

AFRICAN UNION/INTERAFRICAN BUREAU FOR ANIMAL RESOURCES
(AU/IBAR)

PAN AFRICAN PROGRAMME FOR THE CONTROL OF
EPIZOOTICS (PACE)

PROCEEDINGS OF THE

1ST CROSS BORDER HARMONIZATION MEETING

**SOMALI ECOSYSTEM RINDERPEST
ERADICATION COORDINATION UNIT (SERECU)**

1-2 February 2006
Lenana Conference Center

NAIROBI

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ACRONYMS

PACE	Pan African Control of Epizootics
AU-IBAR	African Union-InterAfrican Bureau for Animal Resources
EC	European Community
EU	European Union
SERECU	Somali Eco System Rinderpest Control Unit
RT-PCR	RT-Polymerase Chain Reaction
BVD/MD	Bovine Viral Diarrhea/Mucosal diarrhoea
IBR	Infectious Bovine Rhinocheitis
MCF	Malignant Catarrhal Fever
ELISA	Enzyme linked Immuno Solvent Assay
AGID	Agar Gel Immuno Diffusion
RA	Risk Assessment
CAHWs	Community Animal Health Workers
DCCs	District disease Control Commitees

1.0 INTRODUCTION

These are the proceedings of the 1st Cross-border workshop for SERECU held on 1st-2nd, February 2006, at Lenana Conference center, Nairobi. The objective of the workshop was to harmonize and ensure common understanding and support for policies, strategies and activities among SES member countries.

The official opening was done by PACE coordinator, Dr. Rene Bessin on behalf of the Director, AU-IBAR. The PACE Coordinator also officially closed the workshop on the second day.

2.0 OPENING CEREMONY

2.1 HIGHLIGHTS OF OPENING SPEECH BY THE DIRECTOR, AU-IBAR

In the director's opening speech, he expressed his pleasure to address the participants at the particular workshop, whose purpose was to deliberate on the process leading to the final eradication of rinderpest in the world, noting that if the global goal of 2010 will be realized, rinderpest would become the first epizootic to be eradicated globally.

He stressed that for the Somali ecosystem rinderpest eradication process to get OIE recognition, the activities in the three countries must be harmonized in consideration of the social cultural integration of the community in the region. The establishment of SERECU within AU/IBAR is intended to coordinate the rinderpest eradication process in the SES, and should not be viewed as a new project, but as a specific activity of PACE.

The director called upon all participants, in their respective roles to contribute to the achievement of the set SERECU goal.

He noted that the workshop was intended to sensitize the participants on their expected roles and harmonize all their approaches. He further urged the participants to commit themselves fully to the workshop through constructive contributions to enable the successful attainment of the workshop outputs, which will be the backbone of successful implementation of SERECU activities.

He promised the participants that the PACE regional program will accord all the parties involved in the implementation of the SERECU activities the necessary support.

The director wished all the participants fruitful deliberations and thereby declared the workshop officially opened.



2.2 SPEECH BY EU REPRESENTATIVE

Mr. Mwangi Njuru represented Mr. Otto Moller, the EC Delegation Rural Development Adviser, who was not able to attend the workshop during the first day for unforeseen reasons. The EC representative highlighted the following:

- Implementation of SERECU activities should be hastened because of the delayed start-up.
- That the challenge of SERECU is big and that there is need to work as a team to address the global challenge of eradicating rinderpest.
- That the team selected to implement SERECU is experienced and should therefore deliver.
- That the PPR trial that is in progress at Muguga should be concluded urgently in order to boost the image of the laboratory and enhance Muguga's role in the implementation of SERECU.
- That the EU is happy with the team in place.

He however expressed concern that in the past, data interpretation, implementation and the PPR trial have had challenges. He pointed out that there was need to fast translate the outcomes from SERECU to influence positive trade in livestock from the region.

2.3 ADOPTION OF PROGRAMME AND INTRODUCTION OF PARTICIPANTS

The SERECU coordinator conducted an introduction of participants and took the participants through the programme. The participants agreed to include a presentation by Dr. Mugenyi on Expected Country Inputs. Thereafter, the programme was proposed and adopted, followed by presentations.

2.4 OBJECTIVES OF WORKSHOP AND EXPECTED OUTPUTS

2.4.1 Objectives of workshop

The objective of the workshop was to harmonize the SERECU activities among key implementers.

2.4.2 Expected outputs of the work shop

The expected outputs of the workshop were outlined as follows:

- Program implementers are made fully aware of SERECU objectives and the expected results

- Surveillance tools within countries assessed and where necessary, remedial action agreed upon accordingly
- Consensus on the surveillance requirements and methods reached (passive and active reporting systems, PDS, sero-surveys, wildlife surveys, risk assessment & disease investigation); respective country work-plans with respect to SERECU activities revised, harmonized and updated
- A centralized management system for the documentation and submission of samples for reference laboratories established/ reinforced
- Measures to assure timely and quality laboratory diagnosis put in place

3.0 HIGHLIGHTS FROM PACE COMMON SERVICES/ SERECU PLENARY PRESENTATIONS

3.1 EXPECTED INPUTS BY COUNTRIES

Regarding funding of country level activities, the following was highlighted:

- SERECU activities are integral components of National PACE programs and should therefore have been/ be budgeted for. ✓
- Counterpart PACE funding should be boosted. ✓

Regarding emergency preparedness plan (EPP) for Rinderpest, highlights were *o/w*

- EPP is an OIE requirement for rinderpest eradication process.
- Kenya and Ethiopia should update their Rinderpest EPP.
- Somalia should develop EPP for Rinderpest.

On the enhancement of the public /private sector linkage, the following was noted:

- That according to OIE guidelines, an effective animal health services delivery system should enlist the collaboration of the public and private animal health service providers. *o/w*
- That the Somali ecosystem is characterized by scanty presence of professional animal health service providers. 7
- That countries should develop or strengthen the capacity to co-ordinate, regulate and supervise the para-veterinary professional systems, in accordance with OIE guidelines. 7

3.2 STRENGTHENING EPIDEMIOLOGICAL SURVEILLANCE SYSTEMS IN SOMALI ECOSYSTEM

Key highlights were:

- That efficient diagnostic laboratory support is an integral part of epidemiological surveillance
- That epidemiological Surveillance System involves people and institutions structured to ensure the effective surveillance of animal diseases in a given area
- That the system encompasses passive and active surveillance activities
- First objective is to collect relevant data to describe the situation of animal diseases/ health

- Second objective is to describe a given animal health situation in order to provide the appropriate data in a synthesized format for products
- Key issues in the implementation of ESS involve Institutional organization; Supporting legislation; *Surveillance protocols*; Training; Laboratory capabilities; Data flow and management; Performance indicators; Communication
- Complete and specific surveillance protocols for each disease under surveillance
- Expected outputs from strengthened ESS in SES include: better understanding of the epidemiology of mild rinderpest in the ecosystem (wildlife involvement, virus lineage, improved case definition); Establishment of a risk assessment based decision making process; Delineation of foci of rinderpest infection; Prove absence of circulating virus in provisionally free zones; Provide information for the monthly animal disease status report to OIE

3.3 WILD LIFE SERO-SURVEILLANCE

Key highlights were:

- That wild life population is considered sentinel
- That Wild life component has significantly contributed to the completion of necessary surveillance activities for countries progressing along the OIE pathway
- That for recognition of freedom from rinderpest disease or infection and clarification of epidemiological situation in risk zones, it is necessary to conduct purposive sampling of Wild life (cases of mild rinderpest in SES)
- That Wildlife surveillance will benefit the country where it is undertaken and other countries sharing the same ecosystem
- That Wild life surveillance will provide credibility with regard to OIE.

3.4 PACE INFORMATION (DATA) MANAGEMENT IN PARTICULAR EMPHASIS ON SES MEMBER COUNTRIES

Key highlights were:

- That surveillance is an essential component to:
 - Provide data to support the risk analysis process
 - Substantiate the rationale for sanitary measures
 - Support claims for freedom from disease or infection
- That surveillance is information for action. It is aimed at either:
 - Demonstrating the absence of disease or infection or the occurrence and distribution of disease or infection
 - The success of surveillance system is dependent on a reliable process for data collection and management
 - Be it be for survey purpose or routine activities, the consistency of data collection and event report in a format that facilitates analysis are critical

3.5 PACE ECONOMICS UNIT

Key highlights were:

- PEU will use new and available epidemiological data on mild rinderpest within the Somali Ecosystem to estimate the potential economic impacts of rinderpest eradication from the system
- That the unit will provide support to SERECU member countries to enable them undertake economic analysis including the cost-effectiveness of rinderpest control measures.
- That the unit will estimate the cost of national epidemio-surveillance systems in SERECU member countries to facilitate proper budgeting from national resources for their sustainability.
- That the unit will initiate an economic study of returns to investments in proposed export zones within one or two of the SERECU member countries.
- That PEU initiate an economic feasibility study on commodity processing as a means of enhancing access to export markets by one or two SERECU member countries.

3.6 COMMUNITY ANIMAL HEALTH DELIVERY SYSTEM IN SES

Key highlights were:

- In some areas some CAHWs are still active, doing supervised work by professionals
- Some work on their own.
- Some left for more lucrative jobs
- Others were left orphaned with no clear handing over thus affecting sustainability

Common constraints faced by paraprofessionals and CAHWs were pointed out as follows:

- Policies and legal frame works that do not accommodate them
- Lack of access to professional support
- Poor linkages with professionals on the ground
- Poor infrastructure resulting in weak monitoring and supervision

3.7 DISCUSSIONS ON PACE COMMON SERVICES/ SERECU PRESENTATIONS

- SAHSP requested for training in data management (computers are available 4 zones). It is important that this time round, local personnel are trained on ARIS. This will guarantee sustainability of the system.
- In Somalia, there are professional associations in all regions. They are the ones conducting the surveillance; therefore training should also be directed at them. In northern Somalia (Puntland and Somaliland), the responsible ministries have even identified personnel to run the Epidemiology and Data Management Units (EDMU). In the south, we are also in the process of identifying individuals to run EDMUs under supervision of SAHSP

- There is need for feedback from PACE data management unit
- The program on CAHWs may be ambitious. There is need to look at what is achievable, and look at existing data within AU-IBAR so that the wheel is not re-invented.
- The papers presented were very detailed and streamlining, however, the status of the reference labs need properly clarified, especially Muguga.

Regarding Muguga laboratory, the following was noted:

- Muguga is reference therefore it is available for the 3 countries. The current MOU between AU-IBAR and Muguga is under review. The MOU stipulates that individual countries can sign separate MOUs with Muguga.
- Somali has an MOU with Muguga that needs review.
- EU has made an important effort to use additional funds to assist the lab; Muguga therefore needs to report accurately what they can practically do.
- All stakeholders need to sit down with Muguga since there is funding available for the lab to streamline operations and the quality of service that can be provided. For the last 3-4 years, Muguga has not provided quality services.✓

The concerns regarding sero-surveillance in Ethiopia were noted, and we will try and reschedule, but this will need discussion with KWS first, since there assistance will be required in Ethiopia, and they will simultaneously be conducting wildlife surveillance in Kenya.

4.0 COUNTRY AND MUGUGA PRESENTATIONS ON RESULTS OF SURVEILLANCE ACTIVITIES UNDERTAKEN BETWEEN JULY 2005 AND DECEMBER 2005

4.1 KENYA

- That random survey to prove and verify absence of RP disease in the provisionally disease free zone, and hybrid of random survey and participatory disease searching (PDS) in SES were carried out in October 2004
- That surveillance in SES was to further delineate the infected zone
- That the results showed sero-positivity to rinderpest (RP) virus in some areas
- That follow-up surveillance in areas with moderate RP antibody prevalence and high risk areas was necessary, and this was undertaken in July/August 2005

In relation to clinical results, the following was reported:

- That no RP compatible signs were encountered in the surveillance area (N.W, Kenya & SES part of Kenya)

- That cattle showing stomatitis and had tested negative for FMD were encountered in 2 farms in Trans Nzoia district and the samples collected were all negative for RPV antibodies on HC-ELISA at CVL, Kabete.
- The results were used to rezone the country
- Application to OIE for freedom from disease on zonal basis was made in August, 2005

4.2 SOMALIA

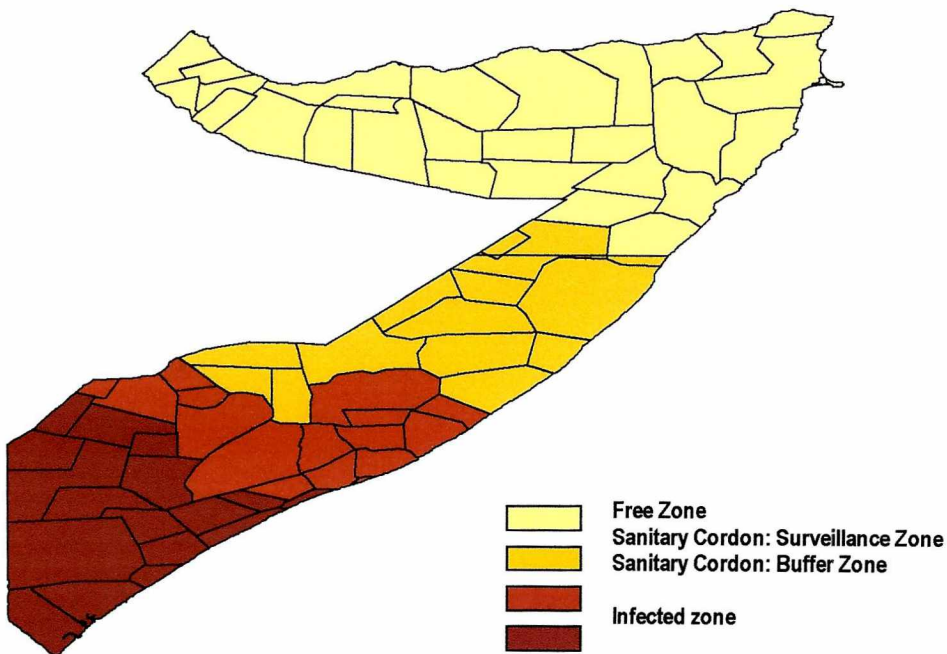
Somalia presentation was in two parts. The first part focused on assessing risk factors associated with the spatial distribution of rinderpest antibodies in sero-prevalence studies conducted 2002 to 2004. Important predictors were found to be:

- Home range of the herd calculated with minimum convex polygon method
- Mean cattle population density of the herd locations over the two years preceding the time of the survey
- Cattle herd size
- Mean distance of the herd locations from cattle trade routes over the two years preceding the time of the survey

Also appearing in the final model were first order interactions between mean cattle density and cattle herd size; mean distance of the herd and home range; and, mean cattle density and mean herd distance.

On this basis therefore, a risk map for rinderpest occurrence was constructed, leading to the proposed zonation presented below:

Proposed Zonation Based on Risk Factors



In the second part, a geographical map of sero-prevalence for 2005 was presented as well as a report of suspected rinderpest at Sidimus in Gedo. On investigation, rinderpest was ruled out, leaving hemorrhagic septicemia as a tentative diagnosis.

Among weaknesses cited for Somalia are:

- Passive disease reporting is not yet established, but in the process of establishing one.
- Outbreak investigation capability available, but needs to be reinforced
- Wildlife surveillance capacity is not available and is urgently needed.

4.3 ETHIOPIA

No report

4.4 NVRC MUGUGA

- That samples tested during the period under review showed no evidence of rinderpest virus circulation in the region
- No recovery of rinderpest or rinderpest like virus has been made from the samples submitted from the region.
- No rinderpest viral RNA was detected by PCR in 638 samples submitted to the Laboratory.
- There is evidence of PPR circulation in Somali/Somali-land and Southern Sudan.

4.5 PLENARY DISCUSSION ON COUNTRY AND MUGUGA PRESENTATIONS

On Kenya presentation, the following issues were raised:

- Should cold chain be a problem at this point in time?
- PDS as a tool for surveillance when well applied, is meant to circumvent the problem of with-holding of information by livestock keepers, how does this reconcile with the statement that you have enough capacity for PDS, yet you cite with-holding of information as weakness?
- Why should communication in the field be cited as a problem when you should be having VHF radios etc?
- How do you (Kenya and Somalia) view the idea of having a regional investigation team coordinated at SERECU?

Responses

- About the cold chain, when teams move out they use ordinary cool boxes with cool packs. In remote areas, it may take time to replenish ice packs.
- District control committees were established to involve the communities in disease reporting and are functioning in most districts. Livestock owners, NGO's and other groups also participate. However, during PDS sometimes livestock owners withhold information from PDS teams out of certain fears like imposition of quarantine. Also, they are getting fatigued responding to questioning and probing by PDS teams.

- Regarding communication, although there are regular radio calls in the districts, some of these teams are not equipped with radios.
- Mobile telephone network is now present in most areas of the country therefore provision for airtime can be given to field teams to utilize this network.
- Regarding the regional investigation team, their presence will enhance the investigation capabilities, but need to work with the teams on the ground.

On Somalia presentation, the following issues were raised

- With regards to the zonation presented by Somalia, they have a buffer zone. Why?
- Somalia has infected, surveillance and free zones. The sero-prevalence figures have been shown. Have any further investigations been conducted to confirm this?
- What are the thoughts on having a regional surveillance team?

Responses

- A buffer zone is important because it is not possible to accurately delineate the infected and surveillance zone, however this is open to discussion.
- Regional investigation team if introduced should work with field teams. It can bring in more expertise and build local confidence. The modalities of the operation of this team needs to be well sorted out otherwise may raise suspicions of those working on the ground.
- On consistency of data, the work under PACE and now SAHSP is not the only work done. From previous work, there has always been a persistence of antibody in this area, with prevalence similar to now.
- Since RP returned in a visible form to SES in early 90's, nobody can confirm where the virus came from. Despite obvious disease in wildlife and suspicion in cattle, there has not been a single confirmation of the virus. Vaccinations were carried out in late 2003 in Garissa and Amfadow. It is possible that we are in an inter-epidemic period. Surveillance needs to be intensified to identify the pockets of virus persistence and eliminate it. If no virus is found, we should move along the OIE pathway, and this requires intensive surveillance. No other differential diagnosis would give antibody titres that have been observed sero-surveillance work done to date.

