



notes - SERECU
5/3/07
EG



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

PAN AFRICAN PROGRAMME FOR THE CONTROL OF EPIZOOTICS (PACE)
**SOMALI ECOSYSTEM RINDERPEST ERADICATION COORDINATION UNIT
(SERECU)**

FINAL REPORT
(JANUARY 2006 - FEBRUARY 2007)

February 2007

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ACCRONYMS

AU-IBAR	African Union-Interafrican Bureau for Animal Resources
ARIS	Animal Resources Information System
EDF	European Development Fund
EU	European Union
EPP	Emergency Preparedness Plans
FAO	Food and Agricultural Organization
GDP	Gross Domestic Product
GIS	Geographic Information System
GREP	Global Rinderpest Eradication Programme
JP15	Joint Programme 15
KARI	Kenya Agricultural Research Institute
KWS	Kenya Wildlife Service
MOU	Memorandum of Understanding
NEPD	North-Eastern Development Project
NGO	Non-governmental Organization
OAU	Organization of African Unity
OIE	Office International des Epizooties (World Organization for Animal Health)
OVI	Objectively Verifiable Indicators
PACE	Pan African Programme for the Control of Epizootics
PARC	Pan African Rinderpest Campaign
PCU	PACE Coordination Unit
PDS	Participatory Disease Search
RNA	Ribonucleic Acid
RP	Rinderpest
SAHSP	Somali Animal Health Services Project
SES	Somali Ecosystem
SERECU	Somali Eco-system Rinderpest Eradication Coordination Unit
TAD	Trans-boundary Animal Diseases
UK	United Kingdom

EXECUTIVE SUMMARY

This final report of Somali Ecosystem Rinderpest Eradication Coordination Unit (SERECU) provides an overview of project justification and objectives, achievements, constraints, lessons learnt and suggested recommendations. SERECU was established within AU-IBAR to manage and coordinate a time-bound regional program with the end point being the verification of absence of rinderpest infection, and OIE accreditation of rinderpest freedom for the entire Somali Ecosystem (SES) countries.

The initial 6 months SERECU work-plan and cost estimate worth 955,000 euros was endorsed on 22nd November 2005 to start operations immediately alongside the main PACE Extension work-plan and cost estimate. The operations did not start until 1st January 2006. After 10 months of operation, an Addendum was prepared and endorsed for an extension phase of 4 months (November 2006 - February 2007), bringing the total project cost to 1,818,928 euros (equivalent KSh. 160,700,247 @ exchange rate: 1 euro = 88.0268 KSh).

The overall objective of SERECU is to contribute to poverty reduction of those involved in livestock-farming sector through eradication of rinderpest and control of major trans-boundary diseases.

The project purpose is in line with the first specific objective of the Extension Phase of PACE and was to develop and implement a harmonized and coordinated strategy for rinderpest eradication from the Somali ecosystem. The project had four expected results, namely:

- SERECU established and functioning for technical and logistical support to national disease surveillance and control systems
- Rinderpest surveillance systems in the Somali ecosystem coordinated and areas of rinderpest infection or freedom clearly delineated based on risk assessment approaches as agreed with concerned countries
- Harmonized rinderpest eradication approach applied by veterinary delivery systems in the SES
- Final rinderpest eradication strategy prepared, endorsed and coordinated

Important achievements during the 14 months of operation are:

- o SERECU has strengthened dialogue among the countries and with IBAR, as a means towards ensuring coordinated and harmonized field investigations and integrated epidemiological data analysis
- o Stakeholders in the SES have been sensitised and are more committed to rinderpest eradication efforts as demonstrated by signing and upholding of memoranda of understanding between individual countries/ institutions and AU-IBAR

- Gaps and needs in veterinary delivery systems in the SES for underpinning future interventions in the eradication of rinderpest have been identified
- Cooperative linkages and productive working relationships have been reinforced with international stakeholders such as FAO GREP, OIE, and International Reference laboratories.
- A proposal has been developed and submitted to the OIE seeking to adapt the *Chapter on Rinderpest* and the accompanying surveillance requirements of the *OIE Terrestrial Animal Health Code* to the specificity of mild rinderpest in achieving freedom from disease. The outcome is awaited at the May 2007 OIE General Assembly and will henceforth influence the future progression of countries along the OIE pathway, particularly Somalia.
- Mathematical modeling of mild rinderpest was done using available data and the results of this analysis are consistent with either fade-out of infection or an inter-epidemic period where disease persists in remote communities. The results have contributed to the formulation of final rinderpest eradication strategy.
- Ethiopia and Kenya achieved OIE recognition of disease freedom on zonal basis in 2005 and 2006 respectively and both have now applied for freedom from disease at country level (outcome awaited in May 2007). Somalia declared countrywide provisional freedom from rinderpest in January 2007.
- A final strategy for the eradication of rinderpest focusing on demonstration of rinderpest freedom, guarding against any risk of rinderpest resurgence and achievement of OIE accreditation of freedom status has been formulated and advanced as contained in SERECU Phase Project Proposal (2007- 2009). Should the verification process identify rinderpest endemicity, the strategy and planning will be adapted accordingly.
- A project proposal (both Technical and Financing Agreement) for SERECU phase II (2007- 2009) has been drafted and forwarded to the European Union for their consideration for funding.

Conclusion and Recommendations

SERECU was operationalised under the aegis of AU-IBAR and has functioned effectively, and dynamically managed its activities, and thereby set a basis for the necessary continuity of a coordinated rinderpest eradication process beyond PACE. This model could be duplicated in other ecosystems/regions to control/ eradicate other trans-boundary diseases. For the future, the following recommendations are put forward.

- i. An immediate follow-up by specially constituted teams including AU-IBAR, SAHSP, FAO and the 3 SES countries should be conducted in sero-positive sites in

Somalia and contiguous areas of neighbouring countries as soon as the security concerns are resolved. The results of the mission should shape the final eradication strategy.

