different opportunities and constraints of having a DISS.

Opportunities:

The investment in a DISS brings a variety of advantages:

- livestock and animal products coming from a country or geographical zone in which there is a functioning DISS can be traded faster and have less restrictions on exportation;
- livestock coming from areas that are considered disease free can be traded easily and usually obtain higher prices.

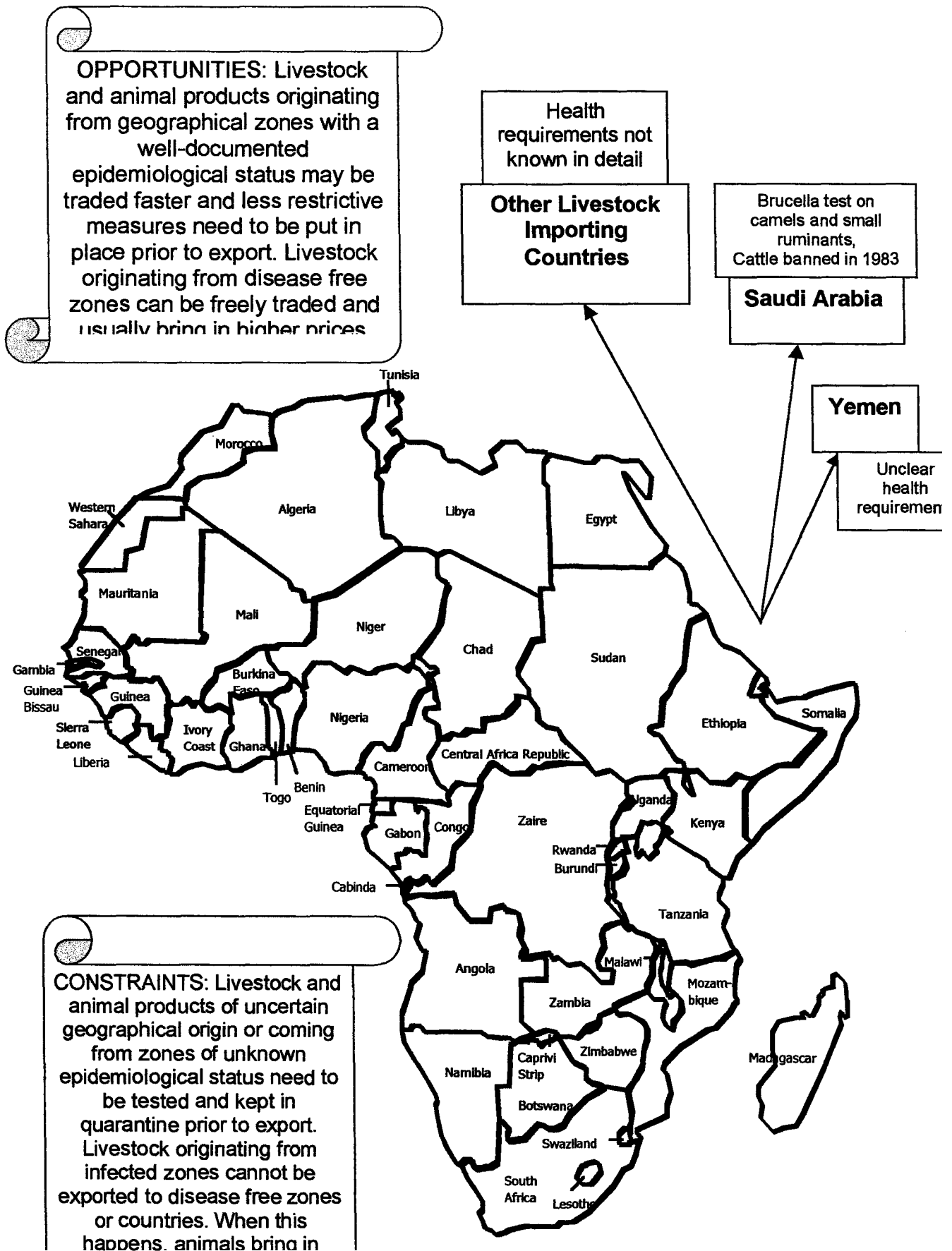
Constraints:

If a country does not have a functioning DISS, there are a number of disadvantages:

- livestock and animal products coming from an area where the disease status is not known, will have to be tested and kept in quarantine before they can be exported;
- livestock coming from areas that are not proven to be disease free cannot be exported to areas that are disease free. As such they obtain lower prices (for example - cattle imported into Yemen).

In conclusion, ideas behind disease control have changed. The SPS Agreement has outlined clearly that passive systems of disease reporting, as practiced before the Somali war, are no longer acceptable. Furthermore it is no longer possible to keep information regarding animal diseases and infections within a country. The SPS Agreement specifies that relevant information needs to be collected on a routine basis and circulated to internationally recognised bodies in order to maximise the trade of livestock and livestock products.

Figure 6.



PACE-Somalia Project

Information Gathering and Data Analysis in Pastoral Livestock Production System

Specific objectives

What this module is about

This module is about the importance of livestock disease surveillance and information systems in supporting export oriented livestock industries such as in Somalia / Somaliland. Keeping the Somali livestock industry competitive in the international market requires following the rules and regulation of the World Trade Organisation (WTO).

The Sanitary and Phytosanitary Agreement (SPS) of the International Office for Epizootics (OIE) calls for the implementation of systems of disease investigation and control, based on a systematic collection of information using an effective sampling strategy. In other words, the system adopted must be able to detect up to minimal levels of presence of diseases / infections within the livestock population of a country / region.

Restrictive measures on the trade of livestock and livestock products can be imposed on health ground only. The ban Saudi Arabia recently placed on small ruminants coming from Somalia / Somaliland, due to a suspected outbreak of Rift Valley Fever, illustrates the socio-economic implications involved when international standards are not met.

The module also deals with the role played by the SVPs as collectors of information within the livestock industry, and explains the information gathering methods to be used.

It also illustrates the different components of the decision making process as a general frame for the livestock disease surveillance and information system.

Module objectives

To illustrate the decision making process: from data collection, recording, ordering and analysis (which turns raw data into usable information) to the acquisition of relevant knowledge to take effective decisions in order to solve a problem at hand.

To illustrate relevant data collection methods to be used at field level.

What you will learn

The functioning of the decision-making process: from field – data – information – decision-making.

How to distinguish between the different direct and indirect data collection methods and know when to use them within your professional capacity.

The importance and functioning of the different components of a disease surveillance and information system.

INFORMATION GATHERING AND ANALYSIS IN PASTORAL LIVESTOCK PRODUCTION SYSTEMS				
TIME	TOPIC	METHOD	FORMAT	RESOURCES
DAY 1				
00 -	Introductions	as necessary (presenting neighbour if new group; self presentation)	plenary	
	Logistics	Work out logistics, per diem payments, fieldwork arrangements - so people's minds are at rest.		
	Broad overview	Present broad overview ("the bigger picture") - Stress connections between components		
	Objectives	Present objectives, with brief discussions about why PACE is doing this module		objectives
	Timetable	Present timetable, underlining that time has been allocated for prayers and breaks and the importance of punctuality - so as not to waste everybody else's time		timetable on flip chart
		Introduce evaluation idea using monitoring representatives - ask for 2 volunteers for this training session, next time different people should volunteer.		
30 -	USE OF INFORMATION AS A DECISION - MAKING TOOL	Facilitator gets the ball rolling by asking participants about their experience of information gathering	plenary	flip chart
		- do you gather information?		
		- what information do you gather?		
	(BRIEF DISCUSSION)	- why do you collect the information?		
		- who uses the information?		
		Participants in groups elaborate on this initial discussion, reflecting on who else needs information, what type, why, who collects it. Focus on collectors and users.	group work (2 or 3 groups)	
00 -	TEA BREAK			
30 -	Contd.	Participants present group discussion results	plenary	4 sheets of
	WHO, WHY, WHAT	Facilitator starts to build up information in a spider diagram on the wall with actors and reasons (attention to spacing as diagram will be built up gradually to include everything - Leave space for HOW - steps and process).		flip chart on wall
		Discuss each point as it is put up and the interrelations between them (complete the WHO, WHY and WHAT of the conceptual map)		
30 -	LUNCH BREAK AND PRAYERS			
30 -	Contd.	Facilitator asks participants what is involved in information gathering, trying to solicit steps - HOW is information collected?	plenary	
	Steps in disease surveillance system	Facilitator continues to build up the spider diagram on the wall adding:		
	- an overview	collection - recording - ordering - analysis - presentation		
		Definitions: - 'collection' - gathering and bringing data together; 'recording' - present information in a written form; 'ordering' - arranging the collected data in a useful way; 'analysis' - use the data to produce meaningful information;		
		'presentation' - show information to others		
	HOW - steps	Participants divide into 2 groups to elaborate on the steps of information	group work	cards on which

		gathering, using 2 examples		different
		Group 1 focuses on clinical examination		aspects of
		Group 2 focuses on drug supply system		info.
		Each group receives a set of cards for their example, which they need to match		gathering
		against the five steps of information gathering		are written
.45 -	TEA BREAK AND PRAYERS			
.15 -		Groups present their work; group discussion.	plenary	
	HOW - process	Facilitator introduces concepts - Field -Data -Information -Knowledge -Decision-making	plenary	
		Facilitator concludes drawing the lines illustrating the information flow	plenary	
		Facilitator asks question: "Can you collect ALL data? As the answer is NO, the discussion leads to the fact that you need to select the data you collect according to certain criteria: relevant, accurate, timely, unbiased, cost-effective - with these criteria the data become 'information'		
		Definitions - 'relevant' - related to topic being studied; 'accurate' - precise or exact information; 'timely' - information gathered in time useful to address topic;		
		'unbiased' - neutral information, not from one side; 'cost-effective' - not exceeding a reasonable cost.		
.15 -	Daily evaluation	Facilitator explains the purpose of evaluation and the need to improve on the training sessions. Request 2 volunteers for this training sessions (will alternate next session). Participants should make any problems known to the reps.		monitoring
7.30		Reps. will discuss with facilitators at end of each day, review activities and suggest improvements. Next morning - facilitator will summarise what was discussed and any solutions found/ suggested changes.		reps.
Y 2				
X0 -	Summary	Facilitator gives a summary of the previous day and addresses any evaluation issues	plenary	
15 -	OVERVIEW OF DATA COLLECTION METHODS	Participants are asked to list the methods they use to collect data during a clinical examination. Facilitator writes on flipchart the different types, and then organises them into direct (own action) and indirect (rely on answer of others - memory recall); and secondary sources in between. Facilitator builds up conceptual map	plenary	flip chart
		Facilitator introduces the session by stressing that the quality of the information you get depends on the methods used to collect that data.	plenary	flip chart
	DIRECT DATA COLLECTION	Facilitator introduces direct data collection - revisiting the conceptual map: Observation; Measurement		
X0 -	TEA BREAK			
30 -	Contd.	To emphasis the difference between observation and measurement, participants are given the following cards and asked to consider them with reference to	groups	cards with temperature/

		relevancy, accuracy, timeliness, unbiased, cost-effective: which produces which?		thermometre/
		1) Temperature - thermometre + behaviour		behaviour/
		2) Live body weight - scale + weight band		etc.
		3) colour scales (anaemia card)		
		4) Antibody level - serum sample		
		e.g. Brucellosis - CFD/RGT		
		Groups present work and discuss		
30 -	LUNCH BREAK AND PRAYERS			
30 -				
	- collection by Measurement			
	SERUM- SAMPLE	Facilitator invites participants to list the steps involved in serum sampling	plenary	flip chart
	COLLECTION - PROCESSING	- make a list on flip chart and put up on wall		
		Participants in groups discuss and put order to a set of cards, each with one	groups	cards with
		of the steps written on it. (Different logics may be used depending on context - make sure		steps specified
		recording is not missed)		
	Vacutainers / Sampling forms	Introduce and demonstrate vacutainers and sampling forms	plenary	vacutainer
				sampling form
15 -	TEA BREAK AND PRAYERS			
15 -		Participants present their work and discussion - take time to have participants	plenary	
		understand the logic behind steps (part of analytical thinking)		
		Revisit the issues of relevant, accurate, timely, unbiased, cost-effective		
15 -	Daily evaluation	Facilitators meet with monitoring representatives		monitoring
1.30				reps.
Y 3				
0 -	Summary	Facilitator gives a summary of the previous day and addresses any evaluation issues	plenary	
5 -	INDIRECT DATA COLLECTION	Facilitator introduces indirect data collection - revisiting the conceptual map: -		
		Individual interview (questionnaire + checklist) and Group exercise (disease listing;		
		disease ranking; disease seasonal calendar) and the topics /areas to cover with these tools.		
	QUESTIONNAIRES -	Facilitator has 2 versions of questionnaire - stress focus on question formulation		
	EXERCISES:	Give context - the questionnaire is for livestock owners - how would they feel if		
		they were asked these questions. What is the best way to ask the question?		
		- step one - participants in groups are asked to fill in the "worst" questionnaire.	3 groups	"worst"
		Allow discussion to take place, then in a separate instruction, ask participants to		questionnaire
		list the difficulties they had in completing the questionnaire and what problems		copies
		they foresee with the questions.		

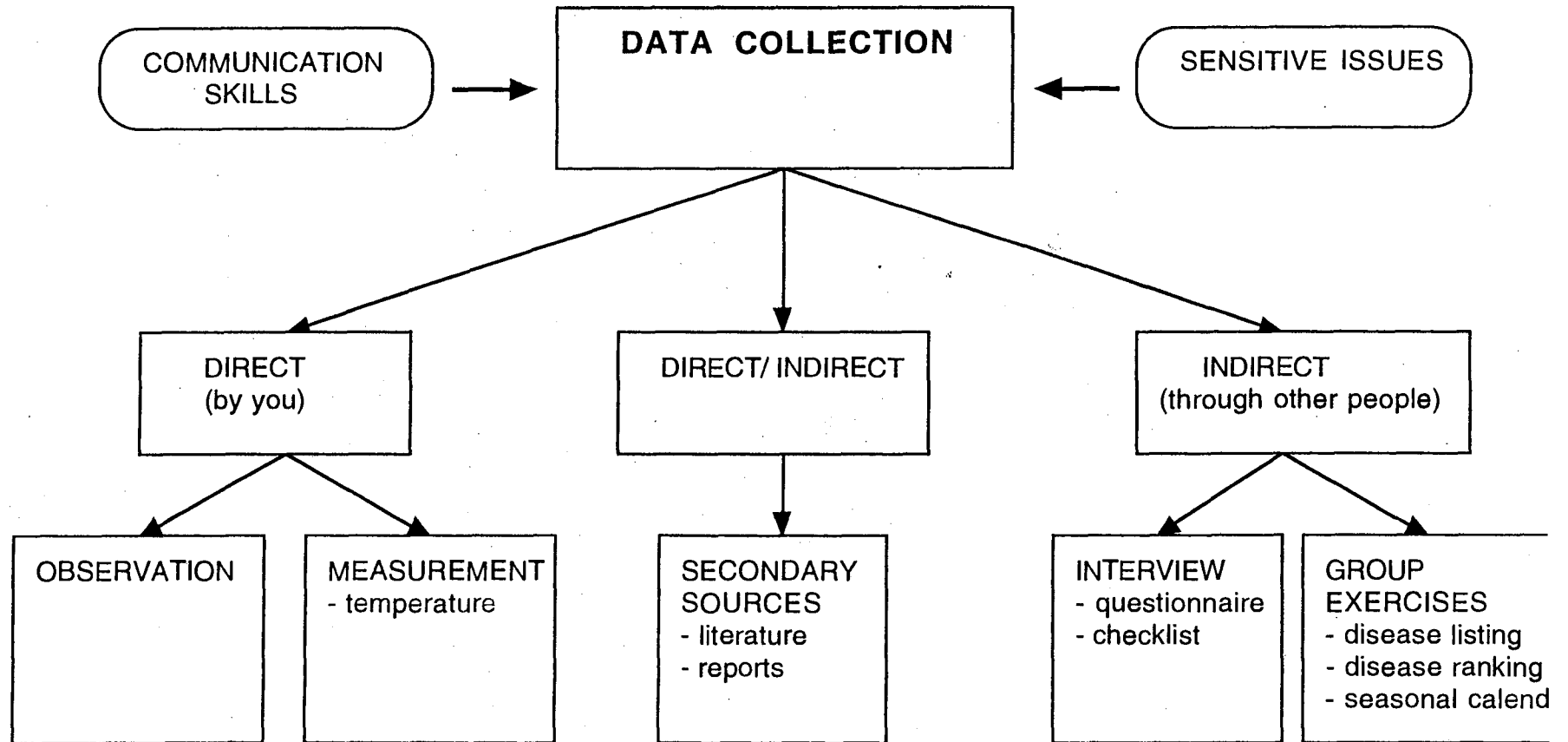
		Participants share their views on the problems, question by question and discuss.	plenary	
		Facilitator notes down issues arising on a flip chart: focus on problems encountered not answers to the questions.		
00 -	TEA BREAK			
30 -		Facilitator introduces ideas about question phrasing: ambiguous/ leading/ jargon/ multiple/ sensitive	plenary	flip chart with points
		Participants, in groups, revise the "worst" questionnaire, analysing it for more badly constructed questions according to the given criteria	groups	pre-prepared
		Participants present their ideas and discuss	plenary	
30 -	LUNCH BREAK AND PRAYERS			
30 -	Contd.	- step 2 - participants in groups, study the "best" questionnaire, reflecting on the types of answers that they would be given to the questions posed and comparing them with the first questionnaire. (Remember to leave out section on 'General Information')	groups	
		Participants share their views, Facilitator incorporates pertinent amendments offered by participants into the "best" questionnaire to finalise it.	plenary	
		Facilitator builds up a final list of the importance of question structure and phrasing		
45 -	TEA BREAK AND PRAYERS			
15 -	Contd.	Ask group if the questionnaire is finished at this point - missing 'General Information' Discussion on importance of explaining the purpose of the survey to the respondents, the selection procedure, communication (verbal and non-verbal), context. Add front page to questionnaire at end.	plenary	
	Somali version of Qu.	Distribute the Somali version of questionnaire and ask participants to review it. Go through question by question	3 groups plenary	Somali version of Qu. - copies monitoring reps.
15 -	Daily evaluation	Facilitators meet with monitoring representatives		
30				
4				
0 -	Summary	Facilitator gives a summary of the previous day and addresses any evaluation issues and mention Somali correction to Questionnaire.	plenary	
5 -	QUESTIONNAIRE EXERCISES:			
	Mapping - Question # 22	Address Qu. 22 - drawing a map		
		Distribute Somali translation of instructions for drawing the map for review	plenary	Somali translation of instructions
		Step by step - review each of the instructions.		
		- localities visited by animals during last one year		
		- seasons animals were in a particular location		
		- species found in location, according to season		
		- grazing resources available in location		

		- watering resources available in location - check terminology for water points		
00 -	TEA BREAK			
30 -		Role play - one participant plays part of livestock owner; remaining participants take turns drawing the map (one participant per step)		
		Discussion of mapping as an exercise and points to pay attention to: importance of a key, recording.		
		Remind participants to bring copy of instructions to field.		
30 -	LUNCH BREAK AND PRAYERS			
30 -	GROUP EXERCISES:			
	1) Disease listing	Facilitator asks participants to list the most common diseases in their area - NO LIMIT. Participants make a second short-list, naming the 6 most common diseases seen over the last 3 years.	Plenary	flipchart
	2) Disease ranking	Facilitators write on flip chart the names of the 6 disease given. Facilitator introduces the following criteria: mortality, contagious, reduction in milk yield, reduction in number of off spring, cost of treatment. Participants are asked to rank the 6 diseases according to the criteria (cross out those that don't meet criteria). Note down responses on flipchart	Plenary	flipchart
nise break ult v of cles	3) Disease seasonal calendar	Facilitator writes the names of the same 6 diseases along the top of a flipchart and the four seasons down the side to make a matrix. Participants are asked to complete the matrix. Facilitator explains to participants that the two exercises should not take more than 1 hour in field as attention span goes down. Discussion on importance of effective communication and atmosphere for all data collection exercises		
15 - .30	Daily evaluation	Facilitators meet with monitoring representatives		monitoring reps.
Y 5 0 -	Summary	Facilitator gives a summary of the previous day and addresses any evaluation issues	plenary	
5 -	SURVEILLANCE SYSTEM FOR TRANSBOUNDARY DISEASES	Facilitator gets the ball rolling with questions: - what do you do with your livestock? (consumed at family level; local market; export) - to where do you export your animals? (Saudi Arabia; Yemen, etc) - why don't you export cattle to Saudi Arabia? (satisfying international regulations) - what was the official reason for the ban? (eco. but justified on health grounds)	plenary	flip chart
nise reak ult r of sion	definitions:	Write piece of OIE text on flip chart and ask participants what they understand. Go through text, discussing meaning until arrive at clear definition of: disease surveillance/ disease free zone/ infection free zone/ disease monitoring/ disease reporting/ disease prevalence/ test sensitivity and specificity	plenary	OIE text on flip chart flip chart

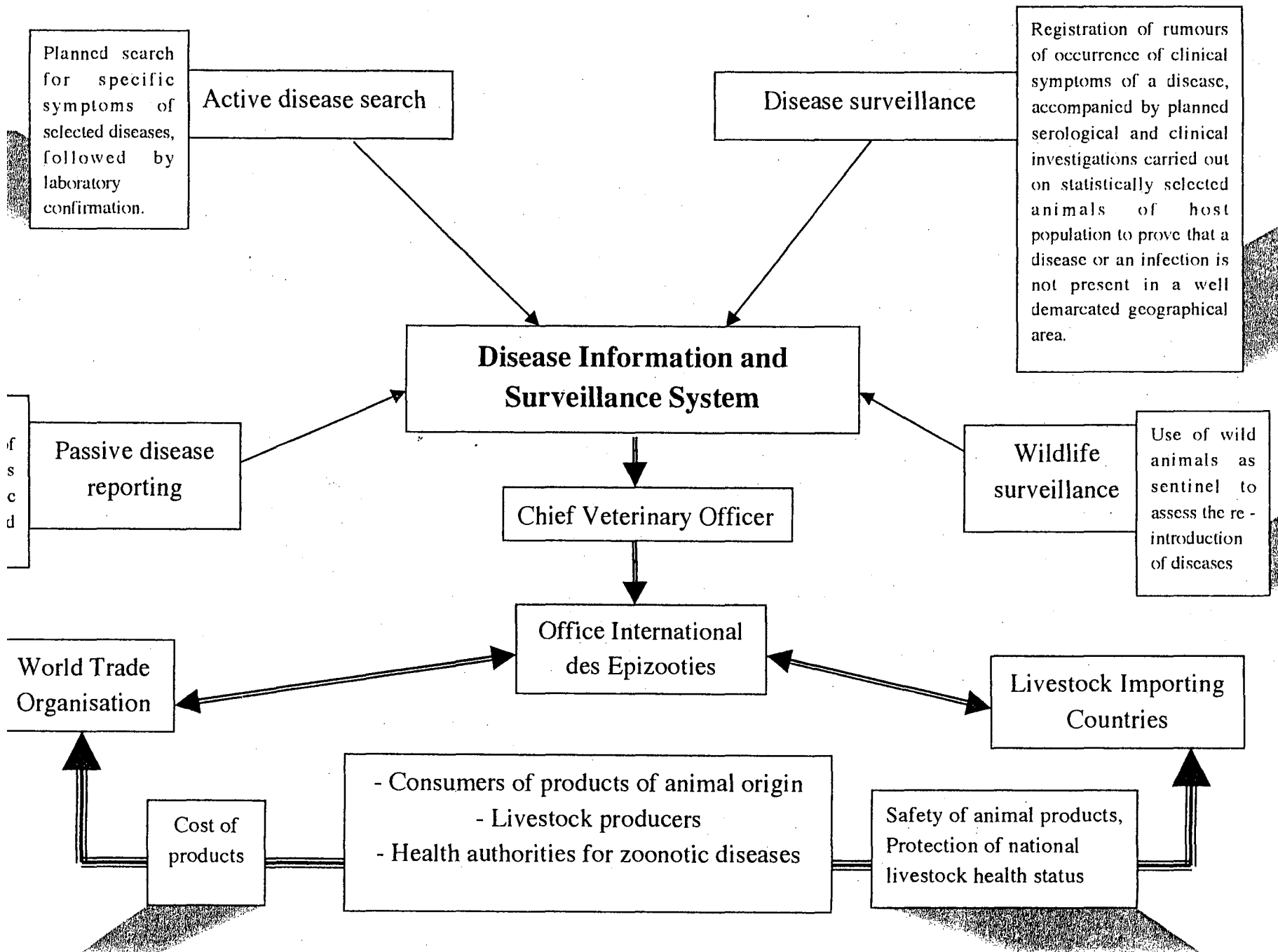
	methods:	Participants, in groups, are asked to reflect on the different methods to assess the presence and pattern of a disease in a species in a specific zone - e.g. Rinderpest.	groups	
		"How do you prove the health status of your animals? (serological test/ quarantine/ clinical examination)		
30 -	LUNCH BREAK AND PRAYERS	Participants present ideas and discuss. Facilitators fill in gaps, explaining why.	plenary	flip chart
	steps in DSS:	Facilitator summarises the morning sessions. Facilitator gets ball rolling by asking if it is possible to check ALL animals. (No) Introduces idea of steps to be taken when setting up a credible and reliable animal disease surveillance system.	plenary	flip chart
umber		1) set objectives - to prove presence or absence or return of a disease.		
reak		2) Define sampling strategy (serological and clinical)		
ayers		3) Select test		
5.45.				
	advantages + disadvantages:	Facilitator tries to solicit the advantages and disadvantages of a disease surveillance system, using a map to illustrate the location of OIE/ WTO/ importing countries and Somaliland/ Somalia. And how information + process used now needs to be validated by outside actors for exportation to bring profitable prices for animals.	plenary	flip chart map
00 -	Classroom evaluation	Participants fill in evaluation form	individual	evaluation forms
1.30				
	FIELD WORK - DAYS 6-7-8			
FROM FIELD				
Y 9				
0 -	Summary of what has been done to far			
	QUESTIONNAIRES	Divide participants into the same groups as in field, and distribute questionnaires as compiled by the OTHER group. Ask them to identify problems in the questionnaires.	groups	flipchart
	REVIEW	Participants present in plenary and discuss.	plenary	
reak		Redivide groups into twos and distribute a questionnaire to each pair.	groups	
fits		Ask them to identify problems, present in plenary and discuss.	plenary	
		Remind participants that this is VALIDATION		
		(cover names of persons who completed questionnaires if foresee problems)		
	CASE REPORTS	Discuss case reports if interesting cases found in field	plenary	
0 -	LUNCH BREAK AND PRAYERS			
	TURNING DATA INTO USABLE INFORMATION	Participants reflect on the data gathered, methods used and problems encountered	groups	
		Participants present findings.	plenary	

		Through discussion, facilitator builds up conceptual map of data collection -		
		recording - validation - summarising - analysing - information - knowledge -		
		decision-making. Facilitator draws conceptual map and builds it into the		
		conceptual map done in the beginning with the actors, whys, etc. - thereby		
		closing the circle.		
		Use example of serological data as feedback which has turned data into information		examples
		and on which decisions can now be made.		of serological
break +		Facilitator uses either an example from the field work (best - if example		data as
layers		lends itself) or the examples of clinical examination and drug supply system		feedback
		showing how the data is collected - through to it becoming useful information		
		on which to make decisions. Solicit as much of the information as possible		
		from the participants.		
		Facilitator shows map again of how information collected is sent to OIE to be		map
		validated - process and results need validating		
	FINAL EVALUATION	Participants fill in evaluation form	individual	evaluation
				forms

DATA COLLECTION



Disease Information and Surveillance System for Transboundary Diseases



OPPORTUNITIES: Livestock and animal products originating from geographical zones with a well-documented epidemiological status may be traded faster and less restrictive measures need to be put in place prior to export. Livestock originating from disease free zones can be freely traded and usually bring in higher prices.