On Muguga presentation

- PCR has shown negative results. Can this together with information from the ground say that there is no more disease circulating?
- Over 4000 samples from Somalia remain unanalyzed. What value can we get from such samples if they have not been analyzed a year down the line.

Responses

- Virus circulation has not been confirmed for RP in the Lab, only PPR circulation. Some samples have been tested for BVD and are negative.

- Samples for analysis are pending, but it depends when samples were submitted. The samples still pending are not from last year but were submitted in January.
- 2000 samples are pending because of delay of transmission of these samples from the field, and also because the kits run out.
- A way forwards needs to be found for Muguga. A big commitment has been made, and we need to think about it and make a recommendation. The countries need to get a higher throughput from Muguga. We have seen the critical role of Muguga to all countries; therefore the capacity needs to be addressed.
- The tradition of Muguga as a reference Lab by OIE needs to be maintained. It was in the process of being struck off as a reference Lab previously.
- PACE made it clear that this was the last time that Muguga would be provided support, unless they can provide timely results. We need to support them.
- Now that SERECU will provide equipments, Muguga can deliver.

5.0 GROUP PRESENTATIONS

Group discussions were based on three out of the four results (results 2,3 and part of 4) of SERECU work plan).

2. To assure rinderpest surveillance systems in the Somali ecosystem are well coordinated and areas of rinderpest infection or freedom clearly delineated based on risk assessment approaches as agreed with concerned countries.

2.1 In order to assure the establishment of surveillance tools and training, the following was agreed upon:

- Wildlife training should take place in February-March, 2006
- Ethiopia and Kenya will train on use of map coordinates in April, and that countries will meet DSA for trainees.
- All the 3 countries need capacity in risk analysis and training was scheduled for May 2006
- That formation of a specialized disease investigation team coordinated at SERECU is welcome but should be cautious in its undertakings to avoid sending the wrong signals. However, countries should report all SE cases under investigation to SERECU.
- PACE data management unit will be install and carry out in-country training for Ethiopia and Somalia on the use of ARIS in March and April, 2006
- PACE data management unit will also train on data management and GIS and national programs will cater DSA for trainees
- Training of private vets, para-professionals on disease surveillance and reporting (numbers to be decided after audit report)

2.2 In order to develop consensus on surveillance requirements and methods, the following was agreed upon:

feedback to sources

- Monthly disease reports should be submitted to IBAR, within 30 days of end of month
- Data from outbreak investigation and active disease surveys should be submitted to IBAR on a continuous basis. Preliminary data should be available to IBAR within a week of submission of samples as per official MOU between IBAR and KARI
- That countries should agree on lab systems and protocols as per Dakar protocol

2.3 In order to establish a centralized management system for the documentation and submission of samples for reference laboratories, the following was agreed on:

- Field collection, labeling, transportation, receiving and recording of samples should be done as per circulated sample collection guidelines
- Packaging and shipment of samples will be done according to FAO guidelines/National, and will be done immediately after every mission, and that samples will be sent through central tracking system.
- Packaging material should be enough for six months and should be available in labs/N. PACE
- To ensure that package materials and transportation funds are in place, by Feb, 2005

2.4 Concerning field missions, the following was agreed:

- Two PDS missions will be conducted in each country in February/ March and in August respectively. The first PDS will combine with purposive sero-surveillance during which each country will be expected to collect a minimum of 2000 sera. Country liaison officers should act as a communication link between cross-border PDS teams, in case information on disease needs to be relayed
- That Wildlife purposive sero-survey should be done in the three countries. For Kenya it will be done in February; in Ethiopia April; and in Somalia, August. Number of samples to be collected: Ethiopia- 50; Kenya- 290 per mission; and Somalia- 50.
- Prevalence sero-surveys will be carried out in the three countries simultaneously between May and July (in any one country, it should neither start earlier than the last week of May nor end later than first week of July). The number of samples will be as follows: Ethiopia – 6900 samples; Kenya – 4995 samples; and Somalia – 7305 samples.

2.5 In order to assure timely laboratory diagnosis the following was agreed upon

- That quality assurance should be established and procurement of kits and consumables ensured by March 2006.
- Procurement of equipment to be ensured by mid March, 2006, and Labs to review lists and provide specifications by 10th Feb, 2006

- That the capacity of each Lab should be established by Feb, 2006.
- Diagnostic samples will be analyzed within a week and serological testing within a month. The random survey samples of Somalia will be analyzed at Muguga and will be ready by end of August, 2006; Samples for Kenya will be analyzed at Kabete and will be ready by end of July, 2006; and those for Ethiopia will be analyzed at Sabeta and will be ready by end of July, all depending on submission. The testing of purposive surveillance samples for wildlife for Kenya, Ethiopia and Somalia will be ready by March, May and September, respectively
- As the regional reference lab, VRC Muguga will carry out RT-PCR, for Rinderpest and PPR, Virus isolation and identification, and diagnosis of BVD/MD, IBR and MCF. The country labs will carry out cELISA, icELISA and AGID tests. The labs will be bought the required equipment and kits under SERECU. The kits should be availed by mid March 2006.

3. To ensure harmonized rinderpest eradication approach applied by veterinary delivery systems in the SES, the following was agreed upon:

- The evaluation of the current and estimation of the required capacity of the veterinary services delivery system in SES is a pre-requisite in achieving harmonized rinderpest eradication approach, and that a consortium shall be contracted to do the audit. Audit report should be ready by end of April, 2006
- In order to harmonize the roles and activities of various actors in SES, clan — harmonization meetings in Somalia will be promoted in order to create awareness and mass information on rinderpest eradication.
- Linkages will be established between various stakeholders through stakeholder workshops, and formation of focus groups..
- In order to coordinate community, private and public sector activities, meetings with all veterinary service deliverers (by country) will be held to refine national policy initiatives and harmonize approaches.

4.0 To ensure that final rinderpest eradication strategies prepared, endorsed and coordinated, the following was agreed upon:

4.1 Analyze all surveillance data at SES level to assist in strategy development

- Convene 2 technical harmonization committee meetings to analyze data
- Provide situation reports every 4 months
- Ethiopia and Somalia to validate their EPPs, and Kenya to up-date.

The foregoing activity summaries are presented below in table form as Revised Work-plan that now include activities under Result 1 and those under Result 4 not subjected to group discussion, but have since been fitted in based on the schedule of activities arising from the workshop.

[illegible]

[illegible]

Result	Responsible Office		J	F	M	A	M	J	J	A	S	O	Milestones/ Remarks
2.3 Establish a centralized management system for the documentation and submission of samples for reference labs													
2.3.1 Field collection, labeling and transportation of samples	National programs (field teams)												As per circulated sam collection guidelines
2.3.2 Receiving and recording of samples	National programs (National labs)												As per circulated sam collection guidelines
2.3.3 Ensure availability of packaging materials	SERECU												Packaging materials should enough for the remaini SERECU period, and should availed to national laboratorie
2.3.4 Packaging and shipment to regional and reference laboratories for Rinderpest	National programs (National labs)												As per FAO guidelin samples will be sent throu central tracking system
2.4 Undertake regular field missions													
2.4.1 PDS and Purposive sero-survey	National programs & liaison officers												At least 2000 sera per count Liaison officers to monitor a provide back-up services a facilitate communication acro borders and with SERECU
2.4.2 Wildlife sero-surveillance	SERECU & National Programs	Kenya											290 sera per mission
		Ethiopia											50 sera
		Somalia											50 sera
2.4.3 Prevalence sero-survey	National programs & liaison officers												Survey period: last week May to end of first week July. PSUs and sera per count respectively: Ethiopia 46 6,900; Kenya 333, 4,995; Somalia 487, 7,305
2.5 Assure timely and quality laboratory diagnosis													Preliminary diagnostic samp results should be availat within a week of samp submission & surveillan results within one month
2.5.1 Quality assurance systems established	PACE,	National											Every country/ Lab to ensure

Result	Responsible Office	J	F	M	A	M	J	J	A	S	O	Milestones/ Remarks
	Programs and Regional RefLab											least 1 person (ideally 2) train in PACE organized qua assurance training workshop Arusha, Tanzania
2.5.2 MOU between AU-IBAR and NVRC-KARI developed and endorsed by EC delegation	SERECU (Kenya liaison officer)											
2.5.3 Financial and material support given to national and regional reference labs	SERECU											
2.5.3.1 Ensure timely procurement of kits and consumables	SERECU											Labs to review lists of ite ear-marked for procurem and provide specifications 10 th February 2006
2.5.3.2 Ensure timely procurement of equipment	SERECU											
3. Harmonized Rinderpest eradication approach applied by veterinary delivery systems in the SES												
3.1 Evaluate the current and estimate the required capacity of veterinary services delivery system in SES	SERECU (CAHW)											
3.2 Harmonize the roles and activities of various actors in SES												
3.2.1 Clarify the international public good aspect of rinderpest eradication at all levels	SERECU (CAHW)/ National Programs											Print newsletters and oth materials for sensitization
3.2.2 Promote clan harmonization meetings in Somalia in order to create awareness and mass information on rinderpest eradication	SERECU (CAHW)/ National Programs											
3.2.3 Promote the establishment of local taskforces and regular meetings	SERECU (CAHW)/ National Programs											
3.3 Coordinate community, private and public sector activities												
3.3.1 Establishment of linkages among animal health service providers in SES												
3.3.1.1 Stakeholder workshops	SERECU (CAHW)/ National Programs											3 stakeholder workshops, 1 each country
3.3.1.2 Formation of focus groups for communication and reporting at levels agreed upon.	SERECU (CAHW)/ National Programs											Already exist in Kenya a Somalia, only need to strengthened. None exist

[illegible]

6.0 WORKSHOP RECOMMENDATIONS

1. Recognizing the importance of MOUs in operationalisation of SERECU activities in member countries and noting the different stages of the development of country MOUs, the workshop recommended the following:
 - SAHSP will contact the Minister of Livestock of the Transitional Federal Government (TFG) of Somalia to catalyze the process of completion of the MOU with Somalia.
 - SAHSP will seek to harmonize the Somalia country MOU with the already signed AU-IBAR – SAHSP MOU.
 - PACE Coordinator for Ethiopia to make an official communication to AU-IBAR following consultations with the authorities by the 10th February.
 - SERECU Liaison Officer for Kenya to make a follow-up with KARI – VRC Muguga and report back to AU-IBAR by 10th February. A copy of the draft should be circulated immediately to EU for perusal.
2. Recognizing the short time available for implementation of SERECU, and the need for quality assurance, it is recommended that:
 - Countries develop and implement performance indicators for epidemic-surveillance as per the Dakar recommendations.

ACTION: National Coordinators

- There is urgent need for strict implementation and monitoring of performance indicators for laboratory support services.

ACTION: Laboratory Team Leader – implementation, IBAR Laboratory Expert – monitoring.

3. Recognizing that it essential to have validated Emergency Preparedness Plan for the success of rinderpest eradication process, it is recommended that:
 - Somalia should finalize and submit their EPP by end of March 2006.

APPENDICES

APPENDIX 1: INCEPTION WORKSHOP for SERECU

**30th March 2006 at AU-IBAR Offices, Kenindia Business Park,
Chiromo Road, Nairobi**

Date	Time	Activity	Presenter
30 th March 2006	8.30–9.00 h	Registration and introduction	SERECU co-coordinator
	9.00 – 9.30 h	Opening Ceremony	<ul style="list-style-type: none"> • PACE Coordinator • FAO Representative • EC delegation • Director AU-IBAR
	9.30- 10.00 h	Overview of SERECU	SERECU co-coordinator
	10.00 – 10.30 h	Tea/ Coffee Break	
	Chair: Dr. Rene Bessin		
	10.30 – 12.00 h	Rinderpest status report	Ethiopia, Kenya, Somalia, wildlife report, summary reports of PDS results in the SES.
	12.00- 13.00 h	Plenary Discussion	
	13.00- 14 h	Lunch	
	Dr. Rene Bessin		
	14.00- 16.00 h	Presentation on SERECU progress report and Workplan as recommended by 1 st Cross-border Harmonization Meeting.	SERECU
	16.00- 17.00 h	Discussion and recommendations	
	17.00 h	Coffee/Tea followed by departure	

* Disease reporting and communication to stakeholders; random clinical and serological surveys and PDS, wildlife surveillance and timely laboratory diagnosis.

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APPENDIX 2: LIST OF PARTICIPANTS

	NAME	TITLE	ADDRESS	TELEPHONE	EMAIL
	KENYA				
1.	Dr. Musaa Joseph	Director of Veterinary Services-Kenya	P.O. Box 00625 Kangemi	254-02-631273	jomusaa@dvskabete.go.ke
2.	Harry O. Oyas	PACE – Kenya National Co-ordinator	P. O. Box Kabete, 00625 Kangemi - VRL	254-20 631390 0722-711719	hoyas@dvskabete.go.ke
3.	Muriithi R. Mbabu	PACE – Kenya Epidemiologist	P.O. Kabete; 00625 Nairobi - Kenya	254-20 631475 0722-360620	muriithi@dvskabete.go.ke muriithimbabu@yahoo.co.ke
4.	Sophycate W. Njue	PACE – Kenya Epidemiologist/ Data Manager	VRL P.O. Kabete; 00625 Kangemi Nairobi	254-20 631390/287 0733-817475	snjue@dvskabete.go.ke sophycate@yahoo.com
5.	Jacqueline Lichoti	Rinderpest Serologist-Kenya	VRL P.O. Kabete; 00625 Kangemi Nairobi	0733707685	lichoti@yahoo.com
6.	Eunice K. Ndungu	Senior Research Officer	KARI VRC Muguga North P.O. Box 32,00902, Kikuyu	254-20 2700640/256 0721-256129	Alessandro.Zanotta@Tnea
7.	Mr. Zanotta Alessandro	Regional Representative of Terra Nuova	P.O Box 74916 Nairobi	0254-20-4445511-2	
8.	Dr. Francis Gakuya Muriuki	Head, Vet Services Kenya Wildlife Services	P.O Box 40241-00100 Nairobi	0722-571492	fvo@kws.org
9.	Dr. Francis Chabari	GTZ-IS Program Coordinator	P.O Box 41607-00100 Nairobi	254-20-3875088	
10.	Dr. Soumare Baba	Vet. Epidemiologist Terra Nuova	P.O Box 74916-00200 Nairobi	254-20-4445511/2	babasoumare@hotmail.com
	SOMALIA				
11.	Henry M. Wanwayi	SAHSP Chief Technical Advisor	Somali Animal Health Services P. O. Box 74916-00200 Nairobi	254.20.4445958	sahsp@nbi.ispkenya.com
12.	Stefano Tempia	SAHSP Epidemiologist Adviser	Somali Animal Health Services P. O. Box 74916-00200, Nairobi	254.20.4445958; 0733-757736	sttempia@hotmail.com
13.	Mohamood Hassan Ali	SAHSP National Epidemiologist	Somali Animal Health Services P. O. Box 74916-00200, NBI	0724-726082	Jabra44@hotmail.com
	PACE/SERECU				
14.	Rene Bessin	Chief Animal Health Officer	AU-IBAR P. O. Box 30786		rene.bessin@au-ibar.org
15.	Andrea Massarelli	PACE Coordinator PACE Main Technical Advisor	AU-IBAR/PACE P. O. Box 30786 Nairobi	0722-658666	andrea.massarelli@au-ibar.org
16.	Dickens Chibeu	EA Epidemiologist /SERECU Coordinator	AU-IBAR P. O. Box 30786,	0722-789125	Dickens.chibeu@au-ibar.org

			Nairobi		
17.	Bernard M. Mugenyi	SERECU Liaison Officer – Kenya	AU-IBAR/PACE P. O. Box 30786 Nairobi	0799-794006	Bernard.mugenyi@au-ibar.org
18.	Emmanuel Tambi	Senior Economist	AU-IBAR/PACE P. O. Box 30786 Ken Nairobi	0733-815960	emmanuel.tambi@au-ibar.org
19.	Nesru Hussein	SERECU Liaison Officer – Ethiopia	AU-IBAR/PACE P. O. Box 30786 Nairobi	0726-842164 0254-20-3674000	Nesru_Hussein@au-ibar.org
20.	Annie Katunge Lewa	SERECU CAHWs Coordinator	P. O. Box 305-00605 Uthiru, Nairobi	0722-792140 0254-20-3674000	aklewa@yahoo.com
21.	Dr. Joseph Litamoi	Regional project Coordinator-AU-IBAR	AU-IBAR P. O. Box 30786 Nairobi	0254-20-3674000	Joseph.litamoi@au-ibar.org
22.	Dr. Karim Tounkara	PACE Pproject Laboratory Expert	AU-IBAR P. O. Box 30786 Nairobi	0254-20-3674000	Karim.tounkara@au-ibar.org
23.	Dr. Philippe LEPERRE	PACE Regional Technical Advisor	AU-IBAR P. O. Box 30786 Nairobi	0254-20-3674000	Philippe.leperre@au-ibar.org
24.	Mr. Kenneth Njuru	Accountant PACE SERECU	AU-IBAR P. O. Box 30786 Nairobi	0254-20-3674000	Kenneth.njuru@au-ibar.org

EUROPEAN COMMISSION

25.	Friedrich Mahler	EC Somalia Operations livestock Technical Advisor	P. O. Box 30475 Nairobi, Kenya	254-20 2718186	Friedrich.mahler@cec.eu.int
26.	David Mwangi Njuru	EC Nairobi	P. O. Box 30475 Nairobi, Kenya	254-20 2713020 0733-761206	mwangi.njuru@cec.eu.int

FAO

27.	DR. Njeumi Felix		FAO-Empress Viale delle Terme di Caracalla 00100 Rome ITALY	39-065705341	Felix.njeumi@fao.org
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APPENDIX 3: OPENING OF THE WORKSHOP BY THE DIRECTOR, AU-IBAR

Distinguished participants

I have the pleasure to address you at this important workshop, which is to deliberate on the implementation of some of the Somali Ecosystem Rinderpest Eradication Coordination Unit (SERECU) activities.

