Final report on the assignment as East African Epidemiologist of the Pan African Programme for the Control of Epizootics (PACE)

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1. Description of the programme

1.1. Goals and composition of PACE

The improvement of livelihoods and food security of livestock-dependent communities in a number of Sub-Saharan member states of AU is the overriding goal of PACE. The goal will be pursued through improved productivity of livestock resources in PACE Regions, based on safeguarding animal health against major epizootic diseases and on more efficient animal health care delivery. The approach is designed to be sustainable and it has an additional long-term goal for the integration of African livestock producers into international trade.

PACE is operating at national and international levels. The PACE Common Service Units are responsible to the PACE Co-ordination Unit and have the following specification:

- Epidemiology Unit is the core f unit of the programme and has bases in Nairobi, Bamako and N'djamena;
- CAPE Unit works towards institutionalizing of community-based animal health care and participatory epidemiology;
- Data Management Unit for information compilation, analysis and dissemination;
- Veterinary Privatization and Regulation Unit is supporting reforms towards increased private sector participation in disease control;
- Communication Unit promotes PACE image and is facilitating sensitization of beneficiaries at community level from Nairobi and Bamako;
- Economics Unit is assessing the affordability of disease control and socio-economic impact of the programme.

PACE Co-ordination and Common Service Units are co-ordinating, facilitating and assisting PACE programme implementation at national level in line with the 4 main thrusts of the programme, which are:

1. Reinforcing national capacities to assess the technical and economic aspects of animal diseases and to generate appropriate programmes for their control.
2. Grater privatization of animal health care and public/private sector linkage in the field.

3. Rinderpest eradication from Africa, including the eradication verification.
4. Improved control of other epizootic diseases, particularly CBPP, based on epidemiological and socio-economical data.

1.2. PACE Epidemiology Unit

The eradication of rinderpest from Africa and the verification of the absence of the infection, remains the principal task of PACE. Numerous activities are contributing to this objective, especially those related to the following three PACE Thrusts:

1. Epidemiological services and control of major diseases in participating countries reinforced,
2. Grater privatization of veterinary services supported and functional public/private linkages in the field achieved,
3. Eradication of rinderpest from Africa accomplished.

The implementation of PACE is well in progress and the programme includes today actively 30 African countries. In West Africa, the work centres at the verification of RP eradication. Countries are assisted to fulfil conditions required in the progress along the OIE pathway. This also applies to countries in Central Africa, although on zonal basis.

The situation of rinderpest eradication is more complex in Eastern Africa. Good progress has been achieved in the last lineage I rinderpest virus reservoir in southern Sudan and all vaccinations were terminated in the middle of the current year. A strategy has been developed for the so-called Somali Ecosystem but unstable political climate has restricted access to regions suspected to be lineage II rinderpest virus endemic inside Somalia. Kenya had an episode of RP in wildlife last year and outbreaks of rinderpest-like syndromes have been investigated inside Kenyan provisionally RP free zone, demanding for high vigilance.

2. Description of the assignment

The reporting officer took up his assignment on 20th June 2000 under the Service Contract number 613062 with CIRAD-EMVT. The contractual period lasted two years and five months and came to a voluntary end on the 30th November 2002.

The scope of work and responsibilities are stipulated in the TOR for the assignment as epidemiologist for East African countries with

PACE national programmes. They stress the establishment of epidemiological surveillance systems in connection with rinderpest eradication as primary duty, although other epizootic diseases are mentioned as well.

The operational base of the assignment was in the premise of AU-IBAR in Maendeleo House in Nairobi, where PACE Co-ordination and Common Services Units are situated.

The role of the assignment at the central level was to work closely with Epidemiology Unit and Co-ordination Unit personnel, as well as with all other experts associated with Common Services. In the periphery, contact was kept with national components using electronic mail and telecommunication facilities. Frequent visits to important PACE member countries in connection with rinderpest eradication were keeping up personal contact with responsible veterinary personnel.

The implementation of PACE national components in East Africa started with considerable delay, which was partly due to y submission of not appropriate global plans by countries, causing delays in the preparation of consolidated workplans and cost estimates at the PACE Co-ordination Unit. The long administrative procedures on the side of the European Commission contributed to the delays.

Eritrea, Ethiopia and Rwanda were the first starters, others followed long time later. Although workplans were officially signed in the middle of 2001, most national components did not receive funds before October 2001.