Health requirements
not known in details

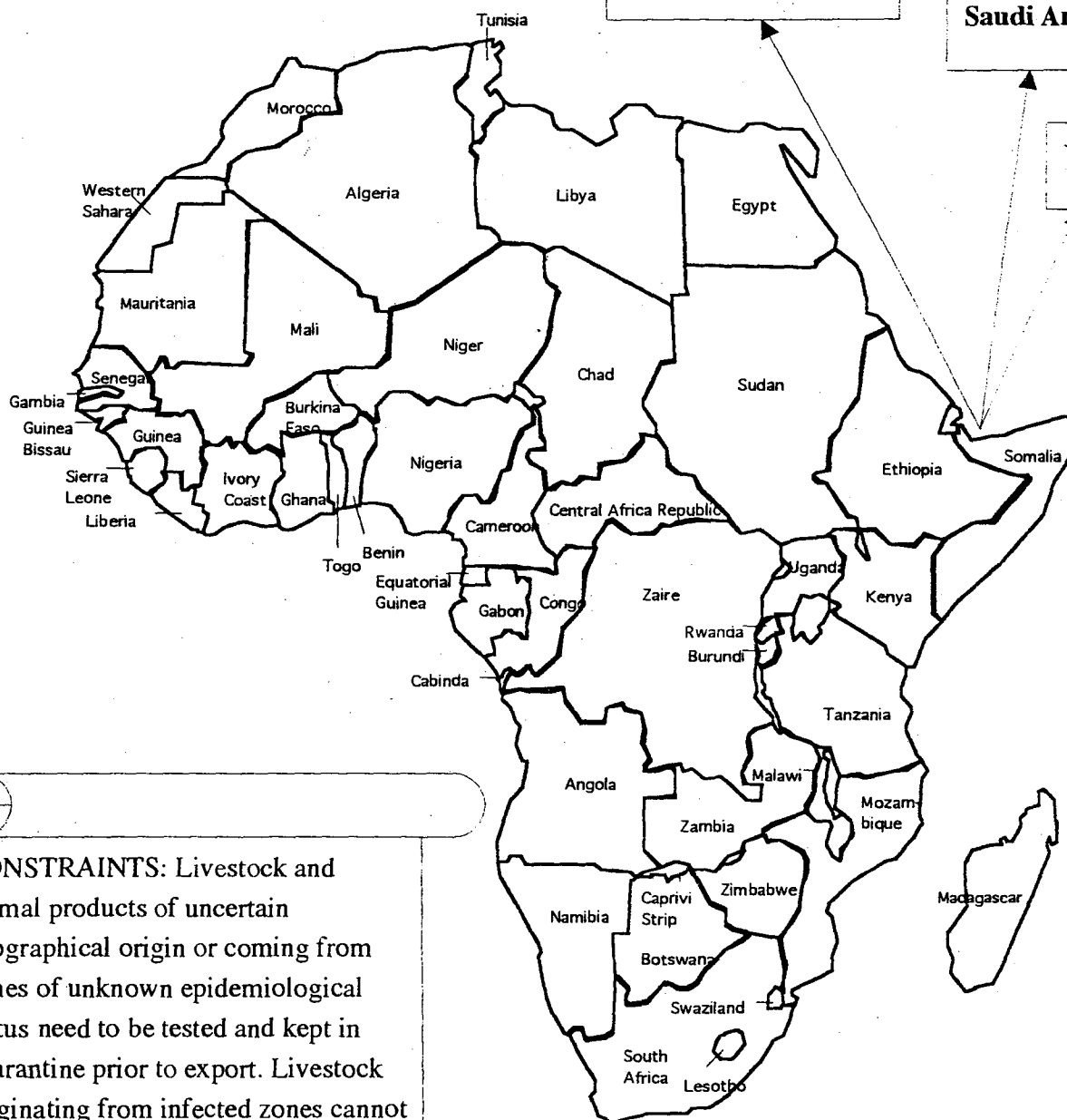
**Other Livestock
Importing
Countries**

Brucella test on camels
and small ruminants,
Cattle banned in 1983

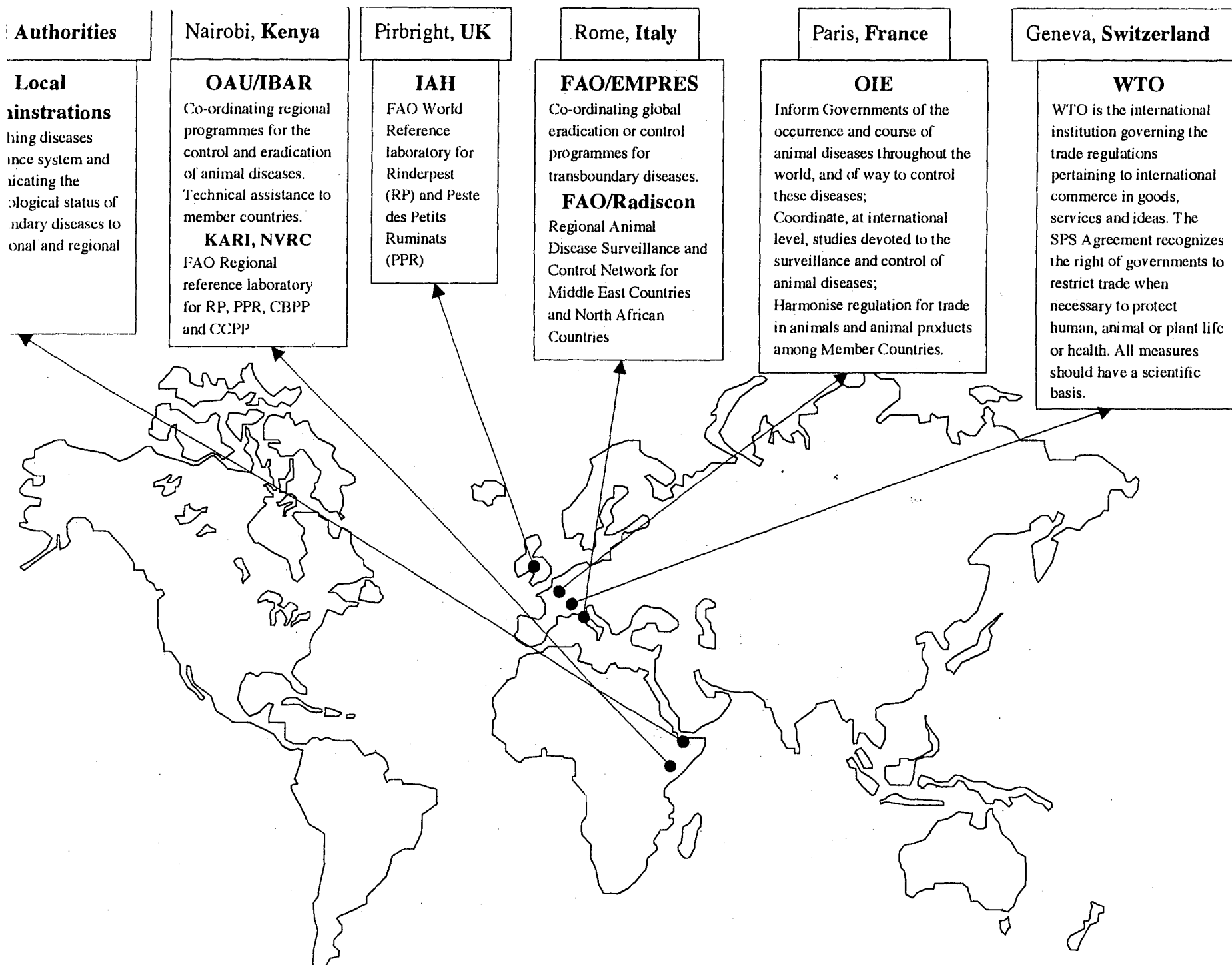
Saudi Arabia

Yemen

Unclear
health
requireme



CONSTRAINTS: Livestock and animal products of uncertain geographical origin or coming from zones of unknown epidemiological status need to be tested and kept in quarantine prior to export. Livestock originating from infected zones cannot be exported to disease free zones or countries. When this happens, animals bring in lower prices.



4.5.1. EPIDEMIOLOGICAL SURVEILLANCE SYSTEMS

APPENDIX 4.5.1.1.

RECOMMENDED STANDARDS FOR EPIDEMIOLOGICAL SURVEILLANCE SYSTEMS FOR RINDERPEST

1. Purposes of the document

The document describes the criteria:

- a) to prove that a country or a zone is free from rinderpest, and
- b) for the declaration of freedom from rinderpest.

2. Definition and purposes of surveillance

Disease surveillance is necessary to provide evidence that a country or region is free from a disease or an infection.

Disease surveillance should be implemented by both:

- a) a system of reporting of any signs of disease activity that come to the notice of livestock owners or veterinarians, and
- b) an active programme of examination of statistically selected samples from within host populations in order to detect clinical signs or other indications of the occurrence of disease or transmission of infection.

In either case, any suspicion of disease activity should be followed up by quarantine, confirmatory diagnostic work and any necessary disease control measures. Surveillance thus implies that official action will follow from the discovery of evidence of disease or infection. It can be contrasted with monitoring, in which the gathering of data from the field takes place similarly, but no official action based on the findings is implied in the data-gathering activity.

3. Steps to be taken to declare a country to be free from rinderpest

The current goal of rinderpest control is to achieve freedom of countries and later of entire world regions from rinderpest with the ultimate aim of achieving global eradication. It is therefore necessary to institute a system for verifying the steps towards these short and long term aims, and to assist countries which wish to trade in livestock and livestock products, but face difficulties due to the presence or past occurrence of rinderpest.

A three-stage process of achieving and proving freedom from rinderpest is, therefore, envisaged. Once a country is satisfied that it is free from rinderpest and that the disease is unlikely to be re-introduced, the country can declare itself provisionally free from rinderpest provided it is satisfied that it meets the criteria listed below.

Subsequent steps are then subject to international verification under the auspices of the OIE. At least 3 years after a country has declared itself provisionally free from rinderpest, a country which meets the criteria stated below may be declared by the OIE to be free from rinderpest disease. At least one year later, a country which meets more stringent criteria with regard to rinderpest may be declared free from rinderpest infection.

The specific criteria proposed for each stage of this process are as follows:

a) Provisional freedom from rinderpest

For a country to declare itself or a zone within the country provisionally free from rinderpest, it must fulfil certain conditions, which are: (see Table 1)

- i) no clinical disease should have been detected for at least 2 years;
- ii) there is an effective veterinary service which is able to monitor the animal health situation in the country;
- iii) the service investigates all clinical evidence suggestive of rinderpest;
- iv) there is an effective reporting system, both from the field to the central veterinary authority, and by that body to the OIE;
- v) there is a reliable system for preventing the introduction of infection which is carried out by proper border control, quarantines, etc.;
- vi) all vaccinations against rinderpest will cease by the date of the declaration. The OIE and neighbouring countries must be notified of this decision (in writing), giving the date from which vaccination ceased.

b) Freedom from rinderpest disease

A country or a zone which has not vaccinated against rinderpest for at least 5 years and has throughout that period had no evidence of rinderpest may be declared free from rinderpest disease by the OIE based on conclusions of the Foot and Mouth Disease and Other Epizootics Commission, provided that the country has had throughout that period and maintains permanently an adequate disease reporting system.

OR

A country which has declared itself, or a zone within the country, to be provisionally free from rinderpest may be declared by the OIE free from rinderpest disease provided that the following criteria are met: (see table 1)

- i) no clinical rinderpest has been detected for at least 5 years;
- ii) no rinderpest vaccines have been used for at least 3 years in any susceptible species, and no heterologous vaccines against rinderpest have been used for at least 3 years in cattle, buffaloes or yaks;
- iii) the country operates both clinical surveillance and disease reporting systems for rinderpest adequate to detect clinical disease if it were present;
- iv) all clinical evidence suggestive of rinderpest is investigated by field and laboratory methods (including serological assessment) to refute a possible diagnosis of rinderpest;
- v) there are effective measures in force to prevent the re-introduction of the disease.

On meeting these criteria, a country may apply to the OIE to be declared free from rinderpest disease.

To maintain this status, a country must continue to meet these requirements until it is declared free from rinderpest infection, and must annually report a summary of developments to the OIE.

If it is not practical to achieve national freedom from rinderpest disease in a single step, a country may apply to the OIE for zones within the country to be declared free from rinderpest disease provided that:

- i) each proposed zone has well-defined boundaries;
- ii) the rinderpest disease free zone is separated from the rest of the country and from neighbouring infected countries by a surveillance zone, or physical or geographical barriers and zoo-sanitary measures which effectively prevent the entry of infection;
- iii) no clinical rinderpest has been detected within the zone for at least 5 years;

- iv) no rinderpest vaccines have been used for at least 3 years in any susceptible species, and no heterologous vaccines against rinderpest have been used for at least 3 years in cattle, buffaloes or yaks;
- v) the country operates within the zone both clinical surveillance and disease reporting systems for rinderpest, adequate to detect clinical disease if it were present;
- vi) all clinical evidence suggestive of rinderpest within the zone is investigated by field and laboratory methods (including serological assessment) to refute a possible diagnosis of rinderpest;
- vii) there are effective measures in force to prevent the re-introduction of the disease into the zone from the remainder of the country and from other countries.

The declaration of zones to be free from rinderpest will not remove the requirement for the country to subsequently meet the criteria for declaration of freedom from rinderpest disease for the country as a whole; if it wishes to achieve that status, it will have to meet all the requirements specified earlier before it can apply for a declaration of freedom from rinderpest disease for the entire country.

Should there be a localised temporary outbreak of disease due to re-introduction of rinderpest to a country or zone which is within 2 years of meeting the requirements for declaration of freedom from rinderpest disease, that country may take special measures (including intensive perifocal vaccination) to eradicate the outbreak. In such circumstances, it will then require at least one year from the date of the last case or the last vaccination (whichever occurs later) before the country or zone becomes eligible to apply for a declaration of freedom from rinderpest disease.

In making such an application under these special circumstances, the country must satisfy the Foot and Mouth Disease and Other Epizootics Commission that the outbreak did not represent endemic infection and that the disease has been eradicated by the actions taken.

c) Freedom from rinderpest infection

A country which has not vaccinated against rinderpest for at least 10 years and has throughout that period had no evidence of rinderpest disease or rinderpest virus infection may be declared free from rinderpest infection by the OIE based on conclusions of the Foot and Mouth Disease and Other Epizootics Commission, provided that the country has had throughout that period and maintains permanently an adequate disease reporting system.

OR

A country which has either vaccinated against rinderpest within the last 10 years or has had clinical evidence of rinderpest, may be declared by the OIE to be free from rinderpest infection if the following criteria are met:

- i) it should have been declared free from rinderpest disease at least one year earlier, and continues to meet the requirements for this status;
- ii) there should have been an effective serosurveillance system in operation for a period of at least 2 years, and the findings must have been consistent with freedom from infection.

This serosurveillance must include other susceptible domestic stock in addition to cattle:

- iii) investigations into infection in wild susceptible species must be carried out where these species occur in significant numbers. Where there are opportunities, sampling should be done when possible. Additional strategic sampling of domestic stock should be done in areas adjacent to large game populations to enhance the possibilities of detecting the presence of virus in the game. The findings must be consistent with freedom from infection.

On meeting these criteria, a country may apply to the OIE to be declared free from rinderpest infection.

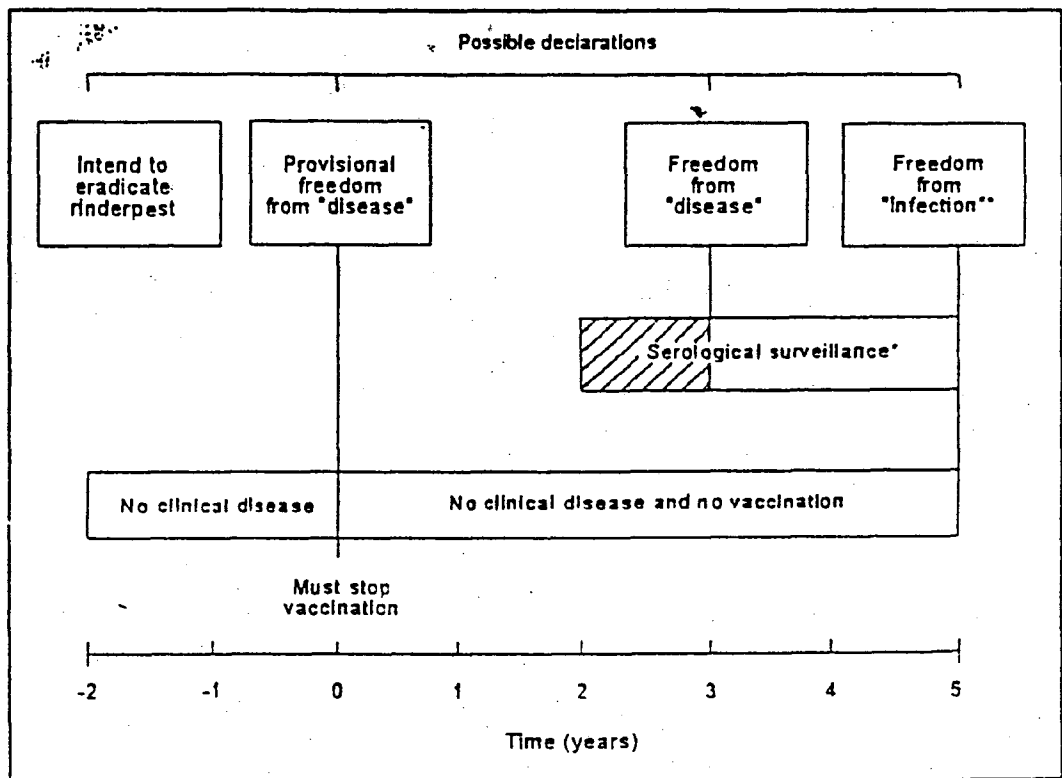
Declaration of freedom from rinderpest infection can only be made for the country as a whole, and not for zones within a country.

Should there be a localised, temporary outbreak of disease due to re-introduction of rinderpest to a country which is within one year of meeting the requirements for declaration of freedom from rinderpest infection, that country may take special measures to stamp out the outbreak (excluding the use of vaccine). In such circumstances, the country must wait at least one year from the date of the last case before it becomes eligible to apply for declaration of freedom from rinderpest infection. During this year there should be an effective sero-surveillance system in operation in order to prove that the virus has not been disseminated.

In making such an application under these special circumstances, the country must satisfy the Foot and Mouth Disease and Other Epizootics Commission that the outbreak did not represent endemic infection and that the disease has been eradicated by the actions taken.

In order to maintain this status, the country must continue to operate an efficient disease reporting system which would detect rinderpest if it occurred.

Table 1. Requirements for the declaration of freedom from rinderpest disease and freedom from rinderpest infection



* If a country wants to be declared free from rinderpest infection at the end of year 4, serological surveillance of unvaccinated animals must be in operation at the end of year 2, in order to prove that there has been no sero-positive case in the country for at least 2 years.

4. Epidemiological methods

a) Definition of sampling units

A sampling unit for the purposes of disease investigation and surveillance is defined as a group of animals in sufficiently close contact that individuals within the group are at approximately equal risk of coming in contact with the virus if there should be an infectious animal within the group. In most circumstances, the sampling unit will be a herd which is managed as a unit by an individual or a community, but it may also be other epidemiologically appropriate groupings.

which are subject to regular mixing, such as all animals belonging to residents of a village. In the areas where nomadic or transhumant movements exist, the sampling unit can be the permanent bore holes, wells or waterpoints. Sampling units should normally be defined so that their size is not less than 50 animals or more than 1,000.

b) Criteria for stratification of host populations

Any disease surveillance activities must be conducted on populations stratified according to the management system, and by herd size where this is variable. Herds, or other sampling unit should be selected by proper random statistical selection procedures from each stratum.

c) Field procedures and sample sizes

Annual sample sizes shall be sufficient to provide 95% probability of detecting evidence of rinderpest if present at a prevalence of 1% of herds or other sampling units and 5% within herds or other sampling units. This can typically be achieved by examining 300 herds per stratum per year, but procedures for sampling should be in accordance with the *Guide to Epidemiological Surveillance for Rinderpest* to be published in the OIE Scientific and Technical Review, or another procedure that would achieve the same probability of detection.

Where the sampling frame of herds is known, herds shall be selected for examination by the use of random number tables. Otherwise, samples of herds can be selected by taking the nearest herd to a randomly selected map reference; provided that the herds are evenly distributed. Failing this, any herd(s) within a fixed radius of randomly selected map reference should be sampled. It must be compulsory for any selected herd to be examined or tested as required.

In carrying out clinical surveillance for evidence of rinderpest, all animals in selected herds or sampling units will be examined by a veterinarian for signs of the disease, especially mouth lesions. Any suspicion of disease should be evaluated using epidemiological and laboratory methods.

In carrying out serological surveillance for evidence of rinderpest, the sample size within selected herds shall be sufficient to provide 95% probability of detecting evidence of rinderpest if present in 5% of the animals eligible for serological testing. All animals born after the cessation of vaccination and more than one year old will be eligible for serological testing. Any positive result will be evaluated using epidemiological and laboratory methods to confirm or refute the suspicion of rinderpest virus activity.

Where operational considerations require it, the number of eligible animals tested within each sampled herd may be reduced. This will reduce the probability of within-herd detection and there must be at least a compensatory increase in the number of herds sampled, so that the required 95% probability of detecting 1% between-herd prevalence is maintained. The procedures for calculating equivalent within-herd and between-herd sample sizes are described in the *Guide to Epidemiological Surveillance for Rinderpest* to be published by the OIE.

5. Diagnostic methods for rinderpest and rinderpest related viruses

Where clinical and/or serological surveillance is undertaken in nominally rinderpest-free populations it is vital to have available a variety of laboratory tests and to use one or more of the methods described in the *OIE Manual of Diagnostic Tests and Vaccines*.

National laboratories should be able to undertake tests for rinderpest antigen and antibody detection such as:

- for antigen detection the agar gel immunodiffusion test and/or the immunocapture ELISA for detection of rinderpest/PPR viruses;
- for serological surveillance the competitive ELISA.

If a national laboratory cannot perform virus isolation and identification, samples should always be sent to Reference Laboratories.

In any case, National Laboratories should submit representative samples to the Reference Laboratories for characterisation.

6. Evaluation of disease status

Evaluation of applications for the status of freedom from disease or freedom from infection will be the responsibility of the Foot and Mouth Disease and Other Epizootics Commission which, if necessary, will ask the Director General of the OIE to appoint an Expert Panel in order to reach an informed decision to present to the International Committee for approval.

The composition and method of selection of the Expert Panel shall be such as to ensure both a high level of expertise in evaluating the evidence and total independence of the Panel in reaching conclusions concerning the disease status of a particular country.

QUESTIONNAIRE FOR NOMADS
(INSENSITIVE/ NO EXPLANATION/ NAMES/ DATA)

Animal Health

1) What species of animals do you have? (AMBIGUOUS)

CATTLE_____ SHEEP_____ GOATS_____ CAMELS_____

2) How many camels do you have? _____ (INSENSITIVE/
AMBIGUOUS)

3) What types of health problems have you seen in your cattle and sheep and goats
and camels? (MULTIPLE/ AMBIGUOUS)

CATTLE_____ SHEEP_____ GOATS_____ CAMELS_____

4) Have you suffered the mortality of any animals due to posology during last year?
(JARGON)

YES _____ NO _____

5) Did abortion and/ or pneumonia cause the highest mortality amongst cattle/
sheep/ goats/ camels during the last year? (MULTIPLE/
LEADING/FORMAT)

CATTLE SHEEP GOATS CAMELS

a)
b)

6) How many cattle and sheep and goats and camels did you lose during the last
year? (MULTIPLE)

CATTLE_____ SHEEP_____ GOATS_____ CAMELS_____

7) What percentage were the losses to the entire herd? _____
(JARGON)

8) You experienced the highest mortality amongst cattle/ sheep/ goats/ camels
during the Gu', didn't you? (LEADING)

SEASON CATTLE SHEEP GOATS CAMELS
JIILAAL
GU'
XAGAA
DAYR

9) What health problems caused the highest mortality during the different seasons amongst cattle/ sheep/ goats/ camels?

SEASON	CATTLE	SHEEP	GOATS	CAMELS
JILAAL				
GU'				
XAGAA				
DAYR				

10) In which locations have you had the highest mortality amongst cattle/ sheep/ goats/ camels? (AMBIGUOUS)

SPECIES	LOCATION	DISTRICT
CATTLE	_____	_____
SHEEP	_____	_____
GOATS	_____	_____
CAMELS	_____	_____

11) What was the cause of the highest mortality amongst cattle/ sheep/ goats/ camels in the above-mentioned location?

CATTLE_____ SHEEP_____ GOATS_____ CAMELS_____

Veterinary Drug Procurement System

12) Who advises you on how to administer treatments? (LEADING)

13) Don't you use modern veterinary drugs? (LEADING)

YES

NO

14) In which location or locations have you bought modern veterinary drugs over the last year?

15) Did you buy the veterinary drugs from the professional pharmacy or from other places? (LEADING/ MULTIPLE)

16) You bought your veterinary drugs yourself, didn't you?
_____ (LEADING)

17) Did you buy veterinary drugs more or less than 10 times last year?
_____ (AMBIGUOUS/ MULTIPLE)

18) Do you give the following information when buying veterinary drugs?
(LEADING)

type of disease	YES	NO
species of animal affected	YES	NO
numbers of animals affected	YES	NO
type of veterinary drugs	YES	NO
quantity of veterinary drug needed	YES	NO
amount of money you can spend	YES	NO

19) How do you order veterinary drugs? (AMBIGUOUS)

20) By what means of transport are your veterinary drugs usually delivered?
_____ (AMBIGUOUS)

21) Do you or someone else treat your animals? (AMBIGUOUS/ FORMAT)

YES NO

22) Which other person treats your animals?

QUESTIONNAIRE FOR NOMADS

Animal Health

1) What species of animals do you have?

CATTLE _____ SHEEP _____ GOATS _____ CAMELS _____

2) How many camels do you have? _____

3) What types of health problems have you seen in your cattle and sheep and goats and camels?

CATTLE _____ SHEEP _____ GOATS _____ CAMELS _____

4) Have you suffered the mortality of any animals due to posology during last year?

YES _____ NO _____

5) Did abortion and/ or pneumonia cause the highest mortality amongst cattle/ sheep/ goats/ camels during the last year?

CATTLE SHEEP GOATS CAMELS

a)

b)

6) How many cattle and sheep and goats and camels did you lose during the last year?

CATTLE _____ SHEEP _____ GOATS _____ CAMELS _____

7) What percentage were the loses to the entire herd? _____

8) You experienced the highest mortality amongst cattle/ sheep/ goats/ camels during the Gu', didn't you?

SEASON CATTLE SHEEP GOATS CAMELS

JILAAL

GU'

XAGAA

DAYR

16) You bought your veterinary drugs yourself, didn't you?

17) Did you buy veterinary drugs more or less than 10 times last year?

18) Do you give the following information when buying veterinary drugs?

type of disease	YES	NO
species of animal affected	YES	NO
numbers of animals affected	YES	NO
type of veterinary drugs	YES	NO
quantity of veterinary drug needed	YES	NO
amount of money you can spend	YES	NO

19) How do you order veterinary drugs?

20) By what means of transport are your veterinary drugs usually delivered?

21) Do you or someone else treat your animals?

YES

NO

22) Which other person treats your animals?

Livestock study questionnaire

The following information is collected to better understand the animal health problems affecting your livestock and to understand how you use and procure veterinary drugs.

This information will be used to identify possible activities to improve the quality of veterinary services for your animals.

General data

Date	Region	District

Name of location	GPS co-ordinates

Type of settlement: tick one of the boxes

Grazing settlement ☐

Village ☐

Town ☐

Grazing settlement: a temporary accommodation consisting of huts for nomads

Village: a rural settlement smaller than a town

Town: a urban densely populated area larger than a village

(The name of the respondent is optional)

Name of the respondent	Sex	Age (years)

Name of the interviewer

Animal Health

1) What species of animals do you have now? (tick the box or boxes indicating the species)

Cattle	Sheep	Goats	camel

Other species, (specify)

Ask each of the following questions according to the species given

e.g. if the answer to question 1 was cattle + goats ask question 2 as follows:

What type of health problems have you seen in your cattle during the last three years?

What type of health problems have you seen in your goats during the last three years?

- 2) What type of health problems have you seen in your cattle/sheep/goats/camels during the last three years?(Report names in Somali as reported by respondent)

Cattle	Sheep	Goats	Camels

- 3) Have you lost any animal due to health problems during the last one-year? (tick the box)

YES ☐

NO ☐

(if NO go to question 11; if YES go to question 4)

- 4) How many cattle/sheep/goats/camels did you loose during the last one-year? (write the number in the box below the given species)

Cattle	Sheep	Goats	Camels

- 5) How many cattle/sheep/goats/camels remained during the last one-year? (write the number in the box below the given species)

Cattle	Sheep	Goats	Camels

- 6) Which health problem caused the highest mortality amongst cattle/sheep/goats/camels during the last one-year? (write the health problem in Somali as reported by respondent, in boxes below the given species)

Cattle	Sheep	Goats	Camels

- 7) In which season did you experience the highest mortality amongst cattle/sheep/goats/camels during the last one-year? (tick box or boxes indicating season by species of animal)

Season	Cattle	Sheep	Goats	Camels
Jiilaal				
Gu'				
Xagaa				
Dayr				

- 8) What health problems led to the highest mortality in the above mentioned seasons amongst cattle/sheep/goats/camels during the last one-year? (write name of the health problems, in appropriate box in Somali as reported by respondent)

Season	Cattle	Sheep	Goats	Camels
Jiilaal				
Gu'				
Xagaa				
Dayr				

- 9) In which location/locations have you had the highest mortality amongst cattle/sheep/goats/camels during the last one-year (write locations in boxes beside the given species)?

Species	Location	District
Cattle		
Sheep		
Goats		
Camels		

- 10) What was the cause of the highest mortality amongst cattle/sheep/goats/camels in the above-mentioned locations? (write the health problem in Somali as reported by respondent in the box below the given species)

Cattle	Sheep	Goats	Camels

Veterinary Drug Procurement System

- 11) Do you use modern veterinary drugs? (tick the box)

YES ☐

NO ☐

(If NO go to question 22, if Yes, go to question 12)

- 12) In which location or locations did you buy modern veterinary drugs over the last year? (write location and district in the boxes below)

Location	District

- 13) In those locations, from which outlets did you buy the veterinary drugs? (tick box or boxes)

Outlet	
Farmaci	
Miis	
Garaab raro	

OTHERS, (specify)

- 14) Who bought your veterinary drugs during the last year? (tick box or boxes)

Yourself	
Relatives	

OTHERS, (specify)

- 15) How many times did you buy veterinary drugs during the last one year? (write the number)

- 16) When you order veterinary drugs, which of the following do you specify?
(tick Yes or No according to the answer given)

Type of disease	YES	NO
Species of animal affected	YES	NO
Numbers of animals affected	YES	NO
Type of veterinary drugs	YES	NO
Quantity of veterinary drugs	YES	NO
Amount of money you can spend	YES	NO

Other, (specify)

- 17) What means of communication do you use to place orders for your veterinary drugs?
(tick box or boxes)

By radio	
By verbal communication to a person	
By written message	

Others. (specify)

- 18) By what means of transport are your veterinary drugs delivered to the place where your animals are? (describe different means used from outlet to animal)

.....

.....

.....

.....

- 19) Are you the only one treating your animals? (tick the box)

YES ☐

NO ☐

(If YES go to question 20, skipping question 21, if NO go to question 21)

- 20) How do you decide on the quantity of veterinary drug to be administered?(circle the appropriate answer or write)

a) Personal experience Yes No

b) Advice from dhakhtar dhaqameed Yes No

c) Advice from SVP Yes No

d) Others, (specify).....

.....

- 21) Which other person treats your animals? (tick box or boxes)

Qaraabo	
Dhakhtar dhaqameed	
Dhakhtar xoolaad	

Others, (specify)

.....