- ii. The outcome of the concept note submitted to the OIE in August 2006 for the adaptation of the Rinderpest Chapter should be actively followed up, as will further guide the eradication strategy.
- iii. AU-IBAR/SERECU has prepared and submitted to the EC a proposal for a two-year follow-up project. The support of this proposal is necessary to further consolidate the achievements made by PACE/SERECU. SERECU should be sustained and strengthened to provide the needed analytical and operational assistance at national and SES regional level. For the next phase, the current SERECU structure and staff should be maintained if and where possible to harness the valuable experiences gained from the regional approach and the strong linkages so far developed with implementing partners.
- iv. PPR vaccine trial for the protection of cattle against rinderpest started under PACE should be concluded under phase II of SERECU.
- v. In SERECU Phase II it is proposed that other selected trans-boundary diseases be addressed as a way to add value and optimize on the eradication efforts for rinderpest.

1. INTRODUCTION

AU-IBAR has been instrumental in the coordination of the fight against rinderpest (RP) in Africa. The first major coordinated international effort, “Joint Program 15” (JP15), a multi-donor funded project (1960s-1970), was coordinated by the Organization of African Unity (OAU) and succeeded through mass vaccination campaigns to confine the disease to the more remote pastoral area but was unable to completely eradicate it. The second major effort, the “Pan African Rinderpest Campaign” (PARC) was implemented in sub-Saharan Africa under the coordination of AU-IBAR from 1986 to 1999 with major financing from the European Union (EU).

The Pan African Program for the Control of Epizootics (PACE), again an AU-IBAR initiative with EU financing was launched in November 1999 to build on the achievements of PARC. The major objective of the program has been the eradication of RP from the African continent in line with the global objective of the GREP (Global RP Eradication Program) coordinated by the FAO and aims to achieve global eradication of RP by the year 2010.

The PACE program has yielded important results including the strengthening of animal health delivery systems, establishment of epidemiological surveillance systems/networks at national and continental levels, and eradication of RP from the continent with the exception of the Somali Ecosystem (SES) where some doubts still exist about the circulation of the virus based on evidence of a disease syndrome in cattle consistent with mild rinderpest. The SES is a zone that spans across the three countries of Ethiopia, Kenya and Somalia and specifically comprises Region 5 of Ethiopia, northeastern Kenya and southern and central Somalia.

The PACE program activities financed by the European Union through European Development Fund (EDF) VII, VIII and IX in beneficiary countries ended in October 2006, while the financing Agreement ends in February 2007. At the 11th meeting of the PACE Advisory Committee and the 7th Conference of African Ministries responsible for Livestock Development (Kigali, November 2005), it was evident that all the expected results from PACE could not be achieved within the envisaged timeframe of the Financial Agreement despite the significant progress made under the program. The participants to these meeting/conferences recognizing the success achieved in rinderpest eradication in Africa so far, and underlining that the continent was about to get rid of the disease thereby allowing the complete eradication of the disease from the globe, requested AU-IBAR to speed up the implementation of planned activities for the eradication of rinderpest and to give more attention to the SES.

Consequently, with the full backing of all key actors (the three SES countries, the PACE Advisory Committee, FAO/GREP and the Main Donor (the EU), AU-IBAR established the Somali Ecosystem RP Eradication Coordination Unit (SERECU). The overall objective of

SERECU is to contribute to poverty reduction of those involved in livestock-farming sector through eradication of rinderpest and control of major trans-boundary diseases.

The project purpose is in line with the first specific objective of the Extension Phase of PACE and was to develop and implement a harmonized and coordinated strategy for rinderpest eradication from the Somali ecosystem. The project had four expected results, namely:

- SERECU established and functioning for technical and logistical support to national disease surveillance and control systems
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- Final rinderpest eradication strategy prepared, endorsed and coordinated

The SERECU project was funded by the EC to the tune of 1,818,928 euros (equivalent KSh. 160,700,247 @ exchange rate: 1 euro = 88.0268 KSh) as a separate entity within the PACE extension phase (Global/ Individual Financial Commitment No: 9ACP RPR 32, 7ACP RPR 744 and 7 ACP RPR 745).

In its one year of operation, SERECU has initiated a sustainable and effective coordination of the final eradication of RP from its suspected last remaining foci in Africa, as elaborated in the rest of this report. The report outlines the activities that have been undertaken within the project period, the achievements made, constraints faced, lessons learnt and the way forward for the final eradication of rinderpest in the SES.

2 ORGANISATION AND MANAGEMENT OF SERECU

2.1. General

SERECU was established within the Animal Health Unit of AU-IBAR to dynamically manage a scientific-based, coordinated and time bound regional program with the end point being the verification of absence of RP infection and OIE accreditation for RP in the ecosystem (As outlined in the project document Annex 8.7).

The justification for setting up SERECU parallel to the PACE programme in the AU-IBAR structure was:

- To assure harmonization, coordination and coherence in the implementation of the programme between countries involved in the SES;
- AU-IBAR is mandated to provide the political and institutional support for completing the eradication of rinderpest from the SES;

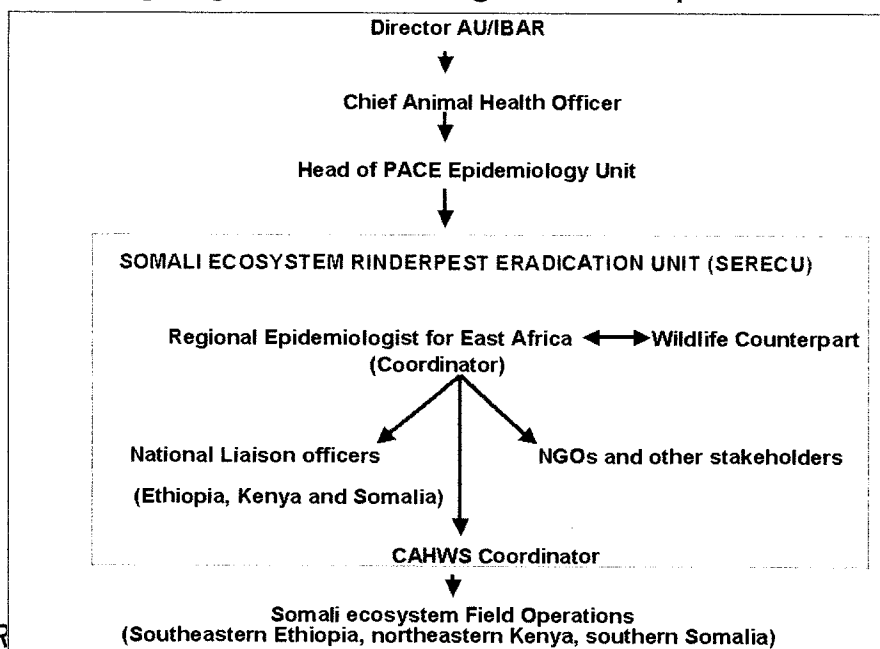
- To dynamically manage a science-based, coordinated regional programme with the end point being verification of rinderpest freedom as an entry point onto the OIE pathway for rinderpest;
- To provide a basis for the necessary continuity of a coordinated rinderpest eradication process beyond PACE; and,
- To monitor the eradication process and put measures to prevent once and for all, the re-emergence of rinderpest in the increasingly susceptible cattle and wildlife populations of Africa.