The reporting officer was assisting countries in the preparation of PACE workplans and supporting the Co-ordination Unit in the compilation of them for funding.

After the launch of national components the work has followed more closely TOR for the assignment.

3. Tabulated summary of the achievement during the contractual period

The logical framework and indicators below are based on Machakos planning workshop, which was held in October 2000. They were refreshed in PACE internal meetings and the version used is of 17th May 2001. Some activities and indicators are no more accurate and not well applicable. They are, however, followed because no more recent alternative is available.

This report describes only the progress up the end of the assignment of the reporting officer, while the programme continues. The tabulation begins on the next page.

RESULT No 1: Pan-African network for epidemio-surveillance is effectively promoted

Main activity 1.1. Support inventorization of capacities in PACE countries (including for wildlife)

ACTIVITY	ACIEVEMENTS	PROBLEMS/CONSTR.	RECOMMEND.
l. Assess existing emiological cities	The functionality of Epidemiology Units in PACE countries was analyzed and presented in Cotonou Co-ordination meeting (June/02) Tabulation of the assessment in Chapter 5.	PACE Ethiopia has its own EpiUnit with externally employed personnel. ADB livestock project supports the establishment of Epi Units in all Ethiopian Regions. Epi Unit in Khartoum continues to run without EDF support. South Sudan has a functional data system with FAO-OLS, supported by VSF-B. Passive reporting in most countries remains below 50% per administrative Unit/month.	Assist countries to reach the set target of 80% for passive reporting
2. Develop plans for onal epidemiological vorks	Future oriented data management system, the PACE Integrated Database (PID), has been developed by Data Management Unit.	All countries have hardware and compatible software but data management skills require improvement.	Training to be organized as soon as possible on data management, analysis,

	Countries are increasingly reporting to PACE DMU and are sending a copy of their OIE report to IBAR.		GIS presentation and on handling of the IBAR data management system. The already existing basic network structure in countries requires activation, modification and streamlining to become a functional part of the regional network.
3. Conduct training ls assessment for emiology in PACE ıtries	Not carried out	Planned consultancy was not supported by the Lead Delegation	

cators:

y end May 2002, the PEU will have assessed the epidemiological capacities of all active PACE countries and the ings will be available on a database at AU-IBAR.

y end March 2002, the PEU will have produced a discussion document outlining alternative approaches to lemiological network-building for the PCU.

y end October 2001, the PEU/DMU database will record the epidemiological training needs of all active PACE ntries.

sent situation:

resented at the Cotonou Co-ordination Meeting in June 2002.

ACE Integrated Database available since October 2002 and is being connected to national levels.

lot reached. Most East African PACE countries started their implementation upon receipt of funds, which was beyond given date. There is urgent need for training in data management.

in activity 1.2. Facilitate inventorization of national laboratory networks with respect to sustainable gnostic services

ACTIVITY	ACIEVEMENTS	PROBLEMS/CONSTR.	RECOMMEND.
l. Assess existing ɔnal capacities and ɔlish a data-base	Assessment report of the Laboratory Specialist available. National laboratories in EA and the regional laboratory (NVRC Muguga) capable to carry out rinderpest tests according to laboratory network protocol. The network provides labs with basic kits for antigen tests and for serology.	Laboratories have still difficulties to keep time limits and to have all materials available as per performance indicators. Laboratory Expert has to deal with all PACE member countries and regions, which limits his capacity to take care of individual laboratories.	This work is being carried out by the Laboratory Expert, who is in continuous dialogue to ascertain/improve laboratory service. At times short-term help may be required.

ɪcators:

/ end May 2002, a database for laboratories reflecting the capacities of at least the central veterinary laboratory of at least 10 countries within E will be available at AU-IBAR.

/ end May 2002 the training programme has been launched benefiting at least 10 member countries.

nd December 2001, the laboratory specialist will have compiled lists of equipment and reagents within the budgetary allocations of at least 10 E countries and have made substantive progress in assisting with the procurement of those items.

ɪent situation:

, 3. National laboratories in EA (and the Regional Ref. Lab.) have been assessed.Database is available since December 2001 and is g updated.