Livestock production

- 22) Draw a map of **movements of the respondent's livestock** during the last four seasons (one year). Use the back of this page. Please identify:

a) **water resources**

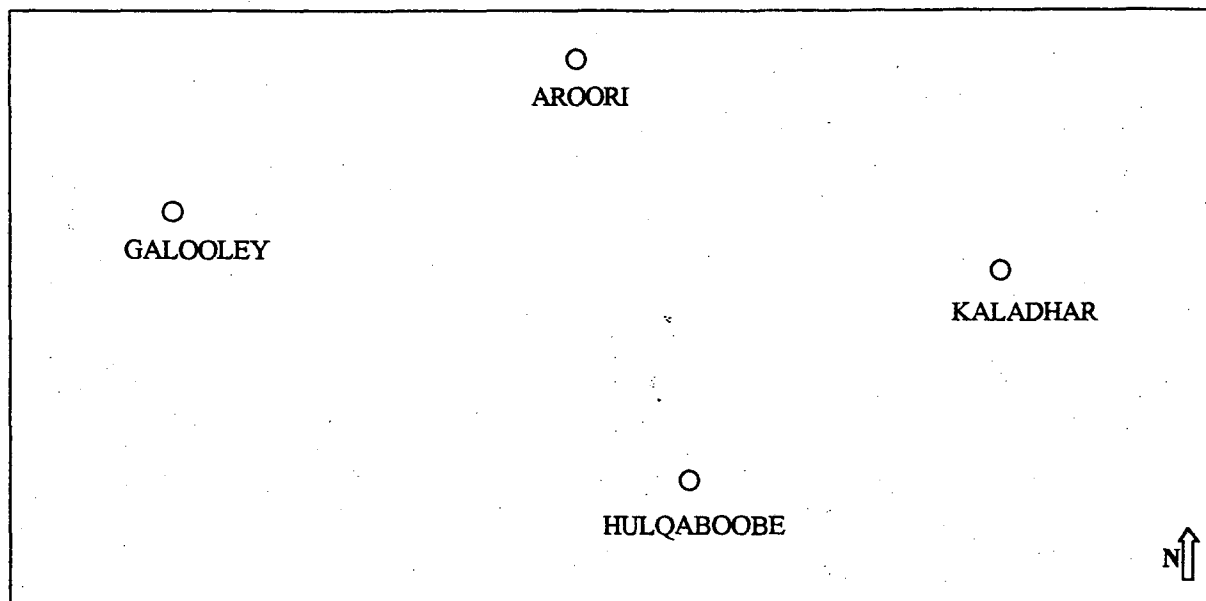
b) **grazing areas**

INSTRUCTIONS FOR QUESTION N° 22

Map of livestock movements

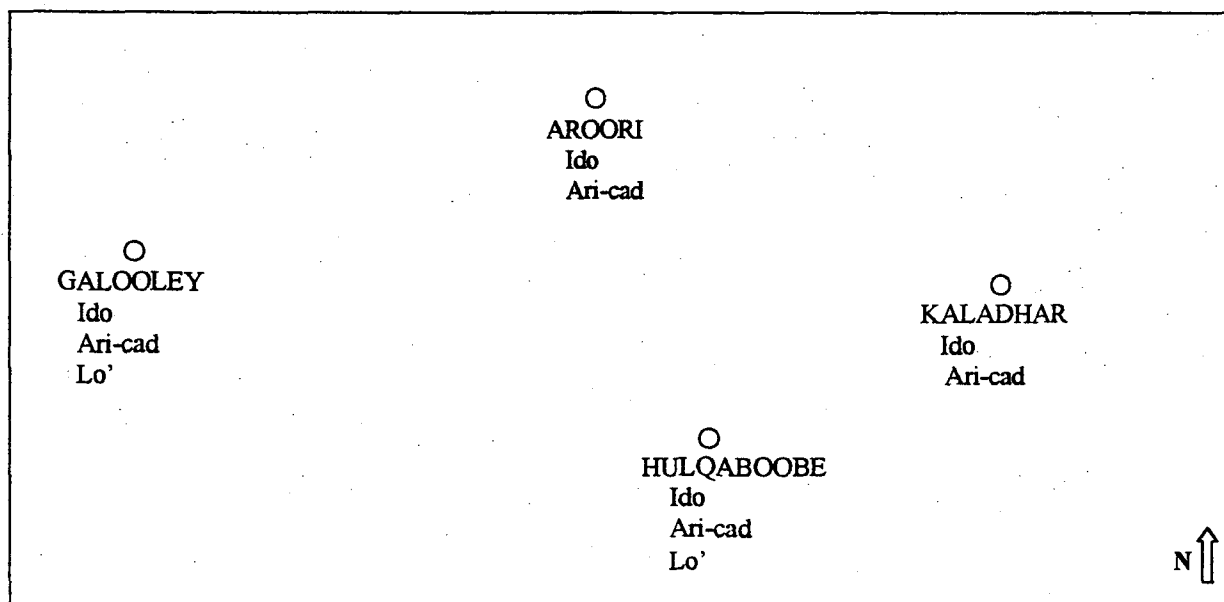
- 1) Write down the names of the villages/areas where animals have grazed during the last four seasons.

Example



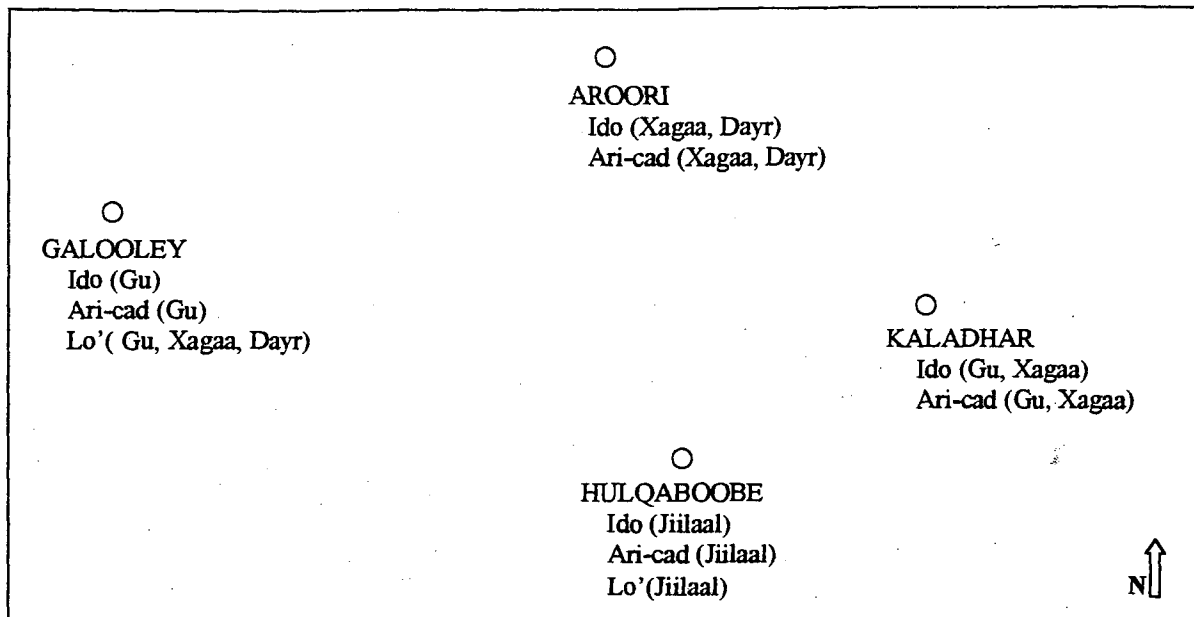
- 2) Write down the species present in each location.

Example



3) Write down the seasons when animals where present in each location.

Example



NOTE: In mapping consider only the bulk of the herds/flocks. Do not take into account sick animals or milking animals only used for the family needs, left at home.

Grazing areas

Identify areas of special importance to livestock with a symbol (areas of special interest for good quality fodder and areas generally avoided by livestock for special reasons). If the area has a particular name must use a number and refer to it in an index on the map (refer to the following example).

a) **SPECIAL GRAZING AREAS: GOOD QUALITY FODDER**

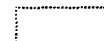


b) **GRAZING AREAS AVOIDED FOR SPECIFIC REASONS:**

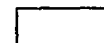
- **POISONOUS PLANTS**



- **VECTORS (TICKS, FLIES, OTHERS)**



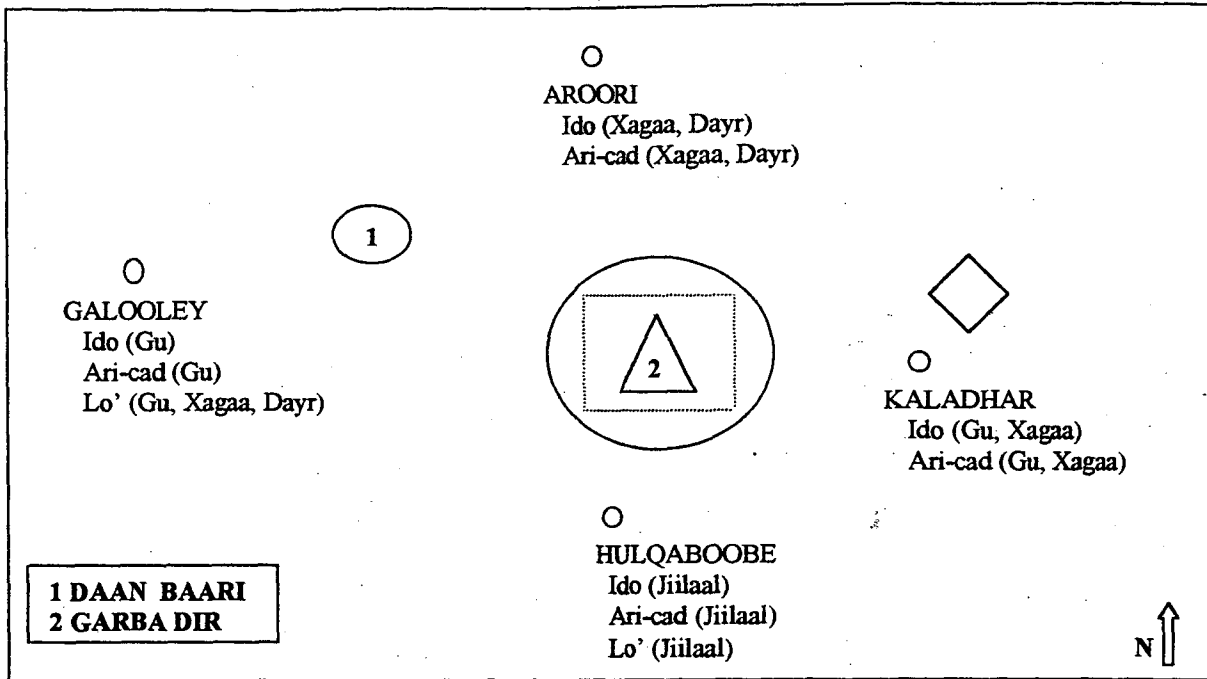
- **CLIMATIC CONDITION (HIGH HUMIDITY, WIND)**



- **MINED AREAS**



Example

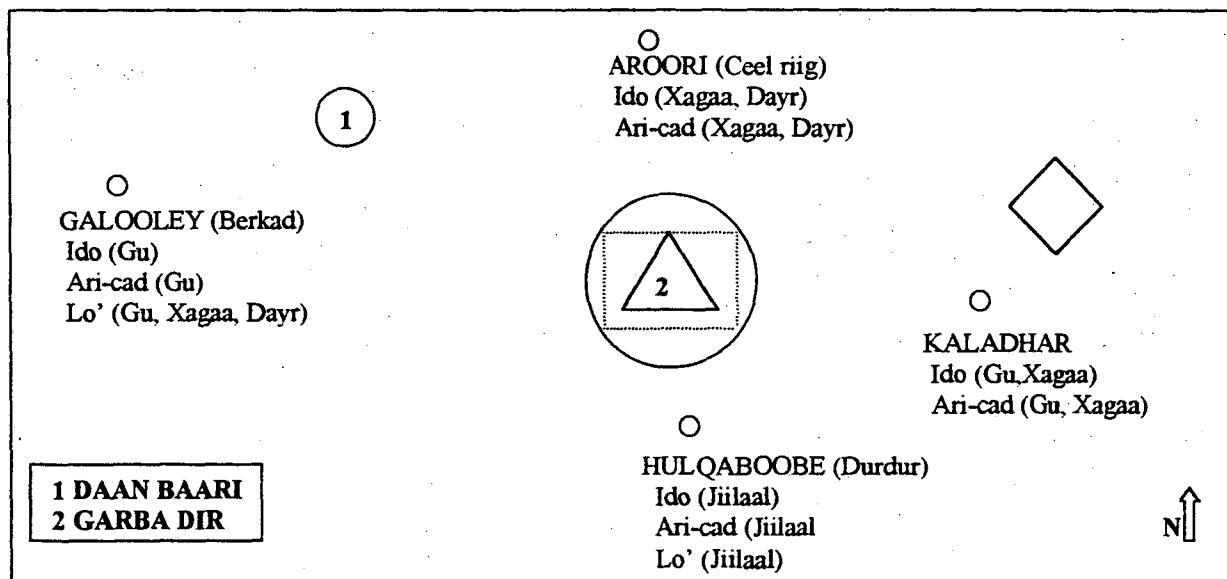


Water sources

Identify the water sources present in the villages/areas where animals have grazed during the last four seasons.

- CEEL RIIG
- CEEL GACAMEED (WADAAN, DABA LULA/BAMBO GACAMEED, DINAMO)
- BALL/EEG/HAR/GAL/QAYDAR
- BERKAD/ SAAHO
- WAR
- DURDUR
- DOOX/TOG/WAADI/BOHOL
- WASHAAQO/TUUR
- HILO
- XIN/MAQUUD
- KANAAL
- BUQ/IL BYOOD
- MUQSID

Example



Weydii su'aalaha soo socda midkood adigoo la-xiriirinaya noocyada xoolaad ee lagu siiyay

Tusaale: haddii jawaabta su'aasha 1aad ay ahayd lo' iyo ari-cad u weydii su'aasha 2aad sida soo socota:
Waa nooc ee dhibatooyinka caafimaad ood ku aragtay lo' daada saddexdii sano ee ugu dambeeyay?
Waa nooc ee dhibatooyinka caafimaad ood ku aragtay ari-cadkaaga saddexdii sano ee ugu dambeeyay?

- 2) Waa nooc ee dhibatooyinka caafimaad ood ku aragtay lo'daada / idahaaga / ari-cadkaaga / geelaaga saddexdii sano ee ugu dambeeyay? (ku qor magacyada af soomaali hadba sida ay jawaabtu tahay)

Lo'	Ido	Ari-cad	Geel

- 3) Miyay kaa dhinteen wax xoolo ah ayadoo ay sababeen dhibaatooyin caafimaad sannadkii ugu dambeeyay? (calaamadee sanduuqa)

HAA ☐

MAYA ☐

(Haddii MAYA u gudub su'aasha 11aad; haddii HAA u gudub su'aasha 4aad)

- 4) Imisa/meeqa lo' / ido / ari-cad /geel ayaa kaa dhintay sannadkii ugu dambeeyay? (Ku dhex qor lambarka sanduuqa ka hooseeya noocyada xoolaad ee lagu siiyay)

Lo'	Ido	Ari-cad	Geel

- 5) Intee neef ee lo' / ido / ari-cad /geel ayaa kuu badbaaday sannadkii ina soo dhaafay ? (Ku dhex qor lambarka sanduuqa ka hooseeya noocyada xoolaad ee lagu siiyay)

Lo'	Ido	Ari-cad	Geel

- 6) Nooc ee dhibaato caafimaad ayaa sababay dhimashadii ugu badnayd ee lo'da / idaha / ari-cadka/ geela sannadkii ugu dambeeyay ? (Ku dhex qor dhibaatooyinka caafimaad af Soomaali, hadba sida ay jawaabtu tahay, sanduuqyada ka hooseeya noocyada xoolaad ee lagu siiyay)

Lo'	Ido	Ari-cad	Geel

Su'aalaha lagu darsayo xannaanaynta xoolaha

Maclumaadka soo socda waxa loo ururinayaa si loo fahmo dhibaatooyinka caafimaad ee xoolahaaga iyo si loo ogaado sida aad u hesho una isticmaashid dawoyinka xoolaha. Maclumaadkan waxa loo adeegsan doonaa si loo hormariyo tayada hawlaha xannaaneynta xoolahaaga.

Macluumaad guud

Taariikh	Gobol	Degmo

Mgaca deegaanka	GPS co-ordinates

Nooc dejin: calaamadee sanduuqyada midkood

Dhul daaqsimeed

Tuulo

Magaalo

Dhul daaqsimeed:

waa degaan kumeel gaar ah oo ka kooban aqallo ay leeyihiin reer guuraa

Tuulo:

waa degaan miyi ah kana yar magaalo;

Magaalo:

degaan dadka ku badan yahay tuulana ka ballaaran

(Magaca la-wareestaha waa laga maarmi karaa)

Magaca la-wareystaha	Jinsi	Da'da (sano)

Magaca wareystaha

Caafimaadka Xoolaha

1) Waa maxay nooca xoolaha aad leedahay?

(Calaamadee sanduuq ama sanduuqyada tilmaamaya noocyada xoolaha)

Lo'	Ido	Ari-cad	Geel

Noocyo kale (caddee).....

- 7) Xilliyadee baad la kulantay dhimashadii ugu badnayd ee lo'da / idaha / ari-cadka / geela sannadkii la soo dhaafay? (Calaamadee sanduuq ama sanduuqyada tilmaamaya xilliga oo ku aadan noocyada xoolaad)

Xilli	Lo'	Ido	Ari-cad	Geel
Jiilaal				
Gu'				
Xagaa				
Dayr				

- 8) Dhibaatooyinke caafimaad xoolaad ayaa sababay dhimashadii ugu badnayd ee xilliyada qor ku xusan ee lo'da / idaha / ari-cadka / geela sannadkii la soo dhaafay? (Ku qor af Soomaali magaca dhibaatooyinka caafimad hadba sida jawaabtu tahay, kuna qor sanduuqa ugu habboon)

Xilli	Lo'	Ido	Ari-cad	Geel
Jiilaal				
Gu'				
Xagaa				
Dayr				

- 9) Meeshee baad kula kulantay dhimashadii ugu badnayd ee lo'da / idaha / ari-cadka / geela ee sannadkii la soo dhaafay? (Ku qor meelaha sanduuqa ku habboon, noocyaada xoolaad ee lagu siiyey)

Noocyo	Meel	Degmo
Lo'		
Ido		
Ari-cad		
Geel		

- 10) Maxay ahayd sababta dhimashadii ugu badnayd ee lo'da / idaha / ari-cadka / geela ee meelaha kor ku xusan sannadkii la soo dhaafay? (Ku qor af Soomaali dhibaataada caafimad, sida uu ku warbixiyey la-wareystaha, sanduuqa hoose ee noocyada xoolaad hadba sida jawaabtu tahay)

Lo'	Ido	Ari-cad	Geel

Nidaamka lagu helo dawada xoolaha

- 11) Miyaad isticmaashaa dawooyinka casriga ah ee xoolaha? (Calaamadee sanduuqa)

HAA ☐

MAYA ☐

(Haddii MAYA u gudub su'aasha 22aad; haddii HAA, u gudub su'aasha 12aad)

- 12) Meeshee ama meelehee ayaad ka soo gadatay dawooyinka casriga ah ee xoolaha, sannadkii la soo dhaafay ? (ku dhex qor meesha iyo degmada sanduuqyada hoose)

Meel	Degmo

- 13) Meelahaas qeybtee ayaad ka soo gadatay dawooyinka xoolaha? (Calaamadee sanduuq ama sanduuqyo)

Meesha	
Farmasi	
Miis	
Garab raro	

Meel kale (caddee)

- 14) Yaa kuu soo gadatay dawooyinkaaga xoolaha sannadkii la soo dhaafay ? (Calaamadee sanduuq ama sanduuqyo)

Naftaada	
Qaraabadaada	

Cid kale (caddee)

- 15) Imisa/meeqa jeer ayaad soo gadatay dawooyin xoolaad sannadkii la soo dhaafay? (qor tirada)

- 16) Markaad dalbeyso dawooyin xoolaad, ma u sheegtaa iibiyaha kuwan soo socda? (Calaamadee sanduuq ama sanduuqyo)

Nooca cudurka	HAA	<input type="text"/>	MAYA	<input type="text"/>
Noocyada xoolaha u jirran	HAA	<input type="text"/>	MAYA	<input type="text"/>
Tirada xoolaha u jirran	HAA	<input type="text"/>	MAYA	<input type="text"/>
Nooca dawoyinka xoolaha	HAA	<input type="text"/>	MAYA	<input type="text"/>
Tirada dawoyinka xoolaha	HAA	<input type="text"/>	MAYA	<input type="text"/>
Tirada lacagta aad ku kharash gareyn kartid	HAA	<input type="text"/>	MAYA	<input type="text"/>

Kuwa kale (caddee)

- 17) Maxaa qalab isgaarsiin ah ood isticmaashaa markaad dalbeyso dawooyinkaaga xoolaad?
(Calaamadee sanduuq ama sanduuqyo)

Raadiyow rakaal	
Adeeg qof loo dirsado	
Farriin qoraal ah	

Wax kale (caddee)

- 18) Maxaa gaadiid ah ee dawooyinkaaga xoolaha lagu geeyaa meelaha xoolahaaga joogaan? (Fasir siyaabaha kala duwan ee aad isticmaashid min bakhaarka ilaa neefka)

.....

.....

.....

- 19) Ma keligaa baa daweysta xoolahaaga? (Calaamadee sanduuqa)

HAA ☐

MAYA ☐

(haddii HAA u gudub su'aasha 20aad, adigoo ka boodaya su'aasha 21aad, haddii MAYA u gudub su'aasha 21aad)

- 20) Sidee baad u go'aansataa qiyaasta dawada xoolaha ee aad siinayso neefka?
(Calaamadee sanduuq ama sanduuqyada)

- a) Waayo-aragnimo gaar ah
b) Talo aan ka helay dhakhtar dhaqameed
c) Talo aan ka helay dhakhtar xoolaad

HAA ☐
HAA ☐
HAA ☐

MAYA ☐
MAYA ☐
MAYA ☐

Wax kale, (caddee)

- 21) Qofkee kale ayaa daweeya xoolahaaga? (Calaamadee sanduuq ama sanduuqyada)

Qaraabo	
Dhakhtar dhaqameed	
Dhakhtar xoolaad	

Cid kale (caddee)

Wax soo saarka xoolaha

- 22) Sawir khariidad muujinaysa dhaqdhaqaaqyada xoolaha sida ay la-wareestayaasha u jawaabeen afarta xilli ee ugu dambeeyay (hal sano). Isticmaal waraaqdan dusheeda,

Fadlan muuji: - a) biyaha

-b) daaqa

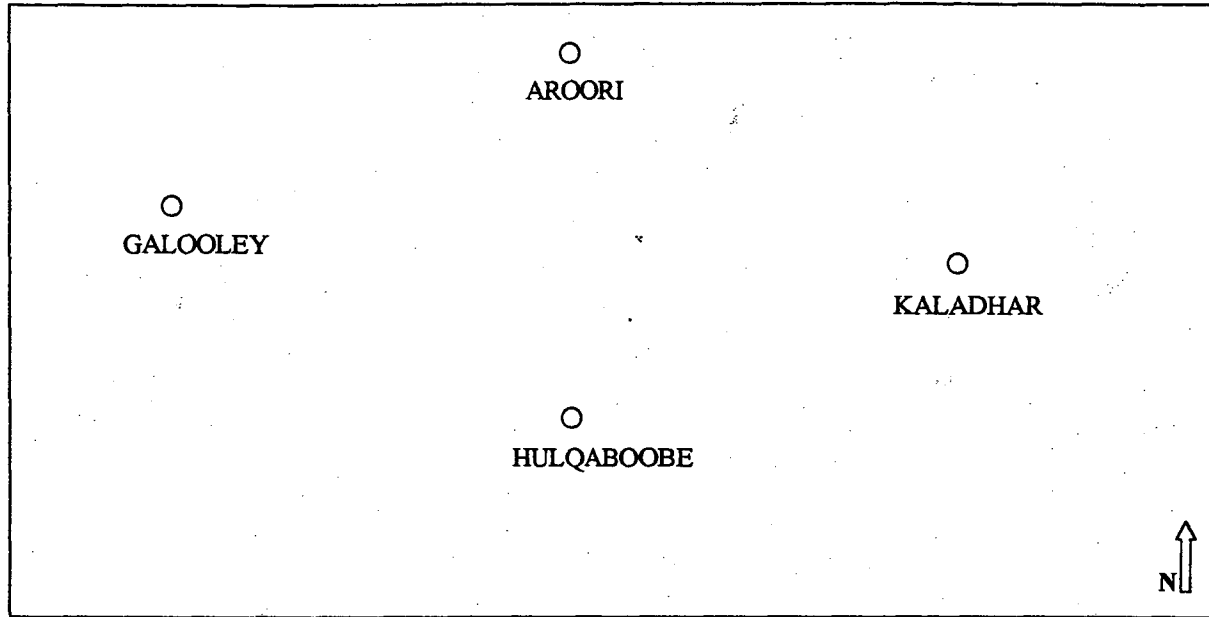
HAB DEJINTA KHARIIDADA - SU'AASHA 22aad

Guurista (dhaqdhaqaaqa) xoolaha

Waxa hoosta ku qoran tallaabayinka la raacayo marka khariidad lagu muujinayo dhaqdhaqaaqyada xoolaha.

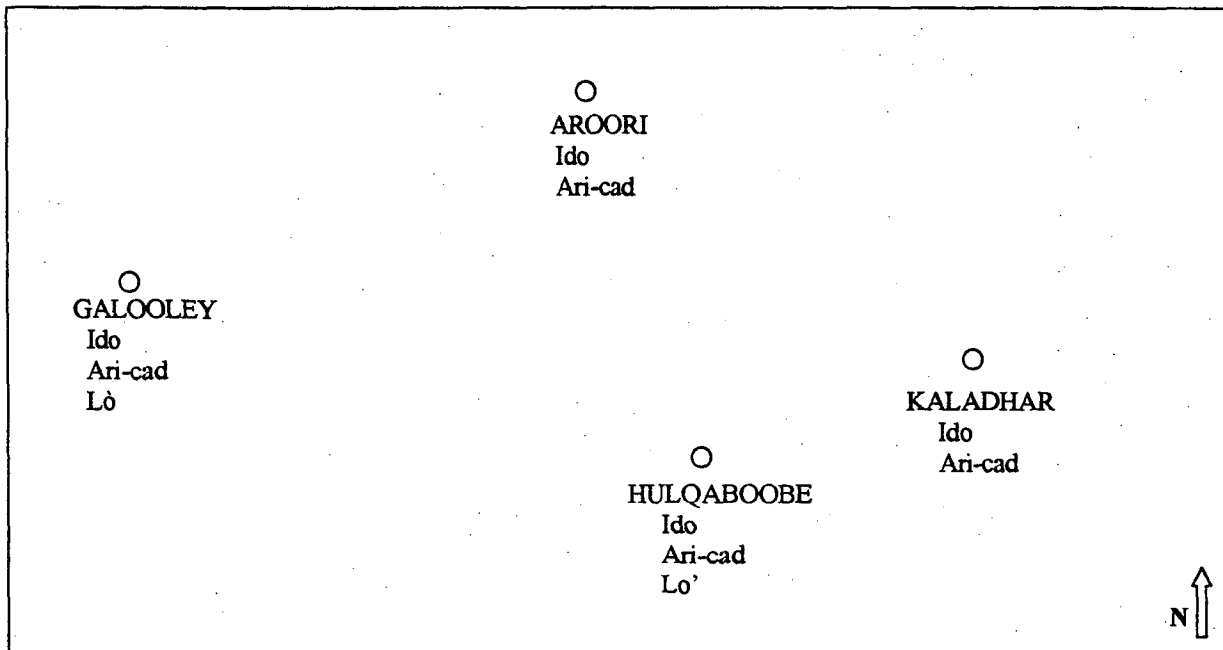
- 1) Muuji meesha iyo magacayada tuuloyinka oo ay xoolahaaga u daaq tegeen afarta xilli ee ugu dambeeyay.

Tusaale



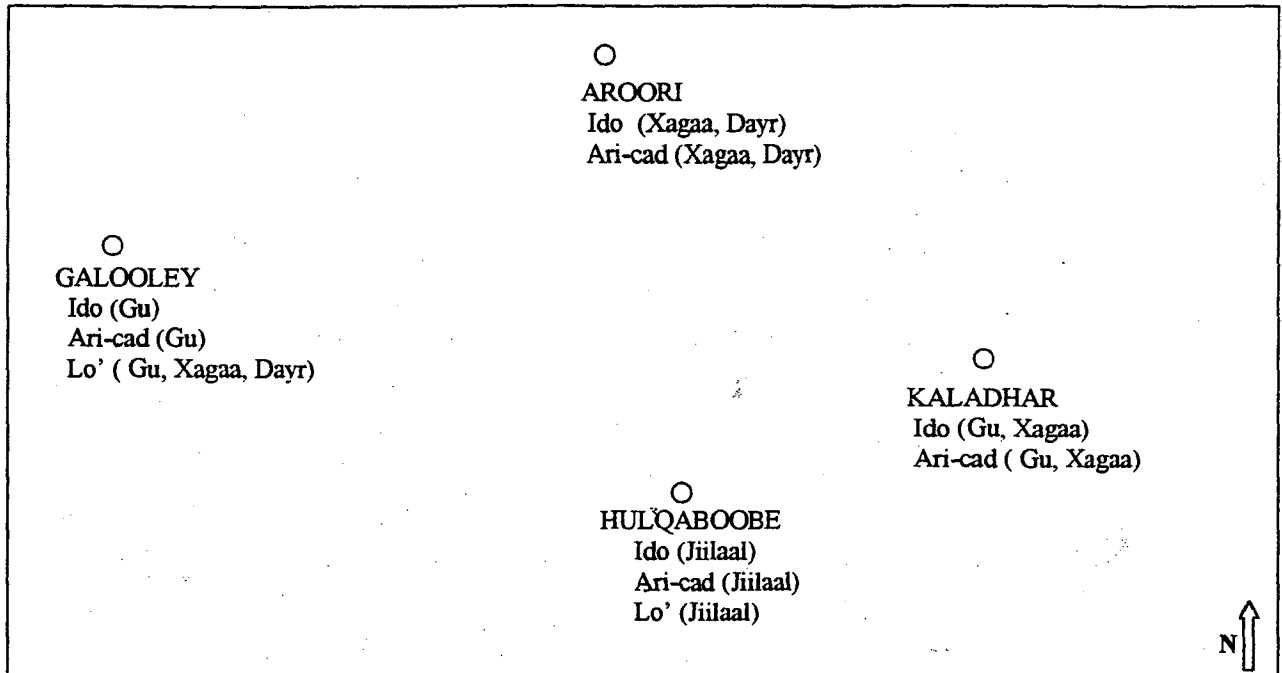
- 2) Ku qor noocyada xoolaad ee jooga meel kasta.

Tusaale



- 3) Ku qor magaca xilliga/xilliyada ay xooluhu u daaq tegeen meel kasta oo aad soo muujisay. Noocyada xoolaha ku hor qor xilliga/xilliyada.

Tusaale



Xusuus: waxa la muujinayaa oo keliya dhaqdhaqaaqa xoolaha intooda badan (qadarin maleh inta neef oo reerka loo reebay ha ahaado neef irmaan ama mid jirran).

Daaqa

Khariidada ku muuji meelaha muhiimka u ah (haddii ay jiraan) xoolo dhaqidda, calaamadna u yeel. Haddii meesha daaqa magac leedahay u isticmaal lambar, sida:

a) DAAQ GAAR AH OO TAYO SARE LEH

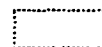


b) DAAQ GAAR AH OO XOOLAH LAGA DHOWRAYO ASBAABAHAN AWGOOD:

-GEEDA SUN AH



-CUDUR-SIDEYAAL (SHILIN, QANIIN, IWL.)

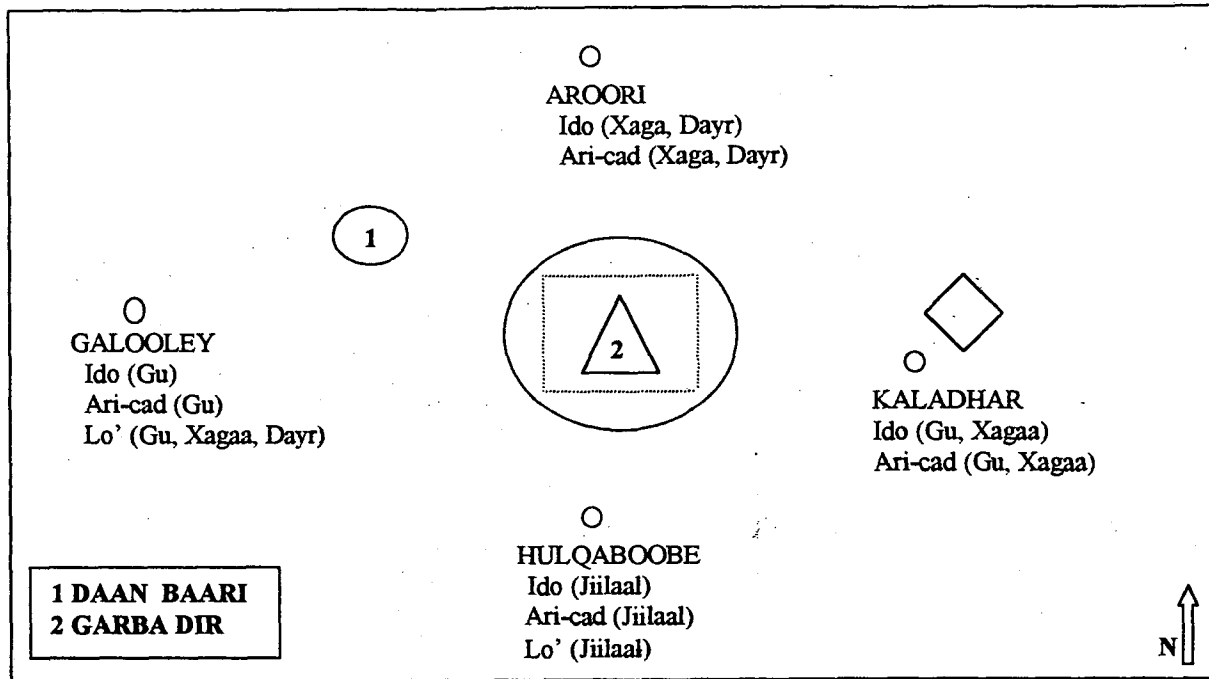


-XAALADAHA JAWIGA (DABEEL, IWL.)