The day-to-day technical management of the project was delegated to the SERECU Coordinator/ Regional PACE Epidemiologist for East Africa, responsible for the coordination of the technical implementation of the Somali ecosystem field operations. However, the main PCU of PACE was responsible for all other management and financial matters since SERECU was just a sub-unit within the larger PACE programme. Nonetheless, SERECU had its own accountant, responsible for all financial aspects and reporting to the Finance and Administration Officer of PACE. Moreover, the programme utilized the existing PACE infrastructure, facilities and technical expertise for support services and technical consultation where necessary.

Three Liaison Officers, representing each of the three SES countries, and thereby assuring strong linkages with country programmes, assisted the project Coordinator. Technical expertise within SERECU was further reinforced through two full-time experts, namely, Wildlife Veterinarian, who doubled as the wildlife expert for the PACE programme and a Community Animal Health expert.

The coordination team was responsible for harmonizing and integrating national plans into regional integrated implementation plans, and at the same time monitoring the implementation of the work programme.

Figure 1: Organogram of the management and operational structures of SERECU



To ascertain smooth operation and sustainability, memorandums of understanding were developed and signed between the three SES countries, KARI/Muguga and AU-IBAR.

SERECU additionally collaborated with key stakeholder institutions including: International Reference Laboratories with respect to rinderpest namely Pirbright in U.K. and CIRAD-EMVT in France, OIE and FAO/GREP.

2.2 Resources

The European Union (EU) financed the programme to the tune of 1,818,928 euros (equivalent KSh. 160,700,247 @ exchange rate: 1 euro = 88.0268 KSh). The funds utilized during the project period are as shown in Table 1. It will be noted that due to the war situation in Somalia with its spill-over effects to the congruent parts of Kenya and Ethiopia and concurrent heavy rains that caused flooding, most of the field activities scheduled for November 2006 to January 2007 could not be undertaken, hence expenditure in these last three months was limited to very few activities. The fact that the financing agreement was coming to an end on 28th February 2007 did not make the situation any better.

AU / IBAR SERECU SUMMARISED FINANCIAL REPORT

16 MONTHS PERIOD FROM 1 NOVEMBER 2005 TO 28 FEBRUARY 2007

EXPENDITURE CATEGORY		Actual Expenditure 01.11.05 to 15.2.2007 Sh	Foreseen Expenditure 16.2.2007 to 28.12.07 Sh	Foreseen Expenditure 01.11.05 to 28.2.2007 Sh	Budgeted Expenditure 01.11.05 to 28.2.2007 Sh	Actual Expenditure as a Percentage of Budget
1	EQUIPMENT /INVESTMENTS	1,066,600	0	1,066,600	2,165,606	49%
2	RUNNING COSTS	27,940,331	1,249,541	29,189,871	33,053,287	88%
3	IMPROVED LABORATORY SUPPORT	44,382,198	432,000	44,814,198	46,380,269	97%

4	EMERGENCY PREPAREDNESS	10,812,517	30,000	10,842,517	22,753,453	48%
5	WILDLIFE SURVEILLANCE	17,404,422	1,592,000	18,996,422	24,284,438	78%
6	MEETINGS, CONF. & TRAININGS	5,066,238	0	5,066,238	15,715,901	32%
7	COUNTRY SUPPORT SURVEILLANCE	0	0	0	7,141,800	0%
8	SOMALIA VET. AUTHORITY SUPPORT	0	0	0	1,553,100	0%
9	CONTINGENCY	0	0	0	7,652,393	0%
	TOTAL	106,672,306	3,303,541	109,975,846	160,700,247	68%

3. PROJECT ACHIEVEMENTS

3.1 Summary of Achievements

- SERECU has strengthened dialogue among the countries and IBAR as a means towards ensuring coordinated and harmonized field investigations and integrated epidemiological data analysis
- Stakeholders in the SES have been sensitised and are more committed to rinderpest eradication efforts as demonstrated by signing and upholding of memoranda of understanding between individual countries/ institutions and AU-IBAR
- Gaps and needs in veterinary delivery systems in the SES for underpinning future interventions in the eradication of rinderpest have been identified
- Cooperative linkages and productive working relationships have been established with international stakeholders such as FAO GREP, OIE, and International Reference laboratories.
- A proposal has been developed and submitted to the OIE seeking to adapt the *Chapter on Rinderpest* and the accompanying surveillance requirements of the *OIE Terrestrial Animal Health Code* to the specificity of mild rinderpest in achieving freedom from disease. The outcome is awaited at the May 2007 OIE General Assembly and will henceforth influence the future progression of countries along the OIE pathway, particularly Somalia.
- Mathematical modeling of mild rinderpest was done using available data and the results of this analysis are consistent with either fade-out of infection or an inter-epidemic period where disease persists in remote communities. The results have contributed to the formulation of final rinderpest eradication strategy.
- Ethiopia and Kenya achieved OIE recognition of disease freedom on zonal basis in 2005 and 2006 respectively and both have now applied for freedom from disease at country level (for consideration in May 2007). Somalia declared countrywide provisional freedom from rinderpest in January 2007.
- A final strategy for the eradication of rinderpest focusing on demonstration of rinderpest freedom, guarding against any risk of rinderpest resurgence and achievement of OIE accreditation of freedom status has been formulated and advanced as contained in SERECU Phase Project Proposal (2007- 2009). Should the verification process identify rinderpest endemicity, the strategy and planning will be adapted accordingly.

