

**Project Title:**

**PAN AFRICAN PROGRAMME FOR THE CONTROL OF EPIZOOTICS  
SOMALI ECOSYSTEM RINDERPEST ERADICATION COORDINATION  
UNIT**

**Contract Nos:**

**Programme Estimate 1: Global / Individual Financial  
Commitment No: 9 ACP RPR 32**

**Report Title:**

**FINAL TECHNICAL REPORT**

**Project Period:**

**Operational Period: 1<sup>st</sup> January 2006 – 31<sup>st</sup> January 2007**

**Recipient Organization:**

**AFRICAN UNION**

**INTERAFRICAN BUREAU FOR ANIMAL RESOURCES**

**Implementers:**

**National Veterinary Services of Ethiopia and Kenya, and the  
Somali Animal Health Services Project**

**Collaborators:**

**OIE, FAO/GREP, World Reference Laboratories (Pirbright &  
CIRAD emvt), Regional Laboratory – Muguga, and National  
Laboratories (Sebeta & Kabete).**

## PROJECT DETAILS

Project Title	Pan African Programme for the Control of Epizootics (PACE) Somali Ecosystem Rinderpest Eradication Coordination Unit (SERECU)
Contract No:	Global/Individual Financial Commitment No: 9ACP RPR 32
Date of Start:	1 <sup>st</sup> January 2006
Reporting Period:	1 <sup>st</sup> January 2006 - 31 <sup>st</sup> January 2007
Total Amount of Programme Estimate in euros Total Amount of Programme Estimate in Kshs Exchange rate: Kshs 88.0269 (Nov 2005)	Euro: 955,000 Kshs: 84,651,332
Recipient Organization Address	African Union / PACE / SERECU P. O. Box 30786-00100, Nairobi, Kenya.
Partner Organizations	Ministers responsible for Livestock Development and National Veterinary Services of the SES countries, AU-IBAR, FAO/GREP, OIE, and the donor (EU)
Target Beneficiaries	Livestock-farming communities (pastoralists/agro-pastoralists), traders and other operators, regional/national authorities, public and private sector animal health service providers, and community based organizations engaged in the sector

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## EXECUTIVE SUMMARY

The Somali Ecosystem Rinderpest Eradication Coordination Unit (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.

SERECU work-plan and cost estimate funded by the EU through AU-IBAR/PACE was endorsed on 22<sup>nd</sup> November 2005. After 10 months of operation (1<sup>st</sup> January to 30 October 2006), an Addendum was prepared and endorsed for an extension phase of 3 months (November 2006 - January 2007).

The expected results of the SERECU program were four:

- 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

Recognizing coordination between the three SES countries as essential to achieving the above-mentioned result areas, significant efforts have been made to address the issues using a regional approach. This has involved holding cross-border harmonization, technical meetings, and stakeholder workshops; synchronizing surveillance activities within the 3 countries; integrated epidemiological data analysis for disease mapping; and management of interventions such as feedbacks and follow-ups of cross-border disease events.

Significant achievements have been made in sensitizing the stakeholders (SES countries) to become more committed to the program and to ensure cooperation during field investigations and integrated epidemiological analysis. Other major achievements include assessment of the current and estimation of the required capacity of the veterinary delivery systems in the SES. In addition, cooperative linkages and productive working relationships have been established with international stakeholders such as FAO GREP, OIE, and International Reference laboratories.

Data analyzed from the wide database compiled from the ecosystem by SERECU were discussed in the Joint FAO-GREP/OIE/AU-IBAR workshop on “Accreditation of Rinderpest Freedom in Africa”, Accra/Ghana, 29<sup>th</sup> November-1<sup>st</sup> December 2006. Overall, there has been significant decrease in sero-prevalence to zero or near zero in Kenya and Ethiopia and few sero-positive clusters in some parts of southern Somalia. The available results are starting to provide confidence that rinderpest is no longer circulating in the SES. The focus then becomes a matter of demonstrating freedom and achieving OIE accreditation of the freedom status, in addition to guarding against any risk of rinderpest resurgence.

The prerequisites for strategy formulation for the final eradication of rinderpest include that Somalia must declare itself provisionally free from rinderpest by January

2007 in order to facilitate the accreditation process of all countries involved in the SES. Kenya and Ethiopia should submit their dossiers to OIE for official recognition of rinderpest disease freedom (at country level). To achieve this, coordinated surveillance and national emergency planning should be continued in view of future accreditation for rinderpest infection freedom. Related dossiers should be submitted to the OIE by September 2008, to ensure 2 consecutive years of surveys for proof of infection freedom, until the FAO GREP deadline to achieve full global OIE accreditation of rinderpest freedom.

Under the auspices of AU-IBAR and with the help of consultancy input provided by GTZ and the EU, SERECU has developed a Project Proposal for the continuation and coordination of the rinderpest sero-surveillance and accreditation process in the SES.

# 1. INTRODUCTION:

## 2.1 Background:

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 which aims to achieve global eradication of RP by the year 2010.

With the PACE program, important results have been achieved 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. 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.

Now there exists convincing evidence that RP has disappeared from most of the African continent and nearly all PACE Participating Countries have embarked on the OIE pathway for declaration of freedom from disease and freedom from infection. However, the situation in the SES and by extension the countries of Ethiopia, Kenya and Somalia are unique and quite different. The SES has over the years been suspected to harbour foci of mild rinderpest virus. The suspicion has been based on evidence of a disease syndrome in cattle consistent with mild rinderpest.

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 will end in February 2007. During the 11<sup>th</sup> meeting of the PACE Advisory Committee and during the 7<sup>th</sup> 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 stakeholders in the above conferences recognizing the success achieved in rinderpest eradication in Africa so far, and underlining that the continent is about to get rid of this disease in the near future 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 where its presence is cryptic and area of infection uncertainty.

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) 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 7). SERECU has been funded within the PACE program.