As you may be aware, SERECU is not a new project but a specific activity under PACE to address the circulation of RP in the SES, and to ascertain the non-circulation of rinderpest virus in the Somali Eco System (SES) and prove to the OIE its final eradication. The SES has been defined as the region of Kenya and Ethiopia occupied by the Somali community and southern Somalia and the adjacent areas where they migrate with their animals.

The ecosystem is presumed to contain the last known focus of rinderpest in the world, which puts the rest of Africa in immediate danger of another rinderpest pandemic. It is therefore of regional and international interest to eradicate the disease once and for all from Africa and the globe.

Distinguished participants

For the Somali ecosystem rinderpest eradication process to get OIE recognition, the activities in the three countries must be harmonized in consideration of the social cultural integration of the community in the region. The establishment of SERECU within AU/IBAR is intended to coordinate the rinderpest eradication process in the SES. In your respective roles, all of you gathered here today are called upon to contribute to the achievement of the set SERECU goal.

The workshop is intended to sensitize you, the participants on your expected roles and harmonize all their approaches. I urge you to commit yourselves fully to the workshop through constructive contributions to enable the successful attainment of the workshop outputs, which will be the backbone of successful implantation of SERECU activities.

Distinguished participants

The PACE regional program will accord all the parties involved in the implantation of the SERECU activities the necessary support. I wish you fruitful deliberations and hereby declare the workshop officially opened.

10.00-10.30h	Tea/Coffee	
10.30-12.00	Group presentations	
12.00-12.30	Plenary Section	
12.30-14.00h	Lunch/Prayer break	
14.00-16.30 h	Recommendations and way forward	SERECU-Liaison Officer Ethiopia
16.30-17.00h	Tea/Coffee and departure	

PART III: SOMALIA

IN-COUNTRY STAKEHOLDERS' WORKSHOP

DINSOR-SOMALIA

3rd –4th January, 2007

Date	Time	Activity	Presenter
3 rd January 2007	8.30–9.00 h	Registration and introduction	SERECU Coordinator
	9.00 – 9.30 h	Opening Ceremony: Key note presentation	SERECU: Veterinary Delivery Systems Officer
	9.30h-10.00 h	Tea/ Coffee Break	
	Chair:		
	10.00- 10.25h	Adoption of the agenda and presentation on the objective of the workshop.	PACE Communication Officer
	10.25-10.50h	Current status of Rinderpest	SERECU: Liaison Officer Somalia
	10.50-11.15h	Plenary Discussion	
	11.15 – 11.45 h	Elaboration of the OIE pathway and the actions required by countries to assure progress along the pathway	National PACE coordinator
	11.45-12.10h	Plenary Discussion	
	12.10-12.35h	Animal Health Service Delivery – Results of the evaluation	SERECU: Veterinary Delivery Systems Officer
	12.35-1.00 h	Plenary Discussion	
	13.00- 14 h	Lunch	
	Chair:		
	14.00- 14.25 h	Introduction of the newly formed Central Veterinary Office In Somalia and its expected roles	SERECU coordinator
	14.25-14.35	Plenary discussion	
	14.35-14.50	Group formation	
	14.50-16.45	Group Discussion	
	16.45-17.00	Coffee/Tea	
4 th January 2007	Chair:		

8.30-10.00 h	Group Discussions	PDVS
10.00-10.30h	Tea/Coffee	
10.30-12.00	Group presentations	DVO Moyale
12.00-12.30	Plenary Section	DVO Tana River
12.30-14.00h	Lunch/Prayer break	
14.00-16.30 h	Recommendations and way forward	SERECU-Liaison Officer Kenya
16.30-17.00h	Tea/Coffee and departure	PDVS

PART II: ETHIOPIA

IN-COUNTRY STAKEHOLDERS' WORKSHOP

MOYALE-ETHIOPIA

14th-15th December 2006

Date	Time	Activity	Presenter
14th December, 2006	8.30-9.00 h	Registration and introduction	SERECU Coordinator
	9.00 – 9.30 h	Opening Ceremony: Key note presentation	SERECU: Veterinary Delivery Systems Officer
	9.30h-10.00 h	Tea/ Coffee Break	
	Chair: To be decided by the countries		
	10.00- 10.25h	Adoption of the agenda and presentation on the objective of the workshop.	PACE Communication Officer
	10.25-10.50h	Current status of Rinderpest	SERECU: Liaison Officer, Ethiopia
	10.50-11.15h	Plenary Discussion	
	11.15 – 11.45 h	Elaboration of the OIE pathway and the actions required by countries to assure progress along the pathway	National PACE coordinator
	11.45-12.10h	Plenary Discussion	
	12.10-12.35h	Animal Health Service Delivery – Results of the evaluation	SERECU: Veterinary Delivery Systems Officer
	12.35-1.00 h	Plenary Discussion	
	13.00- 14 h	Lunch	
	Chair: To be decided by the countries		
	14.00- 14.25 h	Feedbacks on the surveillance exercise in the SES area of Ethiopia	PACE Coordinator
	14.25-14.35	Plenary discussion	
	14.35-14.50	Group formation	
	14.50-16.45	Group Discussion	
	16.45-17.00	Coffee/Tea	
15th December, 2006	Chair: PDVS		

10.00-10.30h	Tea/Coffee	
10.30-12.00	Group presentations	
12.00-12.30	Plenary Section	
12.30-14.00h	Lunch/Prayer break	
14.00-15.00 h	Recommendations and way forward	SERECU-Liaison Officer Somalia
16.30-17.00h	Tea/Coffee and departure	

- ❖ Moyale
- ❖ Lamu
- North Eastern Pastoral Development Program staff (NEPDP) on the ground
- CARE International Garissa
- Catholic Diocese of Garissa-CRS
- Wajir South Development Agency
- Kenya Livestock Marketing Council-KLMC
- CAHWs representatives from each district
 - ❖ Ijara
 - ❖ Wajir
 - ❖ Mandera
 - ❖ Tana River
 - ❖ Moyale
 - ❖ Lamu
- Woman Kind Ijara
- County Council Garissa
- Chiefs
 - ❖ Garissa
 - ❖ Ijara
 - ❖ Wajir
 - ❖ Mandera

The following participants will be invited in **Somalia**

- SAHSP-Two field officers working with SAHPS from southern and central Somalia
- Minister of livestock, range and fisheries
- Zonal Coordinator from central Somalia
- One representative from each of the following zonal professional Associations
 - ❖ SOWELPA
 - ❖ BENELPA
 - ❖ CERELPA
- Representatives from NGOs among them-Vet AID, COOPI, Terra NUOVA, VSF, CARE
- Herders
- Local Authority
- Community Based Animal Health workers.

Other participants will include:

- AU/IBAR/SERECU (Liaison officers and CAHWs Coordinator)
- Team Leader North Eastern Pastoral Development Project (NEPDP)

PACE, under the AU/IBAR will bear the cost for the participation of the invitees, under the provision in the current Project Estimate.

The SERECU workshop will be done immediately after the workshop by North Eastern Pastoral Development Programme (NEPDP). The Minister for Livestock and

2. Stakeholders are updated on the current status of veterinary delivery systems and the way forward as per Delivery Systems Study report recommendations specific for each country
3. Stakeholders understand their respective roles accordingly to assure sustainable delivery of veterinary services in the SES

A total of **30 participants** in each country will be invited to attend, whose travel, accommodation and subsistence costs will be met by AU/IBAR. The following participants will be invited in **Ethiopia**:

- The Director of veterinary services
- PACE National Coordinator
- PACE epidemiologist
- Public Private sector linkages officer
- Communication Officer
- District Veterinary Officers:
 - ❖ Dollo Odo
 - ❖ Moyale
 - ❖ Negele Borena
- Representatives from NGOs among them-FARM AFRICA, save the children USA, Oromia Pastoral Commission, Pastoral Community Development Project, ACF, CARE Ethiopia (Borena zone), LVIA (Liben zone-Moyale)
- Community based Animal Health workers
- Local Authority
- Community Based Animal Health workers representatives
 - ❖ Filtu
 - ❖ Doloodo
 - ❖ Dolo Bay
 - ❖ Bare
 - ❖ Moyale Oromia
 - ❖ Moyale Somali
 - ❖ Chireti.

The following participants will be invited in **Kenya**:

- The Director of Veterinary services
- PACE National Coordinator
- PDVS-North Eastern
- PACE Public-Private sector linkages officer
- PACE Communication officer
- PACE Epidemiologist
- Dr. Yussuf Hussein, Private veterinarian, Garissa
- DR. Subo, Private Veterinarian Garissa
- District Veterinary Officers
 - ❖ Ijara
 - ❖ Garissa
 - ❖ Wajir
 - ❖ Mandera

In-country stakeholders' workshops

For Ethiopia, Kenya, and Somalia

A. Background

One of the expected outputs of SERECU is harmonization of the roles and activities of various actors in the Somali Ecosystem and as a pre-requisite in achieving this, a regional conceptual SES stakeholders' workshop was held on 15 and 16th June 2006 at Jacaranda Hotel Nairobi, Kenya.

The recommendations of the workshop, which will be followed up and implemented through country workshops, gave guidance in making specific recommendations on National policy initiatives to facilitate harmonized approaches for Rinderpest eradication in SES.

In accordance with what is planned under the SERECU programme estimate; the recommendations of the regional stakeholders' workshop held in Nairobi in June 2006; and in line with one of the expected outputs of SERECU " Harmonization of the roles and activities of various actors in the SES", in-country stakeholders' workshops are planned to take place in the various SES countries as follows:

<u>Country</u>	<u>Venue</u>	<u>Dates</u>
Kenya	Garissa	1st –2nd December, 2006
Ethiopia	Moyale	14th-15th December, 2006
Somalia	Dinsor	3 rd – 4th January, 2007

B. Objectives of the workshop

1. Update stakeholders on the current status of rinderpest; and elaborate on the OIE pathway and actions required by countries to assure progress along the pathway for all the SES countries.
2. Elaborate on the strategy for Rinderpest eradication and OIE accreditation for freedom as contained in SERECU Phase II document
3. Share results of the evaluation of the Animal Health Delivery Systems in the SES
4. Define and elaborate the expected roles and responsibilities among Stakeholders especially Community Based Animal Health Workers (CBAHWs) re-emphasized

The expected outputs are:

1. Stakeholders understand their respective roles accordingly to assure successful progress along the OIE pathway.

APPENDIX 4: OVERVIEW OF SERECU

WHAT IS SERECU?

- A sub-unit established within the PACE Epidemiology Unit during the PACE program's extension phase, with mandate to manage and coordinate the implementation of rinderpest eradication program in the Somali ecosystem (SES)
- First 12 (10) months- EU major donor
- Interim, draft a follow-up project proposal & use it to seek funding

JUSTIFICATION FOR SETTING UP SERECU WITHIN

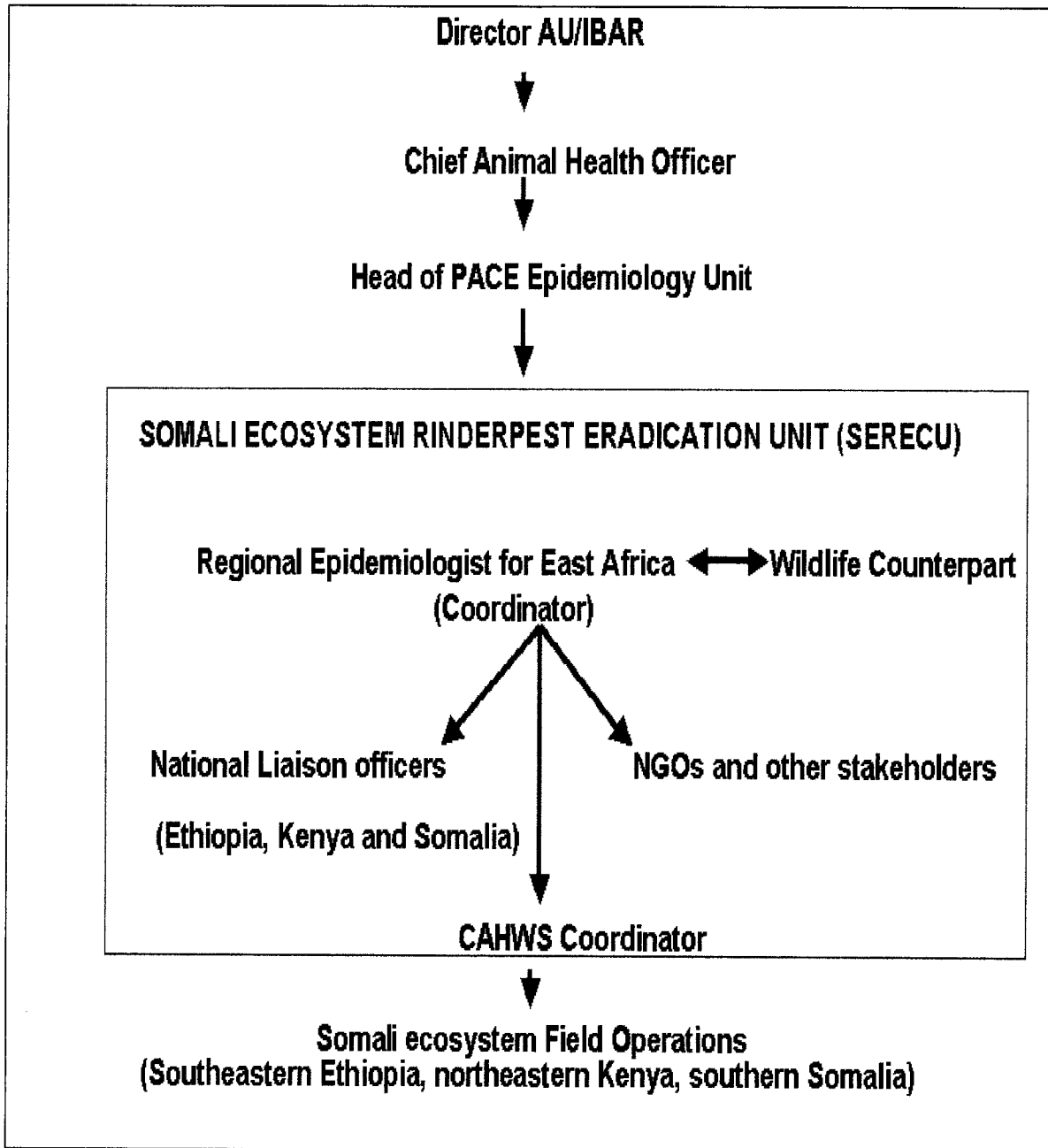
AU- IBAR

- To assure harmonization, coordination and coherence in the implementation of the programme between countries involved in SES
- AU-IBAR is mandated to provide the political and institutional support for completing the eradication of RP from SES
Justification
- To dynamically manage a science-based, coordinated regional program with the end-point being verification of RP freedom as an entry point onto the OIE pathway for eradication of RP
- To provide a basis for the necessary continuity of coordinated RP eradication process beyond PACE
- To monitor progress and prevent once and for all the re-emergence of RP occurring in the susceptible cattle and wildlife populations in Africa

Management of SERECU

- Delegated to a Management Unit that coordinates the technical implementation of Somali ecosystem field operations- Regional Epidemiologist for EA as Coordinator
- Each country represented by a liaison officer to ensure strong link between management and each country
- Each country will sign an MOU with AU-IBAR- articulates operational and sustainability issues
- MOU between KARI-NVRC and AU-IBAR already exists (updated if deemed necessary)
- In accordance with the 10th Advisory Committee Meeting (Bamako Mali, March 2005) FAO/GREP will appoint a Technical Advisor to SERECU.

An organizational chart for SERECU

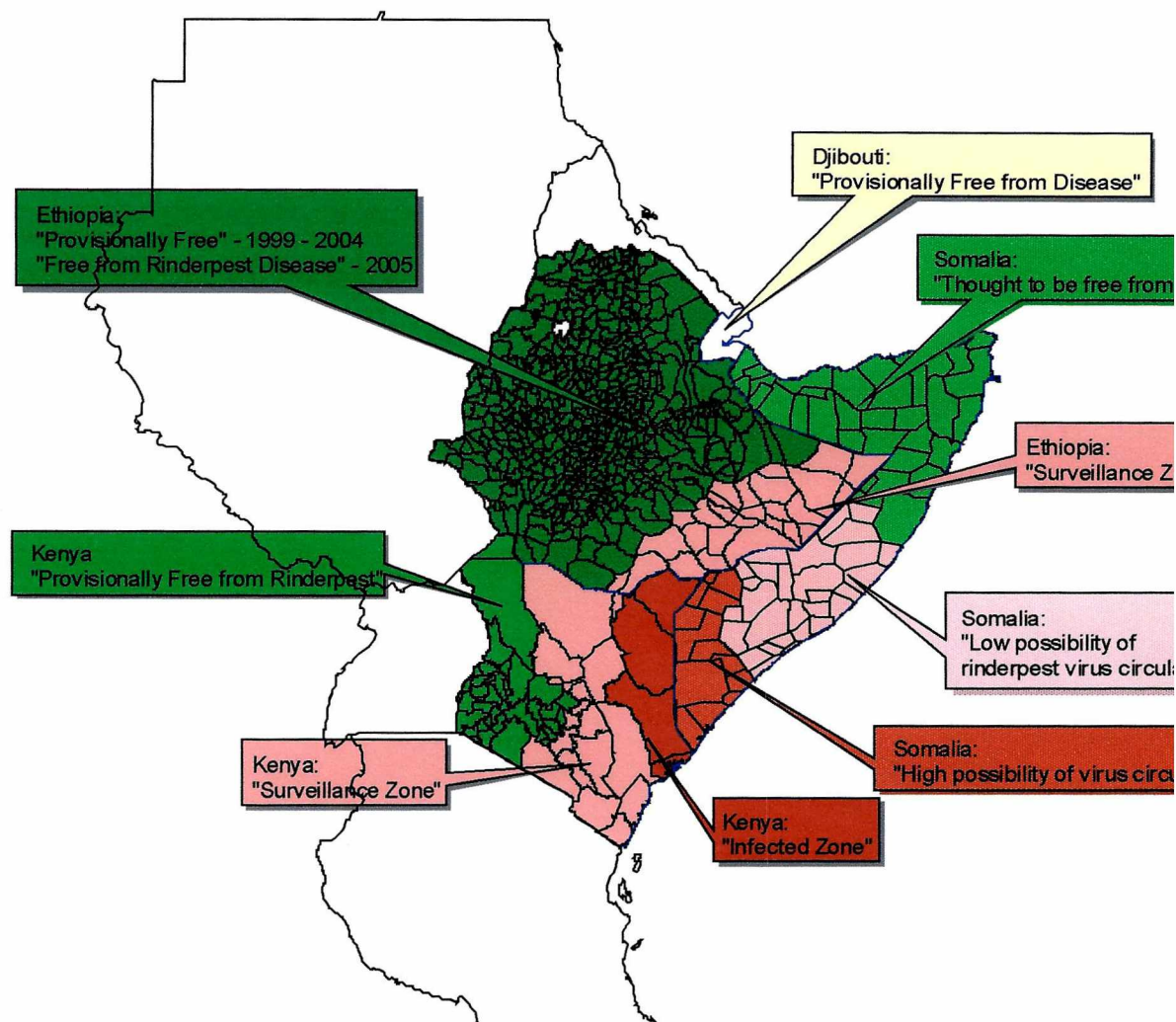


How Did SERECU Come About?