Main activity 1.3. Assist countries to institute appropriate epidemiological practices

ACTIVITY	ACHIEVEMENT	PROBLEMS/COCSTR.	RECOMMEND.
1. Conduct an ssment (with the itance of an national consultant the DMU) into an opriate information agement system for E and ultimately IBAR	Prototype information management system is available. The system has been developed by the Head of DMU assisted by a consultancy company. It is future oriented based on Oracel and compatible with all commonly used GIS programmes, including TAD-info of the FAO.	The skills of general data handling in East African countries is low.	Training should be facilitated soonest possible.
2. Assist countries to ot appropriate emiological norms	Countries have common understanding about OIE recommended standards regarding the required efficacy of veterinary services and RP surveillance. The following EA countries have provisional declaration of freedom from RP on zonal basis: Ethiopia 1999 Kenya 1999 Sudan 1996 Tanzania 1997 Uganda 1999 Eritrea has the same declaration country-wide since 1999. Workplans include RP surveillance in required	Progress has been affected by delays of PACE launch in a number of countries. The understanding of the epidemiology of CBPP and ASF is not fully sufficient and requires more interaction.	

	forms according to the progress along the OIE pathway in the country. WSs on CBPP and ASF have assisted in the understanding of the epidemiology of both diseases and feasibility of their control.		
3. Provide training re the need ssment (see above) vs this to be ssary	Assessment not carried out	Training needs assessment pending	Training should be targeted to specific areas where it really is necessary, like data management, analysis & reporting and participatory disease (rinderpest) search in risk areas.
4. Provide inuous technical ort to strengthen emiological services nded countries	This is provided on a continuous bases. Countries are, however, not at the same level and some require more attention, especially those with RP high-risk. Therefore efforts in EA were targeted at Sudan in 2000-2001. Progress has been good and Sudan terminated RP vaccinations 30th June 2002. Support is now focused at Kenya, where RP virus has been circulating inside the provisionally RP free zone (Meru). PACE Somalia has been assisted in the drafting of their RP eradication strategy, which is being implemented.	The absence of national TAs is a deficiency, which has negatively affected the implementation process. No EDF funding for Sudan Government up to this date... Access to southern and middle Somalia is only via "the windows of opportunity".	

5. Engage ultants for ialized inputs as ired	A consultant from CIRAD-EMVT was engaged in the development of a general concept and common understanding for epidemiological surveillance within PACE (in 2001). Laboratory specialist From CIRAD-EMVT participated in the WS on mild rinderpest (in 2002). CAPE carried out training with practicals in participatory epidemiology (in 2002).	Requirement for outside consultancies is usually low at the initial state of implementation. Most EA countries have now, after 10 to 12 months from the start, reached a state, where a formalized training programme should be developed and implemented.	
6. Epidemiological tices with respect to life are being emented	Surveys were carried out in south-western Ethiopia, in eastern Kenya, in Meru NP, in Tanzanian NPs confluent with ecosystems of the neighboring Kenya and in Uganda in 2000 to 2002. Routine sampling in Kenyan Meru NP revealed RP infection in young buffaloes in August 2001. It is thought to have been brought by Somali cattle herds, which were grazing inside the NP by the thousands in early 2001. This caused alarm and an extensive RP search was carried out in areas surrounding Meru NP. The infection was not detected in cattle and seems to have died off in wildlife.	It took 3 months to the Kenyan veterinary service to mobilize an emergency disease search after the Meru alarm. Serological results of the survey were officially available 6 months after the confirmation by the world reference laboratory indicating the presence of lineage II RPV. This shows low commitment by the Kenyan responsible authority.	

cators:

y end December 2001, an appropriate epidemiological data management system will have been selected and procured and tantial progress made with making it functional at AU-IBAR headquarters.

y end March 2002 the PEU will have distributed the selected publications to all the participating country co-ordinators and the /DMU data-base will show that active countries are beginning to adopt those approaches.

y end May 2002, at least 5 training courses will have been conducted either by members of the PEU or consultants contracted ifically for the purpose.

y end March 2002 at least 2/3 of countries that have been able to make expenditures against their PACE budgets will have an olished epidemiology unit as reflected in reports to the PACE Advisory Committee.

y December 2001, two consultants will have been appointed by the PEU to assist with specific specialized tasks.

y end of March 2002 at least 8 countries with significant wildlife populations will have been visited and a report on the Wildlife eillance capacity (including labs) and needs and means proposed to fill gaps will have been drawn up for PACE.

ent situation:

he data management system became functional in October 2002. It is AU-IBAR's own data system, called *PACE Integrated base (PID)*, and is a commendable achievement of DMU.