- o A project proposal (both Technical and Financing Agreement) for SERECU phase II (2007- 2009) has been drafted and forwarded to the European Union for their consideration for funding.

3.2 Detailed Progress Report

3.2.1 Somali ecosystem rinderpest coordination unit established and functioning for technical and logistical support to national disease surveillance and control systems

The creation and eventual operationalization of SERECU was a culmination of a sequence of workshops organized by AU-IBAR between 2002 and 2005. The SERECU work-plan and cost estimate was endorsed on 22nd November 2005 and became operational in January 2006, with the last of recruited staff joining the project in June 2006. In accordance with the work-plan, the Unit gave technical and logistic support to the three SES countries in various ways that include:

- i. Convening workshops and meetings for SES stakeholders
 - 1st Cross-border Harmonization Meeting at Lenana Conference Center, Nairobi, 1st-2nd February 2006
 - SERECU Inception Workshop at AU-IBAR Conference Room, Nairobi, 30th March 2006
 - 2nd Cross-border/5th Technical Harmonization Meeting at Ghion Hotel, Addis Ababa, 9th-10th May 2006
 - 1st Steering Committee Meeting for SERECU at Ghion Hotel, Addis Ababa, 11th May 2006
 - Conceptual SES Stakeholders Workshop, Nairobi, 15th-16th June 2006 at Jacaranda Hotel.
 - 3rd Cross-border/Technical Harmonization at AU-IBAR, Conference Hall, Nairobi, 4th - 6th October 2006
 - 2nd Steering Committee on 6th October 2006, at AU-IBAR, Conference Hall, Nairobi
 - In-country Stakeholders Workshop for Kenya, Garissa on 1st - 2nd December 2006 and Ethiopia, Moyale on 14th - 15th December 2006
- ii. Technical and logistic support to SES countries
 - Field surveillance back-up services
 - Review of countries' Emergency Preparedness Plans and Dossiers to OIE for freedom from disease
 - Formal and informal consultations with countries on strategies for final eradication of rinderpest from the SES
 - Support in the planning and training of "Training of Trainers" for community animal health workers in Kenya -SES jointly with NEPD.
 - Provision of laboratory equipment and materials to national programs and national and regional laboratories

- Assistance in shipment of samples to reference laboratories
- ii. Memorandums of understanding were signed between KARI/Muguga, the three SES countries and A/U-IBAR. The MOUs were to facilitate smooth operation and cooperation in the project implementation (See annex for copy of the memoranda of understanding).
- iv. Participation in PACE and/or OIE / FAO-GREP workshops
- 12th PACE Advisory Committee Meeting, in Bamako, Mali, on 26th-27th April 2006
 - 74th OIE General Assembly, Paris, 20th-26th May 2006
 - 2nd AU-IBAR African DVS' Meeting, Paris 19th May 2006
 - 3rd PACE Laboratories Network Meeting, at Kempinski Hotel on 5th - 9th June 2006, Bamako, Mali.
 - 6th Annual PACE Coordination Meeting, Mombasa, 27th-30th June 2006
 - PACE External Final Evaluation
 - PACE Epidemio-Surveillance Systems Consolidation Meeting, at Hotel Sawa on 17th - 21st July 2006 in Douala, Cameroon.
 - PACE Wildlife Consolidation Workshop 18th - 21st September 2006 held at Mt Kenya Safari Club Nanyuki, Kenya.
 - 13th PACE Advisory Committee Meeting held at Norfolk Hotel Nairobi, 26th-27th October 2006.
 - OIE/FAO International Meeting on Avian Influenza in Wild birds Rome on 30th - 31st May 2006
 - AU-IBAR/FAO/OIE Joint Planning meeting on Avian Influenza at AU/IBAR, 10th November 2006
 - FAO/AU-IBAR/PACE Joint meeting on Foot and Mouth Disease regional Coordination and emergency control in the African Great Lakes Countries of Rwanda, Burundi, Democratic Republic of Congo, Tanzania and Uganda held on 3rd-4th August 2006, AU/IBAR Conference room, Nairobi.
 - Joint FAO-GREP/AU-IBAR/OIE/Ghana workshop on "Accreditation of Rinderpest Freedom in Africa", Accra/Ghana at Miklin Hotel on 29th November-1st December 2006.
- 3.2.2 Rinderpest surveillance systems in the Somali ecosystem coordinated and areas of rinderpest infection or freedom clearly delineated based on risk assessment approaches as agreed with concerned countries
- 3.2.2.1 Strengthening of surveillance capacities
- i. Surveillance requirements and tools were established and guidelines agreed on with the national programs. These covered participatory disease surveillance (PDS), clinical and serological random surveys, wildlife surveillance, and cross-sectional sampling frame, sampling methods and interpretation of results thereof.
 - ii. Capacity building through training was conducted for SERECU and national programs staff. Areas of training covered include the use of map coordinates in

the field, use of ARIS and data management in general, GIS and wildlife surveillance. Training of national and SERECU staff in risk analysis and field veterinarians and paraprofessionals in disease surveillance and reporting were not undertaken due limited time and civil war in Somalia during the last quarter of the project phase respectively. Training on risk-based surveillance was not implemented by FAO as planned due to unforeseen happening.

- iii. National and regional laboratories (Sabeta, Kabete and Muguga) were supported through provision of equipment, diagnostic kits and consumables as well as packaging materials for shipment of samples to reference laboratories (annex 4).
- iv. The disease information and reporting system (ARIS) linking national programs with IBAR/SERECU was strengthened through installation of ARIS and training on the same in Ethiopia and Somalia.

3.2.3 Field Surveillance

Random sero-surveillance initially planned for January - February 2006, was re-scheduled to June- August 2006 due to the severe drought situation that affected the spatial distribution of livestock in the Horn of Africa (November 2005 - March 2006). In its place, PDS in combination with purposive sero-surveillance was conducted alongside targeted wildlife sero-surveillance.