- SES= Somali Eco-System
- A zone occupied by the Somali ethnic community and their livestock and adjacent areas into which these animals are moved for pasture or trade purposes
- In accordance with the epidemiological situation, it is defined as 27 Woredas of SE Ethiopia, the surveillance and infected zones of Kenya and Southern Somalia

- Contains the presumed last remaining foci of RP virus circulation in the world

3.2.5 Map of Somali Ecosystem



Objectives of SERECU

- Overall Objective: Contribute to poverty reduction of those involved in livestock industry through eradication of rinderpest and control of the major Trans-boundary diseases
- Purpose: Is in line with the first specific objective of PACE and is to develop and implement a harmonized and coordinated strategy for rinderpest eradication from the Somali ecosystem

Results

Four results were identified and endorsed by the PACE 10th Advisory Committee Meeting held in Bamako (March 2005)

1. Somali Ecosystem Rinderpest Eradication Unit established and functioning for technical and logistic support to national disease surveillance and control systems

2. Rinderpest surveillance systems in the Somali ecosystem are well coordinated and areas of rinderpest infection or freedom clearly delineated based on risk assessment approaches as agreed with concerned countries
3. Harmonized rinderpest eradication approach applied by veterinary delivery systems in the SES
4. Final rinderpest eradication strategies prepared, endorsed and coordinated

Recommendations on RP Surveillance in SES Held in June 2005, Nairobi

Objective: To clearly assess the RP situation in SES leading to an action plan and way forward

1. Finalize WP1 for SERECU soonest possible in close consultations with all stakeholders for endorsement by the EC Lead Delegation
2. Organize a meeting to clarify with relevant stakeholders the institutional relationship with SERECU
3. Surveys for 2005-06 should be undertaken jointly by National Programs. According to the recommended serological prevalence investigation design, supported by targeted surveillance methodologies (PDS& wildlife
Based on recent survey results in the 3 countries, need for follow-up investigations to clarify RP seropositivity
5. Random surveillance is planned to be undertaken concurrently in the three countries in January-February 2006; PDS and wildlife surveys to be carried out later at appropriate times
6. Wildlife surveillance planned as follows
 - Ethiopia- One round in warthogs in March 2006
 - Kenya – 2 rounds: August-Sept '05 and August-Sept '06
 - Somalia- Training (warthog capture)- Sept '05 and surveillance March 2006
7. Rumors regarding disallowed use of RP vaccine be vigorously followed up- reported to National Veterinary Authority and SERECU
8. Facilitate meeting on laboratory performance between KARI-NVRC, AU-IBAR and SAHSP
9. *The sketch map illustrating rinderpest situation in SES be maintained unchanged up to the next SES Technical Steering Committee-*
10. The Accra harmonized protocol for laboratory testing of samples for rinderpest serology by National Laboratories and verification by Reference Labs continues to be valid and should be followed
Samples destined for FAO/OIE Reference Labs (Pirbright, UK or CIRAD- EMVT, Montpellier) can be shipped directly from National Labs in appropriate containers provided by FAO/GREP following guidelines for IAEA standards- (regional lab expert should be informed)
12. During the implementation, 3 more SES workshops are planned to take place-
 - Nov'05 PDS/ 6 monthly meeting
 - June '06 Sero-survey results
 - Oct '06 Wrap-up

APENDIX 5: EXPECTED INPUT BY COUNTRIES FOR SERECU ACTIVITIES

FUNDING

- National PACE budgets should include component for SERECU activities.
- Counterpart PACE funding to be boosted.
- Counterpart funds to support SERECU activities.

EMERGENCY PREPAREDNESS PLAN(EPP)FOR RINDERPEST

- EPP is an OIE requirement for rinderpest eradication process.
- Kenya and Ethiopia to activate their Rinderpest EPP.
- Somalia to develop EPP for Rinderpest.

PERFORMANCE MONITORING

- Poor performance by countries in monitoring and evaluation.
- Strengthen performance-monitoring mechanisms.
- Operationalise application of performance indicators for epidemio-surveillance systems.

STRENGTHENING EPIDEMIOSURVEILLANCE SYSTEMS

- SERECU is focused on strengthening of epidemio-surveillance for rinderpest.
- Countries should also strengthen epidemio-surveillance of other priority diseases especially those inhibiting trade

COMMUNICATION STRATEGIES

- Cooperation and ownership of the rinderpest eradication process by the respective stakeholders is essential.
- Countries must develop and or strengthen communication strategies for information dissemination to stakeholders.

WILDLIFE SURVEILLANCE

- Wildlife surveillance is a key component in the rinderpest eradication process.
- Under PACE-(SERECU),financial and technical support for wildlife surveillance is provided
- Countries must develop or strengthen capacity for wildlife surveillance for sustainability after expiry of PACE program.

ENHANCEMENT OF THE PUBLIC /PRIVATE SECTOR LINKAGE

- According to OIE guidelines, an effective animal health services delivery system should enlist the collaboration of the public and private animal health service providers.
- The Somali ecosystem is characterized by scanty presence of professional animal health service providers.
- Countries should develop or strengthen the capacity to co-ordinate, regulate and supervise the para-veterinary professional systems, in accordance with OIE guidelines.

APPENDIX 6: PRESENTATION BY PACE EPIDEMIOLOGIST FOR EA

Strengthening epidemiological surveillance systems in somali ecosystem

Introduction

Epidemiological surveillance is the systematic and continuous collection, analysis and interpretation of health data (often designed to detect the appearance of a specific disease), allowing the health status and associated factors of given populations to be followed in space and time for use in the planning, implementation, and evaluation of disease control measures

- Efficient diagnostic laboratory support is an integral part of epidemiological surveillance
- Epidemiological Surveillance System- Involves people and institutions structured to ensure the effective surveillance of animal diseases in a given area
- System encompasses passive and active surveillance activities

The objectives of ESS

- First objective is to collect relevant data to describe the situation of animal diseases/ health in order to:
 - Achieve early detection of priority diseases
 - Provide an accurate description of the situation with respect to enzootic diseases (in space & time)
 - Provide objective evidence for the absence of a disease condition
- Second objective is to describe a given animal health situation in order to provide the appropriate data in a synthesized format for decision-makers so that:
 - Intervention and appropriate control action can be planned (determine importance of different diseases & set priorities for the use of disease control activities)
 - Impact of control action already taken can be measured
- Accurate data communicated to neighbouring countries, OIE and trading partners to enable risk assessment to facilitate trade in animals and animal products

Key Issues in the implementation of ESS

- Institutional organization
- Supporting legislation
- *Surveillance protocols*
- Training
- Laboratory capabilities
- Data flow and management
- Performance indicators
- Communication

Surveillance protocols

- Complete and specific surveillance protocols for each disease under surveillance are necessary to ensure
 - The formalization of the steps necessary for surveillance
 - That nothing is forgotten in establishing the system and facilitates the assessment of the functionality of the system in order to verify that everything implemented meets the original objectives
- Surveillance objectives
- Definition of case (suspicious vs confirmed)

- Surveillance procedures (clinical exam, forms to be filled, sampling procedure (*nature, number, processing, preservation*))
- Practical intervention procedures in infected herds/ flocks
- Methods and means of data transmission (reports, forms, samples, intermediaries)
- Place of receipt, registration and analysis of data
- Deadlines for processing the data and providing feedback
- Methods for providing feedback to the field
- Time span of the protocol
 - Permanent- continuous surveillance
 - Limited- retrospective or cross-sectional

Expected outputs from strengthened ESS in SES

- Better understanding of the epidemiology of mild rinderpest in the ecosystem (wildlife involvement, virus lineage, improved case definition)
- Establishment of a risk assessment based decision making process
- Delineation of foci of rinderpest infection
- Prove absence of circulating virus in provisionally free zones
- Provide information for the monthly animal disease status report to OIE

What are the necessary activities?

1. Assure that the following surveillance tools are well established/ appropriate training
 - Routine disease reporting and communication to stakeholders
 - Random clinical and serological surveys and PDS
 - Wildlife serological surveillance
 - Specialized disease investigation teams (coordinated at regional level)
 - Timely laboratory diagnosis with MOUs
 - Risk analysis capacity
2. Develop consensus on surveillance requirements and methods
 - Agree on quarterly basis, spatial and temporal surveillance activities in SES
 - Maintain a central database and perform data analysis & provide feedback
 - Agree on laboratory systems and protocols to support timely testing of samples and reporting of results through MOU

Passive surveillance

- Based on reports from livestock keepers & traders, abattoir staff, public and private animal health service providers on occurrence of animal diseases – to be effective, it must be well managed and “activated”
- Is exhaustive (not restricted to a particular disease)
- Continuous activity and basic requirement of OIE
- Part of early warning system

Uses

- Identify which diseases are in a country (not prove that disease X is not)
- Identify where disease is located (not areas where it is not)
- Respond to disease outbreaks
- Meet the basic requirements of OIE

Cannot be used

- Determine level & geog pattern of disease
- Determine importance of disease
- Set priorities for use of resources for disease control activities
- Plan, implement, and monitor disease control programs
- Demonstrate disease status to trading partners

Active surveillance

- Is based on the active collection of data to detect and measure the presence of a specific disease (infection) or diseases in populations or individual animals
- Overcomes the problems encountered in passive (under-reporting, unrepresentativeness, inappropriateness for calculation of rates and proportions)
- Overcome thro' use of properly structured epidemiological disease surveys that are quick to conduct and relatively inexpensive (vs. effective passive surveillance system)

Active Surveillance- Two groups

Probabilistic Surveys

- *Prevalence surveys*- aim is to estimate the proportion of the pop that has a particular disease status, at a single point in time
- *Incidence rate surveys*- is a measure of the average speed at which a disease is spreading (prospective or retrospective)
- *Surveys to demonstrate freedom from disease/ infection* e.g. random sample surveys with the objective to detect clinical or serological evidence of RP in target pops if present at a predetermined prevalence

Purposive/ Targeted Surveys (Non-probabilistic)

- Is one where the sample is drawn from sub-populations considered particularly likely to contain infected or sero-positive animals, on the basis of the judgment and experience of the surveyor
 - When used to verify eradication, its role should be complementary to probabilistic or random survey, but not to replace probabilistic samples- instead must supplement them in a way which improves efficiency of detecting any residual disease
 - EX. Wildlife sero-surveillance and PDS
3. Establish a centralized mgt system for the documentation and submission of samples for reference labs
 4. Assure timely and quality laboratory diagnosis by:
 - Establishing quality assurance systems
 - Back-up training
 - Financial and material support to the National and Reference Regional Labs

Conclusion

How prepared are we to assure the delivery of results?

What needs to be done to improve delivery of the results?

**Update on PACE information management
with particular emphasis on SES member countries****INTRODUCTION**

Surveillance is an essential component

- To provide data to support the risk analysis process
- To substantiate the rational for sanitary measures
- To support claims for freedom from disease or infection
- Surveillance is information for action. It is aimed at either:
- Demonstrating the absence of disease or infection
- OR
- The occurrence and distribution of disease or infection
- The success of a surveillance system is dependent on a reliable process for data collection and management
- Be it for survey purpose or routine activities, the consistency of data collection and event report in a format that facilitate analysis are critical

PACE DATA MANAGEMENT UNIT

3 of the 4 thrusts of PACE are related directly or indirectly with capacity building in epidemiological data collection and analysis for better disease surveillance and ultimate control or eradication of diseases

- The need for capacity building is felt both at PACE Regional and National component level
- DMU was established in 2000 and the 2nd PACE CM recommended the establishment of similar units at country level
- Capacity for information management requires;
- Trained, dedicated and motivated staff
- Logistic to investigate field events and to gather and transmit data
- Information management tool for the storage and analysis of data and dissemination of information
- Efforts of PACE in this regard includes;
- At National Programme level training of staff on disease surveillance and field data collection
- At Regional level provision of ARIS and training on data management and GIS

OVERVIEW OF INFORMATION MANAGEMENT IN SES COUNTRIES

- Collection of field data for disease reporting not yet established
- International reporting not yet started
- ARIS is not operational
- Retention rate for staff trained on the operation and use of ARIS is nil
- Technical support for ARIS re-installation and training planned for February 2006
- ETHIOPIA
- Experience of collecting field data and reporting exist
- Several staff members trained on surveillance and disease reporting
- Improved in-country disease reporting rate over years
- Good international disease reporting rate
- Frequent changes in staff running info. Management & Epidemiology Unit
- ARIS implemented but the database is not yet operational

- Did not benefit from Regional Training on Data Management and GIS
- Re-installation of ARIS & training on its operation & use planned for March 2006
- KENYA
- Good field data collection & reporting experience
- Sensitization of provincial authorities on the importance of disease reporting
- Training of field staff on data collection and reporting
- Good internal disease reporting rate but there is need to improve quality
- A multi-user ARIS implemented and 3 users connected to the central server
- ARIS implemented in all the 8 provinces & automated data transfer established
- A total of 6 + 2 National & 16 provincial staff trained on ARIS
- Kenya benefited from Regional training and several technical support

PACE DMU IMMEDIATE TASKS

- Technical support to Somalia and Ethiopia in the implementation (installation and training) of ARIS
- Design and development of ARIS Version II
- Organize and Conduct 2 regional training sessions on Data Management and GIS for Anglophone and Francophone countries

APENDIX 8 PRESENTATION BY ECONOMIST

Economics was introduced into IBAR's activities in 1996 when the Economics Support Unit (ESU) was established through a collaborative arrangement between IBAR and ILRI. The unit carried out economic activities as a separate entity during PARC and the first phase of PACE but was merged with the Epidemiology unit during the extension phase of PACE.

The role of economics within the PEU is to develop and provide information on livestock and animal health economics that can be used to guide and improve decision-making and planning at the individual, national and regional level.

This is expected to contribute towards the following:

- Enhancing national capacities in animal disease control
- Improving the delivery of livestock and animal health services
- Eradication of rinderpest from Africa
- Efficient control of other epizootics

So far, the unit has produced the following:

- Economic information for investment decision in epizootic disease control
- Estimated the cost of epidemio-surveillance networks to facilitate budgeting by governments.
- Estimated the costs and benefits of investing in the control of animal diseases
- Sensitized national governments on sustainable financing of epidemio-surveillance systems.
- Enhanced national capacities in economic analyses of animal diseases

Role of PEU Economics in SERECU

- Use new and available epidemiological data on mild rinderpest within the Somali Ecosystem to estimate the potential economic impacts of rinderpest eradication from the system
- Provide support to SERECU member countries to enable them undertake economic analysis including the cost-effectiveness of rinderpest control measures.
- Estimate cost of national epidemio-surveillance systems in SERECU member countries to facilitate proper budgeting from national resources for their sustainability.
- Assist SERECU member countries to organize national workshops on budgeting to sustain national epidemio-surveillance networks.
- Avail economic data on animal disease control to SERECU member countries.
- Initiate an economic study of returns to investments in proposed export zones within one or two of the SERECU member countries.
- Initiate an economic feasibility study on commodity processing as a means of enhancing access to export markets by one or two SERECU member countries.

APPENDIX 9: PRESENTATION BY CAHWs COORDINATOR

(I) BACKGROUND INFORMATION

(i) PARAPROFESSIONALS, WHO ARE THEY?

In Kenyan situation, these are Animal Health Assistants (AHA). They are:

- Literate
- Trained in AHITIs (2 years)
- Practice under supervision by a Veterinarian.

Others include

- JAHAS (Livestock assistants) trained for one year-Not trained any more
- LOs (Livestock officers)-Diploma-Not trained any more
- BSC Animal science
- Lab technologists

(ii). CAHWs-Who are they?

- Non professionals employed during colonial period to deliver veterinary services-guards, scouts, Paravets, bare foot vets, bare foot doctors. Typically they are herders who live and move with their community
- Currently the People on ground in ASALs -Root hairs, CAHWs, Trained pastoralists, key actors in disease control in ASALs
- The CAHWs have received short training courses to enable them to treat their animals.
- CBAHWs delivery Systems have been the prime factor in removing Rinderpest from southern Sudan.

Who trained CAHWs?

The government-veterinary department in conjunction with church organizations
NGOs, churches, and other development bodies

The Situation on the ground. Where are CAHWs?