eporting from countries to DMU at IBAR increased significantly in 2002, before the introduction of PID.

raining courses in form of WSs have been carried out in CBPP control strategy, ASF outbreak control and participatory emiology.

l EA PACE countries have today an Epi Unit established and working, with the exception of Burundi, Rwanda and PACE alia (field operations in southern Somalia with data collection started in October 2002). National budgetary contributions are ed, consisting mainly of staff salaries. Analysis report presented in Cotonou meeting in June 2002.

p to this date, there has been two consultancy contracts: Definitions of PACE epidemio-surveillance and progress in lab. nosis of RP and PPR (both from CIRAD-EMVT).

nd of 1st contract period report of EA Wildlife Specialist fulfills this requirement (June 2002).

RESULT 2: Eradication of rinderpest from the region has been facilitated

Main activity 2.1. Co-ordinate the implementation of strategies for rinderpest endemic and high-risk areas

Activity	Achievement	Problems & constraints	Recommendation
1. Facilitate nonization of OIE GREP pathways for recognition of dom from rinderpest	Initial contact between OIE and GREP has taken place. There has, however, not been progress during 2002.	The final stage of the OIE pathway (freedom from infection) cannot be reached in EA without a regional approach, because animal movement (livestock and wildlife) across political borders within the same ecosystem continues to take place and cannot be strictly controlled. Discussion about the matter between OIE and FAO seems to have stalled.	Lobby for a change in the requirements of the OIE pathway, which would allow regional approach.
2. Facilitate icipatory review of tegies for dealing t rinderpest in emic and high-risk s	A number of WSs at various levels have been carried out for an agreed strategy in Sudan, in Somali ecosystem and in Kenya during the period under review. In 2000 and 2001 the focus in EA was Sudan. RP eradication strategy was initiated in North/South Co-ordination meetings and agreed in a WS in July 2001. Subsequent WSs were		

	held for stakeholders (NGOs, vet. Personnel, stockpersons and CAHWs) in Nairobi, Lokichogio and inside southern Sudan. The strategy was aiming at the termination of RP vaccination west of the river Nile by December 2001 and all RP vaccinations in Sudan on 31st June 2002. Currently surveillance, including active disease search, is being carried out. A premium is set for the detection of RP disease in areas under surveillance. A PACE RP eradication strategy for the Somalia ecosystem has been initiated in stakeholder WSs held in Kenya and in Ethiopian Region 5 and has been finalized with PACE Somalia partners. According to the strategy, RP surveillance will start in cattle dense areas in the south using random map co-ordinates as entry points for information gathering (herd inspection, serology and interviews). Stand-by search teams are available to go after rumors. RP survey training courses were carried out in September in Lower Juba and Hiron Regions. Field survey started in Afmandow district early October and continues currently in Hiron up to December 2002. So far no rumors of recent/current RP has been detected. The detection of RP in wildlife in Meru NP in August to November 2001 and the subsequent	Stakeholder sensitization was carried out in all 4 PACE zones in Somalia during the 1st half of 2002, although the volatile security situation has delayed operations and the base in Baidoa (southern zone) had to be evacuated.	

	RP survey in surrounding livestock populations without evidence of ongoing RP infection, prompted questions about the appropriateness of the eradication strategy. This gave a reason for a WS to review with regional and international partners the current RP situation and to give recommendations. Detailed report on the WS held in June 2002 is available. Tripartite WS was held in Khartoum in Nov/2001 to discuss the future of the Central African *Cordon sanitaire*. It was agreed that the progress of RP eradication in Sudan (the last infected zone east of the Nile) has decreased risk and made the function of the barrier questionable.	CAR continues to vaccinate against RP in the eastern part of the country. This is largely because of lack of dialogue between PACE and the responsible CAR Authorities.	
3. Organize and co-nate rinderpest eillance in livestock selected wildlife ılations in threatened zones"	**Eritrea** and **Ethiopia** carried out country-wide serosurvey for RP in 2002. Of special interest was the Ethiopian Region 5 with overall background seroprevalence of 3%, elevated by the result in Liben Woreda (5.8%). This was probably caused by cross border cattle movement from Kenyan Mandera, where RP vaccination continued up to the end of 2001. With help of CAPE field specialist, CAHWs participation in surveillance was reinforced in	Late availability of EDF funding delayed surveillance work in many EA countries.	