SERECU has so far provided a sustainable and effective coordination of the final eradication of RP from its suspected last remaining foci in Africa. As the program draws to a conclusion, significant achievement has been made including the following:

- o Remarkable improvements in the harmonization and coordination of surveillance activities and consolidation and analysis of data
- o Stakeholders in the SES have been sensitised and have become more committed to rinderpest eradication efforts demonstrated by signing and upholding of memoranda of understanding between individual countries/institutions and AU-IBAR
- o Ethiopia and Kenya have achieved OIE recognition of disease freedom on zonal basis in 2005 and 2006 respectively. Somalia is in the process of declaring provisional freedom from rinderpest.
- o A proposal has been developed to adapt the *Chapter on Rinderpest* (surveillance systems for rinderpest) of the *OIE Terrestrial Animal Health Code* to take into account the specificity of the surveillance requirements of mild rinderpest in achieving freedom from disease and the process leading to the revision of the *Chapter* is underway in collaboration with the OIE
- o SERECU coordination unit was operationalised under the aegis of AU-IBAR and has functioned effectively and dynamically managed and achieved most of the targets envisioned for this project towards eradication of rinderpest from the SES.

Follow-up to the 11<sup>th</sup> meeting of PACE Advisory Committee and the 7<sup>th</sup> Conference of African Ministries for Livestock Development, subsequent meetings, including The 12<sup>th</sup> PACE Advisory Committee Meeting (Bamako, April 2006), the 2<sup>nd</sup> SES Cross-Border Harmonisation/ 5<sup>th</sup> Technical Evaluation Meeting (Addis Ababa, May 2006) and the 6<sup>th</sup> Annual PACE Coordination meeting (Mombassa, June 2006), 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. To this end, a project proposal has

been drafted by SERECU and forwarded to the European Union for their consideration for funding.

The proposal responds to the fact that the suspicion that rinderpest could be persistent in the SES is hanging over the concerned countries, constraining their livestock development and trade and impairing the livelihoods of their people who are largely rural/pastoral. At the same time it underlines that the eradication of rinderpest from the SES is a global public good and an essential stage in the accomplishment of the GREP objective to eradicate the disease by 2010.

The continental and international efforts are underway to achieve the GREP objective except for the three SES countries. Therefore, determination and effective action that give special attention to the last supposed presence of rinderpest in SES are needed to eliminate this highly contagious viral infection from the world and make sure that no new outbreaks occur. The final eradication of rinderpest from the SES would mark the first time in history that an epizootic is eradicated from the world and would make it the second disease eradicated after smallpox.

This final report of SERECU outlines the activities that have been undertaken within the project period, the achievements made, constraints faced, lessons learned and the way forwards for the final eradication of rinderpest in the SES.

## **2.2 Project justification:**

The livestock sector is a major contributor to the economies of the three SES countries in terms of livelihoods, employment and income generation. These countries contain the largest numbers of pastoralists and agro-pastoralists and the largest concentration of livestock in Africa. Livestock raising engages 31 percent of the workforce of Ethiopia and employs over 50 percent and 20 percent of the populations of Somalia and Kenya respectively. About 20 percent and 40 percent of the GDPs of Ethiopia and Somalia in that order come from the livestock sector.

Resolving the suspicion about the presumed persistence of RP in the SES and achieving OIE accreditation of the freedom status will create zoo-sanitary security in the SES countries. This will boost livestock development and trade and thus improve livelihoods and incomes and lead to poverty alleviation.

Furthermore, the re-enforcement and sustenance of harmonized and coordinated surveillance at ecosystem level for the purpose of accreditation of RP freedom will contribute to the attainment of the global GREP goal. Last but not least, strengthened national veterinary services with coordinated surveillance and emergency preparedness programs will reduce the risk of rinderpest resurgence and probable overflow to other parts of Africa and the globe.



## **2. ACHIEVEMENTS TOWARDS RESULTS:**

### **3.1 Result 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 22<sup>nd</sup> November 2005 and became operational in January 2006 and the last staff was recruited and joined in June 2006

In accordance with the work-plan, the Unit has been able to give technical and logistic support to the three SES countries in various ways that include convening of workshops and coordination meetings and providing technical assistance:

- i. **Workshops and meetings convened for SES stakeholders:**
  - 1<sup>st</sup> Cross-border Harmonization Meeting at Lenana Conference Center, Nairobi, 1<sup>st</sup>-2<sup>nd</sup> February 2006
  - SERECU Inception Workshop at AU-IBAR Conference Room, Nairobi, 30<sup>th</sup> March 2006
  - 2<sup>nd</sup> Cross-border/5<sup>th</sup> Technical Harmonization Meeting at Ghion Hotel, Addis Ababa, 9<sup>th</sup>-10<sup>th</sup> May 2006
  - 1<sup>st</sup> Steering Committee Meeting for SERECU at Ghion Hotel, Addis Ababa, 11<sup>th</sup> May 2006
  - Conceptual SES Stakeholders Workshop, Nairobi, 15<sup>th</sup>-16<sup>th</sup> June 2006 at Jacaranda Hotel.
  - 3<sup>rd</sup> Cross-border/Technical Harmonization at AU-IBAR, Conference Hall, Nairobi, 4<sup>th</sup> - 6<sup>th</sup> October 2006
  - 2<sup>nd</sup> Steering Committee on 6<sup>th</sup> October 2006, at AU-IBAR, Conference Hall, Nairobi
  - In-country Stakeholders Workshop for Kenya, Garissa on 1<sup>st</sup> - 2<sup>nd</sup> December 2006 and Ethiopia, Moyale on 14<sup>th</sup> - 15<sup>th</sup> December 2006(the Workshop planned for Somalia was not conducted)
- ii. **Technical and logistic support to SES countries:**
  - Field surveillance back-up services
  - Review of countries Emergency Preparedness Plans and Dossiers for freedom from disease
  - Formal and informal consultations with countries on strategies for final eradication of rinderpest from the SES
  - Provided 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

- iii. 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 8.2 For full copy of the memoranda of understanding.