- In some areas some are still active-doing supervised work by professionals
- Some work on their own
- Some left for more lucrative jobs
- Others were left orphaned-no clear handing over-no sustainability

Common constraints faced by paraprofessionals, and CAHWs

- Policies and legal frame works that do not accommodate them
- Lack of access to professional support
- No professional to link with on the ground-poor linkages
- Poor infrastructure-
- Monitoring and supervision difficult

II. HOW DO WE REACH PARAPROFESSIONALS AND CAHWs FOR INTEGRATION IN SERECU ACTIVITIES?

- We require a thorough understanding of the situation on the ground
- The three countries should conduct a census of the Paraprofessionals and CAHWs in areas of interest in order to determine current status-active, not active etc as follows:

(i). CENSUS OF PARAPROFESSIONALS AND CAHWs

- **Identification of Paraprofessionals and CAHWs** - to determine numbers, geographic location, origin, criteria for selection
- **Policy**-to establish the legal network in each country, how are they linked to the existing system?
- Determine Level of training
- Determine total number trained and total number still active
- Determine capacity to perform specified activities related to SERECU-surveillance
- Determine ability to keep records
- Determine efficiency/ Ability to identify and report diseases
- Determine nature of daily work/activities

(ii) BENEFITS OF MAPPING

IDENTIFY AREAS WHERE CAHWs DELIVERY SYSTEMS NEED IMPROVEMENT. This will enable us to make sound decisions concerning who we are going to work with:

- Whether to Work with AHAs only;
- Whether to Work with AHAs and Active CAHWs already on ground;
- Whether to build capacity through refreshing already trained
- AHAs and CAHWs
- Way forward on reporting pathways, and report formats.
- Engage support of partner organizations to ensure smooth running and improvement of service delivery (e.g. the DVO, NGOs, and other stakeholders to assist in mapping of Paraprofessionals and CAHWs

Should the way forward be training, the following issues will be considered:

- The criteria for selection
- The target group and literacy level
- The duration of the training course
- Course context-clear message/emphasis? Surveillance, other services?),
- Initial kit determination - tools etc

We should send clear messages to the communities and other stakeholders defining the expected roles of paraprofessionals and CAHWs visa viz SERECU

(III) LINKAGES: WHAT IS INVOLVED IN LINKAGES?

- Clearly defined roles/ responsibilities for the various stakeholders
- Building of consensus which is concluded by signing MOUs
- Legislation
- Understanding the trend in policy change in each country will be very important for establishing linkages and sustainability

For example in the Kenyan situation, the Veterinary Surgeons act (CAP 366) is being amended and the following will be required of the professionals and paraprofessionals:

- Licensing and inspectorate unit requires all private practioners to be licensed once legislation is put in place
- Private practioners to form a professional body within the district for negotiation-recognized by DVO
- Vet/paravet oath, vet/paravet general inspectorate rules, vet/paravet disciplinary proceedings procedure, vet/paravet licensing rules, registration

Understanding the trend in policy change will be necessary to avoid rendering them invalid in future.

(IV) SETTING OF LOCAL TARGETS (SETTING OF DETAILED PERFORMANCE REQUIREMENTS)

- Set targets for intended outcomes
- Targets should reflect the actions planned and what SERECU is trying to achieve.
- Specify what must actually happen for the desired outcome to be achieved, detailing:

➤ Inputs e.g. resources in terms of staff and cash

➤ Processes e.g. the activities which staff will have responsibility for

➤ Target outputs e.g. the immediate consequences of these activities-e.g. Number of paraprofessionals refreshed

➤ Milestones-Stages to be reached by given dates.

Start from good baseline information-meaningful targets and project design depend on very good information on the scale and nature of the problem. Where there are gaps in the baseline information e.g. the numbers of paraprofessionals/CAHWs on the ground, set a target date by which the data will most likely be obtained.

In all the targets, estimate the impact that the activities will have

Running through this series of questions can help in judging where to pitch a target in each country.

- What is the starting position-current status of Paraprofessionals/CAHWs on the ground
- What is the scale of the problem-are the numbers adequate in each country?
- What is the trend-is the situation the same in the three countries?
- How do these compare with other countries
- What has similar activity achieved in the other partner countries
- Are we planning to tackle the problem the same way?
- Are the conditions the same?
- Are we putting in the same resources in each country?
- What else is going on that may affect the performance of paraprofessionals?
- Has the staff providing services been consulted on the targets?
- Does the target set take accounts of their inputs?
- How will staff commitment be secured?
- Is the target worthwhile?
- Will the community regard it acceptable?
- Will achieving it be satisfying?
- How does the local target relate to National Targets?

Consider setting targets that reflect the role of different partners-targets that reflect different partners objectives can help in tracking and acknowledging contributions made by different stakeholders-consultation.

Make sure targets set are clear and unambiguous. That is:

- Specific
- Measurable
- Achievable
- Realistic
- Timely and time scaled.
- A named person should be responsible for delivery and reporting on each target.

How will the targets be shared with a wider audience?

Consider how the targets will be communicated to people who need to know about them-Other stakeholders, staff etc

Build targets into individual work plans

Individual work plans necessitate easy reporting , assessment of achievements, monitoring and evaluation

Requirements for an individual work plan

Clear targets indicating What, When, and Who, and Activity indicators

e.g. In Paraprofessional/CAHWs Training- indicate who, and when concerning Survey, Community sensitization, AHAs/CAHWs selection, training, implementation, indicators

Individual Work plans will be done at all levels as follows:

- CAHWs/paraprofessionals
- Vets-private, NGOs, Government etc.

They will all be done in consultation with country work plans and all stakeholders

(V) ESTABLISHING NETWORKS-VET/PARAPROFESSIONALS-CAHWs

(i) STRATEGIES TO STRENGTHEN LINKAGES WITH VETERINARIANS FOR MONITORING AND SUPERVISION PURPOSES

- Linking issues involve monitoring, supervision, technical guidance, disease reporting and surveillance, and feed back.
- Strengthening of linkages depends on establishing networks making prompt feed back, monitoring and evaluation, supervision, regular meetings, training and sensitization of stakeholders.

(ii) TEAM FORMATION

Why teams? To facilitate regular following and coordination

Team definition- how big is a team? Division, District etc?

Who is going to be a team leader? AHA, VO, DVO etc?

It will be important to come out with profiles and clear roles of every member on the ground

(VI) REVIEW OF PROGRESS AT REGULAR INTERVALS

- **Why?** Checks against targets will help to highlight where projects need adjusting or where targets need revising to reflect a changing situation
- The action plan may also need revising to take account of new developments
- **Why meetings?** Sharing of experiences; Continuous feedbacks; self/group assessment and evaluations according to work plan; Constant review of progress and timely amendment of direction where required
- **Who?** Representation from all stakeholders on the ground-Vets, paraprofessionals, Herders, Coordinator, SERECU staff.
- **How often?** More regular than regional meetings

(VII) REPORTING-LEVELS OF REPORTING

- CAHWs/PARAPROFESSIONALS
- VETS-PRIVATE, GOVERNMENT or equivalent
- DVOs or equivalent
- PARAPROFESSIONAL/CAHWs
- COORDINATOR-/ SERECU

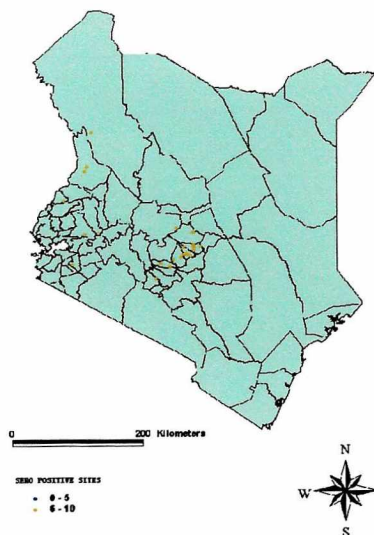
APPENDIX 10: COUNTRY REPORT-KENYA

RESULTS OF SURVEILLANCE ACTIVITIES UNDERTAKEN BETWEEN JULY AND DECEMBER 2005

Background

- Random survey to prove and verify absence of RP disease in the provisionally disease free zone, and hybrid of random survey and participatory disease searching (PDS) in SES was carried out in October 2004
- Surveillance in SES was to further delineate the infected zone
- The results showed sero-positivity to rinderpest (RP) virus in some areas
- Follow-up surveillance in areas with moderate RP antibody prevalence and high risk areas was necessary
- This was undertaken in July/August 2005

Random survey (October 2004) sero-positive sites



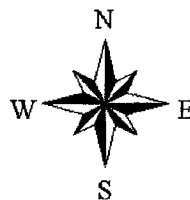
PDS/Sero-surveillance (October 2004) sero-positive sites



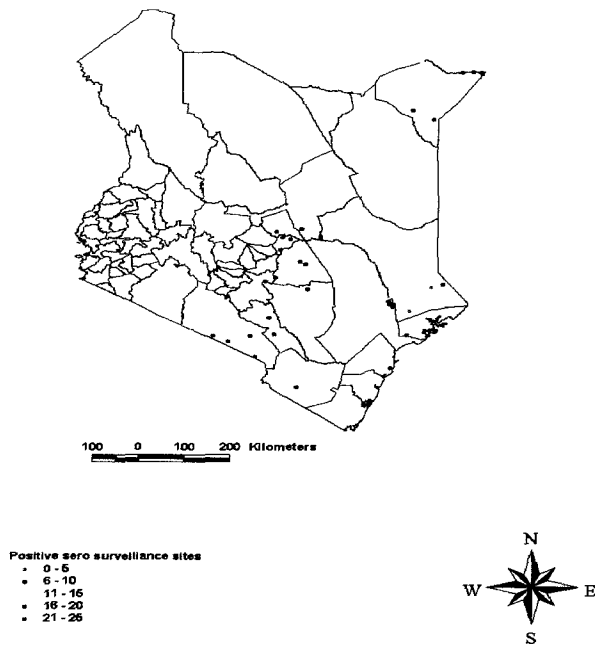
100 0 100 200 Kilometers

Positive sero surveillance sites

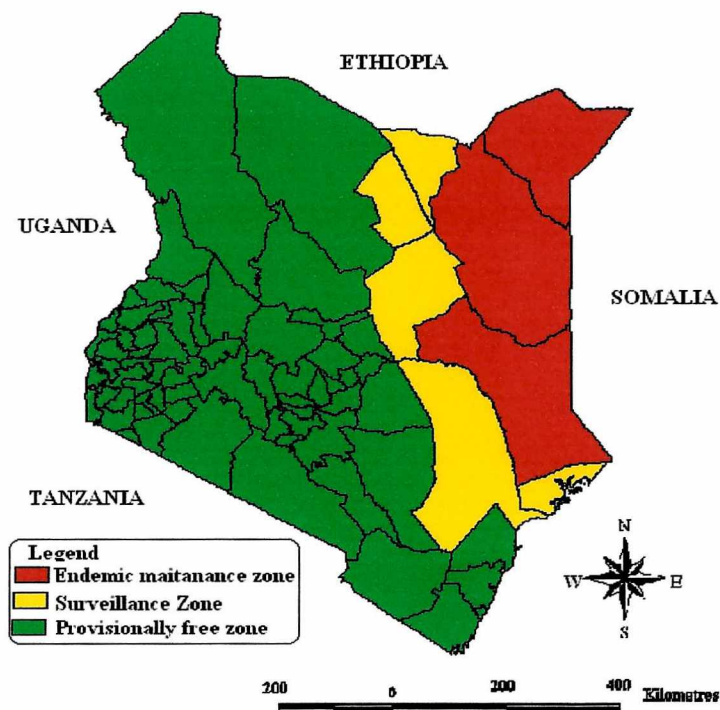
- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- 21 - 25



RINDERPEST ZONATION MAP 2005



RINDERPEST ZONATION MAP 2005



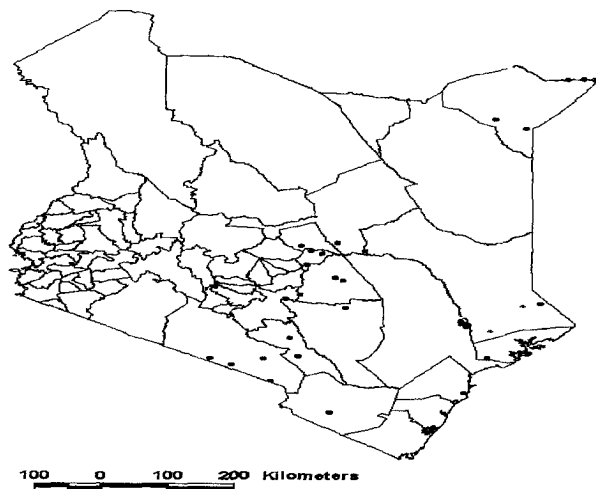
- The results were used to rezone the country
- Application to OIE for freedom from disease on zonal basis was made in July, 2005

APPROACH: Follow up surveillance

- Surveillance areas were identified using the following criteria
 - Results from the October 2004 surveillance
 - Congregation of livestock at time of PDS
 - Proximity to game parks (livestock-wildlife interface)
- Sero-positive sites were used as starting points
- PDS was conducted (informal semi-structured interviews & PDS form filled) at every site visited
 - Herd inspection for RP compatible signs
- Sero-surveillance conducted in herds which sero-converted during the previous exercise
 - 15 serum samples from 1-3 year old unvaccinated cattle
- RP investigation where SE encountered

RESULTS: PDS SITES:

- A total of 86 sites were visited
- The surveillance teams established that the cattle sero-converting during the October 2004 surveillance mission in Mandera and Tana River districts were >3 years old
- Some herds sampled in T/River originated from Ijara district
- Vaccinations in Mandera & Ijara districts were undertaken in 2001 & 2003 respectively



Positive sero surveillance sites

- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- 21 - 25



RESULTS: Clinical findings

- No RP compatible signs encountered in the surveillance area (N.W, Kenya & SES part of Kenya)
- Cattle showing stomatitis and had tested negative for FMD were encountered in 2 farms in Trans Nzoia district
- Ten serum samples submitted to CVL, Kabete
- Results were negative for RPV antibodies on HC-ELISA at CVL, Kabete
- 368 sera were collected from cattle
- Ho-ELISA test done at CVL, Kabete
- Sampled herds had no history of vaccination against RP

MEAN HERD PREVALENCE (%) FOR RP VIRUS ANTIBODIES

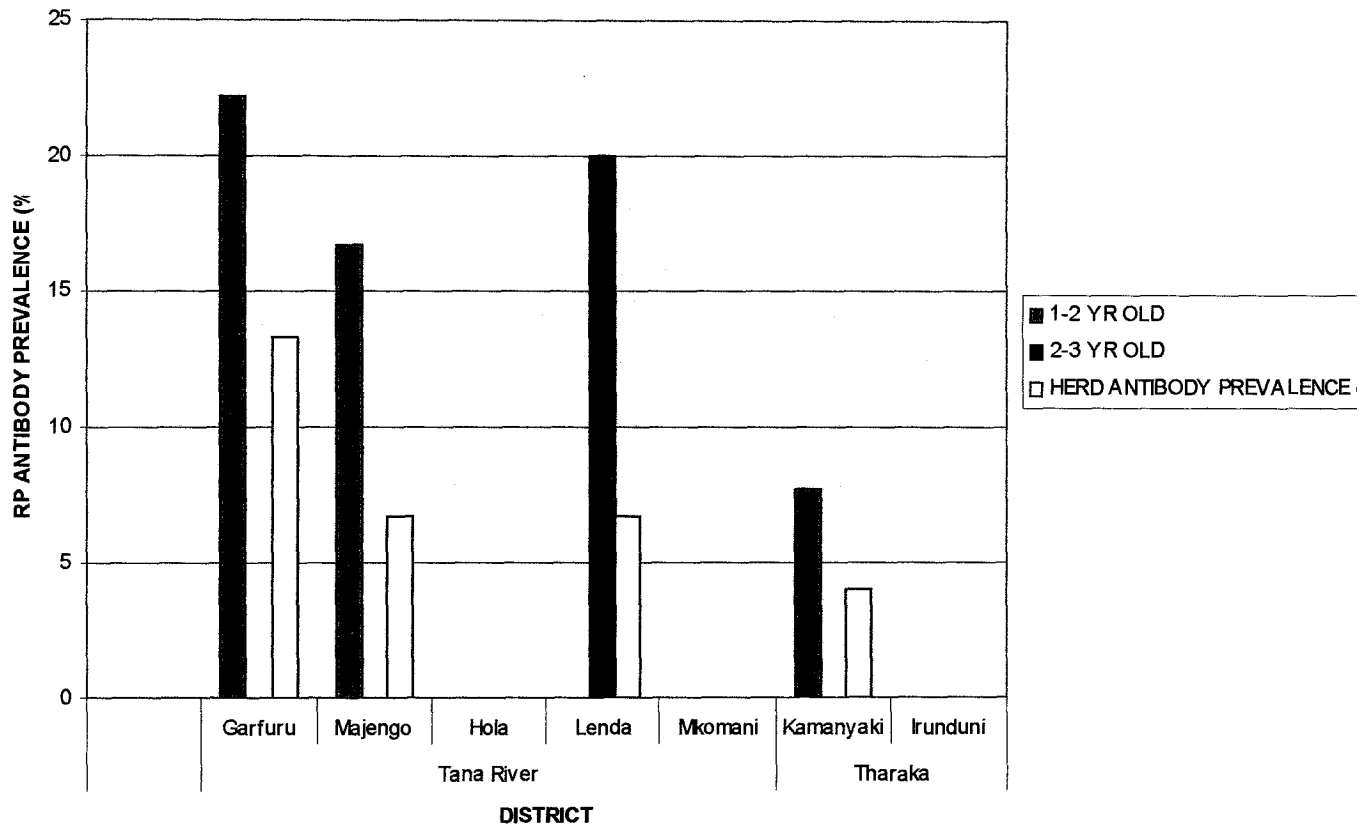
DISTRICT	NO. OF HERDS SAMPLED	NO. OF HERDS SERO- CONVERTING	MEAN ANTIBODY PREVALENCE (%)		MEAN HERD PREVALENCE (%)	PREVALENCE RANGE (%)
			1-2 YR OLD	2-3 YR OLD		
Idara	6	0	0	0	0	0
Ido	4	0	0	0	0	0
Idu	2	0	0	0	0	0
River	5	3	8.1	2.9	5.6	0-13.3
Idngi	3	0	0	0	0	0
Idaka	2	1	5.9	0	2.9	0-4
Taveta	1	0	0	0	0	0