Figure 2: PDS/ Purposive Sero-surveillance Sites February 2006

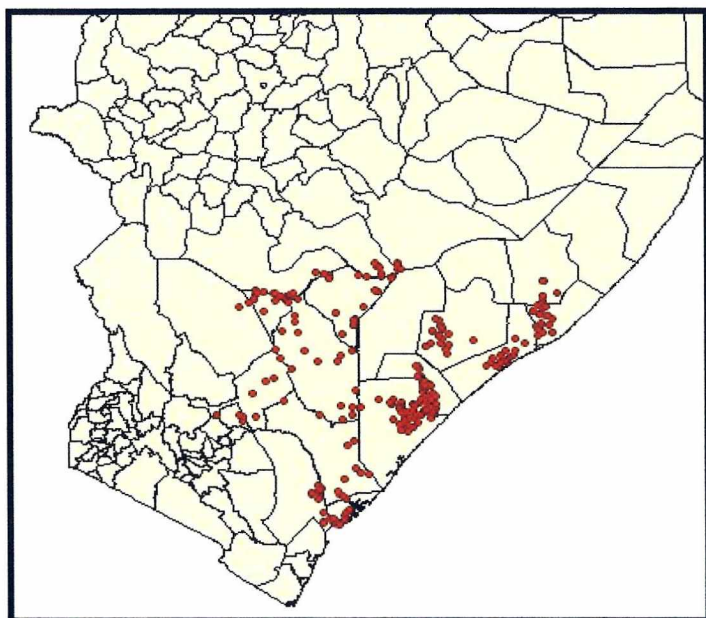


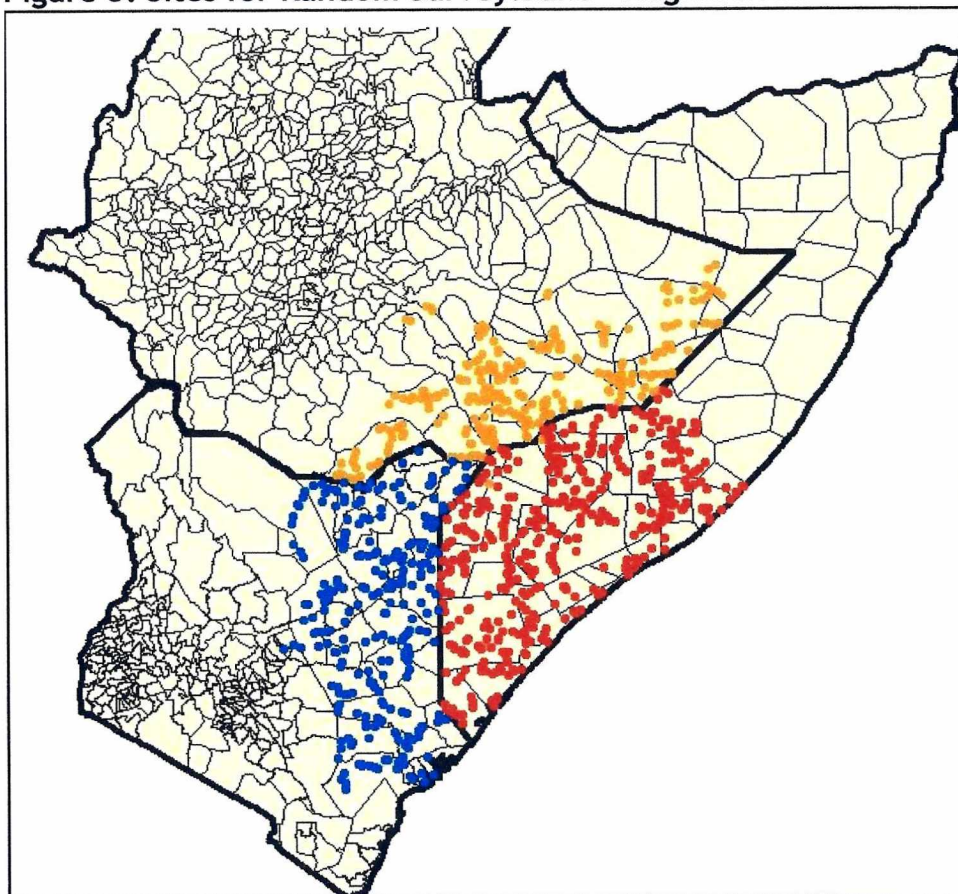
Table 2: Serum Samples collected in the SES during Purposive sero-surveillance

Country	Sites visited	Total sera collected
Ethiopia	29	803
Kenya	92	1972
Somalia	144	2136
Total		4911

No stomatitis enteritis syndrome was encountered as per the case definition; however, all cases of either stomatitis or diarrhea were sampled to ensure nothing was left to chance. Other samples collected include 60 whole blood, 97 eye swabs and 158 Lymph node aspirates. All tested negative for rinderpest.

A random sero-survey planned for May/June was implemented between June -August 2006. This was implemented successfully with field back-up services provided by SERECU. Sera collected were 6176 (Ethiopia), 3927 (Kenya) and 8098 (Somalia). Figure 3 below shows sero-survey sites in the three countries.

Figure 3: Sites for Random Survey: June - August 2006



In July 2006, one of the random survey teams in Somalia encountered a rinderpest-like disease in southern Somalia at the border with Kenya. A team comprising of SERECU and PACE Kenya was mobilized to complement SAHSP in the investigation. The teams carried out detailed investigation including serum sampling, with a total of 33 serum samples and 98 tissue samples being collected. This was a significant achievement in demonstrating a coordinated capacity to report and follow-up cross-border incidences of suspected rinderpest-like diseases in a timely manner.