- iv. **Participation in PACE and/or OIE / FAO-GREP workshops and meetings by SERECU staff:**
- 12<sup>th</sup> PACE Advisory Committee Meeting, in Bamako, Mali, at Kempinski Hotel on 26<sup>th</sup>-27<sup>th</sup> April 2006
  - 74<sup>th</sup> OIE General Assembly, Paris, 20<sup>th</sup>-26<sup>th</sup> May 2006
  - 2<sup>nd</sup> AU-IBAR African DVS Meeting, Paris
  - 3<sup>rd</sup> PACE Laboratories Network Meeting, at Kempinski Hotel on 5<sup>th</sup> - 9<sup>th</sup> June 2006, Bamako, Mali.
  - 6<sup>th</sup> Annual PACE Coordination Meeting, Mombasa, 27<sup>th</sup>-30<sup>th</sup> June 2006
  - PACE External Final Evaluation
  - PACE Epidemio-Surveillance Systems Consolidation Meeting, at Hotel Sawa on 17<sup>th</sup> - 21<sup>st</sup> July 2006 in Douala, Cameroon.
  - PACE Wildlife Consolidation Workshop 18<sup>th</sup> - 21<sup>st</sup> September 2006 held at Mt Kenya Safari Club Nanyuki, Kenya.
  - 13<sup>th</sup> PACE Advisory Committee Meeting held at Norfolk Hotel Nairobi, 26<sup>th</sup>-27<sup>th</sup> October 2006,.
  - Joint FAO-GREP/OIE/AU-IBAR Workshop on Accreditation of Rinderpest Freedom in Africa, Accra, 29<sup>th</sup> November-1<sup>st</sup> December 2006
  - OIE/FAO International Meeting on Avian Influenza in Wild birds Rome on 30<sup>th</sup> - 31<sup>st</sup> May 2006
  - FAO meeting on Avian Influenza at AU/IBAR
  - 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 3<sup>rd</sup>-4<sup>th</sup> 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 29<sup>th</sup> November-1<sup>st</sup> December 2006.

### **3.2 Result 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**

The key verifiable indicator for this result has been to delineate areas of endemic maintenance of rinderpest virus in the SES by undertaking coordinated surveillance activities and field missions. It also included activities aiming to strengthen the surveillance capacities such as development of surveillance and laboratory systems and protocols, capacity building of SERECU and national programs staff, Institutional strengthening of national programs and national and regional laboratories and development of disease information systems and reporting.

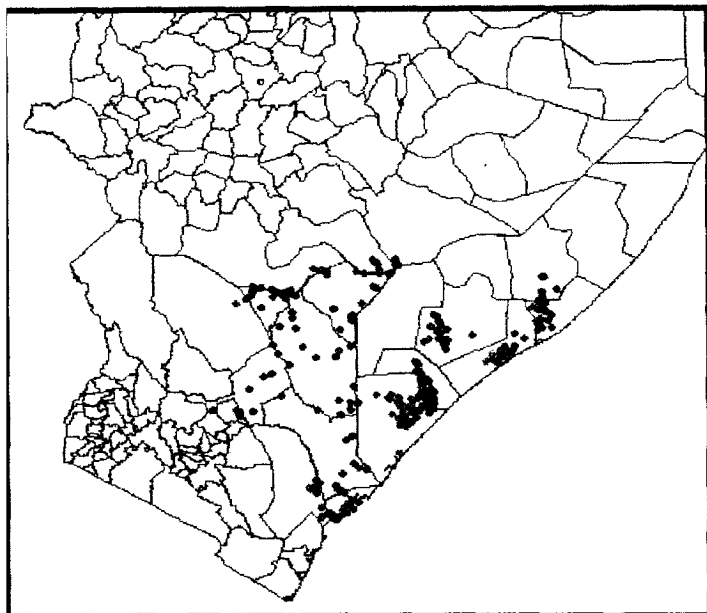
### **3.2.1 Strengthening of surveillance capacities**

- i. Surveillance requirements and tools were established and guidelines agreed on with the national programs. These covered PDS, clinical and serological surveys, wildlife surveillance, and cross-sectional sampling frame, sampling methods and levels of confidence in data analysis and interpretation of results
- ii. Laboratory systems and protocols were set up following Dakar protocol and covered field collection, labeling and transportation of samples, and receiving and recording of samples. Sample collection guidelines were agreed with and circulated to national programs. Packaging and shipment of samples to reference laboratory followed FAO guidelines and agreed with FAO, OIE and reference laboratory (Pirbright) and CIRAD (emvt).
- iii. A series of capacity building trainings were conducted for SERECU and national programs staff. These covered trainings on the use of map coordinates, use of ARIS and data management, GIS and wildlife surveillance. Trainings that were planned and not implemented include risk analysis and risk based surveillance, EPP, training of vets and paraprofessionals in disease surveillance, and IATA training on shipment of biological materials (recommended in the 3<sup>rd</sup> cross-border workshop) See Annex 8.4.2.
- iv. National programs and national and regional laboratories (Sabeta, Kabete and Muguga) were supported through provision of financial and material support, including provision of kits, consumables, packaging materials and other equipment (See Annex 8.4.1) . Support was also provided to national programs to install ARIS system.
- v. The disease information and reporting system (ARIS) linking national programs with IBAR/SERECU was strengthened through installation of ARIS and training in Ethiopia and Somalia. Although there were interruptions, the countries have been urged to start to report disease status and outbreak investigations on a monthly basis.

### **3.2.2 Surveillance activities and field missions**

Serosurveillance based on random coordinates in addition to targeted wildlife sero-surveillance were planned for January - February 2006. However, due to the severe drought situation in the Horn of Africa (November 2005 - March 2006) that affected the spatial distribution of livestock in the SES countries, participatory disease search (PDS) in combination with purposive sero-surveillance was implemented in February-March 2006 in preference to random sero-survey as earlier intended.