Laboratory results

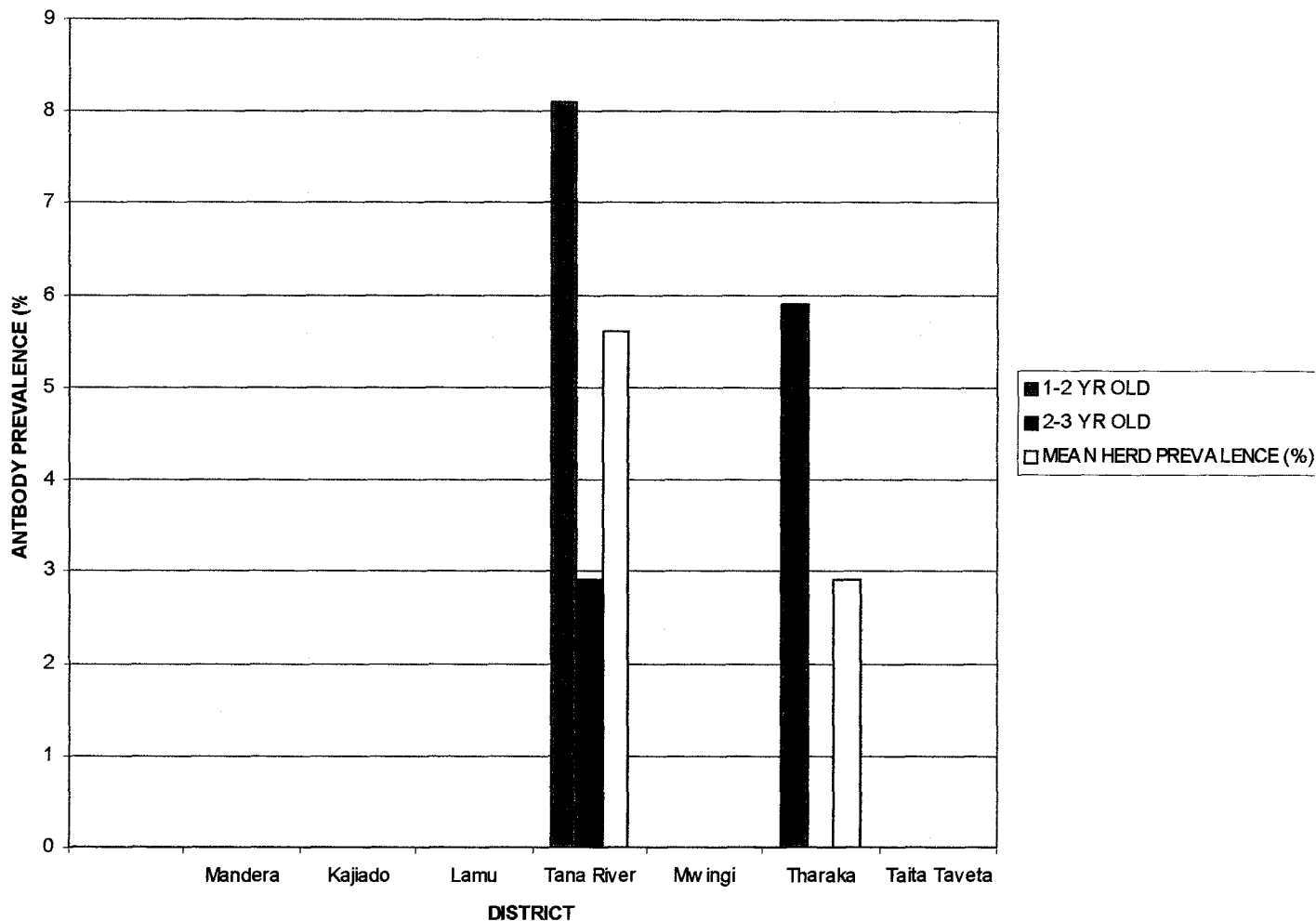
HERD % PREVALENCE FOR RP VIRUS BY AGE GROUP

DISTRICT	HS	% ANTIBODY PREVALENCE		HERD ANTIBODY PREVALENCE (%)	NO. OF CATTLE SERO-CONVERTING
		1-2 YR OLD	2-3 YR OLD		
Ma River	Garfuru	22.2 (2/9)	0	13.3	2/15
	Majengo	16.7 (1/6)	0	6.7	1/15
	Hola	0	0	0	0/12
	Lenda	0	20 (1/5)	6.7	1/15
	Mkomani	0	0	0	0/14
Maraka	Kamanyaki	7.7 (1/13)	0	4	1/25
	Irunduni	0	0	0	0/9

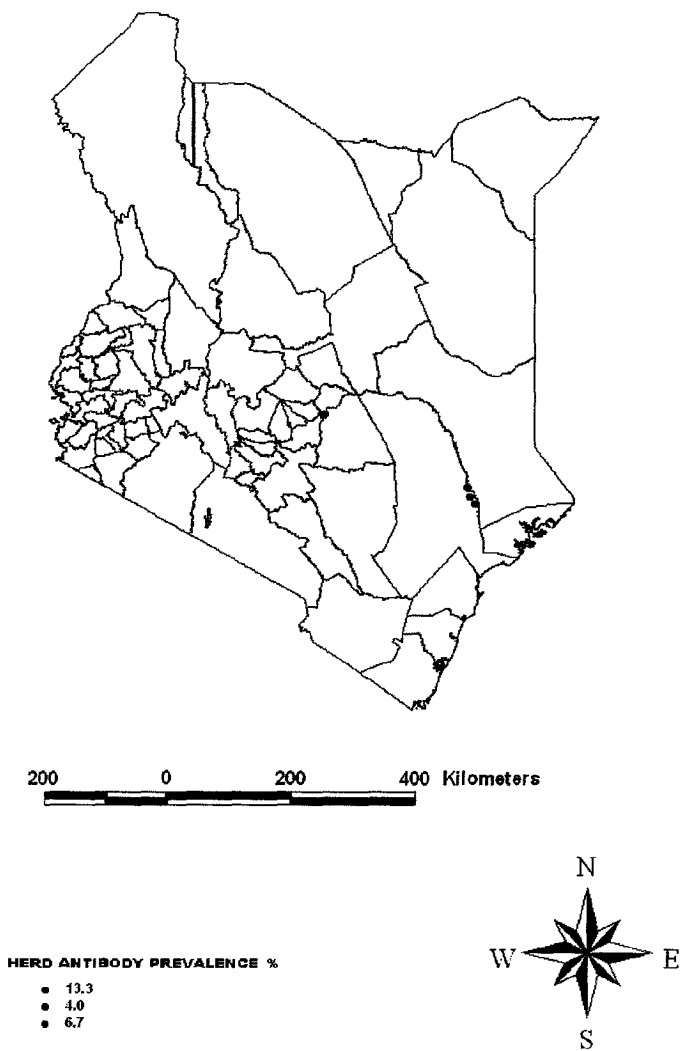
HERD ANTIBODY % PREVALENCE BY AGE GROUP



MEAN HERD RP ANTIBODY PREVALENCE BY DISTRICTS



SERO-SURVEILLANCE: Spatial distribution of sero-positive sites



STOMATITIS-ENTERITIS SYNDROME INVESTIGATIONS (January 2006)

- Three cases were investigated this month
- Meru North district
- Reported by DVO
- Clinical signs: lacrimation, diarrhoea and death
- Tentative diagnosis: Tick borne diseases & trypanosomosis
- Laboratory results awaited
- Machakos district
- Reported by livestock owner
- Clinical signs: lacrimation, diarrhoea & death (appr. 40) within a duration of 2 weeks
- Report from investigation team not yet received
- Kiambu district
- Reported by private veterinarian
- Clinical signs: lacrimation, mucoid nasal discharge, laboured breathing, diarrhoea.
Treated with antibiotics without response
- Report from investigating team not yet received

CONCLUSION AND RECOMMENDATION

- The sero-positivity seen in the October 2004 surveillance in both provisionally disease free zone and SES (Kenya) was due to:
- Sampling of vaccinated cattle (aging error)- Mandera & Tana River districts
- False positive laboratory results
- The positive cases in this mission most likely due to false positive laboratory results
- In view of the prevailing weather conditions which favour congregation of livestock at watering points, surveillance activities in the region should be intensified in both livestock and wildlife

AN OVERVIEW ON STATUS OF SURVEILLANCE METHODS AND TOOLS

- Passive surveillance
- Active surveillance
- Disease search by districts
- Random/purposive surveys
- Clinical
- Serological
- Participatory disease searching (PDS)
- Wildlife surveillance
- Disease investigation
- Laboratory diagnosis

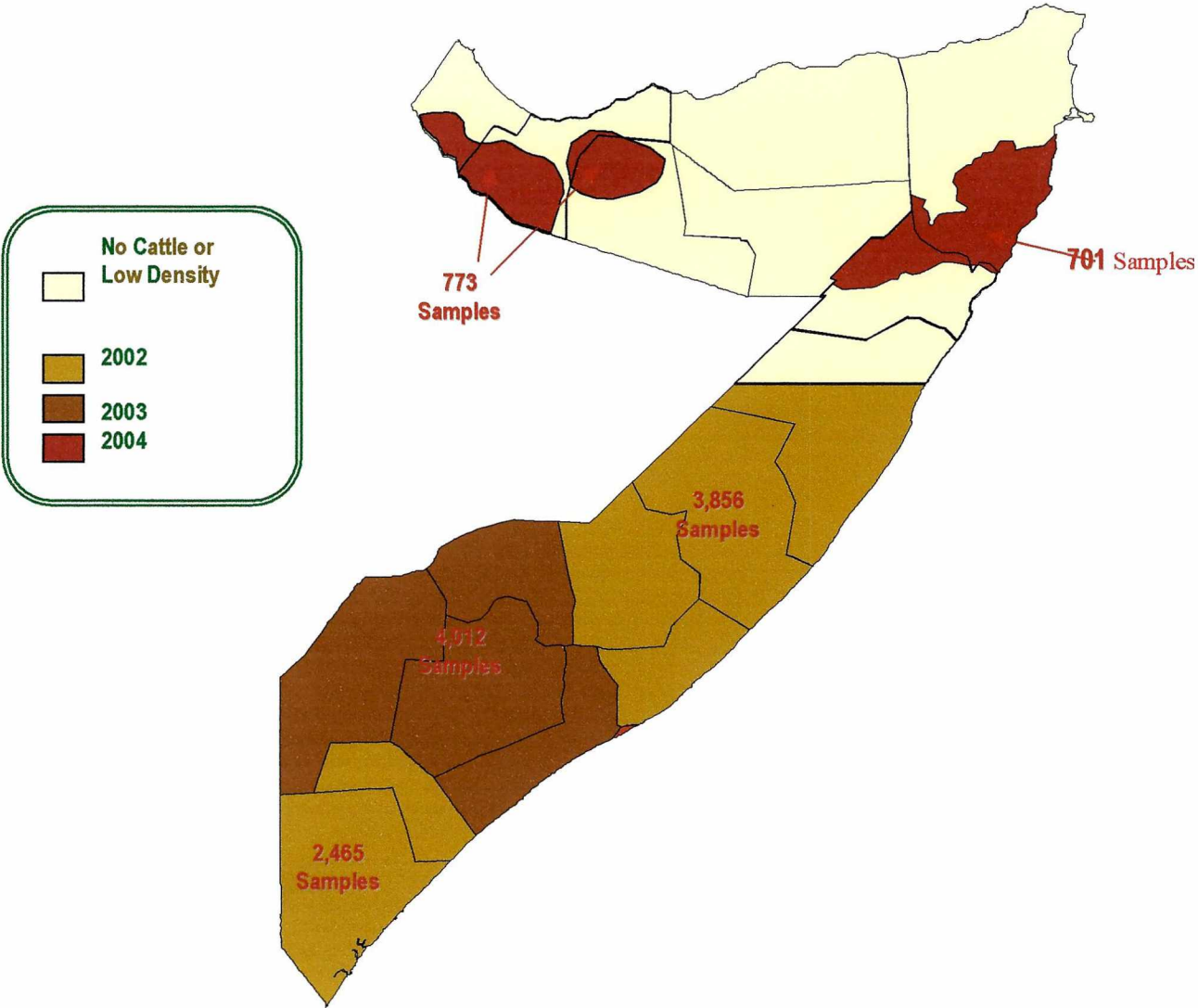
SURVEILLANCE METHODS & TOOLS	STRENGTHS	WEAKNESSES
Passive surveillance	<ul style="list-style-type: none"> • An active veterinary services in place • GIS compatible disease reporting formats in use • GIS established at HQs • ARIS established at the HQs & provinces • Communication facilities (radio calls, telephones) in place • Field stations facilitated with operational funds • Private animal health service providers (AHSPs) involved in passive disease reporting • Community involvement through community disease control committees • Collaboration with other relevant institutions on animal health and GIS matters e.g. ILRI, CBS, etc. • Feed back to the stakeholders through newsletter, workshops, etc 	<ul style="list-style-type: none"> • Veterinary services thin in ASAL districts • Under reporting by field staff • Poor quality disease reports • Late submission of report • Weak linkages with the private AHSPs in ASAL districts • Frequent transfers of staff
Disease search by districts	<ul style="list-style-type: none"> • Trained personnel in place • Private AHSPs involved disease search and reporting • Officers appointed to oversee disease search in the districts and along stock routes and livestock markets • Disease reporting formats in use (zero 	<ul style="list-style-type: none"> • Under reporting • Poor linkages with the private AHSPs in ASAL districts • Late submissions of reports • Poor infrastructure • Frequent transfers of trained staff

	<p>report forms)</p> <ul style="list-style-type: none"> • Rumour registers for stomatitis-enteritis cases and other notifiable disease in use • Field staff facilitated with funds • Communication facilities in place 	
Random and Purposive surveys (clinical & sero-surveys)	<ul style="list-style-type: none"> • Capacity to carry out surveys in place • Sampling frame in place (sub-locations) 	<ul style="list-style-type: none"> • Untimely release of funds • Delays in despatching surveillance teams to the field • Difficult to maintain cold chain during sample storage & transportation • Delays in samples submission to the laboratory • Inaccessibility due to remoteness and poor infrastructure • Unreliable transport – old vehicles requiring major repairs • Pastoralism (may not find animals in selected sites)
Wildlife Surveillance	<ul style="list-style-type: none"> • Capacity in place • Experience acquired over the years 	<ul style="list-style-type: none"> • Untimely release of funds • Inaccessibility due to poor infrastructure
Disease investigation	<ul style="list-style-type: none"> • Capacity to carry out investigations in place 	<ul style="list-style-type: none"> • Untimely release of funds • Delays to investigate reported cases • Difficult to maintain cold chain during sample storage and transportation • Delays in sample submission to the laboratory

Participatory Disease Searching (PDS)	<ul style="list-style-type: none"> • Trained manpower in place • PDS teams in place • Teams have acquired experience over time • Capacity for PDS trainer of trainers • Pastoralists have rich knowledge of livestock diseases/conditions • Information in pastoral areas moves fast • 	<ul style="list-style-type: none"> • Poor or no communication between PDS teams • Difficult to maintain cold chain during sample storage and transportation • Late disbursement of funds • Withholding of information by livestock owners • Community fatigue leading to poor response • Effects of bad weather on PDS implementation • Inaccessibility due to remoteness and poor infrastructure • Inaccessibility due to remoteness and poor infrastructure • PDS poorly understood by policy makers •
Laboratory diagnosis	<ul style="list-style-type: none"> • Trained personnel • Laboratory equipment in place • Laboratory consumables provided 	<ul style="list-style-type: none"> • Long procurement procedures • Inadequate funding especially for NVRC,Muguga • Delays in release of laboratory results from regional and WRLs •

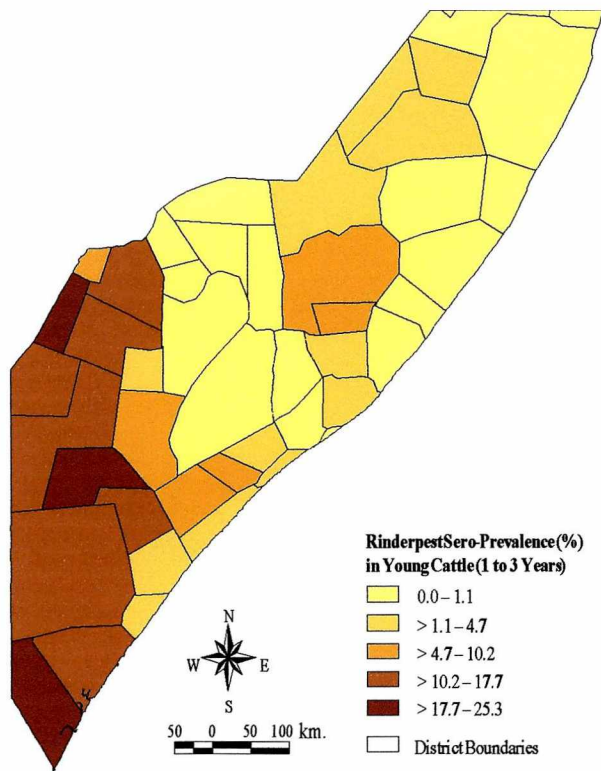
APPENDIX 11: SOMALI PRESENTATION

Geographical Distribution
of RP Sero-Surveillance (2002)