-DHUL MIINEYSAN

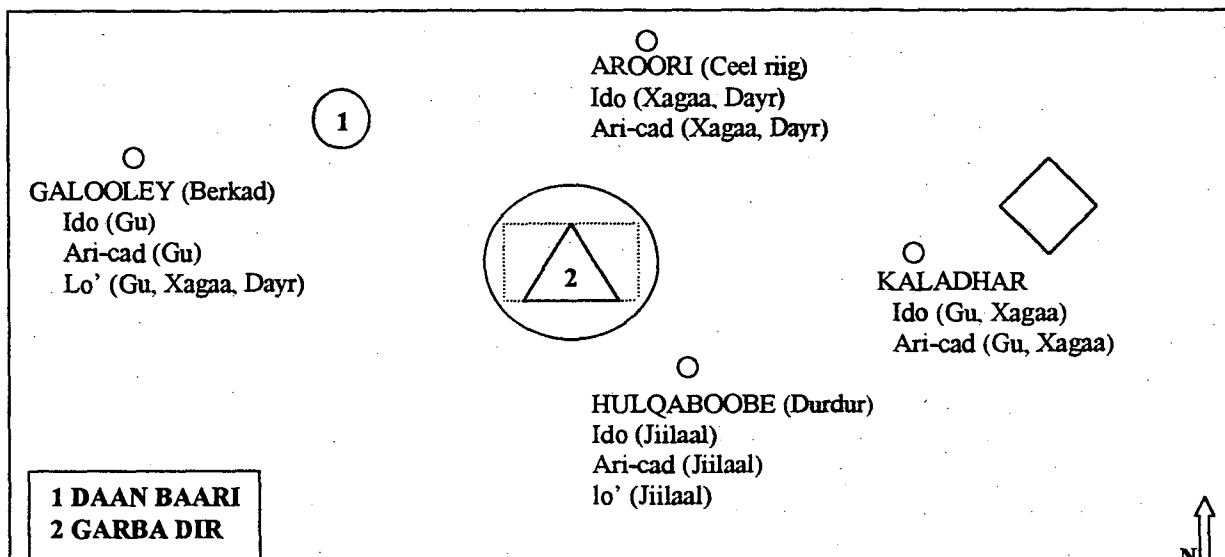


**Biyaha**

Caddee ilaha biyaha ama hab-waraabka ee tuloyinka/meelaha aad muujisay inay joogeen xoolaha afarta xilli ee ugu dambeyay:

- CEEL RIIG
- CEEL GACAMEED (WADAAN, DABA LULA / BAMBO GACAMEED, DINAMO)
- BALLI / EEG / HAR / GAL / QAYDAR
- BERKAD / SAAHO
- WAR
- DURDUR
- DOOX / TOG / WAADI / BOHOL
- WASHAAQO / TUUR
- HILO
- XIN / MAQUUD
- KANAAL
- BUQ / IL BYOOD
- MUQSID

Tuusale



CALCULATE YOUR
GROSS PROFIT
FOR THE MONTH
OF OCTOBER

ASK THE PERSON AT
THE COUNTER HOW
MANY BOTTLES OF
BAYTICOL 1% POUR-ON
HE SOLD

INDICATE YOUR LOSSES
IN A GRAPHIC FORM
WHEN TRYING
TO GET A LOAN

IN THE CASH BOOK,
WRITE DOWN THE
CASH MOVEMENTS
FOR 1/10/1999

STUDY PURCHASES OF
BAYTICOL 1% POUR-ON
FOR THE MONTH OF
OCTOBER 1999

GATHER DIFFERENT WHOLESAL
PRICES FOR A 1 LITRE BOTTLE OF
BAYTICOL 1% POUR-ON
IN BOROMA

EXAMINE THE MONTHLY FIGURES OF
DRUG PURCHASES, SALES AND STOCK
TO UNDERSTAND YOUR LOSSES

SUMMARISE THE SALES FOR
BAYTICOL 1% POUR-ON
FOR THE MONTH OF
OCTOBER 1999

CALCULATE THE RATE OF
STOCK TURN FOR THE
MONTH OF OCTOBER

GATHER DATA ON THE AMOUNT OF
MONEY PAID FOR PURCHASING A
CERTAIN QUANTITY OF DRUGS

ORGANISE INFORMATION ON CASH
AND DRUG FLOW IN AN
UNDERSTANDABLE FORMAT TO
PRESENT TO ANOTHER ORGANISATION
THE FOLLOWING WEEK

ADJUST THE STOCK CARD FOR
BAYTICOL 1% POUR-ON
FOR THE MONTH OF
OCTOBER 1999

CHECK THE STOCK OF
BAYTICOL 1% POUR-ON
FOR THE MONTH OF
OCTOBER 1999

LOOK AT THE CASH BOOK TO SEE
HOW MUCH MONEY WAS PAID FOR
A CERTAIN AMOUNT OF DRUG

EXAMINE THE OCTOBER FIGURES
FOR DRUG PURCHASES, SALES AND
STOCK TO UNDERSTAND YOUR
DRUG AND CASH FLOW

ARRANGE INFORMATION ACCORDING TO
HISTORY TAKING (ANAMNESIS), VISUAL
APPRAISAL AND CLINICAL EXAMINATION,
FOLLOWING A LOGICAL SEQUENCE

FILL IN THE CLINICAL CARD
WITH TREATMENTS CARRIED OUT
IN THE FIELD ON 3/10/1999

OBSERVE HOW THE
LIVESTOCK OWNER
TREATS HIS ANIMAL

EXPLAIN TO THE LIVESTOCK OWNER
THAT THE ANIMAL SHOWS SIGNS OF
ACUTE RESPIRATORY PROBLEMS

EXAMINE YOUR LIST OF FINDINGS
TO SEE IF THERE ARE ANY
RELATIONS BETWEEN THEM

WRITE THE BODY
TEMPERATURE IN THE
CLINICAL CARD

ASK A LIVESTOCK OWNER
ABOUT THE RECENT MOVEMENTS
OF HIS ANIMALS

SHOW THE LIVESTOCK OWNER THE
WORMS IN HIS GOAT'S FAECES

**WRITE DOWN THE VISUAL
APPRAISAL FINDINGS**

**RECORD THE COLOUR OF MUCOSAE
ON THE CLINICAL CARD**

CROSS-CHECK FINDINGS

**QUESTION THE LIVESTOCK OWNER
ABOUT THE NUMBER
OF ANIMALS AFFECTED IN HIS HERD**

TELL THE LIVESTOCK OWNER THAT
THE ANIMAL SHOWS SIGNS OF
BACTERIAL ENTERITIS

LOOK AT RESULTS, WHILE
TESTING YOUR HYPOTHESIS

INTERNATIONAL OFFICE FOR EPIZOOTICS
(OFFICE INTERNATIONALE DES EPIZOOTIES)

- OIE Paris -

Diseases of List A

- Livestock transmittable diseases, which have the potential for very serious and rapid, *spread, irrespective of national borders*, which are of serious socio-economic or public health consequences and which are of *major importance* in the international trade of animal and animal products.

A010	Foot and mouth disease
A020	Vesicular stomatitis
A030	Swine vesicular disease
A040	Rinderpest
A050	Peste des petits ruminants
A060	Contagious bovine pleuropneumonia
A070	Lumpy skin disease
A080	Rift valley fever
A090	Bluetongue
A100	Sheep pox and goat pox
A110	African horse sickness
A120	African swine fever
A130	Classical swine fever
A150	Highly pathogenic avian influenza
A160	Newcastle disease

Diseases of List B

- Livestock transmittable diseases which are considered to be of serious socio-economic and/or public health importance *within countries* and which are *significant* in the international trade of animal and animal products.

Multiple species diseases

B051	Anthrax
B052	Aujeszky's disease
B053	Echinococcosis/ hydatidosis
B055	Heartwater
B056	Leptospirosis
B057	Q fever
B058	Rabies
B059	Paratuberculosis
B060	New world screwworm (<i>Cochliomyia hominivorax</i>)
B061	Old world screwworm (<i>Chrysomya bezziana</i>)

Cattle diseases

B101	Bovine anaplasmosis
B102	Bovine babesiosis
B103	Bovine brucellosis
B104	Bovine genital campylobacteriosis
B105	Bovine tuberculosis
B106	Bovine cysticercosis
B107	Dermatophilosis
B108	Enzootic bovine leukosis
B109	Haemorrhagic septicaemia
B110	Infectious bovine rhinotracheitis/ infectious pustular vulvovaginitis
B111	Theileriosis
B112	Trichomonosis
B113	Trypanosomosis (tse-tse borne)
B114	Malignant catarrhal fever
B115	Bovine spongiform encephalopathy

Sheep and goat diseases

B151	Ovine epididymitis (<i>Brucella ovis</i>)
B152	Caprine and ovine brucellosis (excluding <i>B. ovis</i>)
B153	Caprine arthritis/ encephalitis
B154	Contagious agalactia
B155	Contagious caprine pleuropneumonia
B156	Enzootic abortion of ewes (ovine chlamydiosis)
B157	Ovine pulmonary adenomatosis
B158	Nairobi sheep disease
B159	Salmonellosis (<i>S. abortusovis</i>)
B160	Scrapie
B161	Maedi-visna

Guidelines for group exercises

What is a group exercise?

A group exercise is an activity carried out with a group of people to collect or analyse specific information.

In the Itinerant Training Programme for Somali Veterinary Professionals 3 different exercises are used:

1. Disease listing
2. Disease ranking
3. Disease seasonal calendar

Why do we use these techniques?

Some of these techniques are suitable to collect data at community level on relevant livestock health problems in the visited areas (especially disease listing and disease calendar). Others such as the disease ranking are instead better suited for data analysis.

Who are the respondents?

Livestock owners are the most suitable respondents for these techniques. Pastoralists and agro-pastoralists according to the characteristics of the area visited, constitute the main target. Villagers owning a few animals for family needs should not be involved in the exercises.

What size should the group be?

For our purposes very small groups should be avoided since these techniques are not intended to gather information from individual livestock owners, on the other hand when groups become too large, it is difficult to manage them, as the group tends to split in small sub-groups. A manageable size is between 8 and 15 people.

How much time is required to carry out the 3 exercises?

Since people are usually busy during the day, you must not take too much of their time.

The 3 exercises should not take more than a total of one hour, and should be organised according to the livestock owner's convenience.

Do not perform the exercise during praying time.

Be prepared that the number of people, present during the exercise, will fluctuate, with some coming and going. If the number decrease to less than 5, stop the session to find out if there is any particular problem.

How should the group implementing the exercise be organised?

To get the most out of the exercise the vet. professionals implementing the exercise must be well organised with clear tasks assigned to everyone. Remember to prepare the flip charts for the disease ranking and seasonal calendar beforehand. People may not appreciate watching you prepare the material for half an hour before starting the discussion.

Everybody should know what to do at any given moment. People who are not leading the session should support it, by replacing the flip charts when required, preparing the tape for fixing them to the board, following the discussion, accommodating new arrivals, etc. Teamwork is crucial for the success of the exercises.

How to communicate with the group of respondents?

These exercises are intended to get information on relevant health problems from a group of people, not from individuals. Therefore it is important to stimulate discussion and where is possible arriving at a consensus amongst the group. Only after consensus has been reached should information be written down on the flip chart.

Pay attention to group-dynamics, especially when well-respected livestock owners who can influence the whole group are present. Some livestock owners, known to be good at handling a particular species, may take the lead within the group on certain issues. These situations should be addressed with due consideration and sensibility, in order not to sacrifice the contribution of such key informants.

Remember that the discussion must only reflect the opinions of the livestock owners and therefore veterinary professionals should not interfere. They should take a neutral approach on the matters debated, and not offer advice or lecture the group.

a) Disease listing

The exercise consists of listing diseases according to the following question:
Which diseases have occurred in your area during the last three years?

The exercise aims at:

- 1) collecting information on the diseases which occur in the area where the livestock owners come from, and;
- 2) considering only a specific period of time: the last three years.

Diseases must be listed according to species considering camels, cattle, sheep and goats only. At this stage write all the diseases reported by the group on the flip chart.

Once the list has been completed check if for any of the species there are more than 6 diseases listed. If this is the case ask the group to select the six most common (most frequent) diseases occurring in the area.

This is because the two following exercises (disease ranking and seasonal calendar) are to be carried out with a maximum of six diseases only.

Please write on the flipchart the names of the diseases in Somali, as reported by the group. Do not

b) Disease ranking

Ranking diseases means placing them in order according to a set of criteria. Five criteria are used for this exercise:

- Mortality
- Transmission within the herd/flock
- Reduction in milk yield
- Reduction in the number of deliveries
- Cost of treatments

The selected diseases must be ordered according to this set of criteria, asking the group to rank the first disease, the second disease, etc. according to each criterion. The exercise is presented in the form of a matrix on flipcharts (example 1). Use one flipchart for each species.

It is very important to clearly explain the five criteria used in order to reach a common understanding within the group.

Mortality: the number of animals killed by the disease, e.g. which of the listed diseases caused the highest number of losses in the area during the last three years? Which disease caused the second highest number of losses?; the third, etc.

Transmission within the herd/flock: which of the listed diseases spread more rapidly within the herd/flock in terms of number of animals affected over time? Which disease spread second fastest? etc.

Reduction in milk yield: Which disease most affected milk yield during the last three years? Which is the second disease? etc.

Reduction in the number of deliveries: Which disease caused the greatest reduction in the number of deliveries during the last three years?

Cost of treatments: For which disease did you spend the most in veterinary drugs during the last three years? Which is the second?

This exercise aims at showing the importance livestock owners attach to the different diseases according to selected criteria.

Example 1: DISEASE RANKING

Use one flipchart for each species.

Write down on the flipchart the species to which the diseases refer.

DISEASE (goats)	MORTALITY	RED. OF MILK	RED. DELIVERIES	TRANSMISSION	COST TREATMENTS
Diif	1	1	4	1	3
Caalbarar	4	6	1	5	1
Shuban dhiig	1	1	-	4	2
Cabeeb	6	3	2	3	5
Furuq	3	4	3	1	4
Raaf dilaac	5	5	5	6	5
Matoor 04/04/2000					

Write the place and date of the exercise on the flipchart.

Rank each disease using a number from 1 to 6 maximum.

If 2 diseases are given the same ranking use the same number for both of them. Remember to jump one number when you rank the next disease (from number 1 to number 3 in this case).

If a criterion is not applicable to one of the listed diseases put a dash in the appropriate box. Remember that the following disease is ranked without jumping a number.

c) Disease calendar

This is a calendar showing the most common livestock diseases throughout the different seasons of the year, Gu', Xagaa, Dayr and Jiilaal, in a matrix form on a flipchart (example 2). Use one flipchart for each species.

The exercise aims at identifying the season/s of greatest difficulty and vulnerability in terms of livestock health. Furthermore it provides the veterinary professionals with useful information for planning of treatments, vaccinations and drug stock.

Example 2: DISEASE SEASONAL CALENDAR

Use one flipchart for each species.

Write down on the flipchart the species to which the diseases refer.

DISEASE (goats)	JILAL	GU'	XAGAA	DAYR
Diif	X	X	X	X
Caalbarar	X			
Shuban dhiig	X	X	X	X
Cabeeb		X		X
Furuq	X	X	X	X
Raaf dilaac		X		X
Matoor 04/04/2000				

Write the place and date of the exercise on the flipchart.

Tick the appropriate box under the season/s when the disease is reported to occur.

Habraacyo Layliaal Kooxeed

Muxuu yahay layli kooxsed?

Layli kooxeed waa howl ay fuliso koox dad ah, si loo ururiyo ama loo lafaguro xog khaas ah.

Barnaamijka tababarka wareegeysta ee aqoonyahannada caafimaadka xoolaha ee somaaliyeed waxa la isticmaalya 3 layli oo kala duwan:

1. Liisgareynta cudurrada
2. Darajo u yeelidda cudurrada
3. Kaalandar xilliyeedka cudurrada

Maxaan u isticmaaleynaa farsamooyinkan?

Qaar ka mid ah farsamooyinkan waxay ku habboon yihiin si loo ururiyo xog heer bulsho oo khuseysa dhibaatooyin caafimaad xoolad ee deegaannada la soo booqday (gaar ahaan liisgareynta cudurrada iyo kaalandarka cudurrada). Kuwa kale sida darajo u yeelidda cudurrada waxay ku habbon yihin lafaguridda xogta.

Waa kuwee la-wareystayaashu?

Milkiileyaasha xoolaha ayaa ah la-wareystayaasha ugu habboon farsamooyinkan. Xoolo-dhaqatada iyo beeraleyda-xoolodhaqata ah hadba sida ay yihin sifooyinka deegaanada la soo booqday waxay samaynaayan bar-tilmaameedka ugu muhiimsan.

Maxay noqonaysaa qiyaasta kooxdu?

Ujeeddooyinkeenna awgood waa in laga fogaadaa koox aad u yar maadaama aan farsamooyinkan loogu talo galin in xog looga ururiyo shakhsiyaad milkiileyaal xoolad ah, dhinaca kalena marka kooxdu aad u ballaarato, waxa dhib noqonaysa si iyaga loo maamulo, taasoo kooxdu u kala jabi karto kooxo yar-yar. Qiyaasta la maamuli karo waxay u dhaxaysaa 8 ilaa 15 qofood.

Waqti intee la'eg ayaa loo bahaan yahay si loo fuliyo 3^{da} layli?

Maadaama dadku howlo badan yahay maallinnimada, waa in aadan in badan ka qaadin wagtigooda.

Saddexda layli waa in aanay qaadan in ka badan hal saac, waana inay ku habaysnaadaan sida ugu sahlan milkiileyaasha xoolaha.

Ha samaynin layliga waqtiga salaadda.

U diyaar ahaw in tirada dadka jooga waqtiga layliga, ay is-bedbeddeli doonto, iyadoo qaama imanayo qaar kalena baxayo. Haddii tiradu ka yaraato shan, jooji kulanka si loo helo haddii ay jirto dhibaato gaar ahi.

Sidee bay isu habaynaysaa kooxda layliga fulinaysaa?

Si xog badan looga helo layliga, waa in aqoonyahannada xoolaha ee layliga fulinaya isu habeeyaan si qof kasta loo siiyo waajibaad waadax ah. Xusuuso in waraaqaha waaweyn (flipchart) ee darajo u yeelidda cudurrada iyo kaaladarka xilliyada aad hore u diyaarisid. Dadku raalli ka noqon maayaan inay ku daawadaan adigoo hortooda wax ku diyaarinaya saac barkiis ka hor inta aanay dooddu billaban.

Qof kasta waa in uu garanayo waxa uu samaynayo waqti kasta. Dadka aan hoggaaminayn kulanku waa inay taageeraan iyagoo kala beddelaya waraaqaha waaweyn haddii loo baahdo, diyaarinayana sharootada si loogula dhejiyo looxa, iyagoo la soconaya doodda, soo dhoweynaya kuwa cusub ee imanaya iwm. Shaqo-kooxeed waa muhiim si layligu u guuleysto.

Sida wax loo gaarsiinayo kooxda la-wareystayaasha ah?

Layliyaashan waxa looga jeedaa in koox dad ah (maya shakhsiyaad) laga helo xog khuseysa dhibaato caafimaad. Sidaas darteed waa muhiim in la dhiirri geliyo dood, meeshi ay suurto gal tahayna in kooxdu dhexdeeda ka gaarto rayi ay isku raacsan tahay oo keliya ayaa xogta lagu qorayaa warqadda weyn.

Feejignaan sii firfircoonaanta kooxda, gaar ahaan marka ay joogaan milkiileyaal xoolad oo aad loo xushmeeyo. Kuwaasoo duufsan kara kooxda oo dhan. Milkiileyaasha xoolaha qaarkood, oo lagu yaqaan inay ku wanaagsan yihiin gacan ku haynta noocyo xoolad oo gaar ah, hoggaanka kooxda way qaban karaan arrimaha qaarkood. Xaaladahan waa in lagu wajahaa tixgelinta iyo dareenka ay leeyihiin, si aan loo dayacin tabarruca dadkaas muhiimka ah.

Xusuuso in dooddu noqoto mid ka tarjumeysa fikradaha milkiileyaasha xoolaha iyo in sidaas darteed aqoonyahannada xooluhu aanay faragelin. Waa inay qaataan ku dhowaansho dhexdhexaad ah ee ku saabsan arrimaha laga dooday, wax talo ama cashar ahna aanay siinin kooxda.

a) Liisgaraynta Cudurrada

Layligu wuxu ka kooban yahay liisgaraynta cudurrada marka loo eego su'aasha soo socota: Cudurradee baa ka dhacay deegaankaaga saddexdi sanadood ee la soo dhafay?

Layliga ujeeddadiisu waa:

- 1) Ururinta xogta cudurrada ka dhaca deegaanka ay milkiileyaasha xooluhu ka yimaadaan, iyo
- 2) Tixgelinta muddo waqti qeexan oo keliya: saddexdi sanaadood ee la soo dhaafay.

Cudurrada waa in la liisgareeyo marka loo eego noocyada iyadoo la tixgelinayo geel, lo, ido iyo ari-cad keliya.

Marka heerkan la gaaro ku qor warqadda weyn dhammaan cudurrada kooxdu soo gudbisay.

Marka liisku dhammaado, hubi haddii hal ka mid ah noocyda xoolaha laga liisgareeyay in ka badan lix cudur. Haddii arrintu sidaas noqoto weydii kooxda inay ka xusho lixda cudur ee badanaa ku soo noqnoqda deegaanka.

Sababtani waa in labada layli ee soo socota (darajo-u-yeelidda cudurka iyo kaalandar xilliyeedka) ay noqdaan kuwa lagu fuliyo ugu badnaan lix cudur oo keliya.

Fadlan, ku qor warqadda weyn magacyada cudurrada oo af Soomali ah, sida kooxdu u soo gudbisay. Ha

b) Darajo u Yeelidda Cudurrada

Darajo u yeelidda cudurradu waa meel dhigdhigiddooda iyaado loo raacayo xirmo ah cabbir wax lagu saleeyo. Shan cabbir oo wax lagu saleeyo ayaa loo isticmaalaa layligan:

- Dhimasho
- Faafid
- Caano yari
- Dhalmo yari
- Kharash badni daawo

Cudurrada la xulay waa inay u dhigmaan iyadoo loo eegayo xirmo cabbir wax lagu saleeyo, iyaadoo kooxda la weydiinayo inay darajo u yeesho cudurka kowad, cudurka labaad, iwm iyaado loo eegayo cabbir kasta oo wax lagu saleeyo. Layliga waxa lagu soo bandhigaa qaab shax ah oo ku qoran warqadaha waaweyn (Tusaale 1). U isticmaal hal warqad oo weyn mid kasta oo noocyada xoolaha ah.

Waxa aad muhiim u ah in si waadax ah loo fasiro shanta cabbir oo wax lagu saleeyo ee la isticmaalayo si kooxda dhexdeeda loo gaaro isfaham guud.

Dhimasho: waa tirada xoolaha uu cudurku dilay, tusaale cudurkee baa kuwa la liisgareeyay sababay tirada ugu sarreysa ee khasaaraha deegaanka saddexdi sanadood ee la soo dhaafay? Cudurkeebaa sababay tirada labaad ee ugu sarreya khasaaraha? Kan saddexaad, iwm.

Faafid: cudurkee baa kuwa la liisgareeyay ugu degdeg u faafid badnaa raxanta dhexdeeda marka loo eego tirada xoola jirraday waqti la ogyahay? Cudurkee labaad baa ugu faafid badnaa? Iwm.

Caano yari: cudurkee baa ugu wax yeello badnaa caano soo saarka saddexdi sanadood ee la soo dhafay? Cudurkee baa labaad noqday? Iwm.

Dhalmo yari: cudurkee baa sababay dhalmo yarida ugu weyn saddexdi sanadood ee la soo dhafay?

Kharash badni daawo: cudurkee baa ugu badnaa kharash garaynta daawooyinka xoolaha saddexdi sanadood ee la soo dhafay? Kee baa labaad ah?

Ujeeddada layligani waxay muujinaysaa muhimadda milkileyaasha xooluhu kula xirmayaan cudurrada kala duwan marka loo eego cabbirro wax lagu saleeyo oo la xulay.

Tusaale 1: DARAJO U YELIDDA CUDURKA

U isticmaal hal warqad oo weyn nooc kasta ee xoolaad.

Ku qor warqadda weyn noocyada xoolad ee cudurradu khuseeva.

CUDUR (ari-cad)	DHIMASHO	CAANO YARI	DHALMO YARI	FAAFID	KHARASH BADNI DAAWO
Diif	1	1	4	1	3
Caalbarar	4	6	1	5	1
Shuban dhiig	1	1	-	4	2
Cabeeb	6	3	2	3	6
Furuq	3	4	3	1	4
Raaf dilaac	5	5	5	6	5
Matoor 04/04/2000					

Ku qor warqadda weyn meesha iyo taariikhda layliga.

Darajo u yeel cudur kasta adigoo isticmaalaya lambar 1 ilaa 6 ugu badnaan.

Haddii laba (2) cudur ay isku darajo yeeshan u isticmaal labadooda isla hal lambar. Xusuuso in aad hal lambar ka booddid cudurka xiga (lambar 1 ilaa lambar 3 xaladdan).

Haddii cabbir wax ku saleeyo aan lagu dabbagi karin mid ka mid ah cudurrada liisgareysan jiitin dhig sanduuqa ku abbaaran. Xusuuso in cudurka xiga darajo u yeeliddiisa aan lambar laga boodeyn.

c) Kaalandarka Cudurka

Kani waa kaalandar muujinaya cudurrada ugu badnaan xoolaha si caadi ah ugu dhaca dhammaan xilliyada kala duwan ee sannadka, gù, xagaa, dayr iyo jiilaal, oo qaab shax ah ugu qoran warqadda weyn (Tusaale 2). U isticmaal hal warqad oo weyn nooc kasta ee xoolad.

Ujeeddada layligani waa aqoonsiga xilliga/xilliyada ay jirto dhibaataada ama dayacnaanta ugu weyn ee cafimaad xoolad.

Tusaale2: KAALANDAR XILLIYEEDKA CUDURRADA

U isticmaal hal warqad oo weyn nooc kasta ee xoolad

Ku qor warqadda weyn noocyada xoolad ee cudurradu khuseeyaan.

CUDUR (ari-cad)	JIILAL	GU'	XAGAA	DAYR
Diif	X	X	X	X
Caalbarar	X			
Shuban dhiig	X	X	X	X
Cabeeb		X		X
Furuq	X	X	X	X
Raaf dilaac		X		X
Matoor 04/04/2000				

Ku qor warqadda weyn meesha iyo taariikhda layliga.

Calamadee sanduuqa ku abbaaran xilliga ama xilliyada hoostooda marka la soo sheegay in cudur dhacay

PACE-Somalia Project

Classroom Training Evaluation

Training Module: **Information Gathering and Data Analysis
in Pastoral Livestock Production Systems**

Date _____

Training Location _____

CLASSROOM TRAINING EVALUATION

This questionnaire is anonymous and aims to get your feedback on the training session in order to improve the quality of future training sessions. Your contribution will be appreciated.

Please indicate how you feel about the following items on a scale of 1 - 5.

(1 = unsatisfactory; 2 = poor; 3 = average; 4 = good; 5 = excellent)

Logistics: communication before training _____
 transportation _____
 comments: _____

Classroom: cleanliness _____
 space _____
 working atmosphere _____
 comments: _____

Training content: relevant to your work _____
 interesting _____
 achieved objectives _____
 comments: _____

Do you have any further suggestions for future training sessions?

PACE-Somalia Project

Field Training Evaluation

Training Module **Information Gathering and Data Analysis
in Pastoral Livestock Production Systems**

Date _____

Training Location _____

FIELD TRAINING EVALUATION

This questionnaire is anonymous and aims to get your feedback on the field training session in order to improve the quality of future field training sessions.

Your contribution will be appreciated.

Please indicate how you feel about the following items on a scale of 1 - 5.

(1 = unsatisfactory; 2 = poor; 3 = average; 4 = good; 5 = excellent)

Logistics:

transportation	_____
your stay	_____
materials needed available	_____
comments:	_____

Training content:

relevant to your work	_____
interesting	_____
achieved objectives	_____
comments:	_____

Training methods:

stimulate learning	_____
interesting discussions	_____
well planned	_____
comments:	_____

Facilitators: well organised _____
 assisted groups _____
 comments: _____

Participants: all participated in discussions _____
 all participated in group work _____
 comments: _____

What did you like most about the field training session?

What did you like least about the field training session?

Do you have any further suggestions for future field training sessions?

Thank you for your participation.