**Figure 1: Showing the participatory disease search sampling sites in the Somali Ecosystem – February 2006**

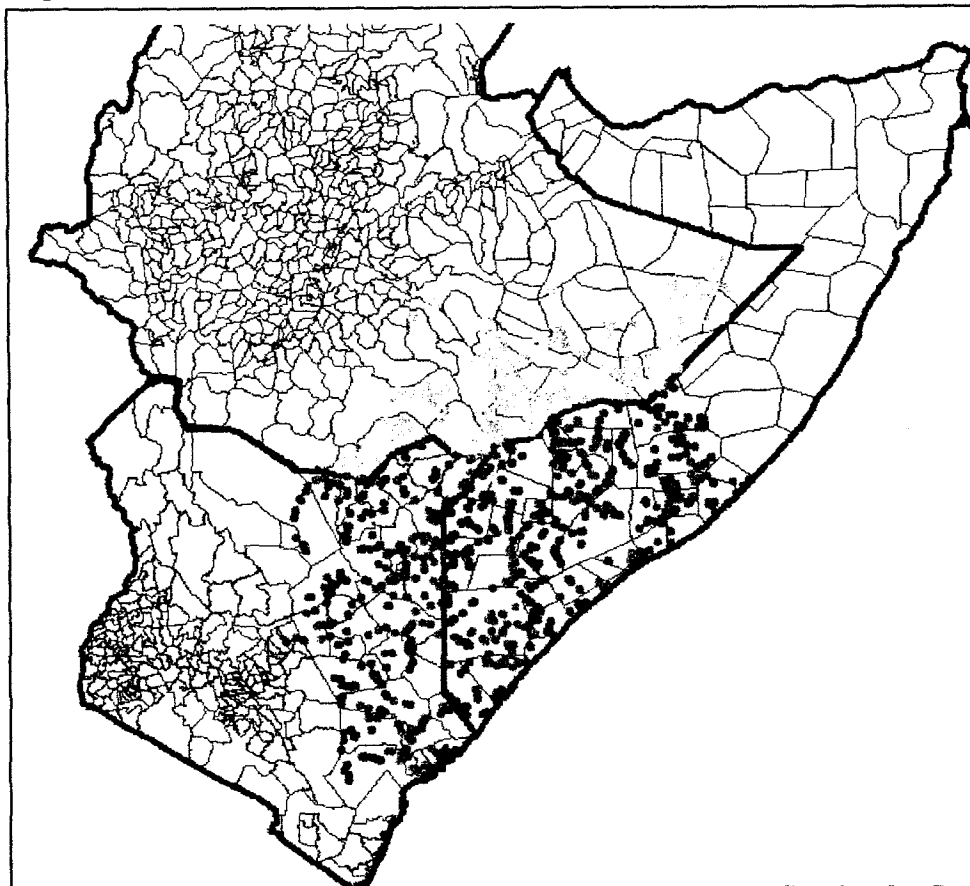


The map shows the sites visited, including 92 sites in Kenya, 144 sites in Somalia and 29 in Ethiopia with 1972, 2136 and 803 sera collected respectively. Although no stomatitis enteritis syndrome was encountered as per the case definition, all cases of either stomatitis or diarrhea were sampled to ensure nothing was left to chance. Total samples of 4911 sera, 60 whole blood, 97 eye swabs and 158 Lymph node aspirates were collected from the ecosystem.

A random sero-survey planned for May/June was implemented between June - September 2006. This was implemented successfully with field back-up services in Ethiopia and Kenya provided by SERECU while the Somali component was implemented by SAHSP. The number of samples collected per country was 6176 (Ethiopia), 3927 (Kenya) and 8098 (Somalia). Figure 2 below shows sero-survey sites in the three countries.

During the random surveillance carried out in July 2006, SAHSP/field teams reported suspicion of rinderpest-like disease in southern Somalia at the border with Kenya. A team comprising of SERECU and PACE Kenya members was mobilized and complemented SAHSP in the investigation. The teams carried out detailed investigation including sero-sampling and collected a total of 33 serum samples and 98 tissue samples. This was a significant achievement demonstrating the capacity to report and follow-up cross-border incidences of suspected rinderpest-like diseases. This further verified the coordination capacity among the three SES countries.