Ogaden and in south-western Ethiopia. Wildlife survey was carried out in Surma and Gambela areas along the Sudan border in 2001.	.	
Kenyan DVS continued vaccinating for RP in districts bordering to Somalia up to 31st December 2001. Surveillance was concomitantly done by ECHO veterinary emergency project executed by NGOs.	RP vaccination in north-eastern districts of Kenya did not reach the desired coverage.	
The findings from inside the Kenyan zone declared provisionally free from RP disease became alarming in September 2001. RP infection was affecting buffaloes in Meru NP, where it most probably was brought by livestock. Kenyan DVS carried out RP search in Feb-Mar 2002 in 7 districts surrounding Meru NP with a cattle population of app.720,000. No clinical RP was detected. Results on the 9651 serum samples collected were variable and did not allow firm conclusions, as RP vaccination had continued east of the area up to end of 2001.	Slow confirmation of the emergency plan by responsible Kenyan authority delayed the RP search in the surroundings of Meru NP several months.	The slow progress should be taken as lession for the planning of emergency preparedness.
In July and October 2002 rinderpest-like disease was reported from Maralal and Rumuruti Divisions of Kenya. Investigation teams established clinical diagnosis of RP. All applied laboratory tests were in both cases negative for RP. No other infection as cause of the outbreak could be established.		

Permanent RP search applying methods of participatory epidemiology will be implemented in Somali ecosystem (southern Somalia, Ogaden Kenyan Somali areas and central Kenya) in Dec/2002. A training WS is currently ongoing with the assistance from CAPE Unit.		
Tanzania has carried out clinical RP search with serosurvey and collected country-wide app. 8,000 serum samples for testing. Assistance was provided for wildlife survey in northern NPs Dec/01-Jan/02 in connection with the Kenyan Meru NP incidence.	Temeke laboratory in Dar es Salaam has been slow in providing test results on survey samples.	
Vaccination in **Ugandan** border districts with Sudan and Kenya, east of the river Nile was terminated 31st December 2001. The last campaign remained moderately successful due to wet weather conditions and problems with security. Seromonitoring results for Pader, Arua and Yumbe districts were 42, 100 and 85%, respectively. Results of the key districts are not available. Disease search has been carried out in zones B1 (surveillance zone.) and B2 (provisionally free zone). The entrance of livestock from Sudan to northern markets in Agoro, Oraba and Moyo is continuously monitored by veterinary personnel	The security situation in Karamoja, Kitgum and Gulu districts of Uganda continues to affect surveillance work.	

	and cattle are vaccinated against CBPP. Wildlife: see **1.3.6.** The detection of seropositive and later PCR positive buffaloes in Meru NP triggered additional survey operations in Kenya and northern Tanzania. Results show that the virus did not spread widely, as wildlife sentinels remained negative outside the NP. Routine surveillance work was also carried out in South-western Ethiopia and in Ugandan NPs Murchison Falls and Kidepo Valley.		

cators:

/ end of 2001 the OIE and GREP pathways will have been harmonized for practical purposes reflected in the minutes of the meetings of the s FMD and Other Epizootics Commission and the GREP Advisory Committee.

/ end March 2002, minutes of the Tripartite and stakeholder meetings will be available at the PCU and implementation of reviewed strategies progress.

nd March 2002, PEU will submit an update on the rinderpest situation, including wildlife, in ecozones under risk to the PCU and Director of BAR.

ent situation:

irst consultations took place in 2001. No progress towards harmonization in 2002.

ripartite meeting took place in Khartoum in Nov/2001. The future role of the Western Sanitary Cordon was regarded to be stionable and the support to the virtual immune barrier has now ceased.

P situation was presented in ACM in Bamako, early April 2002 and in Cotonou Co-ordination Meeting in June 2002.

in activity 2.2. Assist with the development of emergency preparedness plans

Activity	Achievements	Problems/constraints	Recommendations
. Assist PACE tries with lopment of ngency plans ıst the re-incursion ıderpest	Contingency plans following modified EMPRES guidelines have been received from Eritrea, Ethiopia, Uganda, Kenya and Tanzania in cause of 2002. They are being reviewed by the Epid. Unit.	Applicability of the plans in a real situation raises some questions, what the decision making, time frame and availability of equipment is concerned. An example is the Kenyan response to the emergency situation upon the Meru NP incident (see **2.1.3.**).	The access to the emergency funds kept with OIE are not clarified into detail.
. Purchase and tain an emergency : of heat-stable ine against rpest for PACE tries	An emergency stock of 500,000 doses of thermostable RP vaccine is kept in stores of Botswana Vaccine Institute in Gabarone and is ready for dispatch at any time.	Some countries may prefer to use vaccines manufactured domestically.	Action should be taken to assess vaccines, which would allow the differentiation between vaccine & field antibody.