**MATERIAL ALLWAYS NEEDED FOR
CLASSROOM TRAINING**

Material:

Number:

- Flipchart	2
- Flipchart Hanger (or Holder)	1
- Paper Tape	3 rolls
- Permanent Markers (big tip)	10
- Blue Tack	1 package
- Coloured Cards	30

INFORMATION GATHERING AND DATA ANALYSIS IN NOMADIC LIVESTOCK PRODUCTION SYSTEMS

(PACKING LIST)

Date: _____ From: _____; To _____

Training Location: _____

Trainers Names: _____

Material Supplied (for 2 trainers + 10 trainees):

Number:

- Module Handout (for trainers + trainees)	12
- Specific Objectives (for trainers + trainees)	12
- Teaching methodology Outline (for trainers)	2
- Conceptual Maps (for trainers + trainees)	12 (each)
- "Questionnaires for Nomads" with Answers (for trainers)	2
- OIE Definitions (for trainers + trainees)	12
- "Questionnaire for Nomads" without Answer (for trainees)	10
- "Livestock Study Questionnaire" (in English) (for trainers + trainees + facilitator)	13
- Instruction in English for Q.22 (for trainers)	2
- "Livestock Study Questionnaire" (in Somali) (for trainees + facilitator)	11
- Instruction in Somali for Q.22 (for trainees + facilitator)	11
- Card Game – Drug Supply / Clinical Examination	1 set
- OIE List A + B (for trainers + trainees)	12
- Group Exercise Guidelines (in English) (for trainers)	2
- Group Exercise Guidelines (in Somali) (for trainees + facilitator)	11
- Classroom Training Evaluation (for trainees)	10
- Field Training Evaluation (for trainees)	10

**INFORMATION GATHERING AND DATA ANALYSIS
IN NOMADIC LIVESTOCK PRODUCTION SYSTEMS**

(PACKING LIST)

Date: _____ From: _____; To _____

Training Location: _____

Trainers Names: _____

Material Supplied (for trainers + trainees):

Number:

- | | |
|--|-------|
| - Module Handout (for trainers + trainees) | _____ |
| - Specific Objectives (for trainers + trainees) | _____ |
| - Teaching methodology Outline (for trainers) | _____ |
| - Conceptual Maps (for trainers + trainees) | _____ |
| - "Questionnaires for Nomads" with Answers (for trainers) | _____ |
| - OIE Definitions (for trainers + trainees) | _____ |
| - "Questionnaire for Nomads" without Answer (for trainees) | _____ |
| - "Livestock Study Questionnaire" (in English) (for trainers + trainees + facilitator) | _____ |
| - Instruction in English for Q.22 (for trainers) | _____ |
| - "Livestock Study Questionnaire" (in Somali) (for trainees + facilitator) | _____ |
| - Instruction in Somali for Q.22 (for trainees + facilitator) | _____ |
| - Card Game – Drug Supply / Clinical Examination | _____ |
| - OIE List A + B (for trainers + trainees) | _____ |
| - Group Exercise Guidelines (in English) (for trainers) | _____ |
| - Group Exercise Guidelines (in Somali) (for trainees + facilitator) | _____ |
| - Classroom Training Evaluation (for trainees) | _____ |
| - Field Training Evaluation (for trainees) | _____ |

MATERIAL PREPARED BY:

ANNEX E.4

Presentation on “An Epidemiological Approach on Disease Surveillance in Pastoral Production systems in Somalia with reference to Rift Valley Fever”.



An epidemiological approach on disease surveillance in pastoral production systems in Somalia

**V. Cagnolati, **A. M. Abdi, **A. M. Godi, **B. Soumaré, **S. Jompia and **S. Maloo*

** Terra Nuova; ** PACE Somalia Project*

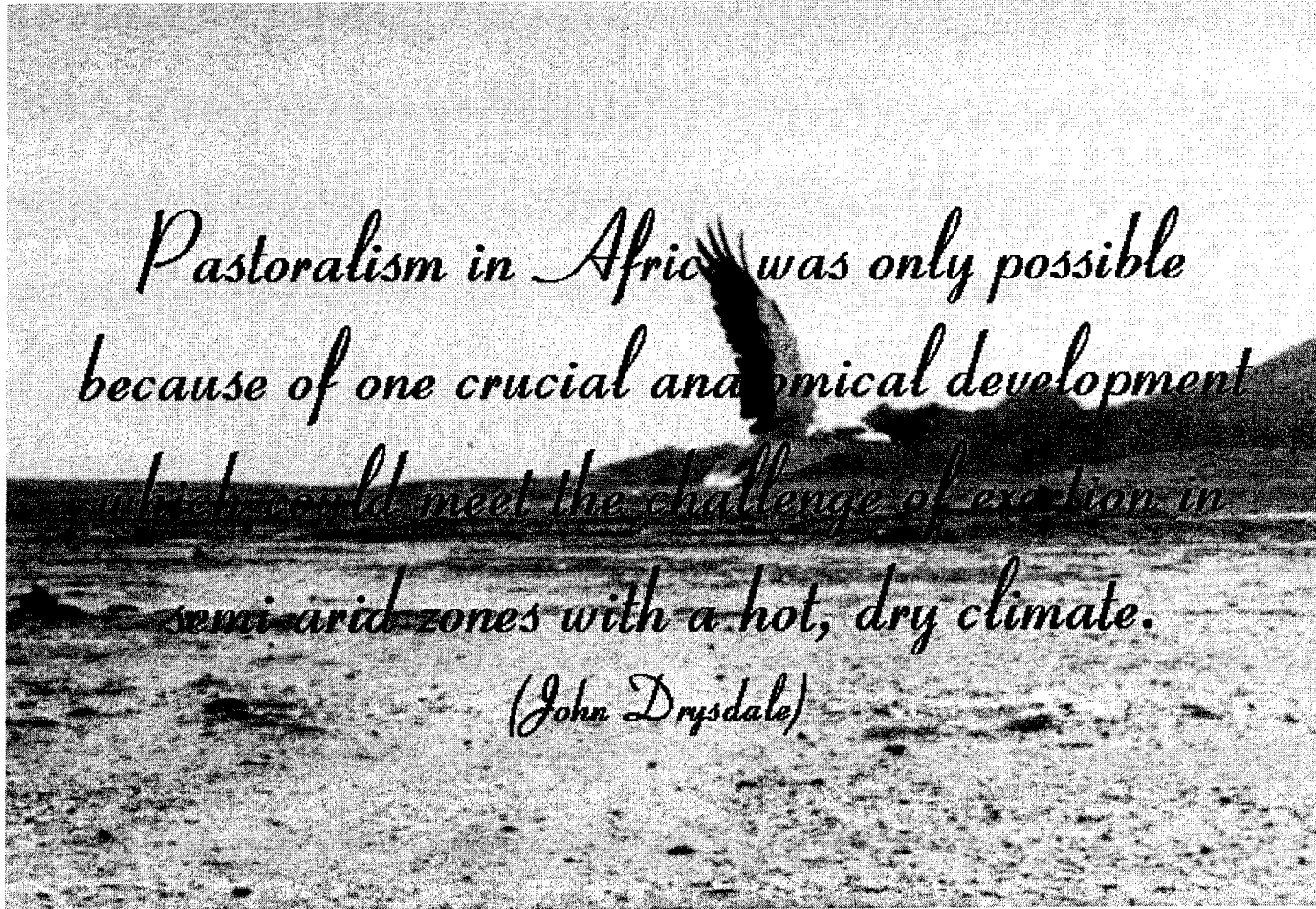


Introduction

(Characteristic of Pastoralism in Africa)

*Pastoralism in Africa was only possible
because of one crucial anatomical development
which could meet the challenge of exertion in
semi-arid zones with a hot, dry climate.*

(John Drysdale)



Introduction

(Characteristic of Pastoralism in Africa)

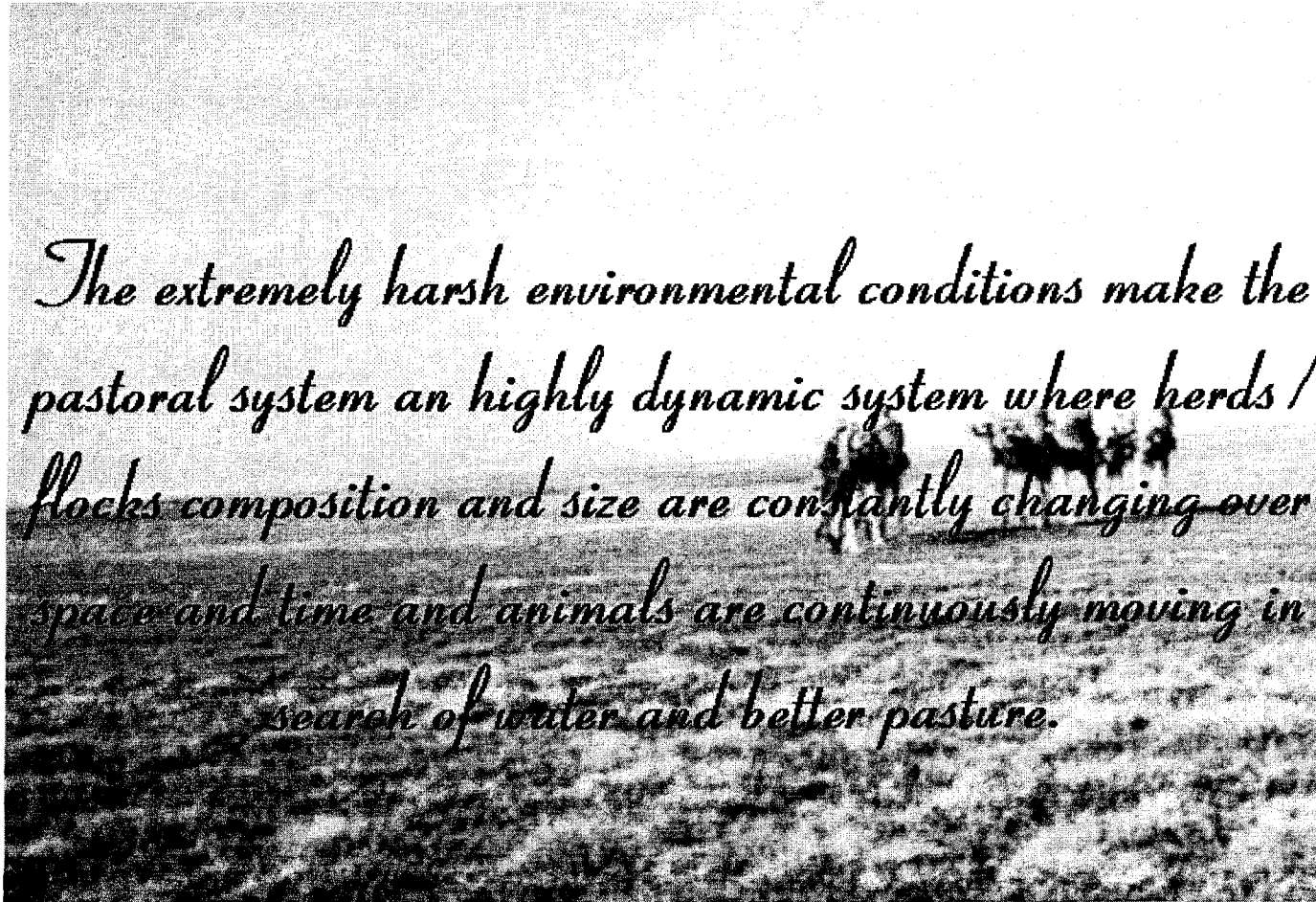




Introduction

(Characteristic of Pastoralism in Africa)

The extremely harsh environmental conditions make the pastoral system an highly dynamic system where herds / flocks composition and size are constantly changing over space and time and animals are continuously moving in search of water and better pasture.



Introduction

(The "special" case of Somalia)

Contrary to most of the pastoral systems, which are normally devoted to the household subsistence, the Somali one is radically oriented toward livestock trade and export.

In 1997, 2.700.000 small stocks, 66.000 cattle and 52.000 camels were exported only from the Berbera port to Saudi Arabia

(John Drysdale)





Introduction

(The "special" case of Somalia)

After the collapse of the former military regime in 1991, rather than a total collapse of the economy, as implied in the use of the term crisis, the economy of Somalia has gone underground, and many herders and traders have benefited from the growth in cross-border trade and overseas export.

(Peter D. Little)



Introduction

(The "special" case of Somalia)

If comparison with the past are to be made, the 1997 figures in quantity terms represent a 150% increase on the 1977 export of sheep and goats to Saudi Arabia, and a 319% increase on camels export in the same year.

(John Drysdale)




Introduction

(The “special” case of Somalia)

Despite that, the complete absence of government veterinary control measures has rendered the Somali livestock industry extremely vulnerable and susceptible to imposition of bans from the importing countries.

- 1) 1983: Rinderpest ban imposed by Saudi Arabia*
- 2) 1998: First Rift Valley Fever ban*
- 3) 2000: Second Rift valley Fever ban*
- 4) 2000: Cattle trade ban along Kenya-Somalia border*
- 5) 2001: Rinderpest vaccination requirement imposed by Yemen*



Introduction

(PACE Somalia Project)

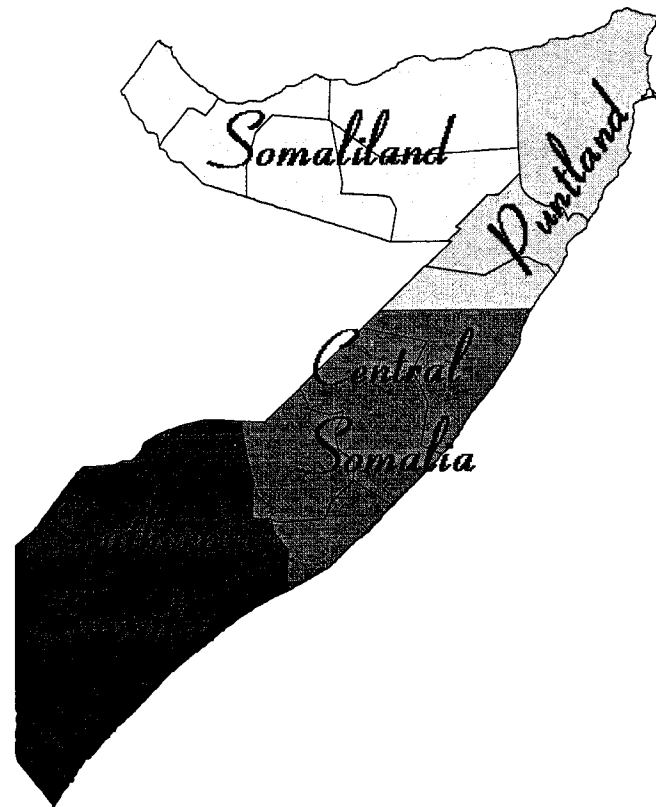
Overall objective of PACE Somalia Project

*To contribute to the sustainable enhancement
of production as well as trade in livestock and
products of animal origin*



Introduction *(PACE Somalia Project)*

PACE Somalia Zones





Introduction

(PACE Somalia Project)



Expected outcome of PACE Somalia Project



1) The capabilities of public sector animal health workers to regulate, co-ordinate, monitor and evaluate the livestock development sector are strengthened



2) The capabilities of private animal health workers to engage in curative and preventive services are enhanced





Introduction

(PACE Somalia Project)



Expected outcome of PACE Somalia Project



*3) Livestock diseases surveillance system is functioning
with specific reference to Rinderpest*



*4) Emergency preparedness and response systems are
functional, initially for Rinderpest*





Introduction

(PACE Somalia Project)



Expected outcome of PACE Somalia Project



5) Local networks for promoting livestock health are functioning



6) A Community Based Animal Health Delivery System is established and functioning



7) The programme is effectively co-ordinated



Introduction
(PACE Somalia Project)

Livestock disease surveillance systems



Constraints

So far, epidemio-surveillance techniques have been developed assuming that certain conditions apply to a specific system being investigated. The random concept is at the base of statistic calculations of a sampling size, meaning that a thorough knowledge of individuals composing the study population is available.

This condition is seldom applicable in most pastoral production system in Africa.



RVF Survey in Somaliland

An attempt to overcome this problem was undertaken during a sero-survey carried out in Somaliland to investigate the RVF situation in the area after the ban imposed to Somalia by the Gulf Countries in September 2000



Methodology



The serological survey was based on an epidemiological sampling frame which utilised randomized cluster sampling.



The aim of the sero-survey was to give a 95% confidence to detect evidence for the circulation of RVF virus if present in at least 1% of the herds resident in Somaliland.



The sampling size was calculated for an expected prevalence of 50% and a 0.5 desired absolute precision.

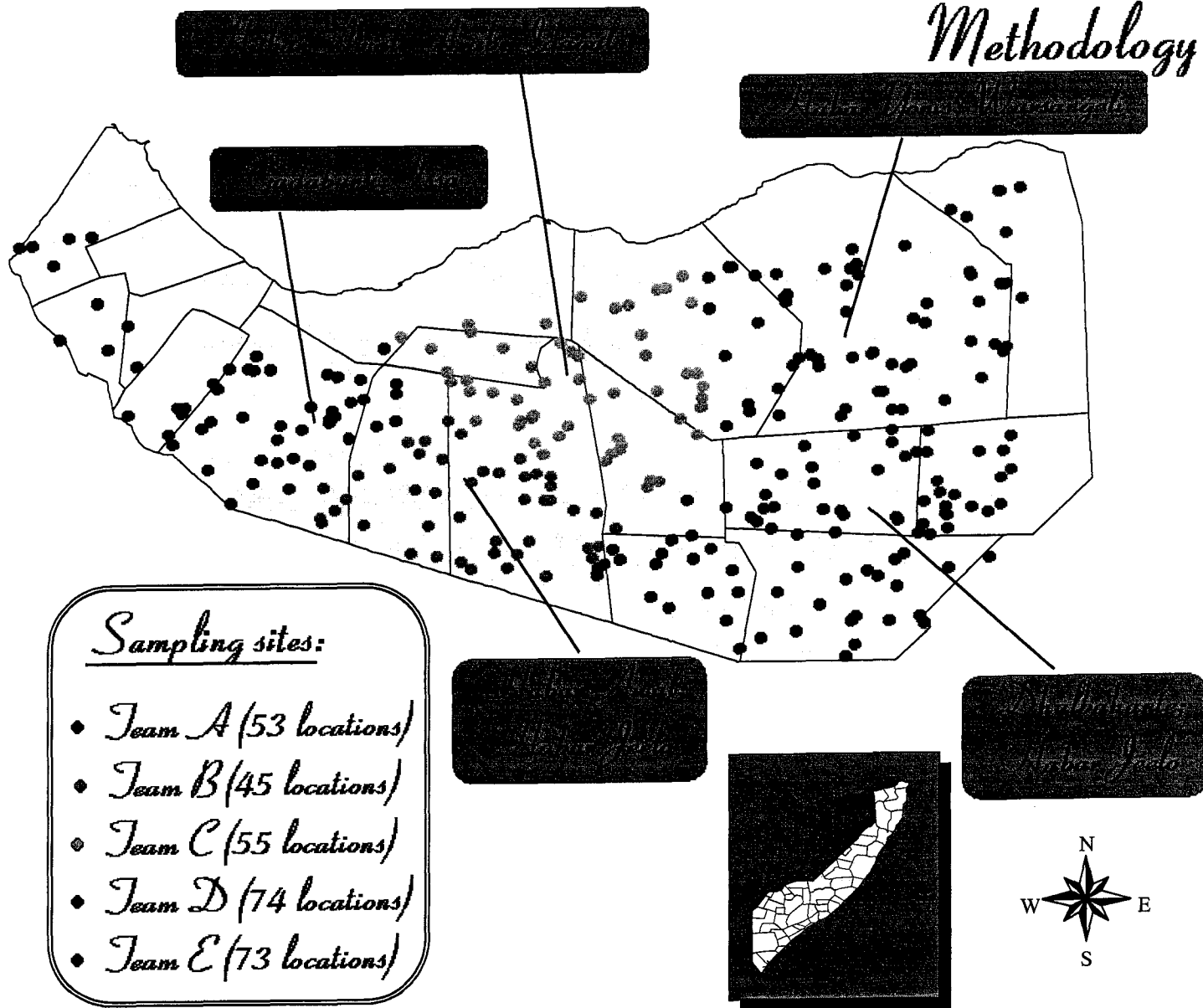
Methodology



- *Total sampling size: 4.500 samples to be collected from young stocks (1 to 2 years old)*

- *Total sampling sites: 300 randomly generated all over Somaliland (excluding the coastal planes)*

- *Total number of animals to be bled in each sampling site: 15*



Training

Methodology



- *Five team leaders (private veterinarians) & five monitors (MoL staff)*

- *Basic applied epidemiology focused on RVF investigation*

- *Samples collection, processing and dispatching*

- *Navigating with GPS tools and geo-referencing*



Evaluation

The survey was carried out in 43 days

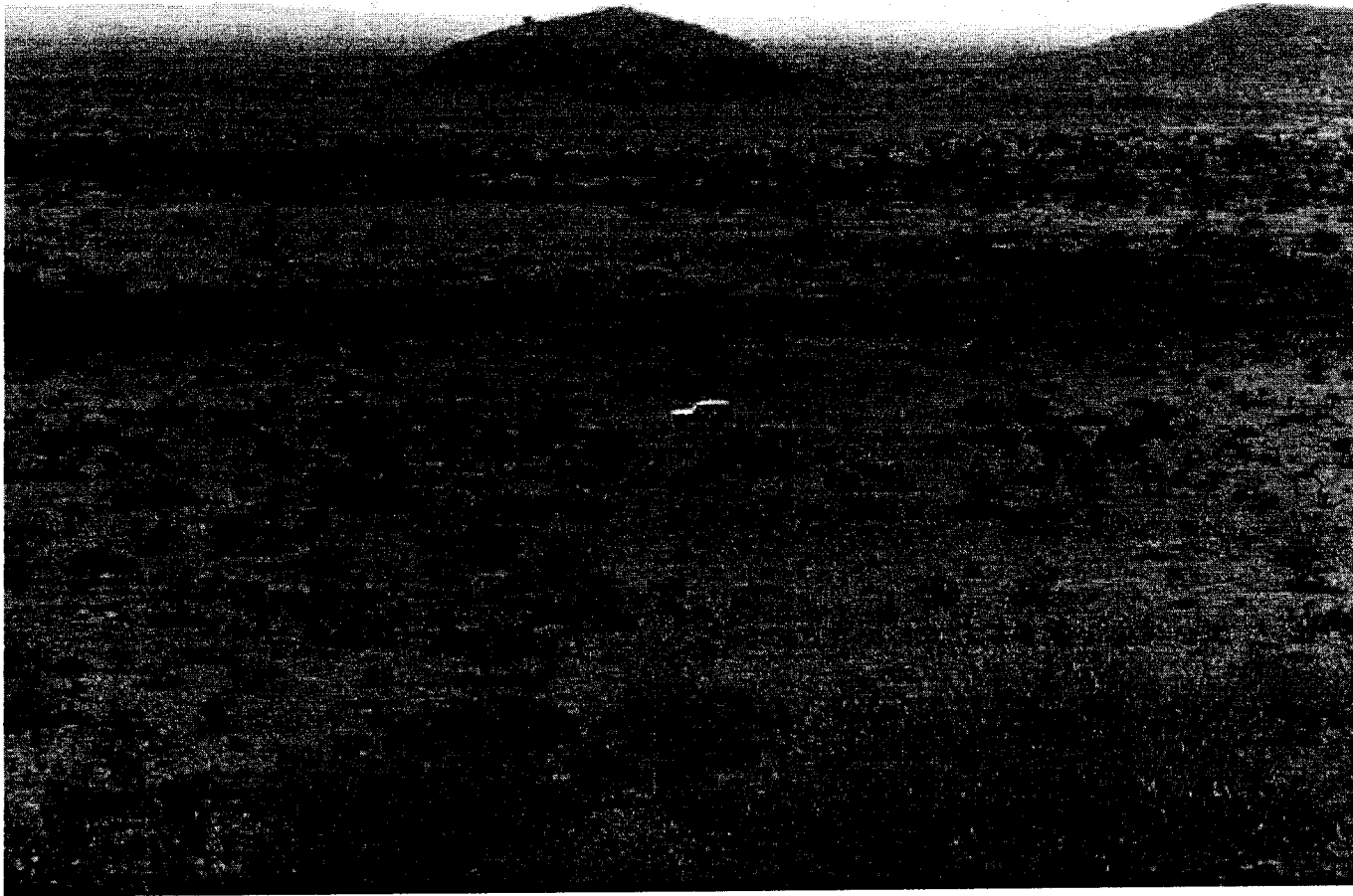
<i>Team ID</i>	<i>Target sites</i>	<i>Collected sites</i>	<i>Total sera</i>	<i>Total dupl.</i>
<i>A</i>	53	52	831	829
<i>B</i>	45	38	607	581
<i>C</i>	55	55	880	865
<i>D</i>	74	71	1187	1187
<i>E</i>	73	71	1065	1063
<i>Total</i>	300	287	4570	4525

Missed sites (4.3%)

- 10 target sites not accessible and not replaced

- 3 sites with less than 15 samples

Evaluation



...target site reached but animals had moved away...



Evaluation

Distance between target and actual sampling sites

Nber of sites	Mean	Minimum	Maximum	Sd. Deviation
287	3.375 km	2m	35.5 km	4.3 km

Classes of distances	< 2 Km	2 to 4 Km	4 to 6 Km	6 to 8 Km	8 to 10 Km	> 10 Km
Nber of sites	121	79	39	27	6	15
% (Out of 287 sites)	42%	28%	14%	9%	2%	5%

- 74% of actual sampling sites were within 7 Km
radius from the target site

- Only 5 sites are located between 20 and 35 km



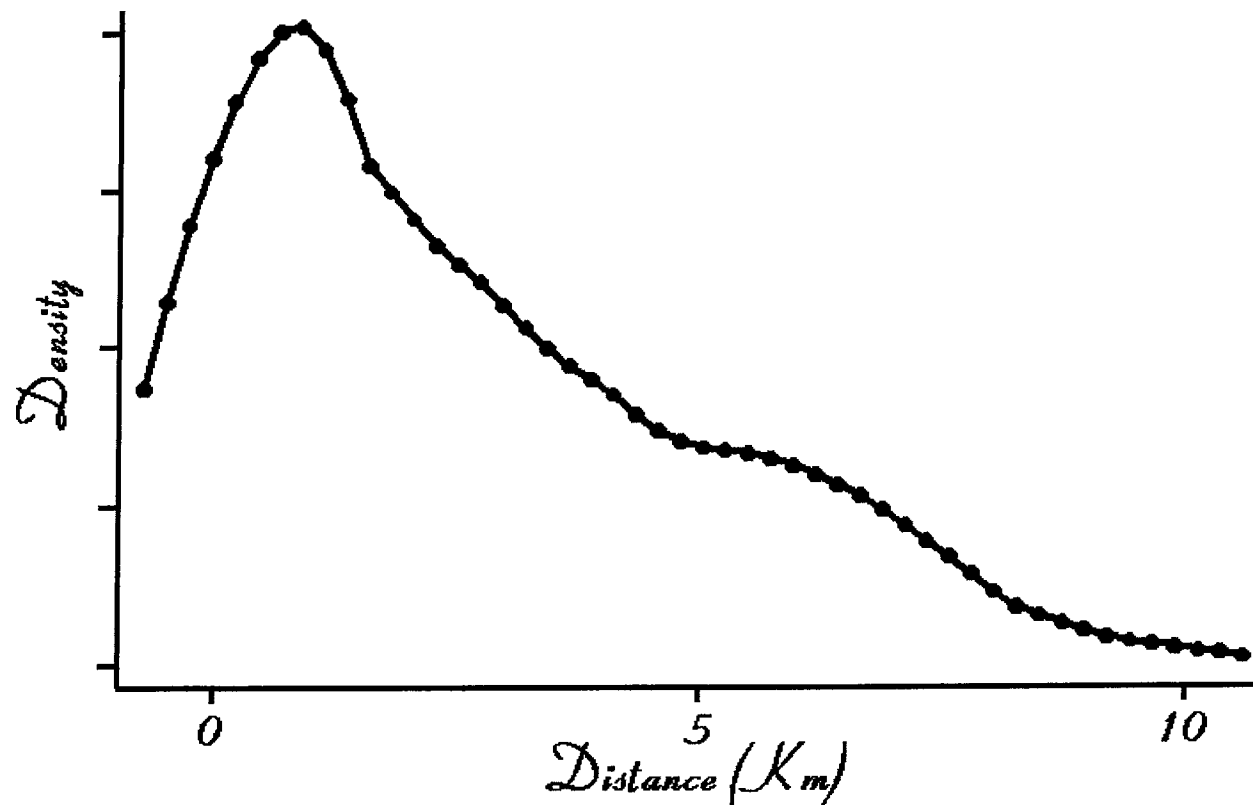
... sampling a goat ...



... geo-referencing the "00 point" ...

Evaluation

Distance < 10 Km
(Kernel Density Estimate)



- 85% of the actual sampling sites are within 10 km radius from the target site



Variation between zones

Team ID	Sampled sites	Mean	Maximum	Minimum	Stand. Deviation
A	52	2.5 km	17.8 km	26 m	3.3 km
B	38	2.6 km	11.0 km	13 m	2.7 km
C	55	4.7 km	14.4 km	5 m	3.3 km
D	71	3.5 km	35.5 km	132 m	5.3 km
E	71	3.2 km	23.1 km	2 m	5 km

- The lowest mean distance (2.6km) and standard deviation (2.7km) in team B (Zone2) reveal that it was globally possible to find animals close to target site
- A higher density of animals in that zone may be an explanation
- The high standard deviation for team D is due to the inclusion of 3 extrem sites which coordinates are certainly wrongly recorded.

Evaluation

Direct costs of the survey (in Euro)

- Sampling material*
- Transport (survey & supervision)*
- Training material (team leaders & monitors)*
- Somali personel (survey & supervision)*
- Testing at KARI*

1) Total cost: 36,667.91

2) Average cost per sample: 7.52

3) Average cost per site: 127.76



Requirements

1) Skilled veterinary professionals

2) Set up phase (Design & Training)

3) Coordination and monitoring of field activities

4) Logistic, quality control and data management units

5) 10% of "spare" coordinates to replace unreached sites



Final considerations

1) If target sites are selected at random then the closest "settlement" in which animals can be found can be considered selected at random too

2) Statistically valid sampling method

3) More reliable data

4) Good Time frame (43 days)

5) Economical



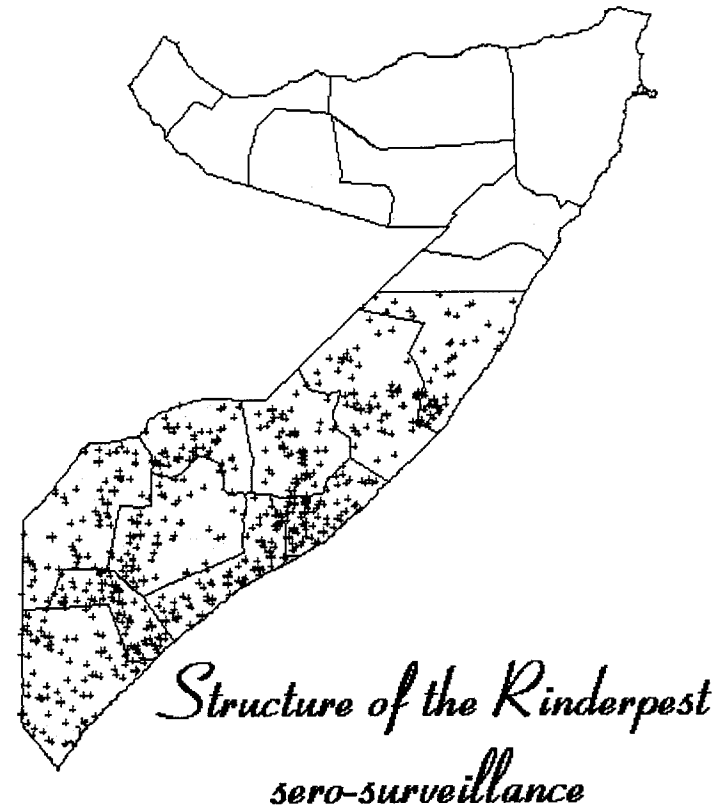
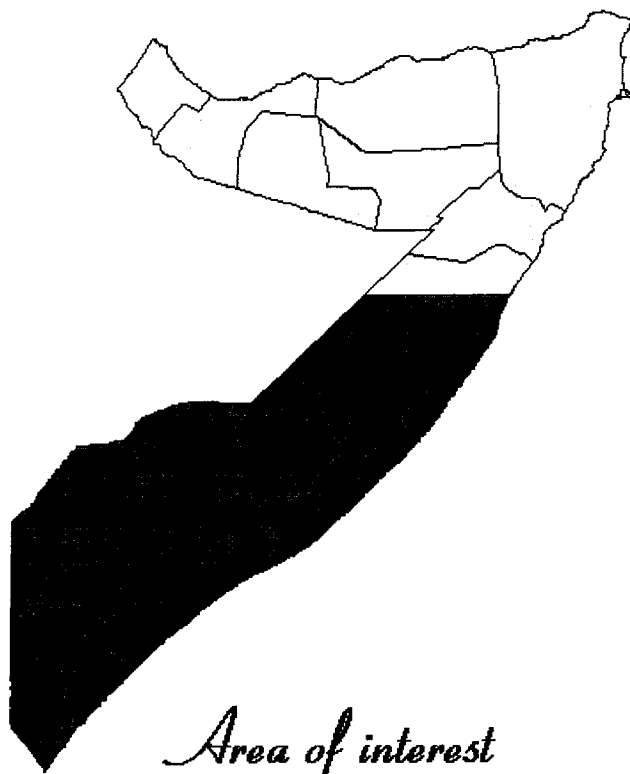
Conclusion

*The survey constitutes an alternative
and feasible approach to a
statistically valid sampling method in
a pastoral nomadic environment*



Further works

PACE Somalia - Rinderpest sero-surveillance





Further works

Using spatial analysis tools it will be possible to serologically define and identify extension of foci of recent circulation of RP virus and its potential risk for spreading. This will provide supportive and complementary information to the data generated by the active RP search and it will help in defining the extension of potential vaccination intervention.