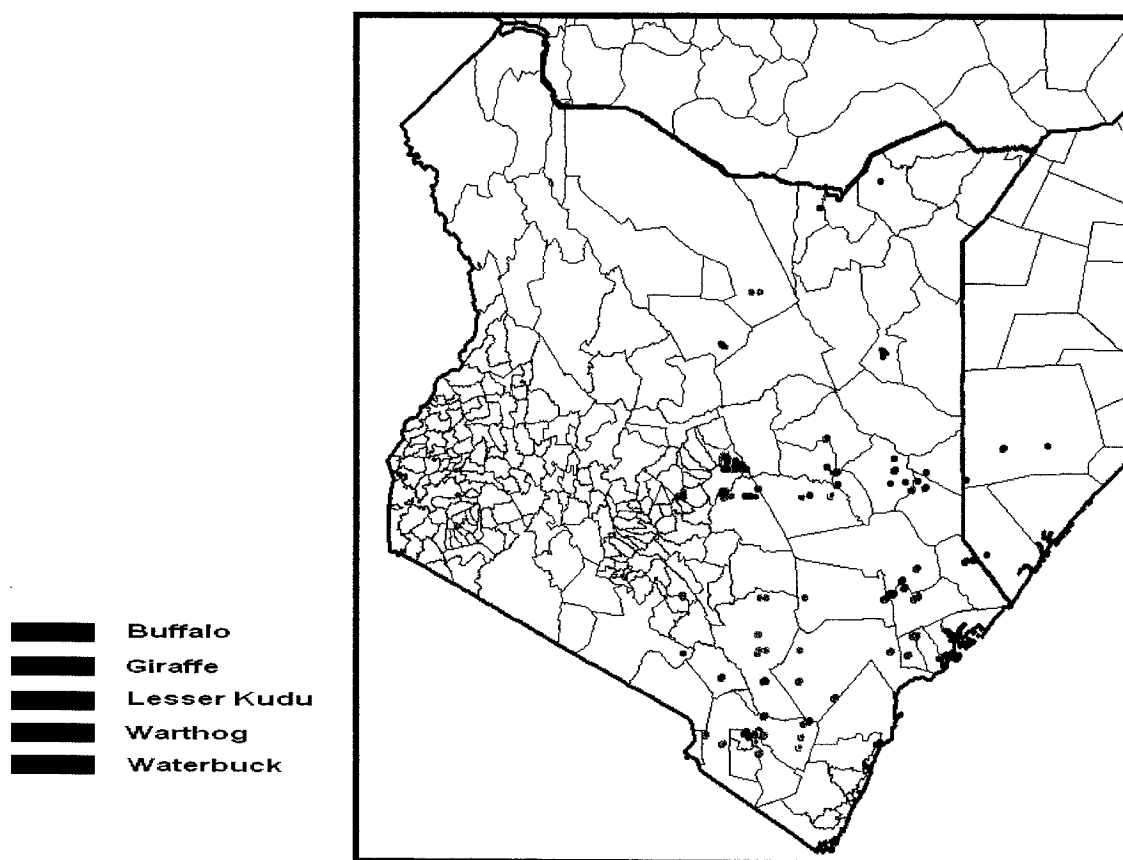
Support was given to Kenya Wildlife Service KWS to conduct wildlife surveillance in Kenya. Four missions were conducted as follows: 27th February - 22nd March - Garissa / Ijara and Tana River Districts, 15th March - 8th April - Meru Conservation Area, 27th March - 15th April - Tsavo Ecosystem. The 4th mission was conducted from 25th May-26th June 2006 in Wajir, Mandera, Moyale and Marsabit.. A total of 347 samples (110 warthog, 45 giraffe, 174 buffalo, 15 waterbuck and 3 lesser kudu) were collected.

One mission was conducted in Ethiopia in Dolo odo area in March 2006 but no samples were collected.

A mission was carried out in southern Somalia in collaboration with KWS and SAHSP. It was conducted from 16th August-2nd September 2006. A total of 33 samples were collected from warthogs. The sampling was conducted in areas with high interaction between livestock and wildlife.

In total 380 wildlife species samples were collected during the period from February-September 2006. Sites sampled for wildlife in the ecosystem are shown in figure 4 below.

Figure 4: Wildlife Sampled Sites: Feb - June 2006.



The results of the harmonized surveillance activities in the whole SES were presented at the 1st, 2nd and 3rd Cross Border/ Technical Harmonization Meetings (See Annex 2), and the 12th and 13th PACE Advisory Committee Meetings (annex 1). The main outcome of surveillance activities are reported under Result 3.4

3.2.4 Timely and coordinated quality laboratory diagnosis

A system for timely and coordinated quality laboratory diagnosis was established. The project ensured that laboratory testing systems were in accordance with the agreed upon Dakar protocol including the field collection, labeling, and transportation of

samples as well as their receipt, recording and testing at the laboratory. Similarly, packaging and shipment of samples to world reference laboratories followed the agreed guidelines.

Table 3: Serum samples submitted to world reference laboratories

Laboratory	Cattle	Wildlife	Month	From
CIRAD-emvt, France	210	312	May 2006	Kenya
CIRAD-emvt, France	-	35	August 2006	Somalia
Pirbright, UK	118	-	August 2006	Kenya
Pirbright, UK	49	-	August, 2006	Somalia
Pirbright, UK	6176	Cattle	December 2006	Ethiopia
Pirbright, UK	3927	Cattle	December 2006	Kenya
Pirbright, UK	8098	Cattle	December 2006	Somalia

3.3 Harmonized rinderpest eradication approach applied by veterinary delivery systems in the SES

An assessment of veterinary delivery systems in the SES to estimate the required capacity for effective interventions was conducted in August 2006. Key recommendations included a need to review policy to allow the Government of Kenya resume the provision of “private good” services in addition to “public good” services in the Kenyan part of the SES; need to strengthen the linkage between the federal and regional animal health services in Ethiopia; and urgent need to support the establishment of a central veterinary authority alongside strengthening of professional associations and training of more service providers in Somalia.

One regional stakeholders’ sensitization workshop was held in June 2006, while in-country stakeholder workshops were held in Kenya and Ethiopia in December 2006 (annex 2). The in-country stakeholder workshop planned for Somalia on 4th - 8th January 2007 did not materialize due to the civil unrest at the time.