cators:

end May 2002 emergency plan workshop(s) will have been held with contribution from the OIE Regional Representative, and at least 5 tries will have drafted emergency preparedness plans and submitted them to the regional epidemiologist for evaluation.

end March 2002 the stock of vaccine and ancillary equipment will have been purchased, tested and stored appropriately under the personal rvision of one or more PEU personnel.

ent situation:

ıe WS was held in February 2002 and today 11 PACE countries, 5 of them in EA, have submitted their emergency preparedness ; to PACE Epi Unit for review.

ɔtswana Vaccine Institute has been contracted in 2002 to keep 500,000 doses of thermostable vaccine accessible for dispatch upon :der by the RAO at any time.

RESULT No 3: Development of strategies for participatory control of other priority epizootics has been initiated

in activity 3.1. Co-ordinate formulation of cost-effective national/regional strategies for participatory ease control

Activity	Achievements	Problems/Constraints	Recommendations
1. In association with r stakeholders elop possible rnative strategies for PP control	WS for the control of CBPP was held in Addis Ababa in November 2001.	The understanding of CBPP epidemiology and control requires more attention, as control measures applied are only depressing the incidence without clearing out selected areas.	
2. In association with r stakeholders elop a strategy to effectively with the can swine fever zootic in West Africa	ASF workshop held in West Africa in September 2001. Several EA countries participated.	In the absence of a vaccine, the effective control of ASF in the mainly small-holder production systems is difficult.	
3. Liaise with other players on strategies can be employed to liorate the embargo export of animals	Pastoral Livelihoods Project at IBAR is well progressing with the establishment of the Trade Commission in Horn of Africa countries and is in dialogue with importing countries. The role of PACE towards PLP is supportive.	The operations in the 4 zones of PACE Somalia have been delayed due to political and security situation.	Epidemio-surveillance network, which will be established by PACE, will contribute to the health certification of

the Horn of Africa e Arabian Peninsula ation to RVF			export stock.

cators:

end May 2002, at least two projects for surveillance and control of epizootic(s) would have been finalized and accepted by AU-IBAR
end May 2002 the PEU recommendations for future action will have been delivered to the Director of AU-IBAR and the Directors of
inary Services in Western African countries that are active participants in PACE.
:U will produce reports on expert consultation on RVF (through FAO) and an update on livestock export situation in Horn of Africa by August
and December 2001, respectively.

ent situation:

ork with rinderpest eradication still remains the priority. PEU has commented on FAO-TCPs on FMD control in Uganda and ASF
:ol in Tanzania.
ot applicable for EA.
his is followed by Pastoral Livelihoods Project at IBAR. Official livestock export ban is continuing in (stand November 2002).

ESULT No 4: Capabilities of OAU-IBAR to fulfill its mandate as a center of excellence in management of animal resources are strengthened

Activity	Achievements	Problems/Constraints	Recommendations
Assist member ıtries to compile ɔosals for funding	Countries have been assisted with the compilation of Global plans as well as with 1st and 2nd year workplan & cost estimates. Only Eritrea, Ethiopia and Rwanda have soon been implementing 2 full years.	Funds became available for most EA countries in the last quarter of 2001.	
Contribute to the lishing of PACE sletter	Two newsletters have been published.		
Participate in the mission of research tings for the rovement of control tegies	Results of the wildlife serology for rinderpest gave reason to review applied test methods in December 2000. WSs for the control of CBPP (Addis Ababa) and ASF (Abidjan) were held during the last quarter of 2001. The future meaning of the Western Sanitary Cordon was discussed in the Tripartite meeting in November 2001. A WS for the control/eradication of mild rinderpest was held in Kenya in June 2002.	.	
Establish Regional lemiology Unit in tral Africa	Falls on CA Epidemiologist.		