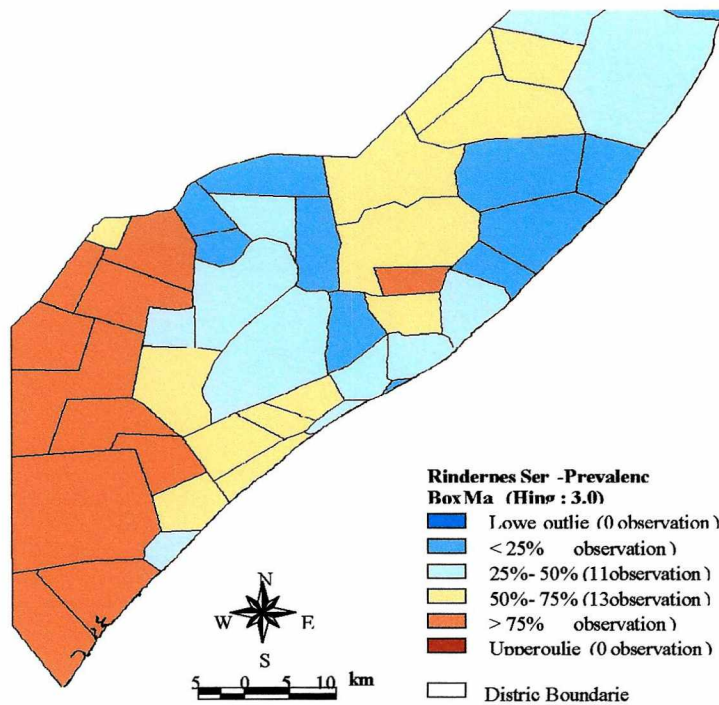


Rinderpest Sero-Prevalence

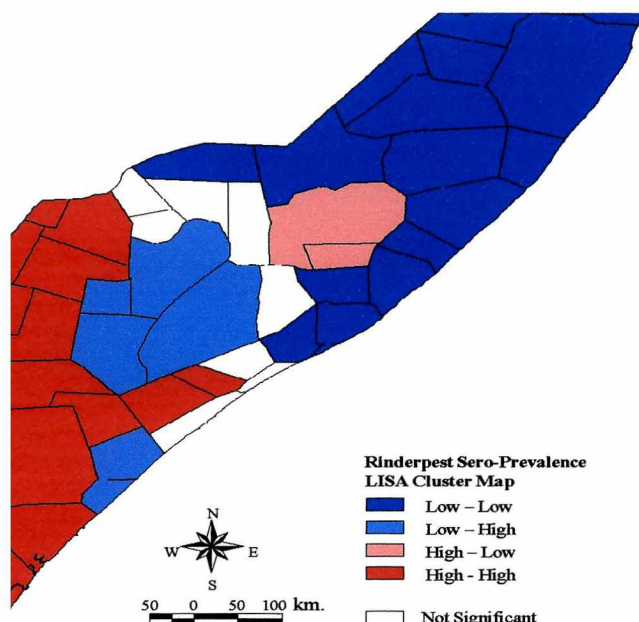
Region	Cattle 1 to 3 Years		Cattle > 3 Years	
	Prev.	95% CI (%)	Prev.	95% CI (%)
Bakool	0.61	(0.19; 1.41)	0.00	(0.00; 5.94)
Bay	0.74	(0.27; 1.60)	3.33	(0.00; 9.00)
Gadud	1.26	(0.57, 2.38)	0.00	(0.00; 9.96)
Gedo	17.83	(15.25; 20.71)	15.05	(6.94; 23.17)
Hiran	4.28	(2.90; 6.07)	7.50	(2.69; 12.31)
er Juba	16.98	(14.60; 19.63)	18.60	(11.37; 25.84)
Shabele	2.62	(1.72; 3.81)	2.94	(0.29; 5.59)
le Juba	15.99	(13.78; 18.44)	16.25	(0.00; 33.09)
Shabele	0.64	(0.25; 1.32)	1.00	(0.00; 2.95)
- South	0.37	(0.07; 1.07)	0.00	(0.00; 3.68)
alliland	0.45	(0.00; 1.31)	1.82	(0.00; 6.47)
ntland	0.00	(0.00; 1.51)	0.00	(0.00; 0.78)



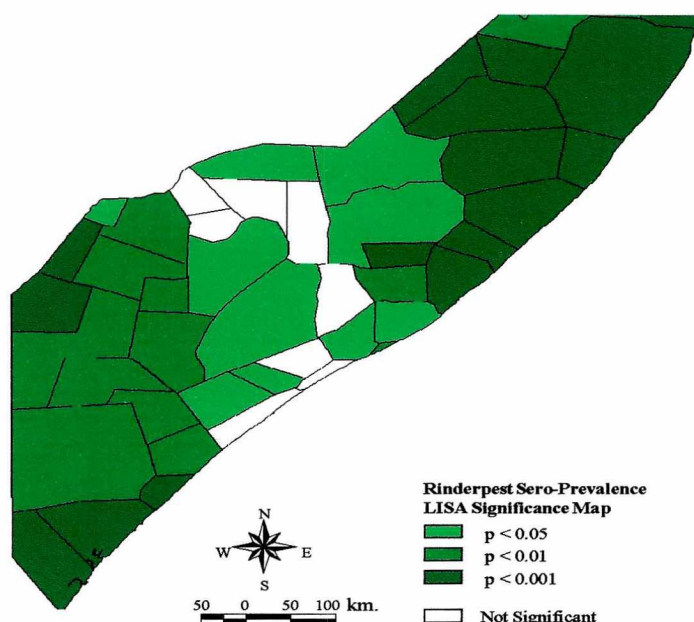
ical distribution of the observed RP sero-prevalence in the study area.



Box Map (Hinge: 3.0) of the observed RP sero-prevalence in the study area.



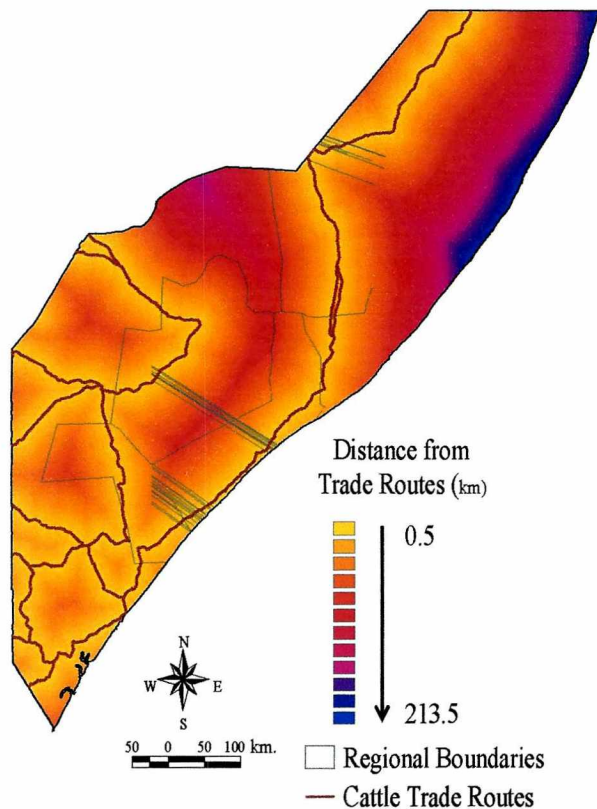
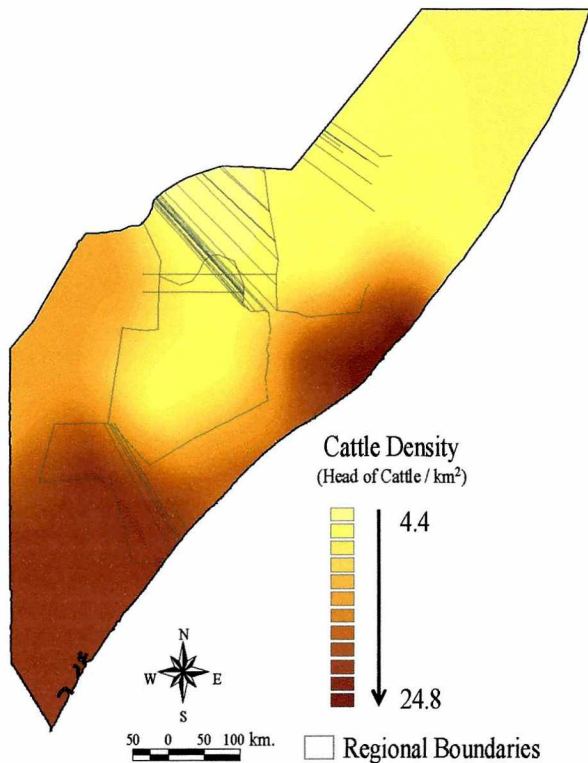
**LISA cluster map of the local spatial
Dependency of the observed sero -
Prevalence in the study area**



**LISA significance map of the local spatial
dependency of the observed sero-prevalence
In the study area.**

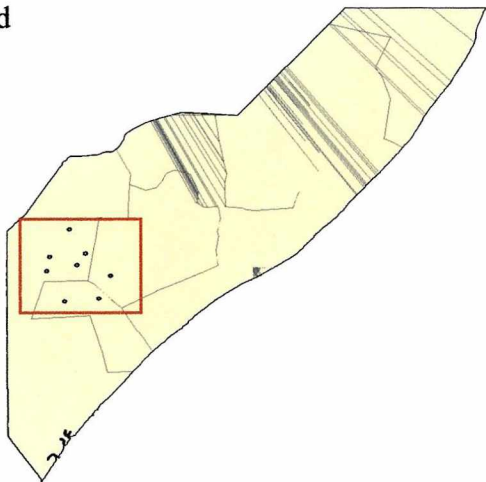
Explanatory variables considered in the study

Code	Variable	Variable Unit
Hr	Home range of the herd calculated with the minimum convex polygon method	km ²
M_Dens	Mean cattle population density of the herd locations over the two years preceding the Head of cattle / kn time of the survey.	
M_Dist	Mean distance of the herd locations from cattle trade routes over the two years preceding the time of the survey.	km
Age	Age of the animal	Years
HS_C	Cattle herd size	Num. of Animals
FS_S	Size of the sheep flock which is the owner of the cattle included in the survey.	Num. of Animals
FS_G	Size of the goat flock which is the owner of the cattle included in the survey	Num. of Animals

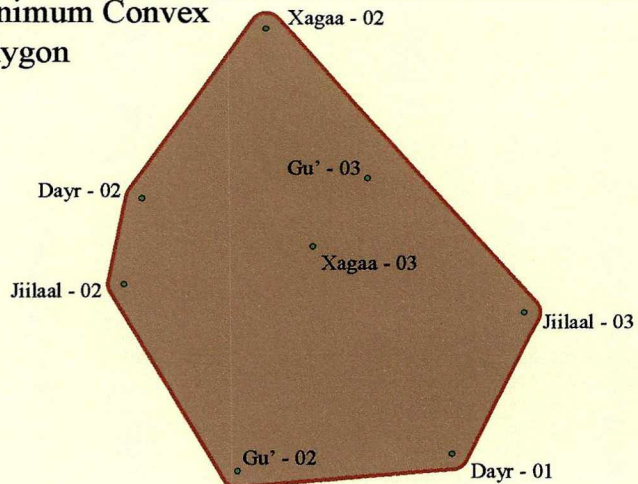


Map of distance from cattle trade routes.

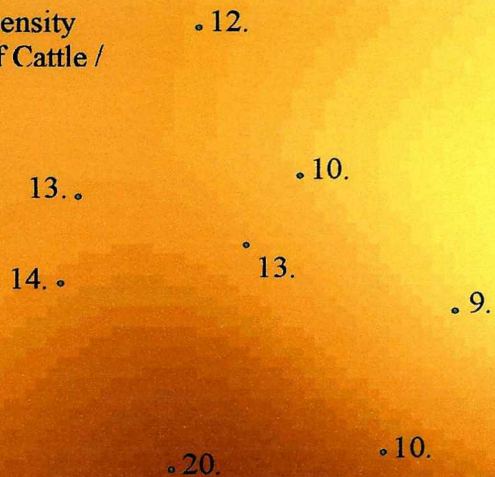
layed



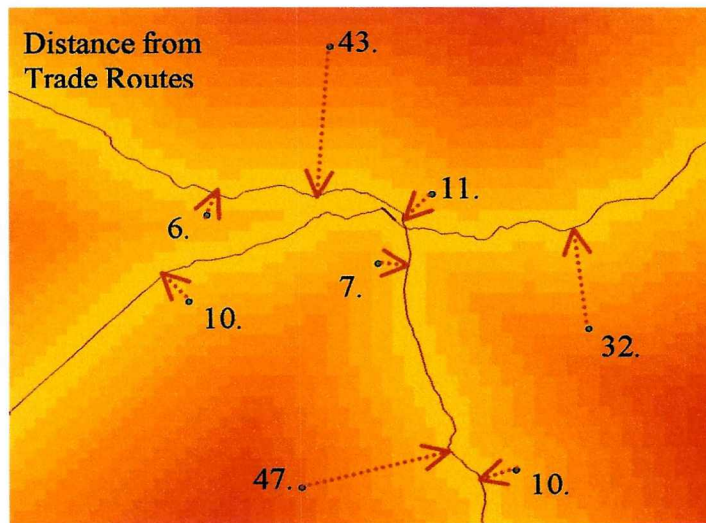
Minimum Convex Polygon



e Density
d of Cattle /



Distance from
Trade Routes



Final Model

vari	Coef	Std. Er	t	P>	95% Conf.
Con	-1.89	0.12	-15.	<	-2.142 -1.64
Hr	0.57	0.08	6.	<	0.40689;
MDc	-2.77	0.69	-3.	<	-4.140 -1.40
H C 1	-0.19	0.04	-4.	<	-0.283 -0.09
MDi	-4.374	1.37	-3.	0.0	-7.077 -1.67
MDens1_	0.27	0.07	3.	<	0.13392;
MDist2	-0.99	0.38	-2.	0.0	-1.767 -0.23
MDens1_M	3.56	1.57	2.	0.0	0.467705;

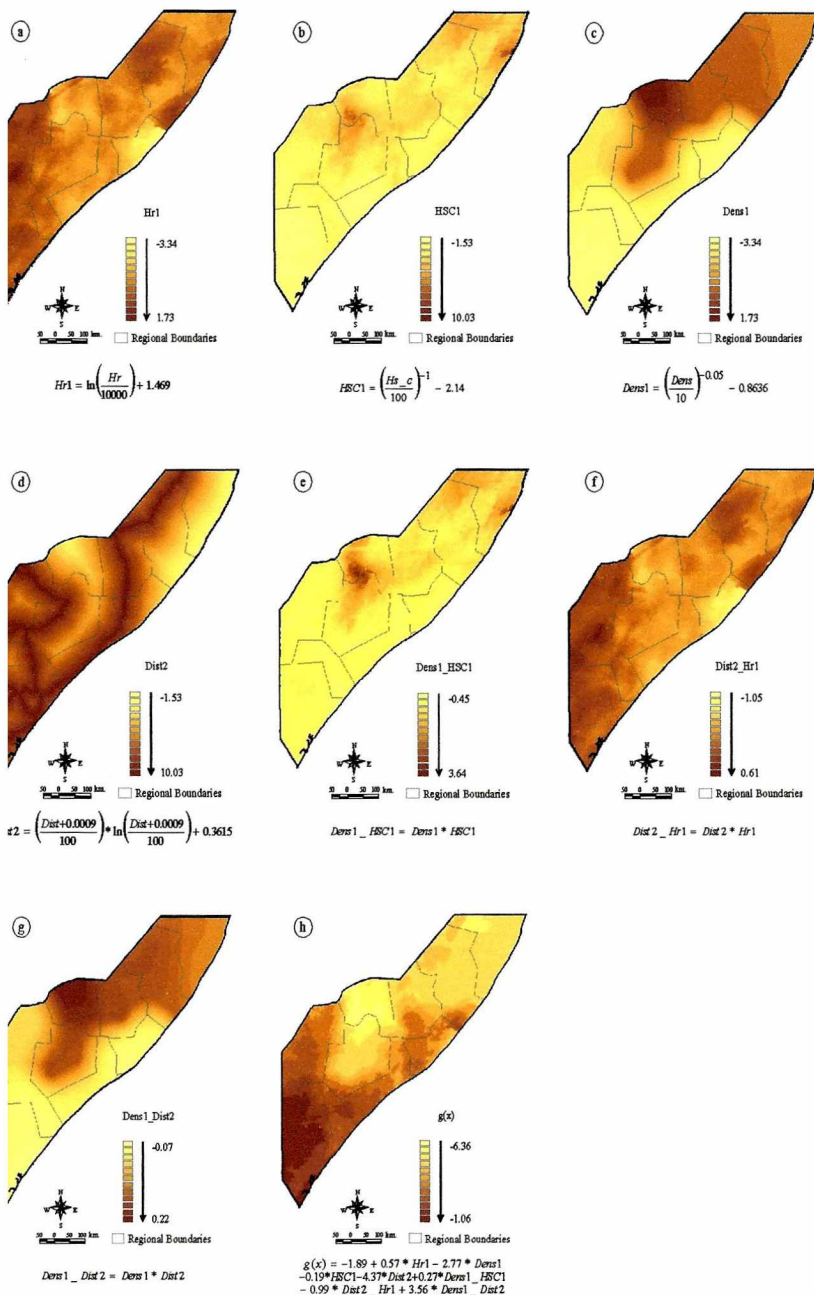


Main Effect
First Order Interaction

Model Reassessed Via Bootstrap Method
(1000 resampling cycles of 90% of the primary sampling units)

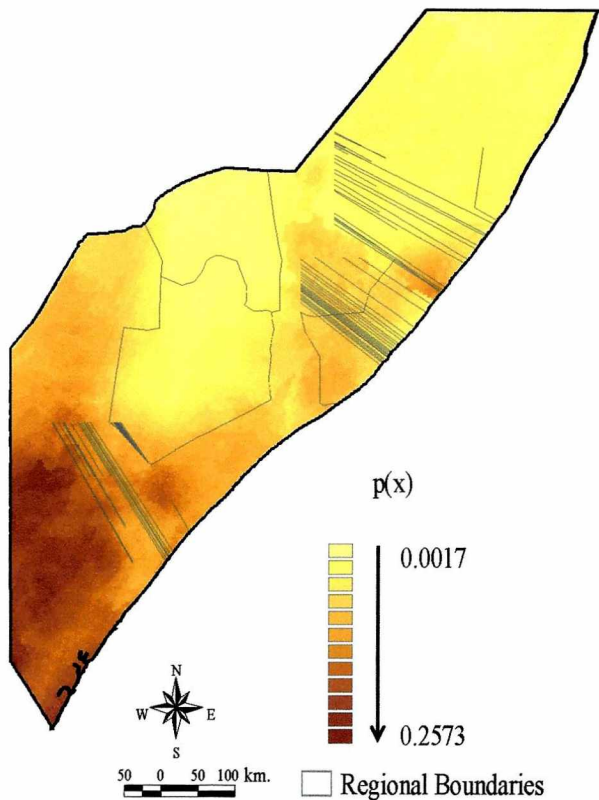
<i>Variables</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>95% Confidence Interval</i>
	-1.897	0.138	-2.169 -1.624
	0.574	0.097	0.4052;
	-2.729	0.728	-4.297 -1.411
	-0.193	0.051	-0.298 -0.096
	-4.564	1.486	-7.705 -1.884
ns1_HS	0.268	0.116	0.0221;
t2_	-0.76	0.344	-1.631 ; -0.81
ns1_MDi	3.74	1.556	0.458 ; 3.86