Due to delay in conducting the assessment of veterinary delivery systems in the SES, specific recommendations on national policy initiatives to facilitate harmonized approaches for rinderpest eradication in SES were not realized; consequently, they have been factored in the proposal for SERECU Phase II.

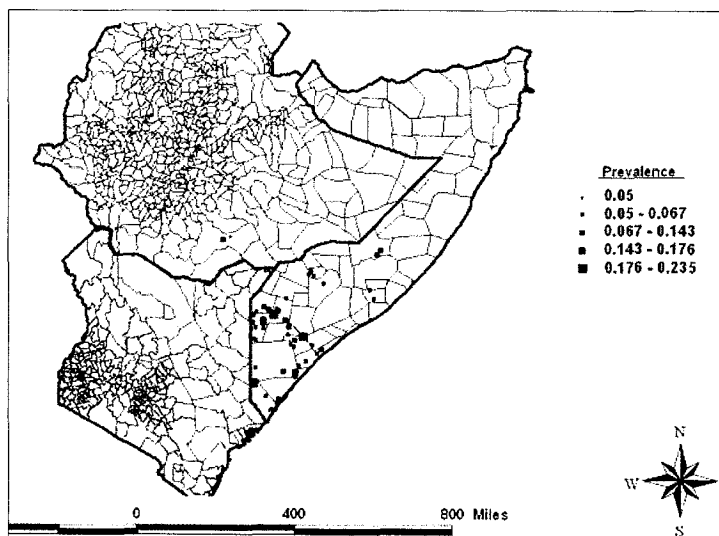
3.4 Final rinderpest eradication strategy prepared, endorsed and coordinated

3.4.1 Analysis of available surveillance data

SERECU espoused an integrated epidemiological data analysis for the ecosystem, upon which future activities were jointly planned. This was achieved through the 3 cross-border technical harmonization meetings. The results of the analysis and interpretation thereof were at the same time presented to the main PACE Advisory Committee Meetings for further guidance. Finally, in late 2006, a joint AU-IBAR/FAO/OIE panel of experts carried out preliminary analysis of all the rinderpest surveillance data (2002 to 2006), at a workshop sanctioned to refine strategies for the final eradication of the disease from SES among others.

Overall the results show that in Somalia where a total of 12,361 serum samples from cattle were collected in 2005 (2,127 sera) and 2006 (10,234 sera), the average seroprevalence (%) in the regions of southern Somalia (Gedo, Middle Juba and Lower Juba) has shown a significant drop from 17% during the 2002-2004 surveys, to 1.7% in the 2005 survey, and finally 1% in the June 2006 survey. The northern part of Somalia (Somaliland and Puntland) has consistently since 2002 had no rinderpest-like cases and all sera tested negative for rinderpest antibodies. The two areas also have low cattle densities that are considered insufficient to maintain rinderpest virus. The 1% average sero-positivity in the June -August 2006 survey were clustered in Gedo, Middle Juba and Lower Juba as shown in Figure 5 below.

Figure 5: Sero-positive sites in the SES



All the serum samples collected in the SES parts of Ethiopia (6979) and Kenya in (5899) in 2006 have tested negative for the presence of rinderpest.

In wildlife, no rinderpest antibodies were detected in 380 sera collected in 2006 in the SES. Since the last outbreak in wildlife (Meru, 2001), there has been no apparent circulation of rinderpest virus in the sentinel wildlife populations of regions surveyed.

Overall, there has been a significant decrease in sero-prevalence to zero or near zero in Kenya and Ethiopia. The sero-prevalence in Somalia is clustered in specific sites in Gedo, Middle Juba and Lower Juba regions. In all three regions, higher prevalence was mainly among the older animals (2-3 years) as opposed to the younger animals (1-1.5 years). The 13th ACM noted that the persistence of sero-positivity remains questionable and the evidence gathered so far neither confirm nor refute the presence of RP virus circulation in the SES. In view of this and taking into consideration that SERECU Phase I would end in February 2007 and the impossibility of eradicating RP from the SES by that date, the AC recommended among others that:

- Any firm conclusion on actions to be taken be based on at least 3 possible hypotheses with regard to the SES situation, namely: i) lineage 2 virus is still circulating, without currently causing much trouble in the affected areas, indicating a possible inter-epidemic phase of the disease, ii) lineage 2 virus is still circulating but is dying out and soon will disappear altogether, and iii) lineage 2 virus has been present until recently but has now died out.
- Experts and investigators from the three countries of SES get together to: i) analyse the particular situation in southern Somalia, ii) define precise specific studies to determine whether or not RP virus is still circulating in this region, and iii) redefine the strategy and precise plan for the continuation of surveillance and other activities in the various regions of the SES
- Maximum alert and epidemio-surveillance activities be maintained in order to immediately respond to any re-occurrence of RP outbreaks

Further to AC recommendations, a Joint FAO-GREP/OIE/AU-IBAR workshop on “Accreditation of Rinderpest Freedom in Africa”, Accra/Ghana, 29th November-1st December 2006 noted that although no definitive statement could be made about the rinderpest infection status at the time, the available data are least suggestive of continued virus circulation in Somalia or elsewhere. Nevertheless, the data do provide an excellent baseline against which to judge further surveillance results.

Similarly, the results of a modeling study carried out through FAO short-term mission show that available data and analysis is consistent with either fade-out of infection or an inter-epidemic period where disease persists in remote communities. Eradication activities should therefore now focus on active surveillance to elucidate which of these two interpretations is true.

3.4.2 Final Rinderpest Eradication Strategy

Based on the analysis of results in 3.4.1 above, a strategic decision was made to demonstrate rinderpest freedom to refute its supposed persistence, guard against the risk of disease still being there, and achieve OIE accreditation of freedom status. Accordingly, Ethiopia and Kenya applied for freedom from disease at country level (for consideration in May 2007), while Somalia declared countrywide provisional freedom from rinderpest in January 2007. In the worst scenario whereby we could be witnessing an inter-epidemic period and therefore the virus could still re-emerge as an epidemic threat, then the intended follow-up investigations in the three 'affected' regions of Somalia would assist in the identification of any present or residual evidence of infection. The delineated areas would be subject to further risk-based surveillance. Should the results suggest persisting endemicity, the action will be focused vaccination for 3 years together with intensive sero-monitoring, risk assessment, and risk-based surveillance. At the end of 3 years, the focus would shift back to OIE accreditation for freedom from rinderpest.