Acknowledgments

- *EC Somalia Unit*

- *Ministry of Livestock of Somaliland*

- *Livestock Traders of Somaliland*

- *Private Veterinarians of Somaliland*

- *Terra Nuova*





Thank you



ANNEX E.5

Internal Procedures For Somali PACE Project

P A C E

**- Somali Component -
NCIU Office - Nairobi**

Pan-African Programme for the Control of Epizootics

Implemented by: TERRANUOVA P.O. Box 74916 - VSF Switzerland P.O. Box 25656 - UNA P.O. Box 75776 - 00100 Nairobi

INTERNAL PROCEDURES

January 2002

Implementing Agencies:

TERRANUOVA - Tel 445511/2 - Fax 443748
UNA - Tel 440660/442336 - Fax 442341
VSF-Suisse - Tel 573632 / 561944 - Fax 573517
CAPE - Tel 332536 / 332580 - Fax 212289

SCIU Office:

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Tel.: 445958 - Fax: 445958
E-mail: nairobiuna.pace@swiftkenya.com

Contact Persons:

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Ali M. GEDI, Country Project Co-ordinator
Stefano TEMPIA, Epidemiologist Advisor
Abdullatif M. ALI, Country Epidemiologist
Dario ZECCHINI, ADM Advisor
Saiyd H. SHARIFF, Country ADM
Mohamed F. DIRIE, CAPE Co-ordinator

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SCIU Office, Nairobi

GENERAL INFORMATION

The SCIU Office is located in Rapta Road, Westlands, next to the "Nairobi Continental Hotel" (See map in *Annex 1*). The office is composed of one maisonette (No. 13).

Office working hours are from 08.30-13.00 and 14.00-17.30 Monday to Friday.

The staff of the SCIU Office is composed of:

- PROJECT ADVISOR
- COUNTRY PROJECT CO-ORDINATOR
- EPIDEMIOLOGIST ADVISOR
- COUNTRY EPIDEMIOLOGIST
- ADMINISTRATOR ADVISOR
- CAPE CO-ORDINATOR
- COUNTRY ADMINISTRATOR
- DRIVER / LOGISTICIAN
- RECEPTIONIST
- OFFICE SUPPORT STAFF

All project staff answer directly to the Project Advisor, and in his absence to the Epidemiologist Advisor or the ADM Advisor.

Field operators on mission to Nairobi can utilise the main room as an office base. They are advised to carry their personal computers, as there is only one desktop computer in the office at their disposal.

E-mails can be queued from the e-mailing station located in the ADM office. They are normally downloaded and sent three times a day: in the morning, mid-afternoon and in the evening.

All official, project-related communications between Donors and Project Staff must be made through the SCIU Office. Project staff must submit the communication to the SCIU Office and it will then be transposed onto the NGO letterhead, registered, signed by the Project Advisor and duly submitted to the intended recipient.

The documentation centre is located in the conference room of TERRANUOVA. A variety of documents and texts on different topics are available for use within the office premises. The key to the documentation centre can be obtained from the Reception and arrangements can be made to borrow the documents through TERRANUOVA Representative. For more details regarding the loan procedures please contact the Reception.

An office vehicle is available strictly for work-related reasons and its use must at all times be authorised by administration. Only the authorised driver can drive the office vehicle.

Nairobi SCIU Office permanent staff and field operators on mission to Nairobi will under normal circumstances find their own transport to and from the airport. In the event they are carrying project material for or from the SCIU Office they will be picked up or dropped at the airport.

Operators arriving from their home countries for the first time will be picked up from the airport and by the same token, operators on their first mission abroad will be dropped at the airport, so as to get accustomed with the ECHO procedures.

The Nairobi SCIU Office has funds available for project expenditures. However, should any purchases need to be carried out by Nairobi Office personnel on behalf of the Project Staff, the funds must have been forecasted in the monthly budget request.

Salary advances to the expatriate operators working in the field will only be provided in Nairobi by the contracting organisation. No project funds can be used for advance salary or personnel related payments.

Private telephone calls cannot be done from project facilities (either in the field or at the Nairobi SCIU Office).

Pouches can be sent from Nairobi and the field. It is advisable to get confirmation beforehand with ECHO flight, as their flight schedules can be subject to changes.

PACE project is entitled to send a pouch weighing a maximum of 5 kgs and of a reasonable size on ECHO Flight. These must be delivered to the reservations office before 16.00, the day before the flight.

Pouches should be used to transmit project documents, small project materials and small personal effects and correspondence. It is strictly prohibited to send any funds, alcohol or hazardous material in the pouches.

AREA REPRESENTATIVES of the FIELD OFFICES

The field offices have an area representative each, who is appointed by the Project Advisor.

The area representative will:

- Represent PACE PROJECT towards the regional and central authorities, in order to adopt a common approach and to provide them with a solid image, and a single reference.
- Represent PACE PROJECT in the regional NGO consortium, in the SACB (or other international agencies) meetings that take place in their working areas.
- Support and stimulate the participation of the PACE PROJECT operators in the meetings that take place in their working areas and concern their sector of intervention, in order to guarantee the enforcement of the same methodologies and parameters (e.g.: community approach, valorisation of the human resources, financial commitments, etc).
- Co-ordinate the activities and the logistic support.
- Act as the focal point for security issues attending meeting on the same topics and keeping the Nairobi SCIU Office informed about the security situation in the area.

HUMAN RESOURCE MANAGEMENT

- A.1 - MOVEMENTS TO/FROM THE FIELD**
- A.2 - MOVEMENTS WITHIN THE FIELD**
- A.3 - ECHO FLIGHT PROCEDURES**
- A.4 - REST AND RELAXATION (R&R)**
- A.5 - MISSIONS**
- A.6 - LEAVE PERIODS**
- A.7 - SALARY & CONSULTANCY PAYMENTS**
- A.8 - PRIVATE TELEPHONE CALLS**

A.1 - MOVEMENTS TO/FROM THE FIELD

Project staff must submit an authorisation request and obtain written approval from the Project Advisor when planning to leave their duty stations for any reason - sick or annual leave, R&R, mission. To this end a specific form (movement request form) is provided both as a hard copy in *Annex 2* and as a soft copy in the attached diskette.

The movement request form must be completed in full and submitted to the Nairobi SCIU Office well in advance, thereby leaving adequate time to obtain travel authorisation and make the bookings (See Section A.3 below).

Verbal requests will not be acknowledged and unauthorised movements will be considered as unauthorised holidays. Such behaviour is strongly discouraged and severely reprehensible.

A.2 - MOVEMENTS WITHIN THE FIELD

A vehicle is available for each project to facilitate project staff movements within the field. As all the vehicles are project vehicles they should only be utilised for work-related reasons.

Only recognised drivers employed by the owner of the vehicle can drive project vehicles. Using project vehicles in out of town at night is strictly forbidden.

These rules should be strictly adhered to as, in the event of an accident, failure to comply with them would lead to considerable disputes in terms of legal and insurance coverage, against which the NGO could not appeal.

For security reasons, expatriate staff members are requested to keep the SCIU Office informed of their field movements when they are travelling out of the base.

A.3 - ECHO FLIGHT PROCEDURES

ECHO Flight is a centralised air transport service that enables all accredited humanitarian organisations (EC-funded projects) to transport their staff and supplies to and from the working areas. Seats are limited to two passengers per agency per flight and only personnel essential to the project are entitled to utilise ECHO Flight services.

This does not include family and dependants.

The Nairobi SCIU Office, through the Nairobi Echo Flight Office, handles all ECHO Flight bookings. Updated schedules are available in each field base.

When planning to utilise ECHO Flights please take into due consideration the following standard operating procedures and guidelines:

- Bookings are strictly limited to two passengers per flight. In exceptional circumstances a third passenger booking can be requested by the Nairobi SCIU Office. However, the request must be well justified, it is subject to approval by the ECHO Flight Office and the third passenger will be on stand-by status.
- All booking requests must reach the Nairobi SCIU Office not earlier than 2 weeks and not later than 48 hrs prior to the intended departure dates. It is advisable to make bookings as soon as possible within the permitted period. Nairobi SCIU Office will convey the bookings to ECHO Flight Office on the first practical day.
- Booking cancellation must be done within the last working day prior to intended departure. Failure to cancel the booking will result in an automatic no-shows and it will be subject to a

14-day ban on travel via ECHO Flight. Booking cancellation is done by the Nairobi SCIU Office.

- Flights are confirmed 48 hours prior to intended departure. Failure to confirm will result in an automatic cancellation of the booking. Flight confirmation is done by the Nairobi SCIU Office.
- Permanent staff members must produce a valid personnel PACE Project ID card at the point of check-in while short-term staff or consultants must present a temporary letter of authorisation in order to utilise ECHO Flight services. Nairobi SCIU Office must be contacted well in advance in order to obtain the above-mentioned documents.
- All travel documents must be in order i.e. passport, departure tax (\$20 USD) and visas. Arrangements to process visas to Somalia will be made by the field office through the Nairobi SCIU Office - the cost will be \$20, payable on entry into Somalia. Passengers with incorrect documentation will be denied boarding. The amount of the immigration charges may change. The ones we stated above are indicative.
- Passengers must check-in at least one hour prior to departure. Passengers arriving late might not be boarded and their seats might be allocated to standby passengers when the manifest is closed 30 minutes before departure. Late arrivals and no-shows will be subject to a 14-day ban on travel via ECHO Flight. In the event that an operator is subject to the flight ban for no justifiable reason, they will be expected to take the next available commercial flight to their base at their own cost. Additional days spent out of the project site following the ECHO Flight ban will be accounted as annual leave.
- PACE PROJECT is not responsible for ECHO Flights delays. The delay period will be considered an extension as per the operator's original approved "movement request form". Exception is made for delays at the end of R&R periods, which will be considered as annual leave.
- Passengers travelling on ECHO Flight are entitled to a 15-kg baggage allowance. Excess luggage and cargo requests, if any, must be submitted to the Nairobi SCIU Office in conjunction with the booking request or at the earliest time possible following the booking request. However, excess luggage and cargo requests are approved by the ECHO Flight Head Office only a working day prior to the departure date. Precedence is strictly awarded on the basis of cargo type and does not depend on the date the request was submitted. The letter of approval for excess baggage must be collected from the Nairobi SCIU Office and presented at the time of the check-in at the ECHO Flights desk.
- All export and import documentation must be complete prior to departure. Cargo with incomplete documentation, substitute cargo, cargo not conforming to the dimensions stated, poorly packaged or labelled will be rejected (See section B.1.3 below for more details).
- Only approved cargo will be transported. Attempts to transport unauthorised cargo will result in a 14-day ban.
- Hazardous materials require specialised handling procedures and ECHO cargo department must be notified well in advance about such cargo. PACE Project, as well as all NGOs, are liable for any damage to equipment, injuries or death caused by such cargo. Always ensure that the contents of the cargo being transported are not hazardous and provide Nairobi SCIU Office with a detailed breakdown of the cargo to be transported so that it may seek approval from ECHO Flight Head Office, should it prove necessary. Failure to adhere to ECHO Flight regulations on hazardous materials will attract serious penalties.

A.4 - REST AND RELAXATION (R&R)

The personnel with contracts longer than 3 months working in hardship environments are entitled to a period of 8 (eight) consecutive days (not extendible) of rest and relaxation (R&R) every 60 (sixty) consecutive days spent in the field.

R&R periods, which include travel days to and from the field, cannot be accumulated but can be combined with leave periods, following approval from the Project Advisor.

Operators who have been required to leave Somalia for whatsoever reason (mission, project TAs or SACB meetings, purchases, sick or annual leave, etc.) will be eligible for R&R 60 consecutive days after their return to the field.

Additional days spent out of the project site following flight delays will be accounted as annual leave.

A.5 - MISSIONS

Missions outside the working areas have to be agreed with and authorised by the Project Advisor, who also approves the budget foreseen for the mission.

No allowances are granted for missions carried out in Nairobi unless foreseen within the budget of the project.

A.6 - LEAVE PERIODS

The working week in Somalia is composed of 6 days, i.e. from Saturday to Thursday. Fridays are days off. The working week in Kenya and in other non-Muslim neighbouring countries is composed of 5 days, i.e. from Monday to Friday.

Personnel holding contracts of more than three consecutive months are entitled to 42 calendar days off per year (or pro-rata for shorter contract) plus Somali public holidays falling within the period (only for personnel based in Somalia). Following the Islamic calendar, the list of public holidays changes every year. However, an indicative list can be found in *Annex 3* and an up-to-date one can always be obtained from the administration. In any case, the maximum number of days is 11 per year.

Leave can be taken at any point during the contract period though project needs bear first priority. To this effect, leave requests must be presented for approval by the Project Advisor at least 15 days in advance and can be denied or amended according to perceived project needs.

Please note that leave days include travel days to and from the field and/or the last day of the contract.

A.7 - SALARY & CONSULTANCY PAYMENTS

The salary advances (or salary balances for Kenya or neighbouring country residents), as well as payments for consultancies, have to be requested by the Zonal VET. The request must indicate "POSITION - NAME - MONTH YEAR - KIND OF PAYMENT (advance/balance salary/consultancy) - AMOUNT in Euro" and it must be addressed to the contracting NGO.

At the beginning of the contract, the expatriate may agree with the contracting NGO on the amount of the advance s/he will receive regularly on a monthly basis. In any case, the amount of the advance cannot exceed 40% of the monthly allowance.

The salary balance is normally requested/paid every three months. While timely payment of the monthly advance up to the limit of 40-50% is normally assured, payment of the quarterly balance may be subjected to project funds availability. Delays in receiving donor funds, such as intermediate or final instalments, may delay payments of quarterly balances. This is often the case during the final period of the project, whereby funds are advanced by the NGOs for the completion of project activities. In such event, the operator will be informed.

In any case, payment of the last balance of salary/consultancy is also subject to:

- A clearance declaration from the Project Advisor and the Regional Administrator in case of project staff.
- The approval of the technical report in the case of Project Consultant.

A.8 - PRIVATE TELEPHONE CALLS

Personal telephone calls, fax and e-mails are not allowed in any of the PACE Project facilities.

PROCUREMENT PROCEDURES:

B.1 - EC CONTRACT AWARD PROCEDURES

B.1.1 - ELIGIBILITY CRITERIA

B.1.2 - PROCUREMENT METHODS

B.1.3 - PROCUREMENT PROCEDURES

B.2 - CONTRACTS

B.1 - CONTRACT AWARD PROCEDURES

All EC financed projects are governed by standard rules regarding the procedures for the award of service, supply and works contracts.

B.1.1 - ELIGIBILITY CRITERIA

The Eligibility Criteria are as follows:

- Participation in contracts is limited to legal persons of the Member States and ACP countries. This also applies to project staff and consultants proposed under service contracts.
- Supplies purchased under a supply contract must originate in a Member State or ACP country. This also applies to supplies and equipment purchased under works contracts, if they are to become property of the project at the end of the contract
- Derogation from the above may be granted in exceptional circumstances. A request justifying this must be sought from the Somalia Unit through the SCIU Office, but will only be granted after prior approval from the EC Headquarters.

B.1.2 - PROCUREMENT METHODS

There exist different methods for awarding contracts, each allowing for a different degree of competition.

Simplified Procedure

The contracting authority invites candidates of its choice to submit quotations without the requirement of a procurement notice. Where simplified procedures are being followed, the Field Office/Zonal VET should submit the 3 quotations that they have attained to the SCIU Office, indicating their preferred choice (the lowest quotation) and the budget line to which the purchase will be charged.

The SCIU Office will then officially forward the quotations to the EC Somalia Unit in order to attain approval of purchase and technical specifications. Once approval is granted, the SCIU Office will advise the Field Office/Zonal VET to proceed with the purchase.

Restricted Tenders

A limited number of candidates are invited to present an offer. The shortlist of prospective bidders is drawn up by the implementing agency on the basis of the criteria outlined in the publication of the procurement notice.

Open Tenders

Any person entitled under the eligibility rules (see above) may present an offer following the procurement notice.

Negotiable Procedure

The contracting authority negotiates the contract conditions directly with a chosen candidate(s) without the requirement of a procurement notice or formal offer.

B.1.3 - PROCUREMENT PROCEDURES

Zonal VETs are responsible for selecting the appropriate procurement method and, having advised the SCIU Office, following the necessary procurement procedures. Rules governing the choice of the procurement methods detailed above depend on the type and value of contract and are summarised below.

- For any acquisitions (works, supplies, contracts) between 1,000 and 5,000 Euro, prudent shopping procedures apply, meaning that different contractors or suppliers should be consulted

and the best price accepted. Details and costs of the procurement must be submitted to the Project Advisor or Administrator for their approval prior to purchase.

NB. Procurement in excess of Euro 2,000 must be approved in advance from the EC Somalia Unit for items not specifically detailed in the budget.

WORKS

- For amounts below or equal to 5,000 Euro, one single offer may be obtained.
- For amounts below 300,000 Euro, the Simplified Procedure should be followed with quotations provided by at least 3 service providers.
- For amounts greater than or equal to 300,000 Euro but less than 5,000,000 Euro, procurement must be on the basis of an Open Local Tender.
- For amounts greater than or equal to 5,000,000 Euro, procurement must be on the basis of an Open International Tender or in special cases, Restricted International Tender.
- In order to achieve uniformity of civil works tenders within the projects, Zonal VETs must utilise the formats provided in the diskette attached, adapting them to their specific works and situation. The SCIU Office may furthermore require that a local tender (closed or open) be undertaken for amounts less than 300,000 Euro in order to serve as a capacity building process for project counterparts. Should this be the case, Zonal VETs will be advised accordingly.
- Once drawn up, all civil works tender documents (drawings, announcements, BOQs etc) must be submitted to the SCIU Office, who will in turn submit them to the EC Somalia Unit for approval prior to commencement of the tender.
- Zonal VETs are advised to select as the winner the lowest eligible bid that they receive. The results of the tender should then be communicated to the SCIU Office who will notify the EC Somalia Unit. Announcement of the winner should be delayed until the SCIU Office and EC validate the selection.
- In the exceptional circumstances that an alternative bid is recommended, this decision must be justified in writing to the SCIU Office, who will then notify the EC Somalia Unit and attain a written approval. Announcement of tender winner and signature of contract cannot be carried out until the selection is officially approved.

SUPPLIES

- For amounts below or equal to 5,000 Euro, one single offer may be obtained.
- For amounts below 30,000 Euro, the Simplified Procedure should be followed with quotations provided by at least 3 service providers.
- For amounts greater than or equal to 30,000 Euro but less than 150,000 Euro, procurement must be on the basis of an Open Local Tender.
- For amounts between greater than or equal to 150,000 Euro, procurement must be on the basis of an Open International Tender.
- In the case that procurements are required from outside of Somalia, the Field Office/Zonal VET should submit details and technical specifications of the required goods and the budget line to which the purchase will be charged to the SCIU Office logistician. Quotations will be attained, and approval sought from the EC Somalia Unit. The results will then be transmitted to the Field Office/Zonal VET who should then give an official go-ahead to order and purchase the goods, and forward the funds required.
- Items purchased in Nairobi for export to Somalia should be exempt from VAT charges and to facilitate this, export documents will be obtained in Nairobi and the cost charged to the project.
- A copy of the Pro-forma Invoices, Receipts and Local Purchase Orders for all procurements made in Nairobi will be sent to the Field Officer/Zonal VET with the NA002 form (See Section D.2.2).
- Project related materials being imported into Somalia are entitled to a Duty Free Waiver, which must be obtained by the Field Officer/Zonal VET from the Line Ministry or Local Authority. To facilitate the acquisition of this waiver, the SCIU Office will provide the Field Officer/Zonal VET with a packing list of goods as well as copies of the relevant receipts and invoices. Goods will not be shipped to Somalia until the SCIU Office has been given the go ahead.

SERVICES

- For amounts below or equal to 5,000 Euro, one single offer may be obtained.
- For amounts below 200,000 Euro, the Simplified Procedure should be followed with quotations provided by at least 3 service providers.
- For amounts greater than or equal to 200,000 Euro, procurement must be on the basis of a Restricted International Tender to which 4 to 8 service providers must be invited.

B.2. CONTRACTS

- In order to achieve uniformity within projects, formats of standard contracts to be signed, covering different scenarios, are included in the diskette attached. Zonal VETs are advised to adhere to these formats, and if in doubt, consult the SCIU Office.
- Memoranda of Understanding between the project and the project partners/beneficiaries cannot be signed by Zonal VET until approval on the content is obtained from the SCIU Office and the EC Somalia Unit.

REPORTING PROCEDURES

C. - INTRODUCTION

C.1 - MONTHLY INTERNAL REPORTS

C.1.1 - INTERNAL TECHNICAL REPORTS

C.1.2 - INTERNAL FINANCIAL REPORTS

C.2 - QUARTERLY NARRATIVE REPORTS

C.3 - QUARTERLY FINANCIAL REPORTS

C.4 - FINAL NARRATIVE REPORT

C.5 - FINAL FINANCIAL REPORT

C. - INTRODUCTION

Report writing, both the narrative/technical and financial one, is an integral part of a Zonal VET's duty and as such should be carried out with professionalism and care. All reports should be submitted to the Nairobi SCIU Office complete, facilitating one of the Office's main task, which is to go through the reports in order to:

- Be better informed about project activities being carried out;
- Provide final editing and timely corrections if necessary, before formal submission to the EC;
- Maintain a common and high level of report presentation for all our projects;
- Especially for the narrative/technical report, in light of the Nairobi SCIU Office liaison role between the donor, headquarters and the field, ensure that the contents are in line with the organisations' overall mandates.

In order to facilitate Nairobi SCIU Office's task, a soft copy of the report should always be provided together with the corresponding complete hard copy with any annexes and appendices, duly numbered and referred to in the text.

More detailed and specific information on the standards and guidelines for report writing are given in the relevant subsections below.

C.1 - MONTHLY INTERNAL REPORTS

Each month, two reports are prepared: a technical report, concerning the activities of the project and a financial report, concerning all the funds received and all the expenditures made within the project. The Zonal VET prepares the technical report, while the financial report has two different components:

- NA001 compiled by the Zonal VET, it summaries all funds received and all expenses made in cash and/or bank directly by the Zonal VET at project site level (all financial expenditures should then reflect in the technical report);
- NA002 compiled by Nairobi SCIU Office, it summarises all other expenses related to the project sustained by other financial sources (SCIU Office, headquarters, etc.).

C.1.1 - INTERNAL TECHNICAL REPORT

The internal technical report, to be submitted to Nairobi SCIU Office, should not exceed a maximum of two pages and should include the following:

- Objectives of the reporting period;
- List of activities carried out during the reporting period (brief comparison with project logical framework and project timetable);
- Description of the relations with the Authorities (only if there are problems);
- Security situation (only inform on new problems or tensions, if not directly involving our project);
- Programme of activities foreseen in the following months in line with logical framework and project timetable.

C.1.2 - INTERNAL FINANCIAL REPORTS

As a Zonal VET you are asked to submit a monthly expenditure report (model NA001) to the Nairobi SCIU Office. This form is used for expenses made in cash and/or through bank directly by the Zonal VET at project site level.

The NA002 is compiled by the Nairobi SCIU Office and it summarises all expenses related to the project but sustained by other financial sources (SCIU Office, headquarters, etc.).

The NA001 and NA002 together give the complete financial situation of the project expenditures. The finances and administration chapter (D.2) provides additional detailed information on the two above-mentioned forms and examples are provided.

C.2 - QUARTERLY NARRATIVE REPORTS

In accordance with the EC General Guidelines on Report Writing, technical/narrative reports from the field should:

- Be **produced on a quarterly basis** and submitted to the Nairobi SCIU Office well in advance as the report must then be forwarded to the EC not later than a month after the end of the reporting period;
- **Not exceed 15 pages** - additional information can be added as annexes;
- Be **compiled against the logical framework** as set out in the project proposal.

In particular, the report should:

- Describe the achievements of the project within the quarter;
- Point out any alteration from the work-plan and argue why this was necessary;
- Describe any difficulties and successes encountered with the communities, administration etc... and what was done to solve the difficulties, if any;
- Incorporate events that took place in the project area, which had or may have an impact on project performance;
- Contain information if particular support/intervention from the EC is needed to ensure proper implementation of the project;
- **Focus on activities carried out in the actual quarter** of reporting, by referring to the work-plan prepared for the particular quarter;
- **Include a work-plan for the next quarter**, formulated in line with the logical framework. The work-plan, which should contain for each result the activities the project intends to implement within the following quarter, should be sufficiently detailed to assure transparency;
- **Include an updated inventory of materials** purchased by the project specifying:
 - The nature of the goods;
 - The quantity;
 - The date of purchase;
 - The value;
 - The condition of the goods, which include possible damages and losses;
 - The inventory will only consider materials of which the value exceeds €500 and which have an expected lifetime of over a year;
- Materials that have been handed-over from previous EC funded projects should also be considered in the inventory. Description (date of purchase, value) should be provided if possible;
- Materials purchased by the project and handed-over to other users (local communities, authorities) should also be indicated in the inventory mentioning the user and the date of the hand over;
- **Include an updated list of personnel** employed by the project with the following indications for each person:
 - Full name;
 - Passport Number;
 - Nationality;
 - Position and Duty Station;
 - Date of Recruitment;
 - Leave Entitlement and leave taken;
 - Presence in the project in current quarter;
 - Presence in the project in next quarter.

In the list of personnel only technical staff comprising of radio operator, secretaries and logistician should be considered and not cleaners and watchmen.

To facilitate report writing, a sample format of a technical report is included in the diskette attached. Copies of past reports are available and can be consulted both in the SCIU Office and in the field.

C.3 - QUARTERLY FINANCIAL REPORTS

Quarterly financial reports are prepared by the Nairobi SCIU Office on the basis of the NA001 monthly forms received from the Zonal VET and the NA002 produced in the reporting period.

The financial report is to be submitted, together with the correspondent narrative/technical one, not later than one month after the end of the reporting period.

Additional details for the Zonal VET can be found in Section D.3.

C.4 - FINAL NARRATIVE REPORT

A final narrative/technical report must be submitted at the end of the project period. As this is one of the ultimate tasks of the Zonal VET, his/her contract may not be finalised and final dues may not be paid until the report has been received and approved by the donor. When developing the final report the Zonal VET should follow the same frame for reporting outlined in section C.2 above.

However, the final narrative report in particular should contain a detailed description of the conditions in which the project was implemented and what the project finally achieved with regard to its results and purposes. To this effect, the report should be developed utilising the objectively verifiable indicators defined in the logical framework. The report should also include recommendations for a possible follow-up and indicate how the results and approaches (lessons learnt) may be used to improve future activities.

The final report may be submitted together with the last quarterly report, in which case the report must be transmitted not later than two months after the end of project activities. Please clearly distinguish between the quarterly and the final section of the report.

Alternatively, the final report can be submitted independently, in which case the last quarterly report must be submitted and the transmission of the final report should be not later than 3-6 months after the end of project activities (see contract conditions).

In the event that a project has been extended (cost or no-cost extension), reporting should nevertheless follow the above-described procedure. If a project is extended for less than three months, this period can be considered by the last quarterly report. However, extensions of 3 months or more will require additional reports.

C.5 - FINAL FINANCIAL REPORT

If required by the contract, Nairobi SCIU Office will prepare a final financial report. This will normally occur once the donor approves the last financial report.

The final report summarises all accounting and financial events related to the project.

Additional details for the Zonal VET can be found in Section D.4.

FINANCES & ADMINISTRATION

D - INTRODUCTION

D.1 - FINANCING THE PROJECTS

D.1.1 - BUDGET QUARTERLY REQUESTS

D.1.2 - GETTING FUNDS (MONTHLY FUNDS REQUIREMENT)

D.1.2.1 - GETTING FUNDS FOR THE PROJECT

D.1.2.2 - GETTING FUNDS FOR SALARY/CONSULTANCY

D.1.3 - PROJECT FUNDS AVAILABILITY

D.2 - MONTHLY REPORTS

D.2.1 - MONTHLY FINANCIAL REPORTS: NA001 FORM

D.2.1.1 - PRESENTATION OF THE NA001 FORM

Some specific examples:

D.2.1.2 - WITHDRAWING CASH FROM BANK ACCOUNT

D.2.1.3 - CHANGING MONEY

D.2.1.4 - DETERMINING THE AVERAGE EXCHANGE RATE

D.2.2 - MONTHLY FINANCIAL REPORTS: NA0002 FORM

D.2.2.1 - PRESENTATION OF THE NA002 FORM

D.3 - QUARTERLY FINANCIAL REPORTS

D.4 - FINAL FINANCIAL REPORT

D - INTRODUCTION

The various phases in the administration of a project are: foreseeing the money needs for the project, getting necessary funds, spending them, controlling them, keeping accounting of the expenditures and reporting all the expenditure to the Donor.

D.1 - FINANCING THE PROJECTS

The first phase in the administration of a project is the forecast of the money needs for the upcoming months, the request of money from the Main Office (Nairobi SCIU Office) and its proper accounting. This first financial phase has vital importance to the project as well as to the organisation as a whole.

D.1.1 - BUDGET QUARTERLY REQUEST

The budget quarterly request form includes all the financial needs for your project, which are all the expenditures that you foresee for the upcoming three months. It is a very important document and it will help you to organise and correctly manage the project. It is also the main basis on which all the expenditures of your project are made.

The budget quarterly request is used by the Nairobi SCIU Office to better plan the cash flow of the projects in the area and to verify the financial status of a single activity before its relevant accountancy is processed.

It will also help to plan major disbursement considering project instalments to be eventually requested/received.

Moreover, the budget quarterly request will be discussed and approved by Nairobi SCIU Office before, and the representatives of the implementing organisations afterwards, avoiding a monthly discussion, which would prompt delays in the release of funds.

However, to make this request operational, the Zonal VET should address a monthly request of funds to the Nairobi SCIU Office (see D.1.3.2).