**Figure 2: Sites of random surveillance conducted in the SES**

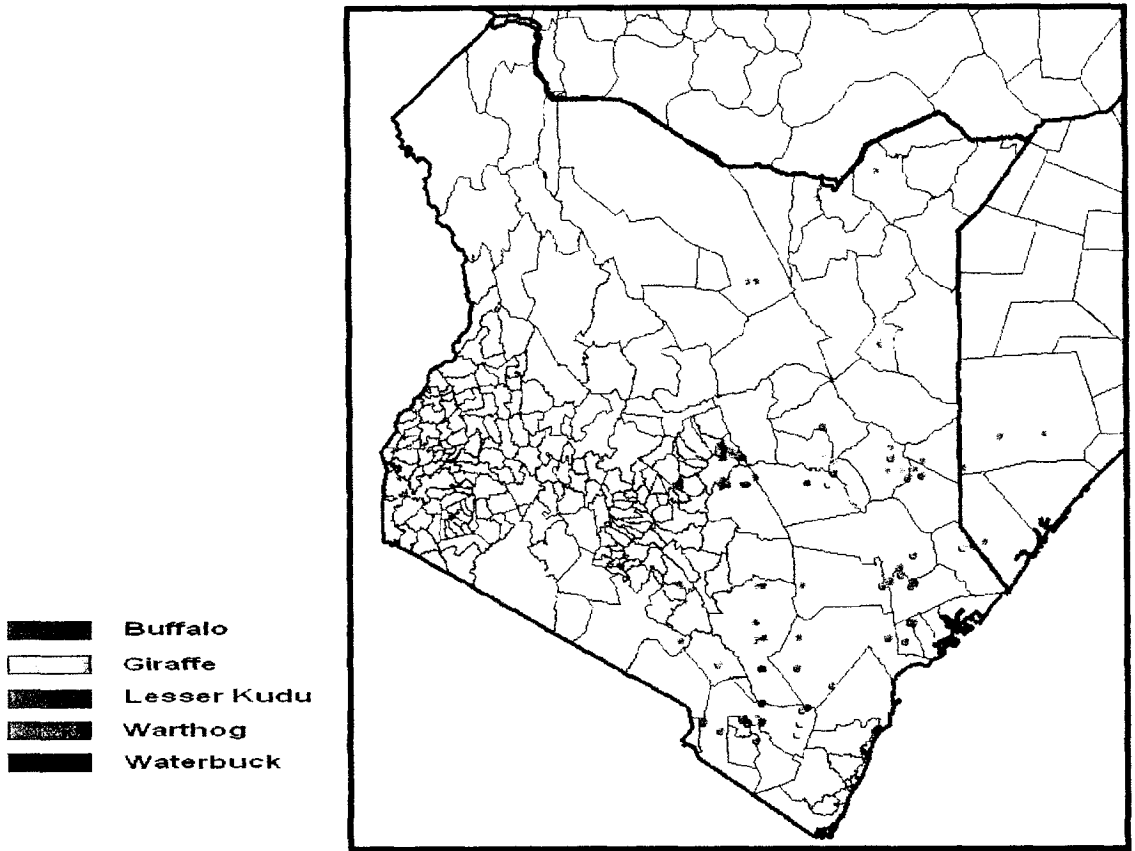


Support was provided to Kenya Wildlife Service KWS to conduct wildlife surveillance in Kenya. Four missions were conducted as follows: 27<sup>th</sup> February - 22<sup>nd</sup> March - Garissa / Ijara and Tana River Districts, 15<sup>th</sup> March - 8<sup>th</sup> April - Meru Conservation Area, 27<sup>th</sup> March - 15<sup>th</sup> April - Tsavo Ecosystem. The 4<sup>th</sup> mission was conducted from 25<sup>th</sup> May-26<sup>th</sup> 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 16<sup>th</sup> August-2<sup>nd</sup> September 2006. A total of 33 samples were collected from warthog. 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. SES wildlife surveillance sites (Ethiopia, Kenya and Somalia) are shown in the map below.

**Figure 3: Wildlife sampling sites in the SES**



All the surveillance activities were harmonized and results presented at the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Cross Border/ Technical Harmonisation Meetings (See Annex 8.3)

### **3.2.3 Timely and coordinated quality laboratory diagnosis**

A system for timely and coordinated quality laboratory diagnosis was established. This involved:

- Agreeing to apply standards and protocols as set by OIE
- Establishing a centralized management system in collaboration with Muguga, Kabete and Sebeta for registering, dispatch, tracking and submission of samples to world reference laboratories

A total of 210 cattle and 312 wildlife serum samples from Kenya and 35 wildlife samples from Somalia were submitted to CIRAD-EMVT in May 2006 and August 2006 respectively. In addition, 118 cattle serum samples from Kenya and 49 from Somalia were dispatched to Pirbright in August 2006. All the samples sent to the two labs were negative for rinderpest antibodies. Aliquots of the serum samples of the random survey carried out in July 2006, referred above, were submitted to Pirbright in December 2006 and are being tested.

### **3.3 RESULT 3: Harmonized rinderpest eradication approach applied by veterinary delivery systems in the SES**

A field technical study was carried out to evaluate the current veterinary delivery systems in the SES in accordance with the OIE set guidelines (Masiga W., Kajume, J. and Daborn, C. "Assessment of veterinary delivery systems in the Somali Ecosystem" August 2006) See Annex 8.3. Key recommendations included a need to review policy to allow the Government 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 stakeholders workshops were held in Kenya and Ethiopia in December 2006 (See Annex 8.3). An in-country stakeholders workshop scheduled to be held on 4<sup>th</sup> - 8<sup>th</sup> January 2007 in Somalia was not held due to the prevailing civil unrest.

Due to the delay in conducting the technical field study on veterinary delivery systems in the SES, specific recommendations on national policy initiatives to facilitate harmonized approaches for rinderpest eradication in SES were not realized. However provision has been made to implement this in the SERECU follow-up project.

For Somalia, it was concluded that the absence of a central veterinary authority that takes national responsibility and mandate for rinderpest eradication constituted a big gap in service delivery. According to the OIE eradication pathway, it is the Central Veterinary Authority that has the mandate to declare rinderpest freedom status. Following the recommendations, SERECU planned several activities for Somalia during the extension phase. These included holding of policy initiative meetings for the establishment of a Central Veterinary Authority, in addition to facilitate the action of a Task Force to develop an action plan for the development of the National Veterinary Service. Other inputs included provision of office furniture and kick-start running costs. These activities have not been implemented due to logistical problems.

### **3.4 RESULT 4: Final rinderpest eradication strategy prepared, endorsed and coordinated**

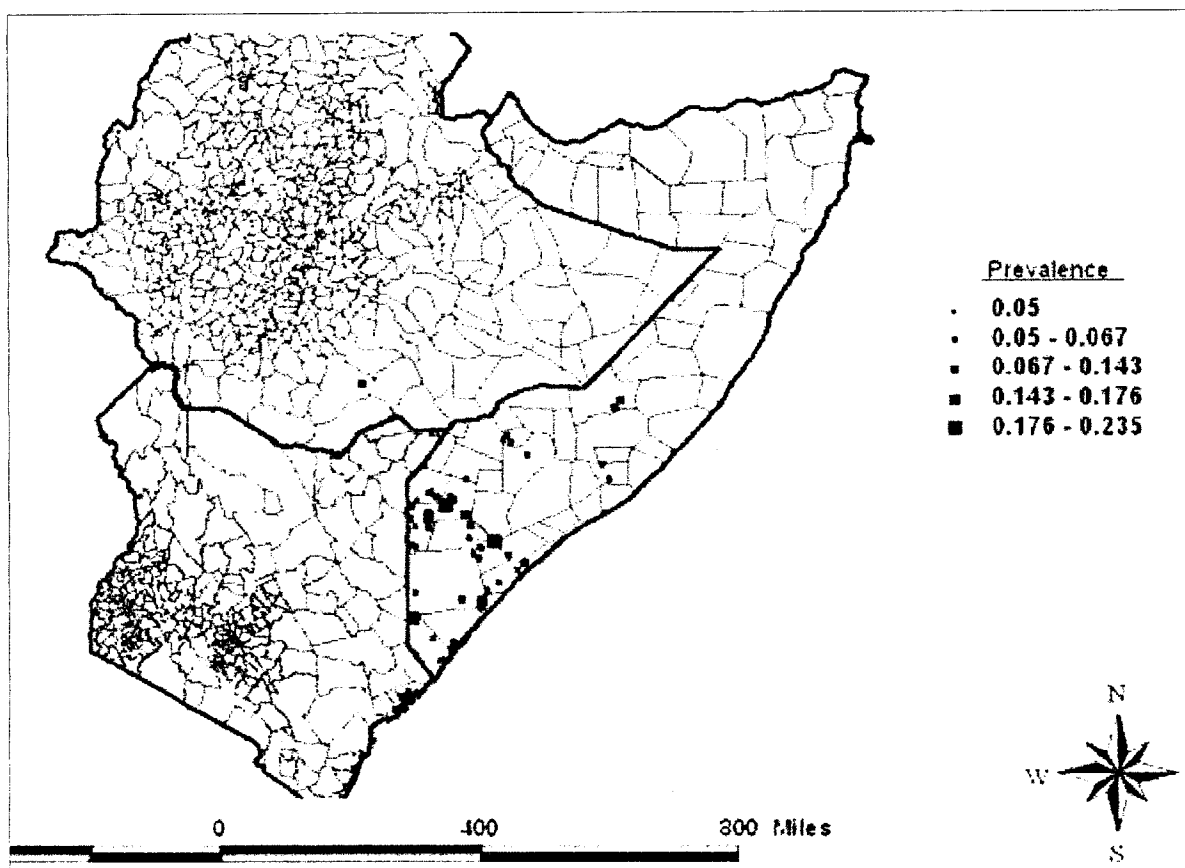
#### **3.4.1 Analysis of available surveillance data**