3.4.3 Follow-up on the Modification of the OIE pathway to support the verification of eradication of mild rinderpest in the SES

SERECU submitted concept note to the OIE in August 2006 stipulating considerations for modification of the classical rinderpest Code Chapter and the corresponding Surveillance Guidelines to take into account hypo-virulent strains. The OIE Scientific Commission acknowledged receipt and has since forwarded it to the *ad hoc* Group for Rinderpest for in-depth analysis and consideration thereof. FAO-GREP made similar suggestions to the OIE for changes in the OIE pathway. The deliberations of the OIE and eventual changes in the OIE pathway that will speed up the accreditation process in the SES countries is eagerly awaited at the 75th OIE General Assembly in May 2007.

Table 3 below shows the progression of the 3 SES countries along the OIE pathway under the current Rinderpest Chapter Code and accompanying surveillance requirements. Should SERECU's (and FAO-GREP) request be considered favorably, then Somalia could be eligible for freedom from infection as early as 2009.

Table 4: Showing the progression along the OIE pathway for the 3 SES countries

	Ethiopia	Kenya	Somalia
Last disease	1995	2001	1983
Last vaccination	1999	2003	2003
Eligible for freedom from disease (whole country)	2003	End 2006	End 2008
Current OIE status	Free from disease (zonal) - OIE recognition achieved in 2005	Free from disease (zonal) - OIE recognition achieved in 2006	None

3.4.4 Follow-on Project

Follow-up to the 11th meeting of PACE Advisory Committee and the 7th Conference of African Ministries for Livestock Development, subsequent meetings, including the 12th PACE Advisory Committee Meeting (Bamako, April 2006), the 2nd SES Cross-Border Harmonisation/ 5th Technical Evaluation Meeting (Addis Ababa, May 2006) and the 6th Annual PACE Coordination meeting (Mombassa, June 2006), have all underscored the achievements of the PACE program (SERECU inclusive). However, recognizing that the end of PACE financing agreement will be in February 2007 and the impossibility of eradicating rinderpest from the SES by this date, the meetings/conferences urged AU-IBAR to set up a priority action plan and identify the necessary resources for the final eradication of rinderpest from the SES. Ultimately, a project proposal (both Technical and Financing Agreement) for SERECU phase II (2007- 2009) has been drafted and forwarded to the European Union for their consideration for funding.

4. CONSTRAINTS

- i. Heavy rains experienced between October 2006 and January 2007 coupled with concurrent insecurity due to civil unrest in Somalia totally disrupted the field implementation of activities, among them, follow-up investigations to sero-positive sites in Somalia and congruent areas of Kenya and Ethiopia, stakeholder workshop and other policy initiatives in Somalia.
- ii. Submission of duplicate samples to IAH Pirbright (UK) was extremely delayed due to delay in receiving packaging boxes from FAO

5. LESSONS LEARNED

- i. The drought in February 2006 was not conducive for the planned random survey based on random coordinates, but was ideal for PDS that was scheduled for June 2006, necessitating a swap; thus exemplified the spirit of adaptive dynamic management.
- ii. Pastoralists' expression of fatigue as a result of continuous surveillance without any visible interventions is consistent with the definition for surveillance that states in part 'it is an action-oriented information gathering process'. Clearly, most pastoralists in Somalia expected vaccination as an intervention, but the fact that there wasn't sufficient evidence to warrant vaccination did not go well among both the pastoralists and some of the veterinary professionals. Feedback through stakeholder workshops was very successful in mitigating the misconception in Ethiopia and Kenya, but unfortunately, this was not possible in Somalia where it was most needed (workshops not held in Somalia due to civil strife). SERECU phase II should endeavour to address this at the earliest.
- iii. The regional approach adopted by SERECU to coordinate the final eradication of rinderpest in the SES proved to be effective and could be duplicated in other ecosystems/regions to control/ eradicate other trans-boundary diseases. Among other reasons, consensus building and awareness creation amongst stakeholders through cross border harmonization and stakeholders' meetings underpinned this success.

6. CONCLUSION

SERECU was operationalised under the aegis of AU-IBAR and has functioned effectively, and dynamically managed its activities, and thereby set a basis for the necessary continuity of a coordinated rinderpest eradication process beyond PACE. This model could be duplicated in other ecosystems/regions to control/ eradicate other trans-boundary diseases.

7. RECOMENDATIONS

- vi. An immediate follow-up by specially constituted teams including AU-IBAR, SAHSP, FAO and the 3 SES countries should be conducted in sero-positive sites in Somalia and contiguous areas of neighbouring countries as soon as the security concerns are resolved. The results of the mission should shape the final eradication strategy.

- vii. The outcome of the concept note submitted to the OIE in August 2006 for the adaptation of the Rinderpest Chapter should be actively followed up, as will further guide the eradication strategy.
- viii. AU-IBAR/SERECU has prepared and submitted to the EC a proposal for a two-year follow-up project. The support of this proposal is necessary to further consolidate the achievements made by PACE/SERECU. SERECU should be sustained and strengthened to provide the needed analytical and operational assistance at national and SES regional level. For the next phase, the current SERECU structure and staff should be maintained if and where possible to harness the valuable experiences gained from the regional approach and the strong linkages so far developed with implementing partners.
- ix. PPR vaccine trial for the protection of cattle against rinderpest started under PACE should be concluded under phase II of SERECU.
- x. In SERECU Phase II it is proposed that other selected trans-boundary diseases be addressed as a way to add value and optimize on the eradication efforts for rinderpest.

8. ANNEXES (ON CD-Rom)

8.1 Advisory and steering committee and coordination reports

8.2 Cross-border and technical harmonization meetings/ workshops

8.3 FAO and OIE technical reports and communications

8.4 Inventory list

8.5 MOUs

8.6 PACE/SERECU evaluations and studies

8.7 SERECU mission reports

8.8 SERECU global/ individual work-plan and cost estimate

8.9 Financial report