Main Effect
 First Order
 Interaction

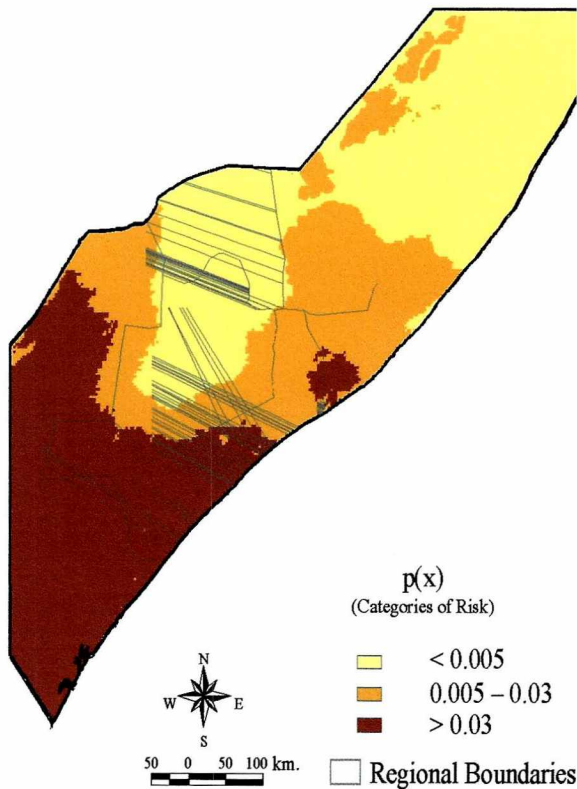


Distribution maps for:

- fractional polynomial transformation of cattle home-range (Hr): $Hr1$;
- fractional polynomial transformation of cattle herd size (Hs_C): $HSC1$;
- fractional polynomial transformation of cattle density ($Dens$): $Dens1$;
- fractional polynomial transformation of distance from cattle trade routes ($Dist$): $Dist2$;
- interaction between $Dens1$ and $HSC1$: $Dens1_HSC1$;
- interaction between $Dist2$ and $Hr1$: $Dist2_Hr1$;

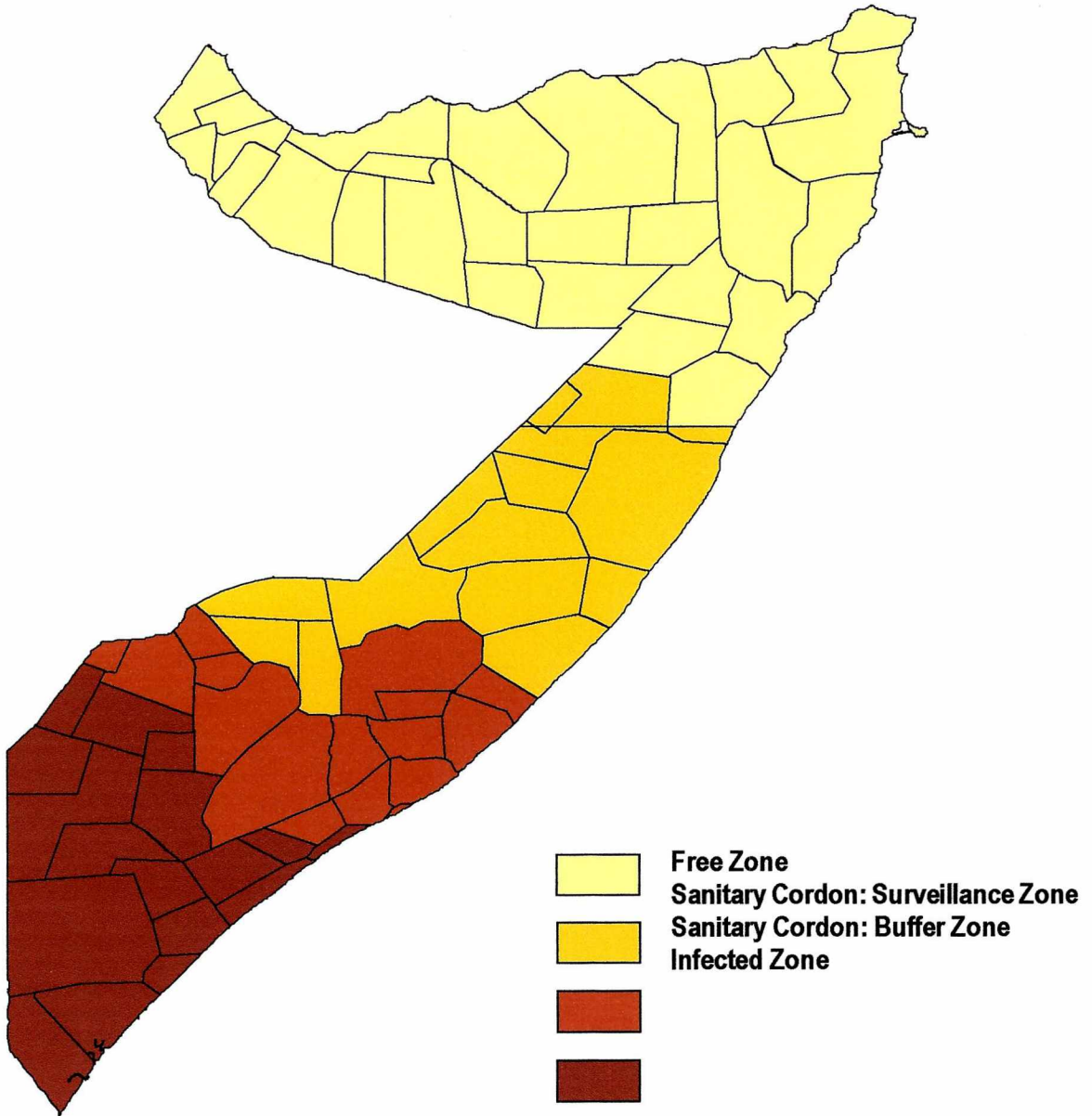


Risk $[p(x)]$ map for RP occurrence.



Reclassified risk $[p(x)]$ map for RP occurrence.

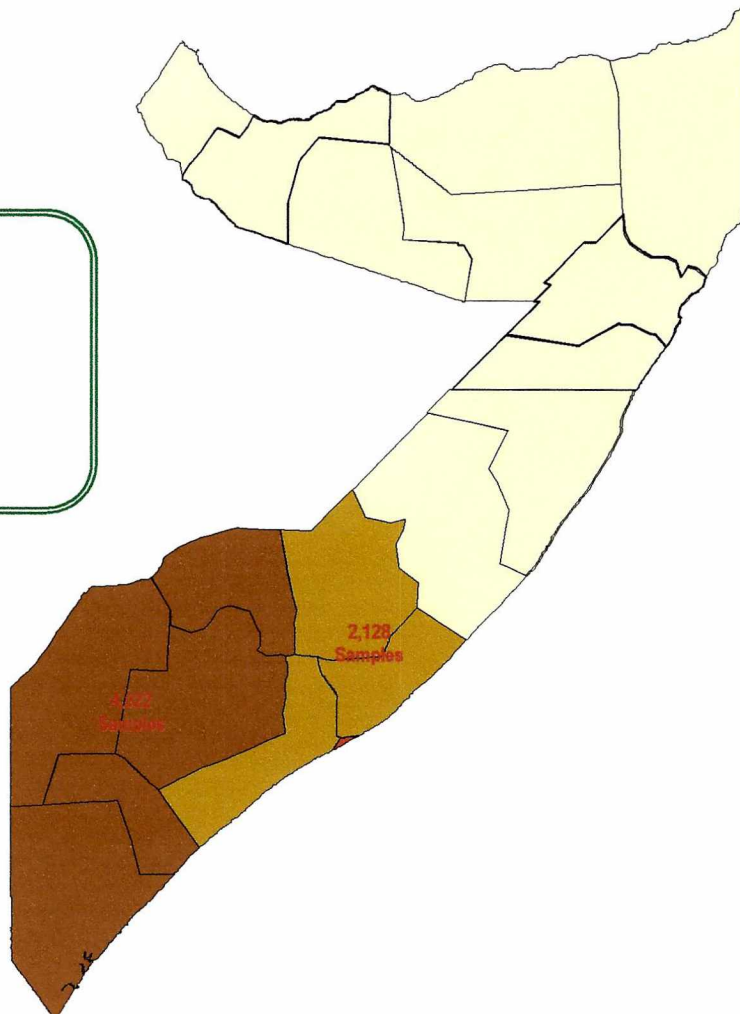
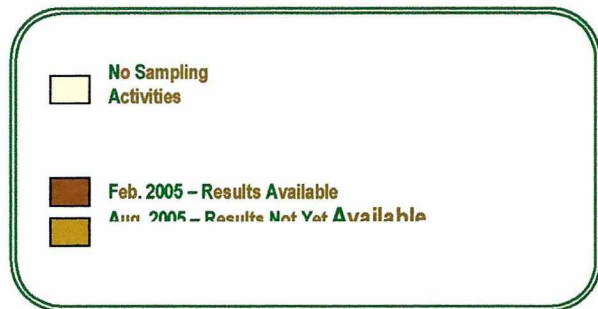
Proposed Zonation Based on Risk Factors



The Proposed Zonation will be Revised according to the Findings of the Forthcoming Survey!

Sero-Surveillance

Geographical Distribution
of RP Sero-Surveillance (2005)



Region

Bakool

Bay

Gedo

Lower Juba

Middle Juba

TOTAL

Cattle 1 to 3 Years

Prev (%)

95% CI (%)

0.9 (5/505)

0.004; 1.9

0.2 (1/409)

0.001; 0.7

5.1 (45/847)

2.5; 7.8

1.7 (20/1170)

1.0; 2.3

3.7 (38/982)

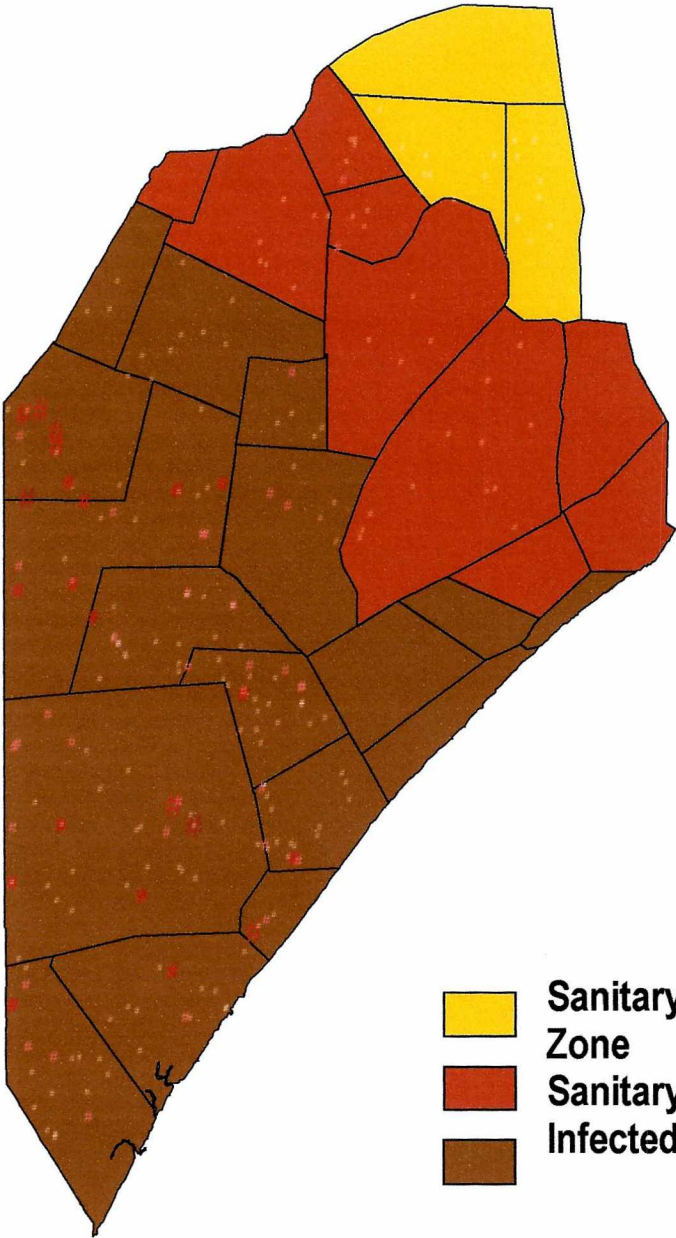
1.7; 5.7

2.7 (109/3913)

1.9; 3.5




Total Number of Sites: 238

RP Zonation Map and Observed Prevalence



RP Prev.

0.0
> 0.0 – 5.8
> 5.8 – 17.6
> 17.6 – 29.4
> 29.4 –

 Sanitary Cordon: Surveillance Zone
 Sanitary Cordon: Buffer Zone
 Infected Zone

Outbreak Investigation

- **One Report of Suspected RP was Received in December 2005**
- **Location: Sidimus**
- **District: Bardheere**
- **Region: Gedo**
- **The Outbreak was Investigated but RP was not Confirmed**
- **Tentative Diagnosis: Hemorrhagic Septicaemia.**

Surveillance Methods & Tools

Surveillance Methods

Passive Disease Reporting
Outbreak Investigation
Participatory Disease Search
Cross-Sectional Sero-Survey
Wildlife Survey

National Capacity

Not yet established, but on process
Available, but need to be reinforced
Available
Available
Not Available

APPENDIX 12: PRESENTATION OF LABORATORY RESULTS-NVC MUGUGA

Rinderpest surveillance in Somalia/Somali-land- Samples tested in various tests from September, 2004- December, 2005.

Submitting Agency: Pace Somali/Somali Health Services Projects & Terranuova

Species: Cattle

TEST	FOR	SPECIFICITY	NUMBER OF SAMPLES	NUMBER POSITIVE
COMPETITIVE ELIZA	Antibody	Rinderpest	7189	112/7189
COMPETITIVE ELIZA	Antibody	PPR	5	0/5
VIRUS NEUTRALIZATION TEST	Antibody	Rinderpest	205	0/205
VIRUS ISOLATION IN CELL CULTURE	Rinderpest and PPR viruses	Group	3	0/3
POLYMERASE CHAIN REACTION	Virus RNA	Rinderpest	540	0/540

The Rinderpest antibodies positive cattle included all age groups (i.e. 1= or >3yrs)

Rinderpest surveillance in Somalia/Somali-land- Samples tested in various tests from September, 2004- December, 2005.

Submitting Agency: Pace Somali/Somali Health Services Projects & Terranuova

Species: Goats/Sheep, and wild life

TEST	FOR	SPECIFICITY	NUMBER OF SAMPLES	NUMBER POSITIVE
COMPETITIVE ELIZA	Antibody	Rinderpest	551	0/551
COMPETITIVE ELIZA	Antibody	PPR	5044 4047*	123/5044*
POLYMERASE CHAIN REACTION	Virus RNA	PPR	24***	0/24

***Included 217 camel sera and 31 cattle sera**

Rinderpest surveillance in southern Sudan-samples tested in various tests from September, 2004-December, 2005

Submitting agency: Various agencies through VSF Belgium

Species: Cattle

TEST	FOR	SPECIFICITY	NUMBER OF SAMPLES	NUMBER POSITIVE
COMPETITIVE ELISA	Antibody	Rinderpest	33	0/33
VIRUS NEUTRALIZATION TEST	Antibody	Rinderpest	2	0/2
POLYMERASE CHAIN REACTION	Virus RNA	Rinderpest	51	0/51
Vaccine titration in cell culture -2 batches were titrated.				
3 batches of Rinderpest vaccine were tested for viability				

Rinderpest surveillance in southern Sudan-samples tested in various tests from September, 2004-December, 2005

Submitting agency: Various agencies through VSF Belgium

Species: Goats/Sheep and wildlife

TEST	FOR	SPECIFICITY	NUMBER OF SAMPLES	NUMBER POSITIVE
COMPETITIVE ELISA	Antibody	PPR	313	211/313
POLYMERASE CHAIN REACTION	Virus RNA	PPR	27	2/27

Rinderpest surveillance in Kenya-samples tested in various tests from September, 2004-December, 2005

Submitting agency: PACE Kenya

Species: Wildlife

TEST	FOR	SPECIFICITY	NUMBER OF SAMPLES	NUMBER POSITIVE
VIRUS NEUTRALIZATION TEST	Antibody	Rinderpest	259	3/259**
VIRUS ISOLATION IN CELL CULTURES	Rinderpest and PPR viruses	Group	2	0/2
POLYMERASE CHAIN REACTION	Virus RNA	Rinderpest	2	0/2
*Between September and December 2005, no samples were received from Kenya **These were very weak positives and ages of animals involved were > 5 years old The rinderpest antibodies positive cattle included all age groups (i.e. 1=or>3yrs)				

Summary of tests and samples tested in support of Rinderpest surveillance in East Africa, September, 2004-December, 2005

Summary of tests and samples tested in support of Rinderpest surveillance in East Africa, September, 2004-December, 2005

TEST	SOMALIA/SOMALI-LAND	S. SUDAN	KENYA	TOTALS
COMPETITIVE ELISA-RPP	7189	33	0	7,222
COMPETITIVE ELISA-PPR	5044	313	0	5357
VIRUS NEUTRALIZATION TEST	205	2	259	466
VIRUS ISOLATION IN CELL CULTURES	3	0	6	9
POLYMERASE CHAIN REACTION - RPV	540	57	41	638
POLYMERASE CHAIN REACTION - PPR	24	27	0	51

OTHER ACTIVITIES

The laboratory undertook some training for the following:

- A laboratory assistant based at VSF Belgium Lokichogio was trained in processing EDTA blood samples, storage and preparation of relevant buffers for three days.
- Three officers from Central Veterinary Laboratories Kabete were trained in PCR techniques for diagnosis of rinderpest and rinderpest like diseases for three weeks.

CONCLUSIONS

During the period under report there was no evidence of rinderpest virus circulation in the region:

- No recovery of rinderpest or rinderpest like virus has been made from the samples submitted from the region.
- No rinderpest viral RNA was detected by PCR in 638 samples submitted to the Laboratory.

There is evidence of PPR circulation in Somali/Somali-land and Southern Sudan.