Final rinderpest eradication strategy is to be developed following the compilation and analysis of all available data (historical and current) as well as follow-up surveillance carried out and areas of continued rinderpest virus circulation identified and delineated. In Somalia, SAHSP collected and tested 2111 cattle serum samples from random surveys in central and southern Somalia in 2005 and in 2006 another 2152 samples from specifically targeted sites. In addition to the serological surveillance, participatory disease searches for clinical signs of rinderpest in all the cattle rearing areas were conducted. The number of samples collected during June 2006 survey was 8098. The average sero-prevalence (%) in the regions of southern Somalia (Gedo, Middle Juba and Lower Juba) has shown a significant drop with prevalence of 17% from

2002-2004 surveys, 1.7% in the 2005 survey, 0.6% in the February 2006 survey and 1% in the June 2006 survey. The northern part of Somalia (Somaliland and Puntland) is a rinderpest free zone. These areas also have low cattle densities that are not able to support the maintenance of rinderpest and no cases of clinical disease resembling rinderpest have been detected in the areas since the start of structured surveillance activities in 2002.

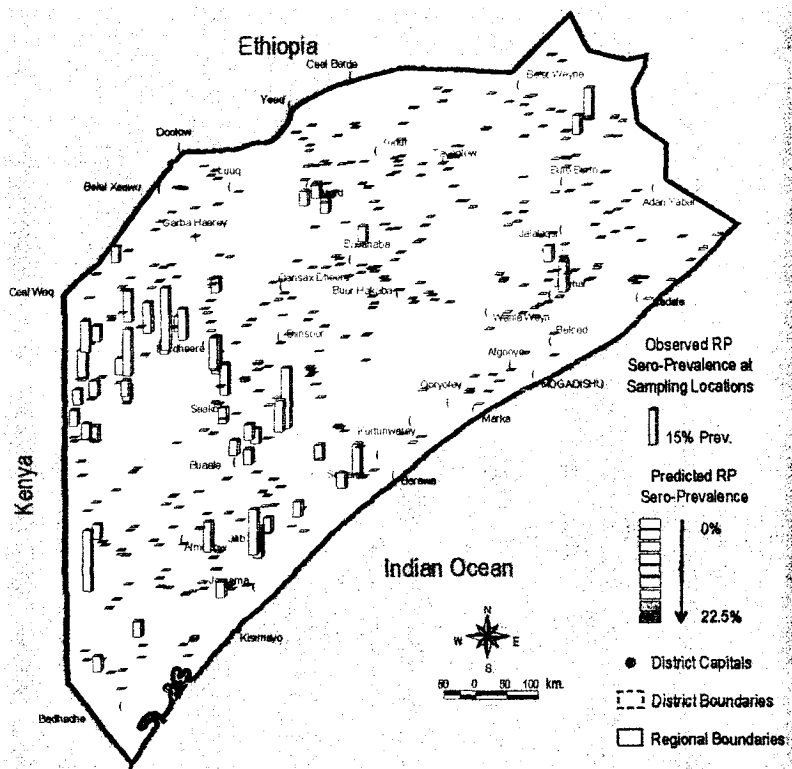
In Ethiopia, surveillance was undertaken in 2005 and a total of 11,843 sera were collected and no rinderpest-like disease was detected. All samples collected during the June 2006 survey in Ethiopia and Kenya (when 6176 and 3927 samples were collected respectively) have tested negative for the presence of rinderpest. The current status of sero-positive sites in the SES is as shown in Figure 4 below.

**Figure 4: Sero-positive sites in the SES**





**Figure 5: Sero-positive sites in Southern Somalia**



In wildlife, no rinderpest antibodies have been detected in 380 wildlife sera tested so far from the SES. From 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). On the whole, a low prevalence figure of around 1% is reported in 2006 for the area with the highest sero-prevalence (Middle Juba).

Although a definitive statement of rinderpest infection status cannot be made on the basis of the current sero-surveillance and clinical surveillance results, the above results indicate they are not strongly suggestive of continued rinderpest virus circulation in Somalia and in the other SES countries. Instead, they are starting to provide increasing confidence that rinderpest is no longer circulating in the SES.

### 3.4.2 Final Rinderpest Eradication Strategy

Results of mathematical modeling of mild rinderpest 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 focus on

active surveillance to elucidate which of these two interpretations are true (See Annex 8.4).