The budget quarterly request has to be presented to the Project Advisor in Nairobi at the latest one month before the expiring of the quarter. The Zonal VET is asked to submit the request as follows:

PERIOD	Request to be addressed by:
January to March	28 th February
April to June	31 st March
July to September	30 th June
October to December	30 th September

It should be presented in the following way:

ZONE XXYY	1 st Activity	2 nd Activity	3 rd Activity	TOTAL
Expenditure Code No. 101	100	150	150	400
Expenditure Code No. 102	200	200	200	600
And so on.....	1,000	900	900	2,800
Total	1,300	1,250	1,250	3,800

It should include all the expenses foreseen for your area (salaries to the local personnel, instalments for contracts already signed or those whose signature is foreseen, purchases in the field base, Nairobi or neighbouring country, logistic costs, etc.).

You should indicate all the expenses you foresee to make in the following quarter, even though the expenses budgeted in the expiring quarter have not been made within the previous quarter.

This means that if you have not made expenditures budgeted in the previous quarter, and intend to make them in the following quarter you have to budget them again.

D.1.2 - GETTING FUNDS (MONTHLY FUNDS REQUIREMENT)

Funds from donors are deposited into a Euro bank account in Nairobi.

On the basis of all budget quarterly requests from the project area, a monthly transfer to the operational accounts is planned.

From here, on the basis of project monthly requests, weekly or bi-weekly transfers to field sites are executed.

In order to avoid having big amounts of money scattered all around, it is advisable to consciously plan the expenses, and request only the real needs without creating margins to operate more safely.

Furthermore, whenever possible, project bank accounts will be opened in the field area. In this case, cash movements and therefore balances must be kept as minimal as possible in order to further reduce risks of miscounting or robberies.

D.1.2.1 - GETTING FUNDS FOR THE PROJECT

Funds are normally sent to the field from the Nairobi SCIU Office.

Based on the approved budget quarterly request (see D.1.1 above), the Zonal VET will address a monthly funds requirement to the Nairobi SCIU Office using the same detailed expenditure codes of the budget quarterly request.

The Zonal VET should also highlight the amount to be spent in Nairobi (purchases, advances/balances of salaries/consultancies) and the timing of the different instalments to be received in the field. The different instalments will be sent, most likely through a facilitator, to the project bank account.

With the first available pouch, the Zonal VET will receive a debit note (or a receipt) in duplicate.

The copy, duly signed, must be sent back to Nairobi, while the original is to be registered in the NA001 form of the corresponding currency.

If the transfer is made through a facilitator, his receipt can be used for the same purpose.

D.1.2.2 - GETTING FUNDS FOR SALARY/CONSULTANCY

Salaries and consultancies - both advances and balances - will be only paid by the contracting organisation. No project funds should be used to pay personnel related disbursement.

D.1.3 - PROJECT FUNDS AVAILABILITY

Project funds availability at field level is evinced, at any time, through the NA001 form.

In fact, the sum of the balances of these forms (cash, bank accounts, and different currencies) gives the project funds availability.

Project funds availability will be taken into consideration when approving the budget quarterly request.

D.2 - MONTHLY REPORTS

Each month, two reports are prepared: a technical report, concerning the activities of the project and a financial report, concerning all the funds received and all the expenditures made within the project. The Zonal VET prepares the technical report, while the financial report has two different components:

- NA001 compiled by the Zonal VET, it summaries all funds received and all expenses made in cash and/or bank directly by the Zonal VET at project site level;
- NA002 compiled by Nairobi SCIU Office, it summarises all other expenses related to the project sustained by other financial sources (SCIU Office, implementing organisations' headquarters, etc.).

D.2.1 - MONTHLY FINANCIAL REPORTS: FORM NA001

As already stated, the Zonal VET is asked to submit to the Nairobi SCIU Office a monthly expenditure report: the NA001 form, which is provided both as a hard copy in *Annex 4* and as a soft copy in the attached diskette.

This form is the actual administrative tool needed by the **PAS (Project Accounting System)** to prepare the general double-entry accountancy for the implementing organisations and auditors and, at a later stage, the financial report to the donor.

Each source of expenditure will have its own NA001. Different sources of expenditure are cash, each bank account, each currency and, if the case, each different sub-offices of the project.

If a small number of entries is foreseen, two or more NA001 may be combined, providing they contain consistent data. Both the Zonal VET and the administration in Nairobi decide on the number and the contents of the NA001 models.

They will reflect the way the project activities are going to be implemented, the donor reporting needs and the auditor's requirements.

The NA001 form is given to the Zonal VET, together with other forms in an Excel file (**PAS standard form.xls**). It consists of a series of pieces of information concerning the project pre-filled in by the Administration in Nairobi (title of the project, currency, account number, etc.) and a series of columns the Zonal VET will have to fill in.

Formats of the different data are also pre-filled in. They should never be changed otherwise the PAS will not recognised them and the entire entry will be considered void.

All cases and columns are numbered for easy reference:

- **(1) Project / Account Code:** Pre-filled in, it is the code indicating the source of expenditure. This code is also present in the "(10) Document Number" to mark a receipt of a particular source of expenditure.
- **(2) Account Number:** Pre-filled in, it is the account number given by the PAS (Project Accounting System) for a single source of expenditure the project. It is a code composed of a letter and 5 digits (in the area covered by the Nairobi SCIU Office the account number always starts with A10...)

Each "account number" has a correspondent "transit account number" needed to avoid double registrations in operations between two different sources of expenditures. It is also needed to countercheck that this kind of operation is registered into both NA001 forms (see examples later in the text).

The account number is the same automatically reported in column 12.

- **(3) Account Description:** Pre-filled in, it is a short description of the "(2) account number".
- **(4) Project Name:** Pre-filled in, it is the project title or project area.
- **(5) Accountancy of the month of:** It is the month of the concerned accountancy.
- **(6) Base:** Pre-filled in, it is the location of the source of the expenditure.
- **(7) Page:** It is automatically given during the printout of the NA001.

- **(8) Local Currency:** Pre-filled in, it is the currency actually used (the only one accepted /accountable in the concerned NA001).
- **(9) Date:** It is the date of payment. You must be able to prove it by a receipt, either stamped or written on the invoice by the beneficiary. If you cannot prove it, it will be the date written in the invoice. The date deserves particular attention because it determines the value to be claimed in the report.
- **(10) Doc. No.:** This is a code number used for marking the receipts. The Administration Office in Nairobi will communicate the first "document number" to the Zonal VET, for each source of expenditure. Generally it is a number composed of a code (two letters or two numbers) as per "(1) Project / Accounting Code" and a serial number, increasing every single line of the NA001 (every receipt or expenditure). You will then accordingly code the receipts (and all its attachments) only with a pencil. The document number starts with the starting of the project and it will end with its ending. The Document Number must be unique for the all duration of the project. The PAS (Project Accounting System) does not allow two entries with the same document number.
- **(11) Budget line:** It is the project budget line the expenses are charged to. You will be given the list of the budget lines (chart of accounts), with the indication of the budget line codes, together with the "operational budget". Budget line codes directly concerning the project costs are composed of 6 numbers only (no letters).

Each registration must have its budget line.

For those registrations concerning money transfers from a NA001 to another (for example from the bank to the cash), you will use the transitional account number (A30...) of the receiving NA001. If you receive money from another NA001, you will use your own transitional account number. See example afterward in the text.

- **(12) Account Number:** It is the code you find in the case "(2) account number". It is pre-filled in and must not be modified, no matter what kind of budget line you are using, what kind of operation you are registering and if it is a received or paid amount.
- **(13) Donor:** Leave this column blank.
- **(14) No description:** Hidden column, leave this column blank.
- **(15) Expenses Description:** Here you describe the expenses you made. For a NA001 concerning a bank, always begin the description with the last three numbers of the cheques (example: CH523). Also register the cancelled cheques for audit verification. In this case, you will use the budget line "999998", description "CANCELLED" and the amount, of course, zero.

Always try to make these descriptions consequent. Don't use different descriptions for the same kind of expenditure. If you buy fuel for the vehicle, don't write sometimes "PETROL FOR CAR", other times "FUEL FOR VEHICLE", but choose one description and stick to it forever.

Expenses description must be written in CAPITAL LETTERS only.

Examples for recurrent or periodic expenditures:

Purchases: (name of the dealer) - description of the expenditure
XY SPARE PARTS LTD. - 2 OIL FILTERS

Salaries: (function) - (name) - month - year
WATCHMAN - MOHAMED A. J. - OCT99

Rent: (owner) - description of renting - period
MOHAMED A. J. - BOSASSO OFFICE RENT JUN99-SEP99

In case you refer to a contract that foresees more instalments, indicate the reference number of the contract, which instalment out of the total it refers to, description of the work, consultancy or material purchased. For example:

B12 02/05 REHABILITATION XY SCHOOL.

It indicates that you are paying the 2nd instalment (out of a total of five) according to the contract B12 for the rehabilitation of XY School. Please remember to write all the description in capital letters and leave empty spaces between the different terms.

- **(16) Received:** Here you fill in the amount of money you received, for instance cash from Nairobi. For accounting system purposes, please leave the pre-set format of the amounts: NUMBER, THOUSAND SEPARATOR, 2 DECIMALS.

- **(17) Paid:** Here you fill in the amount of money that you paid. As above, please leave the pre-set format.
- **(18) Balance:** This is not for filling in. The column automatically calculates what your balance should be. Please check periodically that it corresponds to the amount of money in your cash, or monthly if it is the case of a bank account.
- **(19) Report code:** This is not for filling in. The column automatically copies the "(11) budget line".
- **(20) Brought forward:** It is the balance of the previous NA001. Please check carefully the exact amount to be report and countercheck it with your cash funds evidence (or bank statement).

The NA001 must be signed by the Accountant (if any) and countersigned by the Zonal VET.

D.2.1.1 - PRESENTATION OF THE NA001 FORM.

The NA0001 form must be prepared within the 5th day of the month following the accounted one.

It is suggested to close the NA001 before the end of the month, possibly by the 25th of each month.

This will give the Zonal VET a bigger margin of time to be able to respect the terms of presentation.

However, all recurrent monthly payments such as salaries, rents, telephone bills, etc. should be possibly paid and accounted in the relevant month.

The Zonal VET and the administrator must sign the NA001 form. All the original copies of the receipts and invoices related to all the registrations must be attached. DO NOT FORGET TO SEND A COPY ON FLOPPY!

Special requirements:

Purchases: All documentation required by the procurement procedures must accompany receipts and/or invoices of purchases.

Works/Services: Whenever the procurement procedures require a contract, receipts of each instalment must be accompanied by the first part of it (without drawings or technical specifications). Attached to the last instalment (balance payment) there should be the original and complete copy of the contract together with the letter of approval from the donor and/or the SCIU Office.

Local staff: A copy of the employment contract must accompany the first payment.

Leases/rents: A copy of the contract must accompany the first payment.

The NA001 together with all its attachments must be sent to Nairobi with the first available delivery, possibly brought by a member of the project staff.

A diskette containing a file with the NA001 must be included in it. Please save the file with a name that will make it easy for the Administration to detect, that is indicating the project (ex: the doc. No. - Code), the year and the month of accounting which it refers to.

Copy or photocopy of all financial documentation sent to Nairobi (NA001 and its attachments) will be kept and filed at field level.

SOME SPECIFIC EXAMPLES:

D.2.1.2 - WITHDRAWING CASH FROM A BANK ACCOUNT

Account codes:	for the NA001 of the bank:	A10011 (account code) A30011 (transitional account code)
	for the NA001 of the cash:	A10001 (account code) A30001 (transitional account code)

Registrations:

In the NA001 of the bank you will use the budget line A30001 and account number A10011 - description: CH123 CASH TO BOSASSO USD CASH ACCOUNT.

Note: You have used the same transitional account number but the first time as paid in USD and the second time as received in SSH. As a result of these two registrations (if both of them will be done) the transitional account balance will normally be nil. Slight difference may arise because of exchange rate difference (actual rate against official monthly rate). This control and eventually the exchange rate difference registration are done monthly by Nairobi SCIU Office.

D.2.1.4 - DETERMINING THE AVERAGE EXCHANGE RATE

For countries like Somalia where the exchange rates vary between different areas (South, Puntland and Somaliland), donors do not fix an exchange rate for the local currency or better, they actually accept a self-declaration. Therefore, it is necessary that this calculation be done before reporting.

This is done by Nairobi SCIU Office on the basis of the NA001 of the concerned project (consequently, each project may have different exchange rates related to the same month and area).

Example: Exchange rates June 1999:

DATE	US\$	SOMALI SH	RATE
3/6/99	100	850,000	8,500
19/6/99	300	2,460,000	8,200
25/6/99	200	1,660,000	8,300
TOTAL	600	4,970,000	

The average exchange rate for the month can be calculated by dividing the total amount of Somali Shillings received by the total amount of US\$ paid: $4,970,000 / 600 = 8,283.33$.

If the cash in Shillings has a positive balance at the end of the month, you should include the balance of the previous month in the calculation of the exchange rate of the following month. The rate of that input will be the average exchange rate calculated for the previous month.

In our example, we suppose that the Zonal VET spent 3,900,000 SSH in June. He has left 1,070,000 SSH. The remaining shillings (1,070,000) will be used in the next month. Therefore they will be included for the average exchange rate for July, at the average rate of June (8283,33). The table of July will look like this:

Exchange rate July 1999:

DATE	US\$	SOMALI SH	RATE
1/7/99	129.18	1,070,000	8,283.33
15/7/99	200.00	1,680,000	8,400.00
25/7/99	200.00	1,660,000	8,300.00
TOTAL	529.18	4,410,000	

The average exchange rate for July 1999 will thus be 8,333.65 Shillings per Dollar.

D.2.2 - MONTHLY FINANCIAL REPORTS: FORM NA002

The NA002 is compiled by Nairobi SCIU Office and summarises all expenses related to the project but sustained by other financial sources (SCIU Office, implementing organisations' headquarters, etc.). There is only one NA002 per single area and it will be produced monthly.

The form is most likely the same as the NA001 except the following:

- It is not related to any specific source of expenditure;
- It may contain registration in different currencies;
- Column 14 is used for the currency of the expenditure;
- Columns 16 and 18 are not used;
- Column 17 is for the amount of the registration (there is no difference between received/paid)
- There is no brought forward (20)
- There are no intermediate totals or balances.

D.2.2.1 – PRESENTATION OF THE NA002 FORM

The Nairobi SCIU Office monthly prepares the form NA002. The form is processed and passed to the accountancy together with the NA001 of the relevant month.

Generally, all registrations in the NA002 reflect previous instructions of the Zonal VET or the administrator for general accountancy. Therefore budget lines should be correct. Nevertheless, a copy of the NA002 together with all its attachments (see D2.1.1) is sent to the Zonal VET for confirmation and filed at project level.

D.3 – QUARTERLY FINANCIAL REPORTS

Quarterly financial reports are prepared by Nairobi SCIU Office on the basis of the monthly NA001 received from the Zonal VET and the NA002 produced in the reporting period.

The financial report is to be submitted together with the correspondent narrative/technical one not later than one month after the end of the reporting period.

It is advisable to send to the Nairobi SCIU Office the NA001 of the last month of the reporting period well in advance in order to be processed in time and completed by additional documentation eventually needed from the field.

The financial report contains confidential data and documents. Therefore, its access should be limited to the Zonal VET, the relevant donor's TA, donor's or Implementing organisations HQs' mission member evaluating the project. In this specific case a letter from Nairobi SCIU Office will be addressed to the Zonal VET.

If deemed necessary, project experts or TAs may also access their relevant part of the financial report.

In any case, no copies or abstracts of the financial report should ever freely circulate in the project area or among unauthorised person. Any request from local/central authorities, local/foreign counterparts concerning the financial aspects, budget or situation of the project must be forwarded to Nairobi SCIU Office, which is solely responsible for the dissemination of this kind of information.

D.4 – FINAL FINANCIAL REPORTS

If required by the contract, Nairobi SCIU Office will prepare a final financial report. This will normally occur once the donor approves the last financial report.

The final report summarises all accounting and financial events related to the project and includes:

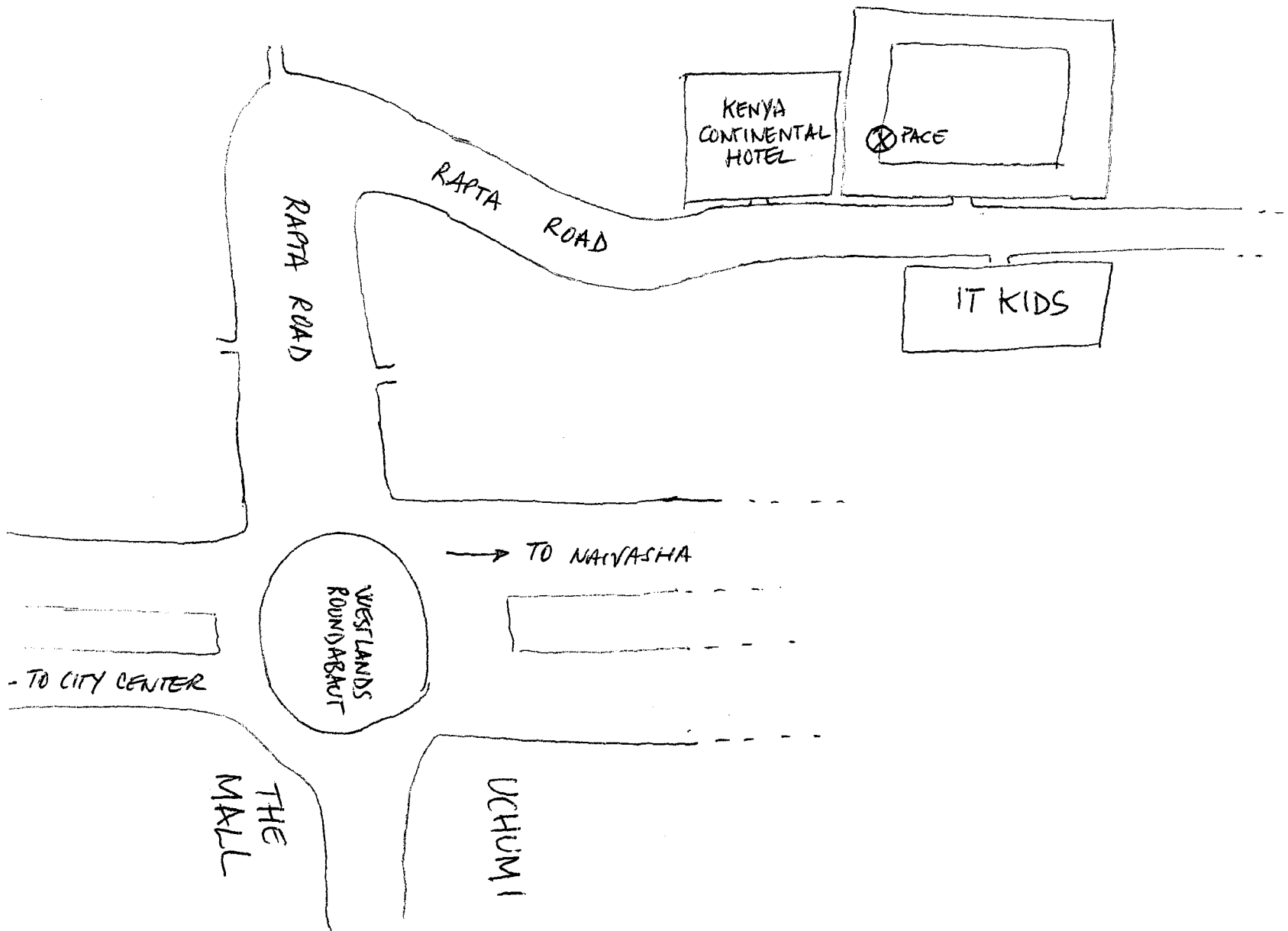
- Summary of the approved financial reports;
- Status of the project budget (amended budget, total expenses, remaining budget)
- Summary of the instalments received towards the expenses submitted;
- Summary of the budget amendments and all relevant correspondence;
- Complete list of expenses submitted / approved sorted by document number;
- List of expenses submitted / approved divided by original currency;
- List of expenses submitted / approved divided by budget lines.

The list of all equipment purchased during the project implementation is normally an annex of the final narrative/technical report written by the Zonal VET. In the same annex the original cost of the item, its present status and future destination is commonly asked.

In the final financial report, the list of all contracts signed for works, services or purchases and reference of all different instalments paid is commonly asked. That is why it is very important that the description of the different payment is standardised, so as to easily recall the main contracts.

ANNEX 1

MAP TO THE SCIU OFFICE - NAIROBI



ANNEX 2

MOVEMENT REQUEST FORM

MOVEMENT REQUEST FORM

NAME:

POSITION:

DUTY STATION:

DESTINATION:

PERIOD:

REASON:

(tick as
appropriate)

From:		To:	
<u>Mission</u>	<u>Leave</u>	<u>Sickness</u>	<u>R&R</u>

Applicant

Date

Approved by

Date

For Office Use ONLY

Total leave days entitled to:

Total leave days accumulated:

Total mission days accumulated:

ANNEX 3

PUBLIC HOLIDAYS

**LISTS
NOT YET AVAILABLE
FOR THE YEAR 2002**

ANNEX 4

NA001 FORM - SAMPLE

72	A10302	CENTRAL SOMALIA COUNTRY OFFICE				Beled Weyne		1
1-Proj/acc.code	2 - Account Number	4 - Project name				6 - Base		7 - Page
BW CASH USD		January 2002						USD
3 - Account description		5 - Accountancy of the month of						8 - LOCAL CURRENCY
DATE 9	Doc. No. 10	11 - BUDGET LINE	12 - ACCOUNT NUMBER	DONOR 13	EXPENSES DESCRIPTION 15	LOCAL CURRENCY		19 - REPORT CODE
						16 - RECEIVED	17 - PAID	18 - BALANCE
					20 - Brought Forward	0.00	0.00	0.00
09-01-02	72001	A30302	A10302	ACC	RECEIVED FROM NAIROBI	2,560.00		2,560.00
	72002		A10302	EDF				2,560.00
	72003		A10302	EDF				2,560.00
	72004		A10302	EDF				2,560.00
	72005		A10302	EDF				2,560.00
	72006		A10302	EDF				2,560.00
	72007		A10302	EDF				2,560.00
	72008		A10302	EDF				2,560.00
	72009		A10302	EDF				2,560.00
	72010		A10302	EDF				2,560.00
	72011		A10302	EDF				2,560.00
	72012		A10302	EDF				2,560.00
	72013		A10302	EDF				2,560.00
	72014		A10302	EDF				2,560.00
	72015		A10302	EDF				2,560.00
	72016		A10302	EDF				2,560.00
	72017		A10302	EDF				2,560.00
	72018		A10302	EDF				2,560.00
	72019		A10302	EDF				2,560.00
	72020		A10302	EDF				2,560.00
	72021		A10302	EDF				2,560.00
	72022		A10302	EDF				2,560.00
	72023		A10302	EDF				2,560.00
	72024		A10302	EDF				2,560.00
	72025		A10302	EDF				2,560.00
	72026		A10302	EDF				2,560.00
	72027		A10302	EDF				2,560.00
	72028		A10302	EDF				2,560.00
	72029		A10302	EDF				2,560.00
TOTALS						2,560.00	0.00	
BALANCE						0.00	0.00	2,560.00
PROJECT CO-ORDINATOR		ADMIN. RESPONSIBLE						

Form NA001 - (cash/bank book)

ANNEX E.6

Budget breakdown as per Activities

PACE Codes	Results	Result 1: Capabilities of public sector AHA to regulate, coordinate, monitor and evaluate the livestock development sector are strengthened																	
	Activities	Stakeholder Workshop 110	BL	11 Workshops	Organisational structure of public sector training 120	BL	public sector TOR training 121	BL	public sector budgetary training 122	BL	public sector management and M&E 123	BL	Study tours 124	BL	12 Training & Study tours	Puntland infrastructures rehab 150	BL	15 Public infrastructures	GRAN TOTAL
	Expatriate Personnel		##			6.03		6.03		##		##		6.03			##		
	Coordinator	0		0	0		0		0		0		0		0			0	0
	Epidemiologist	0		0	0		0		0		0		0		0			0	0
	Administrator	0		0	0		0		0		0		0		0			0	0
	Consultants	0		0	0		0		0		0		0		0			0	0
	Zonal advisors	0		0	0		0		0		0		0		0			0	0
	Somali Personnel	0		0	0		0		0		0		0		0			0	0
	Coordinator	0		0	0		0		0		0		0		0			0	0
	Epidemiologists	0		0	0		0		0		0		0		0			0	0
	Administrator	0		0	0		0		0		0		0		0			0	0
	Zonal advisors	0		0	0		0		0		0		0		0			0	0
	Zonal administrator	0		0	0		0		0		0		0		0			0	0
	Support staff	0		0	0	6.03	0	6.03	0	6.03	0	6.03	0		0			0	0
	Remuneration contracted personnel	0		0	2,000	6.03	2,000	6.03	1,000	6.03	1,000	6.03	0		5,000			0	5,000
	Per diem Somali staff	0		0	0		0		0		0		0		0			0	0
	Accommodation participants	9,600	6.01	9,600	7,200	6.03	7,200	6.03	3,600	6.03	3,600	6.03	5,880	10.01	43,080			0	52,680
	Travel costs	0		0	0		0		0		0		0		0			0	0
	Expatriate staff	0		0	0		0		0		0		0		0			0	0
	Somali staff	0		0	0		0		0		0		1,120	10.01	1,120			0	1,120
	Logistic support	0		0	0		0		0		0		0		0			0	0
	Rent Somali bases	1,920	6.01	1,920	2,000	6.03	2,000	6.03	1,000	6.03	1,000	6.03	0		9,000			0	10,920
	Running costs bases (communication)	800	6.01	800	240	6.03	240	6.03	50	6.03	50		0		730			0	1,530
	Running costs bases (Personnel)	0		0	0		0		0		0		0		0			0	0
	Running cost bases (Stationery)	0		0	0		0		0		0		0		0			0	0
	Running costs bases (O & M)	1,040	6.01	1,040	160	6.03	160	6.03	220	6.03	220	6.03	0		700			0	1,740
	Equipment for bases	0		0	0		0		0		0		0		0			0	0
	Hire of cars	3,200	6.01	3,200	0		0		0		0		0		0			0	3,200
	Fuel for cars	640	6.01	640	0		0		0		0		0		0			0	640
	Purchase of cars	0		0	0		0		0		0		0		0			0	0
	Running costs cars	0		0	0		0		0		0		0		0			0	0
	Public transport	10,000	6.01	10,000	3,600	6.03	3,600	6.03	1,800	6.03	1,800	6.03	0		20,200			0	30,200
	Nairobi logistic base	0		0	0		0		0		0		0		0			0	0
	Coordination office in Nairobi	0		0	0		0		0		0		0		0			0	0
	NGO coordination	0		0	0		0		0		0		0		0			0	0
	Administrative costs	0		0	0		0		0		0		0		0			0	0
	Equipment and testing	0		0	0		0		0		0		0		0			0	0
	Sampling materials	0		0	0		0		0		0		0		0			0	0
	Computers & Software	0		0	0		0		0		0		0		0			0	0
	Other equipment (GPS, radio)	0		0	0		0		0		0		0		0			0	0
	Cold chain	0		0	0		0		0		0		0		0			0	0
	Laboratory Testing fees	0		0	0		0		0		0		0		0			0	0
	Diagnostic kits/vaccines	0		0	0		0		0		0		0		0			0	0
	Other reagents/material	0		0	0		0		0		0		0		0			0	0
	Training	0		0	0		0		0		0		0		0			0	0
	Training material	2,400	6.01	2,400	1,500	6.03	1,500	6.03	930		930	6.03	0		5,170			0	7,570
	Documentation	2,000		2,000	0		0		0		0		0		0			0	2,000
	Others materials	400		400	500	6.03	500	6.03	6.03		6.03		0		1,000			0	1,400
	Infrastructures	0		0	0		0		0		0		0		0			0	0
	Materials	0		0	0		0		0		0		0		0	40,000	1.01	40,000	40,000
	Labour	0		0	0		0		0		0		0		0	10,000	1.01	10,000	10,000
	Total	32,000		32,000	17,200		17,200		8,600		8,600		7,000		58,600	50,000		50,000	140,600

PACE Codes	Result 2: The capabilities of private animal health workers to engage in curative and preventive services are enhanced													
	Activities	Role & Responsibility of Private Sector 210	BL	Formation of Vet Association 4 zones 211	BL	21 Workshops	Basic applied Epidemiology 220	BL	Active Search & Participatory Epidemiology 221	BL	Data analysis & epid techniques 222	BL	22 Trainings	GRAN TOTAL
			##		##			##		##		##		
	Expatriate Personnel													
	Coordinator					0	0		0		0		0	0
	Epidemiologist					0	0		0		0		0	0
	Administrator					0	0		0		0		0	0
	Consultants					0	0		0		0		0	0
	Zonal advisors					0	0		0		0		0	0
	Somali Personnel					0	0		0		0		0	0
	Coordinator					0	0		0		0		0	0
	Epidemiologists					0	0		0		0		0	0
	Administrator					0	0		0		0		0	0
	Zonal advisors					0	0		0		0		0	0
	Zonal administrator					0	0		0		0		0	0
	Support staff		7.01			0	0		0		0		0	1,200
	Remuneration contracted personnel	1,000	7.01			1,000	0		0		0		0	1,000
	Per diem Somali staff		0			0	0		0		0		0	0
	Accomodation participants	3,600	7.01	9,600	7.05	13,200	9,600	7.01	9,600	7.01	2,880	7.01	22,080	31,800
	Travel costs		0			0	0		0		0		0	0
	Expatriate staff		0			0	0		0		0		0	0
	Somali staff		0			0	0		0		0		0	0
	Logistic support		0			0	0		0		0		0	0
	Rent Somali bases	1,000	7.01	2,000	7.05	3,000	2,000	7.01	2,000	7.01	2,400	7.01	6,400	15,000
	Running costs bases (communication)	100	7.01	400	7.05	500	100		100		0		200	483
	Running costs bases (Personnel)		0			0	0		0		0		0	0
	Running cost bases (Stationery)			400	7.05	400	0		0		0		0	400
	Running costs bases (O & M)	160	7.01	400	7.05	560	80	7.01	80	7.01	120	7.01	280	1,283
	Equipment for bases		0			0	0		0		0		0	0
	Hire of cars		0	2,000		2,000	0		0		0		0	0
	Fuel for cars		0	400		400	0		0		0		0	0
	Purchase of cars		0			0	0		0		0		0	0
	Running costs cars		0			0	0		0		0		0	0
	Public transport	1,800	7.01	12,800	7.05	14,600	5,600	7.01	5,600	7.01	2,000	7.01	13,200	19,967
	Nairobi logistic base (Rent)		0			0	0		0		0		0	0
	Coordination office in Nairobi		0			0	0		0		0		0	0
	NGO coordination		0			0	0		0		0		0	0
	Administrative costs		0			0	0		0		0		0	0
	Equipment and testing		0			0	0		0		0		0	0
	Sampling materials		0			0	0		0		0		0	0
	Computers & Software		0			0	0		0		0		0	0
	Other equipment (GPS, radio)		0			0	0		0		0		0	0
	Cold chain		0			0	0		0		0		0	0
	Laboratory Testing fees		0			0	0		0		0		0	0
	Diagnostic kits		0			0	0		0		0		0	0
	Other reagents/material		0			0	0		0		0		0	0
	Training		0			0	0		0		0		0	0
	Training material	1,000	7.01	1,400	7.05	2,400	620	7.01	620	7.01	1,600	7.01	2,840	12,133
	Documentation		7.01			0	0		0		0		0	400
	Others materials	340	7.01	600		940	0		0		0		0	333
	Infrastructures		0			0	0		0		0		0	0
	Materials		0			0	0		0		0		0	0
	Labour		0			0	0		0		0		0	0
	Total	9,000	##	30,000	##	39,000	18,000	##	18,000	##	9,000	##	45,000	84,000