On the basis of the above results (3.4.1), final rinderpest eradication strategy will be prepared, endorsed and implemented after the following activities are carried out:

**1) Follow-up surveillance of sero-positive sites in southern Somalia and contiguous areas in Kenya and Ethiopia**

Analysis of surveillance data (June 2006 survey) at SES level raised several concerns including:

- The persistence of sero-positivity in few herds in some regions in southern Somalia
- The absence of sero-positivity in the contiguous areas of Kenya and Ethiopia, despite the continuous livestock movements between southern Somalia and the cross border zones of Kenya and Ethiopia

It was planned during SERECU extension phase to conduct (within October 2006) urgent follow-up of all sero-positive sites in southern Somalia and contiguous areas of Kenya and Ethiopia. Composite teams made up of representatives of the three countries, SERECU and FAO were expected to carry out the exercise in each country. However, the survey was not implemented due to heavy floods throughout the region, in addition to security issues in Somalia.

**2) Support countries to go along the OIE pathway**

SERECU collaborated with the country programs in preparation of dossiers for submission to OIE. Below is a table showing the progression along the OIE pathway for the 3 SES countries

Table 1: 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

On the basis of the data analyzed from SES surveillance results, the following are required to be accomplished as a prelude for final rinderpest eradication:

- Somalia must declare itself provisionally free from rinderpest by January 2007 in order to facilitate the accreditation process of all countries involved in the SES.
- Kenya and Ethiopia have submitted their dossiers for official recognition of rinderpest disease freedom (at country level) in January 2007 to allow for evaluation by the *ad hoc* Group in February 2007.
- SERECU has prepared a concept note stipulating considerations for modification of the classical rinderpest Code Chapter and the corresponding Surveillance Guidelines to take into account hypo-virulent strains. The concept note was submitted to the OIE in August 2006. The OIE Scientific Commission forwarded the concept note to the *ad hoc* Group for Rinderpest with the aim to suggest possible changes for consideration by the Code Commission. 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 being followed up.
- Follow-up activities concerning sero-positive clusters and investigations in wildlife in the SES have to continue, in view of future accreditation for rinderpest infection freedom (Goal: submission of dossiers on September 2008 so as to ensure 2 consecutive years of surveys for proof of infection freedom).

### 3) Preparation of follow-up project for the eradication of mild rinderpest or the verification of its absence

As the challenge now is to continue with the sero-surveillance activities in both livestock and wildlife and finalize the accreditation process, a draft proposal for a follow-on project was developed. On the recommendation of European Union (EU), a consultant was contracted through GTZ to transform the 4-year (March 2007 - February 2011) draft proposal into a final project proposal document with the accompanying Financing Agreement. The Project proposal has been submitted to the EU.

The intended Socio-economic study on the benefits of eradication RP from SES was not carried out due to the transference of the AU-IBAR Socio-Economist to AU headquarters Addis Ababa.

## 3. PROJECT MANAGEMENT:

The Somali Ecosystem Rinderpest Eradication Programme was implemented at the national and regional (SES) levels. The SERECU was established under the PACE Programme of AU-IBAR. On behalf of AU-IBAR, SERECU managed and coordinated the implementation of the rinderpest eradication programme in the Somali ecosystem.

## 4.1 Coordination/collaborations

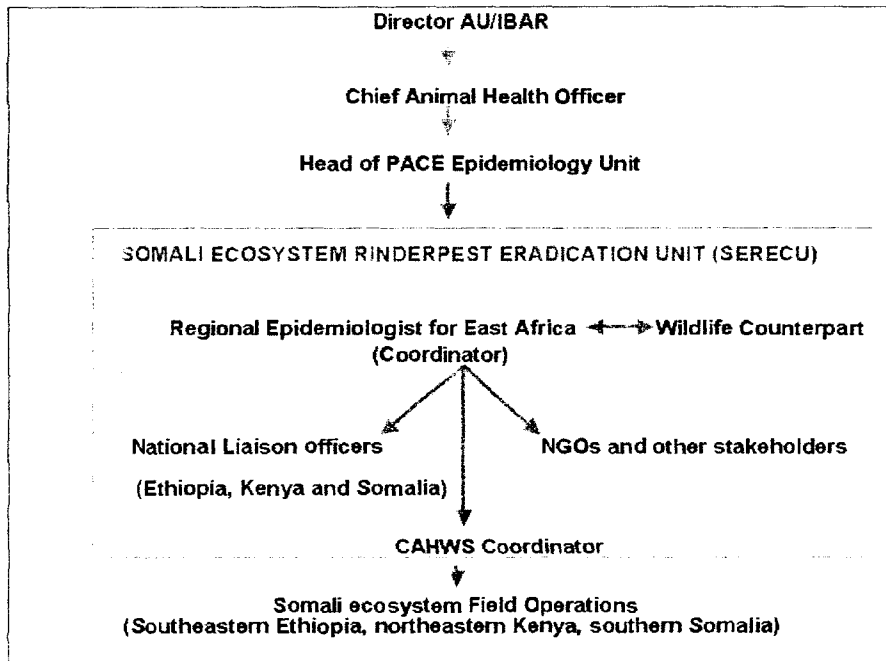
The day- to- day management of the programme was delegated to SERECU that coordinated the technical implementation of the programme. The team comprised of:

- Project Coordinator who doubled as the regional PACE Epidemiologist for East Africa.
- Three Liaison Officers, representing the three SES countries
- Wildlife Veterinary counterpart, who doubled as the wildlife expert for the PACE programme
- Veterinary Delivery System Officer

The coordination team developed national and regional implementation plans with the participating countries. The team monitored the implementation of the work programme.

An accountant was employed to oversee the financial aspect of the programme. Moreover, the programme utilized the existing PACE infrastructure, facilities and technical expertise for support services and technical consultation where necessary.

**Figure 6: 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.

## 4.2 Resources and budget used:

The European Union (EU) was the donor for the programme. The funds utilized during the project period are as shown below.

### BUDGET UTILIZATION FOR A 14 MONTH PERIOD FROM 1 NOVEMBER 2005 TO 31 DECEMBER 2006

		Actual Expenditure Sh	Budgeted Expenditure Sh	Actual Expenditure as % of Budget
	<b>Expenditure</b>			
1	Equipment / investments	1,066,600	2,165,607	49%
2	Running costs	24,571,380	33,053,286	74%
3	Improved laboratory support	44,084,823	46,380,269	95%
4	Emergency preparedness	11,110,042	22,753,453	49%
5	Wildlife surveillance	16,092,081	24,284,438	66%
6	Meetings, conferences & trainings	3,833,045	15,715,901	24%
7	Country support for disease surveillance	0	7,141,800	0%
8	Strengthening Somalia Vet. Authority	0	1,553,100	0%
9	Contingency	0	7,652,393	0%
	<b>Total Expenditure</b>	<b>100,757,971</b>	<b>160,700,247</b>	<b>63%</b>

### **4.3 Capacity building:**

#### **4.3.1 Training in wildlife captures:**

Three Ethiopian and eight Somali veterinary professionals were trained on 'humane' capture of warthogs using the netting method, blood sampling, and maintaining cold chain for serum samples in the field. This took place in Kenya between 27<sup>th</sup> February to March 2006 with technical support from Kenya Wildlife Service (KWS) personnel.

#### **4.3.2 Use of random coordinates in the field:**

In preparation for the random sero-survey, in-country training on the use of random map coordinates was conducted for 26 Ethiopian in March 2006 and 15 Kenyan veterinarians in April 2006 who were involved in the June-July 2006 random survey.

#### **4.3.3 Training on GIS:**

The SERECU staff trained on GIS in November 2006 to enhance their capacity to analyze data.

### **4.4 Support to Laboratories**

SERECU facilitated the procurement of laboratory equipment and materials for the national and regional reference laboratories (annex 4)

### **4.5 Stakeholders sensitization:**

One regional stakeholders sensitization workshop was held in June 2006 and one in-country workshops for Kenya and Ethiopia were held in December 2006. The workshops were held to sensitize stakeholders with regard to rinderpest eradication endeavors and lobby for their support in the eradication process.

## **5. CONSTRAINTS AND LESSONS LEARNED:**

### **5.1 External factors influencing implementation**

- i. Drought in February 2006 hindered the random surveillance since animals had dispersed to various areas in search of pasture and water. Instead, PDS was carried out and the random survey postponed to June-July 2006.
- ii. From the random surveillance in June-July 2006, a follow-up of sero-positive sites and their contiguous areas identified was planned for October 2006. However, the heavy rains experienced

from October to December 2006 coupled with insecurity due to civil unrest in January 2007 in Somalia markedly disrupted the exercise. This is yet to be conducted.

Heavy rainfall also affected a wildlife surveillance mission that was being conducted in Dolo Odo to Sede areas of Ethiopia in March 2006.

- iii. Fatigue of pastoralists was clearly observed in the majority of surveillance areas in the ecosystem on continuous surveillance activities without any visible interventions
- iv. Security implications affected the smooth conduction of the random sero-surveillance in some areas of the surveillance zone of Ethiopia in June-July, 2006

## **5.2 Internal factors influencing implementation**

- i. Despite the delays in the commencement of SERECU, the project was still able to implement most of the planned activities. However, protracted procurement of laboratory items resulted in temporary delays in testing of some field samples.
- ii. Technical staffs were not involved in some of the relevant meetings convened by PACE - PCU, which touched on their areas of responsibilities/commitments.
- iii. There was delayed submission of duplicate samples to IAH Pirbright (UK) due to lack of packaging boxes

## **5.3 Lessons learnt**

The establishment of SERECU within AU-IBAR-PACE to coordinate the final eradication of rinderpest in the SES using a regional approach proved to be effective.

The sharing of available wildlife expertise enabled effective work to be conducted across the region. Synchronization of field activities in the 3 SES countries enabled spatial and temporal comparability of data from various locations of the SES. Despite intermittent security concerns coupled with the absence of functioning public and private livestock sector institutions in Somalia, It was possible to implement most field activities in the SES.

The sensitization of the livestock keepers and community leaders was found to be essential to addressing the issue of fatigue to frequent surveillance exercise.

## **4. CONCLUSIONS**

It was possible to implement most planned activities in a timely manner except the final follow-up survey on positive sites identified from the previous random surveillance. This was due to the insecurity in Southern Somalia,.

The final strategy for rinderpest eradication will require the results of a follow-up survey in sero-positive sites and their contiguous areas.

There is a need to consolidate the gains made by PACE/SERECU in order to secure the effective livestock disease surveillance and reporting systems which are the basis for eradication of rinderpest from the SES.

## **5. RECOMMENDATIONS FOR THE FUTURE:**

- 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. This should include both cattle and wildlife. Results of this mission will help to delineate areas of rinderpest infection and contribute towards a final rinderpest eradication strategy.
- A specific team composed of SES national epidemiologists, AU-IBAR & FAO should immediately finalize the analysis of raw data on country PACE activities submitted recently by the 3 SES countries.
- A concept note was submitted to the OIE in August 2006 stipulating consideration for modification of the classical rinderpest Code Chapter & Surveillance Guidelines to take into account mild strains of rinderpest. Acceptance of the request will expedite the accreditation process. It should actively be followed up, since the outcome of this is highly awaited to further guide the eradication strategy,.
- AU-IBAR/SERECU has prepared and submitted to the EC a proposal for a two-year follow-up project with a Financing Agreement for a second Phase of SERECU. The support of this proposal is necessary to consolidate the achievements gained by SERECU in the rinderpest eradication process so far. SERECU should be sustained and strengthened to provide the needed analytical and operational assistance at national and SES regional level. The current SERECU structure and staff should be maintained in the next phase to harness the valuable experiences gained



from the regional approach and the strong linkages developed with implementing partners.

- AU-IBAR should continue urging National veterinary services to sustain effective emergency capacity to provide early warning and prevent any re-introduction of rinderpest infection, or rapid response should any outbreak occur.
- PPR vaccine trial needs to proceed in the second phase of SERECU to avail an effective marker vaccine.
- AU-IBAR/SERECU should sustain the collaboration with partners including SES Countries, FAO, OIE, Laboratories, NGO's; and others to finalize rinderpest eradication from the SES.

## 8. ANNEXES (ON CD-Rom)

8.1 Log frame

8.2 Memoranda of Understanding

8.3 Technical Reports and evaluations

8.4 Capacity Building

8.5 Inventory List

8.6 Photographs

8.7 Project document