PACE Codes	Results			Result 3: A livestock diseases surveillance system is functioning																
	Activities	Stakeholders Workshopon sensitisation 310	BL	31 Awareness Campaign	LDSS Training (KARI) 320	BL	32 Training	Contract Holder Training 330	BL	Cross Sectional Survey 331	BL	Purposive sampling 332	BL	33 Cross sectional Investigation n	Contract Holder Training 340	BL	Purposive investigations 341	BL	34 Follow up	GRAN TOTAL
			##																	
	Expatriate Personnel																			
	Coordinator			0			0							0					0	0
	Epidemiologist			0			0							0					0	0
	Administrator			0			0							0					0	0
	Consultants			0	15,000	7.03	15,000							0					0	15,000
	Zonal advisors			0			0							0					0	0
	Somali Personnel			0			0							0					0	0
	Coordinator			0			0							0					0	0
	Epidemiologists			0			0							0					0	0
	Administrator			0			0							0					0	0
	Zonal advisors			0			0							0					0	0
	Zonal administrator			0			0							0					0	0
	Support staff			0			0	8.01						0	8.02				0	0
	Remuneration contracted personnel	2,000		2,000			0			32,760	8.01	9,000	8.01	41,760			36,000	8.02	36,000	79,760
	Per diem Somali staff			0			0							0					0	0
	Accommodation/DSA participants	1,152	8.03	1,152	45,360	7.02	45,360	7,200	8.01					7,200	7,200	8.02			7,200	60,912
	Travel costs			0			0							0					0	0
	Expatriate staff			0			0							0					0	0
	Somali staff			0			0							0					0	0
	Logistic support			0			0							0					0	0
	Rent Somali bases	400	8.03	400			0	2,000	8.01					2,000	2,000	8.02			2,000	4,400
	Running costs bases (communication)	200	8.03	200			0	200	8.01					200	200	8.02			200	600
	Running costs bases (Personnel)			0			0							0					0	0
	Running cost bases (Stationery)			0			0							0					0	0
	Running costs bases (O & M)	400		400			0							0					0	400
	Equipment for bases			0			0							0					0	0
	Hire of cars		8.03	0			0	4,000	8.01	54,000	8.01	6,000	8.01	64,000	4,000	8.02	24,000	8.02	28,000	92,000
	Fuel for cars		8.03	0			0	800	8.01	10,800	8.01	1,200	8.01	12,800	800	8.02	4,800	8.02	5,600	18,400
	Purchase of cars			0			0							0					0	0
	Running costs cars			0			0							0					0	0
	Public transport	3,840	8.03	3,840			0	4,320	8.01					4,320	4,320	8.02			4,320	12,480
	Nairobi logistic base (Rent)			0			0							0					0	0
	Coordination office in Nairobi			0			0							0					0	0
	NGO coordination			0			0							0					0	0
	Administrative costs			0			0							0					0	0
	Equipment and testing			0			0							0					0	0
	Sampling materials			0			0			25,740	8.01	7,500	8.01	33,240			16,200	8.02	16,200	49,440
	Computers & Software			0			0			8,000	8.01			8,000			5,000		5,000	13,000
	Other equipment (GPS, radio)			0			0			20,000	8.01			20,000					0	20,000
	Cold chain			0			0			8,000	8.01			8,000					0	8,000
	Laboratory Testing fees			0			0			20,000	8.01	5,000	8.01	25,000			5,000	8.02	5,000	30,000
	Diagnostic kits			0			0			10,000	8.01			10,000			8,000	8.02	8,000	18,000
	Other reagents/material			0			0			2,000				2,000			1,000	8.02	1,000	3,000
	Training			0			0							0					0	0
	Training material	1,800	8.03	1,800	5,000	7.04	5,000	1,480	8.01					1,480	1,480	8.02			1,480	9,760
	Documentation			0			0		8.01					0		8.02			0	0
	Others materials	208	8.03	208			0							0					0	208
	Infrastructures			0			0							0					0	0
	Materials			0			0							0					0	0
	Labour			0			0							0					0	0
	Total	10,000		10,000	65,360		65,360	20,000		191,300		28,700		240,000	20,000		100,000		120,000	435,360

PACE Codes	Results	Result 4: Emergency preparedness and response systems are functional, initially to rinder pest														
	Activities	Emergency Prep RP Training 410	BL	Dry Runs RP 411	BL	Emergency Prep other diseases 412	BL	Dry Runs other diseases 413	BL	41 Workshops / Trainings	Rinderpest 420	BL	Other Diseases 421	BL	42 Investigations / Vaccinations	GRAN TOTAL
	Personnel															
	Coordinator									0					0	
	Epidemiologists									0					0	
	Administrator									0					0	
	Consultants									0	10,000				10,000	
	Zonal advisors									0					0	
	Somali staff									0					0	
	Coordinator									0					0	
	Epidemiologists									0					0	
	Administrator									0					0	
	Zonal advisors									0					0	
	Zonal administrator									0					0	
	Support staff					6.02				0					0	
	Remuneration contracted personnel	1,500				1,500				3,000	36,000	9.01	36,000	9.02	72,000	
	Per diem Somali staff									0					0	
	Accomodation participants	3,600	6.02	1,500	6.02	3,600	6.02	1,500	6.02	10,200					0	
	Travel costs									0					0	
	Expatriate staff									0					0	
	Somali staff									0					0	
	Logistic support									0					0	
	Rent Somali bases	1,000	6.02			1,000	6.02			2,000					0	
	Running costs bases (communication)	200	6.02			200	6.02			400					0	
	Running costs bases (Personnel)									0					0	
	6.02									0					0	
	Running costs bases (O & M)	400	6.02			400	6.02			800					0	
	Equipment for bases									0					0	
	Hire of cars	2,000		1,800	6.02	2,000	6.02	1,800	6.02	7,600	24,000	9.01	24,000	9.02	48,000	
	Fuel for cars	400		360	6.02	400	6.02	360	6.02	1,520	4,800	9.01	4,800	9.02	9,600	
	Purchase of cars									0					0	
	Running costs cars									0					0	
	Public transport	2,400	6.02			2,400	6.02			4,800					0	
	Nairobi logistic base (Rent)									0					0	
	Coordination office in Nairobi									0					0	
	NGO coordination									0					0	
	Administrative costs									0					0	
	Equipment and testing									0					0	
	Sampling materials			340	6.02			340	6.02	680	10,000	9.01	2,000	9.02	12,000	
	Computers									0					0	
	Other equipment									0	10,000				10,000	
	Cold chain									0	5,000	9.01	1,200		6,200	
	Testing fee									0	10,000	9.01	4,000	9.02	14,000	
	Diagnostic kits/Vaccines									0	70,000	9.01	18,000	9.02	88,000	
	Other reagents/material									0	200			9.02	200	
	Training									0					0	
	Training material	3,000	6.02			3,000	6.02			6,000					0	
	Documentation									0					0	
	Others	1,500				1,500				3,000					0	
	Infrastructures									0					0	
	Materials									0					0	
	Labour									0					0	
	Total	16,000		4,000		16,000		4,000		40,000	180,000		90,000		270,000	

PACE Codes	Results			Result 5: Local networks for promoting livestock health are functioning													
	Activities	Concept of animal health networks 510	BL	51 Workshops	Information gathering and reporting 520	BL	52 Training	Preparation of material for awareness of PACE and its activities 530	BL	53 Awarenesses campaigning	Regional/International 540	BL	Inter zonal annual meetings 541	BL	Zonal meetings 542	BL	54 Zonal networks
	Personnel																
	Coordinator			0			0			0							0
	Epidemiologists			0			0			0							0
	Administrator			0			0			0							0
	Consultants			0			0			0							0
	Zonal advisors			0			0			0							0
	Somali staff			0			0			0							0
	Coordinator			0			0			0							0
	Epidemiologists			0			0			0							0
	Administrator			0			0			0							0
	Zonal advisors			0			0			0							0
	Zonal administrator			0			0			0							0
	Support staff			0	1,200	10.04	1,200			0							0
	Remuneration contracted personnel			0			0	4,000	10.04	4,000							0
	Per diem Somali staff			0			0			0							0
	Accommodation participants	2,304	10.04	2,304	2,880	10.04	2,880			0	3,720	10.01	2,400	10.01	4,000	10.01	10,120
	Travel costs			0			0			0							0
	Expatriate staff			0			0			0							0
	Somali staff			0			0			0	10,080	10.01	10,000	10.01			20,080
	Logistic support			0			0			0							0
	Rent Somali bases	800	10.04	800	1,200	10.04	1,200			0			500	10.01	1,000	10.01	1,500
	Running costs bases (communication)	200	10.04	200	200		200	200	10.04	200							0
	Running costs bases (Personnel)			0			0			0							0
	Running cost bases (Stationery)			0			0			0							0
	Running costs bases (O & M)	296	10.04	296	200	10.04	200			0							0
	Equipment for bases			0			0			0							0
	Hire of cars	800	10.04	800		10.04	0	4,000	10.04	4,000			500	10.01	1,000	10.01	1,500
	Fuel for cars	160	10.04	160		10.04	0	800	10.04	800			100	10.01	200	10.01	300
	Purchase of cars			0			0			0							0
	Running costs cars			0			0			0							0
	Public transport	3,840	10.04	3,840	3,200	10.04	3,200			0					4,000	10.01	4,000
	Nairobi logistic base (Rent)			0			0			0							0
	Coordination office in Nairobi			0			0			0							0
	NGO coordination			0			0			0							0
	Administrative costs			0			0			0							0
	Equipment and testing			0			0			0							0
	Sampling materials			0			0			0							0
	Computers			0			0			0							0
	Other equipment			0			0			0							0
	Cold chain			0			0			0							0
	Testing fee			0			0			0							0
	Diagnostic kits			0			0			0							0
	Other reagents/material			0			0			0							0
	Training			0			0			0							0
	Training material	1,600	10.04	1,600	2,120	10.04	2,120			0							0
	Documentation			0			0	12,000	10.04	12,000							0
	Others			0			0			0							0
	Infrastructures			0			0			0					500	10.01	500
	Materials			0			0			0							0
	Labour			0			0			0							0
	Total	10,000		10,000	11,000		11,000	21,000		21,000	13,800		13,500		10,700		38,000

PACE Codes	Results	Result 6: The programme is effectively coordinated						Results	7th column
	Activities	61 Steering meetings 610	BL	62 Coordination support 620	BL	63 CAPE 630	BL	Activities	71 COMMON RESULTS CROSS ACTIVITIES 710
	Personnel							Personnel	
	Coordinator							Coordinator	141,600
	Epidemiologists							Epidemiologists	136,800
	Administrator							Administrator	122,400
	Consultants							Consultants	32,000
	Zonal advisors							Zonal advisors	487,600
	Somali staff							Somali staff	
	Coordinator							Coordinator	48,691
	Epidemiologists							Epidemiologists	48,691
	Administrator							Administrator	48,691
	Zonal advisors							Zonal advisors	135,240
	Zonal administrator							Zonal administrator	102,764
	Support staff							Support staff	88,872
	Remuneration contracted personnel							Remuneration contracted personnel	24,000
	Per diem Somali staff							Per diem Somali staff	11,250
	Accommodation participants							Accommodation participants	
	Travel costs							Travel costs	
	Expatriate staff							Expatriate staff	24,000
	Somali staff							Somali staff	24,000
	Logistic support							Logistic support	
	Rent Somali bases							Rent Somali bases	48,300
	Running costs bases (communication)							Running costs bases (communication)	26,350
	Running costs bases (Personnel)							Running costs bases (Personnel)	0
	Running cost bases (Stationery)							Running cost bases (Stationery)	26,350
	Running costs bases (O & M)							Running costs bases (O & M)	26,350
	Equipment for bases							Equipment for bases	20,000
	Hire of cars							Hire of cars	254,160
	Fuel for cars							Fuel for cars	20,304
	Purchase of cars							Purchase of cars	28,000
	Running costs cars							Running costs cars	27,600
	Public transport							Public transport	28,800
	Nairobi logistic base (Rent)							Nairobi logistic base (Rent)	57,500
	Coordination office in Nairobi							Coordination office in Nairobi	180,000
	NGO coordination							NGO coordination	36,000
	Administrative costs							Administrative costs	250,934
	Equipment and testing							Equipment and testing	
	Sampling materials							Sampling materials	0
	Computers							Computers	0
	Other equipment							Office equipment nairobi	5,000
	Cold chain							Cold chain	0
	Testing fee							Testing fee	0
	Diagnostic kits							Diagnostic kits	0
	Other reagents/material							Other reagents/material	0
	Training							Training	
	Training material							Training material	10,000
	Documentation							Documentation	0
	Others							Others	0
	Infrastructures							Infrastructures	
	Materials							Materials	0
	Labour							Labour	0
	Total							Total	2,522,247

PAN-AFRICAN PROGRAMME for the CONTROL of EPIZOOTICS
NOTES FOR THE 2-YEAR BUDGET

RESULT 1	<i>The capabilities of public sector AHA to regulate, coordinate monitor and evaluate the livestock development sector are strengthened</i>
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budget line	STAKEHOLDER WORKSHOP IN 4 ZONES	budget/zone	Total budget
6.01	<i>Somali Staff</i>		
	Accom participants 25x4d x 12E x 2sess	2,400	9,600
	<i>Logistic support</i>		
	Rent for venue 4dx60E x 2yr	480	1,920
	Running cost communications x 2yr	200	800
	running cost O & M x 2yr	260	1,040
	Public transport participants x 2yr	2,500	10,000
	Car hire 2cars x 4dx 50E x 2yr	800	3,200
	Fuel 2cars x 4 d x 10E x 2yr	160	640
	<i>Training</i>		
	Training material x 2yr	600	2,400
	documentation	500	2,000
	Other materials	100	400
TOTAL in €		8,000	32,000

budget line	PUBLIC SECTOR TRAINING (ORG STRUC) IN 2 ZONES	budget/zone	Total budget
6.03	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)x2	1,000	2,000
	Accom participants 15p x10d x 12E x 2sessions	3,600	7,200
	<i>Logistic support</i>		0
	Rent for venue 10d x50E x 2 sessions	1,000	2,000
	Running cost communications	120	240
	running cost O &M	80	160
	Public transport 15 p x 60E x 2sessions	1,800	3,600
	Car hire 10d x 50E x 2 sessions	0	0
	Fuel 10d x 10E x 2sessions	0	0
	<i>Training</i>		
	Training material	750	1,500
	Other materials	250	500
TOTAL in €		8,600	17,200

budget line	PUBLIC SECTOR TRAINING (TOR) IN 2 ZONES	budget/zone	Total budget
6.03	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)x2	1,000	2,000
	Accom participants 15p x10d x 12E x 2sessions	3,600	7,200
	<i>Logistic support</i>		0
	Rent for venue 10d x50E x 2 sessions	1,000	2,000
	Running cost communications	120	240
	running cost O &M	80	160
	Public transport 15 p x 60E x 2sessions	1,800	3,600
	Car hire 10d x 50E x 2 sessions	0	0
	Fuel 10d x 10E x 2sessions	0	0
	<i>Training</i>		
	Training material	750	1,500
	Other materials	250	500

budget line	PUBLIC SECTOR TRAINING (BUDGETARY) IN 2 ZONES	budget/zone	Total budget
6.03	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)	500	1,000
	Accom participants 15p x10d x 12E	1,800	3,600
	<i>Logistic support</i>		0
	Rent for venue 10d x50E	500	1,000
	Running cost communications	25	50
	running cost O &M	110	220
	Public transport 15 p x 60E	900	1,800
	Car hire 10d x 50E	0	0
	Fuel 10d x 10E	0	0
	<i>Training</i>		0
	Training material	465	930
TOTAL in €		4,300	8,600

budget line	PUBLIC SECTOR TRAINING (MANAGEMENT & M&E) IN 2 ZONES	budget/zone	Total budget
6.03	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)	500	1,000
	Accom participants 15p x10d x 12E	1,800	3,600
	<i>Logistic support</i>		0
	Rent for venue 10d x50E	500	1,000
	Running cost communications	25	50
	running cost O &M	110	220
	Public transport 15 p x 60E	900	1,800
	Car hire 10d x 50E	0	0
	Fuel 10d x 10E	0	0
	<i>Training</i>		0
	Training material	465	930
TOTAL in €		4,300	8,600

budget line	STUDY TOURS (2 zones)	budget/zone	Total budget
10.01	Somali staff		
	DSA 2 p x 21d x 70E	2,940	5,880
	Travel cost 2p x 280E	560	1,120
TOTAL in €		3,500	7,000

budget line	PUBLIC INFRASTRUCTURES	budget/zone	Total budget
1.01	Materials	40,000	40,000
	Labour	10,000	10,000
TOTAL in €		50,000	50,000

RESULT 2	Private sector strengthening
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budget line	ROLES AND RESPONSIBILITIES OF PRIVATE AND PUBLIC SECTOR (2 ZONES)	budget/zone	Total budget
7.01	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)	500	1,000
	Accom participants 15p x10d x 12E	1,800	3,600
	<i>Logistic support</i>		0
	Rent for venue 10d x50E	500	1,000
	Running cost communications	50	100
	running cost O &M	80	160
	Public transport 15 p x 80E	1,200	2,400
	Car hire 10d x 50E		0
	Fuel 10d x 10E x 2sessions		0
	<i>Training</i>		0
	Training material	250	500
	Other materials	120	240
TOTAL in €		4,500	9,000

budget line	SUPPORT TO VET ASSOCIATION IN 4 ZONES	budget/zone	Total budget
7.05	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)		
	Accom participants 20p x5d x 12E X 2YR	2,400	9,600
	<i>Logistic support</i>		0
	Rent for venue 5d x50E x2yr	500	2,000
	Running cost communications	100	400
	running cost O &M	200	800
	Public transport 20 p x 80E x 2yr	3,200	12,800
	Car hire 5d x 50E x 2 sessions	500	2,000
	Fuel 5d x 10E x 2sessions	100	400
	<i>Training</i>		0
	Training material	350	1,400
	Other materials	150	600
TOTAL in €		7,500	30,000

budget line	BASIC APPLIED EPIDEMIOLOGY TRAINING IN 4 ZONES	budget/zone	Total budget
7.01	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)	0	0
	Accom participants 20p x10d x 12E	2,400	9,600
	<i>Logistic support</i>		0
	Rent for venue 10d x50E	500	2,000
	Running cost communications	25	100
	running cost O &M	20	80
	Public transport 20 p x70E	1,400	5,600
	Car hire		0
	Fuel		0
	<i>Training</i>		0
	Training material	155	620
	Other materials		0
TOTAL in €		4,500	18,000

budget line	ACTIVE SEARCH & PARTICIPATORY EPIDEMIOLOGY	budget/zone	Total budget
7.01	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)	0	0
	Accom participants 20p x10d x 12E	2,400	9,600
	<i>Logistic support</i>		0
	Rent for venue 10d x50E	500	2,000
	Running cost communications	25	100
	running cost O &M	20	80
	Public transport 20 p x70E	1,400	5,600
	Car hire		0
	Fuel		0
	<i>Training</i>		0
	Training material	155	620
	Other materials		0
TOTAL in €		4,500	18,000

budget line	DATA ANALYSIS AND EPIDEMIOLOGICAL TECHNIQUES IN 2 ZONES	budget/zone	Total budget
7.01	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)	0	0
	Accom participants 8p x10d x 12E	960	1,920
	<i>Logistic support</i>		0
	Rent for venue 10d x50E	500	1,000
	Running cost communications	50	100
	running cost O &M	100	200
	Public transport 8 p x70E	560	1,120
	Car hire 2CAR x10d x 50E	1,000	2,000
	Fuel 10dx10E x 2cars	200	400
	<i>Training</i>		0
	Training material	1,000	2,000
	Other materials	130	260
TOTAL in €		4,500	9,000

RESULT 3	<i>Livestock disease surveillance system is functioning</i>
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budget line	STAKEHOLDER WORKSHOP ON LIVESTOCK DISEASE SURVEILLANCE 9 SENSITIZATION 4 ZONES	budget/zone	Total budget
7.01	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)	500	2,000
	Accom participants 12p x2d x 12E	288	1,152
	<i>Logistic support</i>		0
	Rent for venue 2d x50E	100	400
	Running cost communications	50	200
	running cost O &M	100	400
	Public transport 12 p x80E	960	3,840
	Car hire 2CAR x10d x 50E		0
	Fuel 10dx10E x 2cars		0
	<i>Training</i>		0
	Training material	450	1,800
	Other materials	52	208
TOTAL in €		2,500	10,000

budget line	LIVESTOCK DISEASE SURVEILLANCE TRAINING BY KARI (4 ZONES)	budget/zone	Total budget
7.02	KARI consultants 2500E x 6		15,000
7.03	DSA 12p x 84 dx 45E somali SVP	11,340	45,360
7.04	Training material	1,250	5,000
TOTAL in €		16,340	65,360

budget line	CONTRACT HOLDER TRAINING	budget/zone	Total budget
8.01	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)		0
	Accom participants 18regionsx4pers x10 d x 10E	1,800	7,200
	<i>Logistic support</i>		0
	Rent for venue10d x50E	500	2,000
	Running cost communications	50	200
	running cost O &M	0	0
	Public transport 72 p x600E	1,080	4,320
	Car hire 2CAR x10d x 50E	1,000	4,000
	Fuel 10dx10E x 2cars	200	800
	<i>Training</i>		0
	Training material	370	1,480
	Other materials		0
TOTAL in €		5,000	20,000

budget line	CROSS-SECTIONAL SURVEYS IN 4 ZONES	budget/zone	Total budget
8.01	<i>Somali Staff</i>		
	Remuneration contracted personnel		
	(2teamsx 18regionsx660E + 2monitorsx18regs x 10dx 25E	8,190	32,760
	Running cost communications	0	
	Car hire 2teams x18regions x 20dx 50E + 2monitors x 18reg 10d x 50E	13,500	54,000
	Fuel 2 x 18 x 20d x 10E + 2 x 18 x 10 x10E	2,700	10,800
	<i>Equipment and testing</i>	0	
	Sampling materials	6,435	25,740
	Computers & Software	2,000	8,000
	Other equipment (GPS, radio)	5,000	20,000
	Cold chain	2,000	8,000
	Laboratory Testing fees	5,000	20,000
	Diagnostic kits/vaccines	2,500	10,000
	Other reagents/material	500	2,000
TOTAL in €		47,825	191,300

budget line	PURPOSIVE SAMPLING IN 2 ZONES (CENTRAL AND SOUTH)	budget/zone	Total budget
8.01	Remuneration contracted personnel		
	(2 pers x 2 zones x 30 days x 75E)	4,500	9,000
	Car hire 2cars x 2 regions x 30d x 50E	3,000	6,000
	fuel 2cars x 2 regions x 30 d x 10E	600	1,200
	Sampling material	3,750	7,500
	Laboratory fees	2,500	5,000
TOTAL in €		14,350	28,700

budget line	CONTRACT HOLDER TRAINING FOLLOW UP INVESTIGATIONS	budget/zone	Total budget
8.02	<i>Somali Staff</i>		
	Remuneration contracted personnel (facilitator)		0
	Accom participants 18regionsx4pers x10 d x 10E	1,800	7,200
	<i>Logistic support</i>		0
	Rent for venue10d x50E	500	2,000
	Running cost communications	50	200
	running cost O &M	0	0
	Public transport 72 p x600E	1,080	4,320
	Car hire 2CAR x10d x 50E	1,000	4,000
	Fuel 10dx10E x 2cars	200	800
	<i>Training</i>		0
	Training material	370	1,480
	Other materials		0
TOTAL in €		5,000	20,000

budget line	PURPOSIVE SAMPLING IN 4 ZONES	budget/zone	Total budget
8.02	Remuneration contracted personnel		
	(2team x 4 zone x 60 days x 75E)	9,000	36,000
	Car hire 2cars x 4 regions x 60d x 50E	6,000	24,000
	fuel 2cars x 2 regions x 30 d x 10E	1,200	4,800
	Public transport (reporting by other stakeholders)	0	0
	Sampling material	4,050	16,200
	Laboratory fees	1,250	5,000
	Computer and software	1,250	5,000
	diagnostic kits/vaccines	2,000	8,000
	other reagents/materials	250	1,000

RESULT 4	<i>Emergency preparedness and response systems are functioning</i>
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budget line	Emergency preparedness & response RP training 2 zones	budget/zone	Total budget
6.01	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)	750	1,500
	Accom participants 15p x10d x 12E	1,800	3,600
	<i>Logistic support</i>		0
	Rent for venue 10d x50E	500	1,000
	Running cost communications	100	200
	running cost O &M	200	400
	Public transport 15 p x 80E	1,200	2,400
	Car hire 2cars x 10d x 50E	1,000	2,000
	Fuel 2 cars x 10d x 10E	200	400
	<i>Training</i>		0
	Training material	1,500	3,000
	Other materials	750	1,500
TOTAL in €		8,000	16,000

budget line	Dry runs Emergency preparedness RP	budget/zone	Total budget
6.02	Accomodation participants	750	1,500
	Car hire extra days	900	1,800
	Extra fuel	180	360
	Sampling material	170	340
TOTAL in €		2,000	4,000

budget line	Emergency preparedness & response Other diseases training 2 zones	budget/zone	Total budget
6.02	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)	750	1,500
	Accom participants 15p x10d x 12E	1,800	3,600
	<i>Logistic support</i>		0
	Rent for venue 10d x50E	500	1,000
	Running cost communications	100	200
	running cost O &M	200	400
	Public transport 15 p x 80E	1,200	2,400
	Car hire 2cars x 10d x 50E	1,000	2,000
	Fuel 2 cars x 10d x 10E	200	400
	<i>Training</i>		0
	Training material	1,500	3,000
	Other materials	750	1,500
TOTAL in €		8,000	16,000

budget line	Dry runs Emergency preparedness (other diseases)	budget/zone	Total budget
6.02	Accomodation participants	750	1,500
	Car hire extra days	900	1,800
	Extra fuel	180	360
	Sampling material	170	340
TOTAL in €		2,000	4,000

budget line	RINDERPEST VACCINATION IN 2 ZONES	budget/zone	Total budget
9.01	consultant 4 months 2,500/mo	5,000	10,000
	Remuneration contracted personnel		
	(4team x 2 zone x 90 days x 75E)	18,000	36,000
	Car hire 4cars x 2 ZONES x 60d x 50E	12,000	24,000
	fuel 4cars x 2 ZONES x 30 d x 10E	2,400	4,800
	Public transport (reporting by other stakeholders)	0	0
	Sampling material	5,000	10,000
	Laboratory fees	5,000	10,000
	Cold chain	2,500	5,000
	diagnostic kits/vaccines	35,000	70,000
	other reagents/materials	100	200
	Training material	0	
	Other equipment	5,000	10,000
TOTAL in €		90,000	180,000

budget line	OTHER EPIZOOTICS VACCINATION IN 2 ZONES	budget/zone	Total budget
9.02	Remuneration contracted personnel		
	(4team x 2 zone x 60 days x 75E)	18,000	36,000
	Car hire 4cars x 2 ZONES x 60d x 50E	12,000	24,000
	fuel 4cars x 2 ZONES x 30 d x 10E	2,400	4,800
	Public transport (reporting by other stakeholders)	0	0
	Sampling material	1,000	2,000
	Laboratory fees	2,000	4,000
	Cold chain	600	1,200
	diagnostic kits/vaccines	9,000	18,000
	other reagents/materials	0	
	Training material	0	
	Other equipment		
TOTAL in €		45,000	90,000

budget line	CONCEPT OF ANIMAL HEALTH NETWORKS IN 4 ZONES	budget/zone	Total budget
10.04	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator)		0
	Accom participants 12p x4d x 12E	576	2,304
	<i>Logistic support</i>		0
	Rent for venue 4d x50E	200	800
	Running cost communications	50	200
	running cost O &M	74	296
	Public transport 12 p x80E	960	3,840
	Car hire 1CAR x4d x 50E	200	800
	Fuel 4dx10E x1car	40	160
	<i>Training</i>		0
	Training material	400	1,600
	Other materials		0
TOTAL in €		2,500	10,000

budget line	INFORMATION GATHERING AND REPORTING	budget/zone	Total budget
10.04	<i>Somali Staff</i>		
	Renumeration contracted personnel (facilitator) 6dx 50E	300	1,200
	Accom participants 10p x6d x 12E	720	2,880
	<i>Logistic support</i>		0
	Rent for venue 6d x50E	300	1,200
	Running cost communications	50	200
	running cost O &M	50	200
	Public transport 10 p x80E	800	3,200
	Car hire 1CAR x4d x 50E		0
	Fuel 4dx10E x1car		0
	<i>Training</i>		0
	Training material	530	2,120
	Other materials		0
TOTAL in €		2,750	11,000

budget line	AWARENESS MATERIAL PREPARATION IN 4 ZONES	budget/zone	Total budget
10.04	<i>Somali Staff</i>		
	Renumeration contracted personnel 2X 500E X 4 ZONES	1,000	4,000
	Running cost communications	50	200
	running cost O &M		0
	Car hire 1CAR x20d x 50E	1,000	4,000
	Fuel 20dx10E x1car	200	800
	<i>Training</i>		0
	Training material		0
	Documentation	3,000	12,000
TOTAL in €		5,250	21,000

budget line	REGIONAL/INTERNATIONAL MEETING	budget/zone	Total budget
10.01	DSA 116E x 4 pers x 4dx 2 visits		3,720
	travel cost 4 pers x 1260E x 2 visits		10,080
TOTAL in €			13,800

budget line	INTERZONAL ANNUAL MEETINGS	budget/zone	Total budget
10.01	Accom participants 20p x5d x 12E X 2 SESSIONS	1,200	2,400
	<i>Logistic support</i>		0
	Rent somali bases 5dx50E x 2sessions	250	500
	Travel cost 20pers x 250E x 2	5,000	10,000
	Car hire 1CAR x5d x 50E x 2 sessions	250	500
	Fuel 5dx10E x1car x 2 sessions	50	100
	<i>Training</i>		0
	Training material		0
	Other materials		0
TOTAL in €		6,750	13,500

budget line	ZONAL MEETINGS IN 4 ZONES	budget/zone	Total budget
10.01	Accom participants 10p x5d x 10E X 2 SESSIONS	1,000	4,000
	<i>Logistic support</i>		0
	Rent somali bases 5dx50E x 2sessions	250	1,000
	Public transport 10pers x 50E x 2 session	1,000	4,000
	Car hire 1CAR x5d x 50E x 2 sessions	250	1,000
	Fuel 5dx10E x1car x 2 sessions	50	200
	<i>Training</i>		0
	Training material		0
	Other materials	125	500
TOTAL in €		2,675	10,700