Participate in :E Common ices WSs	The 1st EA Co-ordination meeting was held in Entebbe in August 2001. The 2nd PACE Co-ordination meeting took place in Cotonou in June 2002.

cators: Not available

4. Declaration of provisional freedom from rinderpest disease in East Africa

Most of African pastoral areas have their own livestock movement pattern, which are vital for the existence of people. The movement is ecosystem based and does not recognise political borders. It is further complicated by trade, raids and movement under extreme weather conditions. The seasonal movement of wild ungulates is complicating the scenario.

In this kind of environment, effective control of animal movement within political borders is not realistic and limits the progress along the OIE pathway, which is the overall indicator of the PACE programme. The OIE standards are, however, based on reporting of sovereign member countries with defined borders. For this reason a regional approach for rinderpest eradication pathway has been anticipated but remains a future discussion topic.

The declaration of provisional freedom from rinderpest disease, which is done by a country itself, as well as the OIE granted declaration from rinderpest disease, does not need to be nationwide but can include a defined part, zone, of a country. The final declaration of freedom from rinderpest infection can only be country-wide and makes it extremely difficult for East African countries to reach, as cross-border animal movement remains an obstacle.

PACE East Africa: Declaration of provisional Freedom from Rinderpest Disease

Country	Last RP outbreak	RP vaccination terminated	Declaration date	Country-wide/zonal
Burundi			No PACE	
Djibouti			Not OIE member	
Eritrea	1992	1997	June 1999	Country-wide
Ethiopia	1995	2000 (March)	May 1999	zonal
Kenya	2001	2001 (Dec.)	January 1999	zonal
Rwanda			Not OIE member	
Somalia	1994	1999	No government	
Sudan	1998	2002 (June)	1996 (A)	zonal
Tanzania	1997	1997 (Sept)	Jan. 1998 (A)	zonal
Uganda	1994	2001 (Dec.)	May 1999 (B2)	zonal

No country in Africa has reached the final declaration in form of eradication of rinderpest infection. There are, however, seven West African countries, which have submitted their application dossiers for country-wide freedom from rinderpest disease to the PACE Co-ordination at IBAR for review.

Because of the recent or continuous threat of rinderpest, the situation regarding OIE pathway is different in East Africa. Seven countries have done provisional declaration of freedom from rinderpest disease. They are all zonal, except the declaration of Eritrea, which is country-wide and was done in June 1999. Djibouti and Rwanda have not been able to join in, as they are not OIE members. Somalia of today does not have formal administration, which would be accepted by the international community and OIE.

Ethiopia, Sudan, Tanzania and Uganda are anticipating a country-wide extension of their provisional declaration, believing that it may be useful for future progress along a possible regional approach. As long, as a mild form of rinderpest remains lingering in Somalia and Kenya, even the extension of a zonal provisional declaration will not be possible.

5. Current status of PACE epidemiological surveillance system at the national level in East Africa

All PACE countries in the region have an Epidemiology Unit with the exception of two smaller countries, Djibouti and Rwanda. The situation in Somalia and in southern part of Sudan is exceptional due to the political situation and the fact that PACE is being executed with help of international NGOs.

Epidemiology units have data processing facilities and personnel with at least basic skills of data manipulation. Six of the PACE countries have at least one trained epidemiologist working full time.

Epidemiology Unit is, however, obsolete without operational communication to and from the field. Passive surveillance continues to be poor. The reason is lack on resources and motivation of field staff. Operational funds are inadequate and limiting mobility. National PACE programmes are improving the situation but even PACE funds have to be allocated to preference areas. The programme is organizing sensitation workshops to improve reporting. These are targeted at district veterinarians, AHAs, CAHWs and NGOs working with livestock. Also private veterinarians have been encouraged to report disease incidents in areas under their care.

The measures have improved passive reporting in member countries, although it still remains under 50% per administrative unit/month (target figure is 80% at the end of the programme).

Rapid assessment of functionality of epidemio-surveillance networks In East Africa, June 2002

Country	Does an identifiable epidemiology (central/animation) unit exist? *Rank from 1 to 5 1=does not exist; 5 = clearly exists*	No. staff working full-time for epidemiology unit	No. trained epidemiologists working > 40% of time in EU	Describe communication between epidemiology unit and the field *Rank from 1 to 5 1=very poor; 5 = excellent*
Djibouti	1	1	0	0
Eritrea	4	1	1	2
Ethiopia	3	3	1	3
Kenya	5	6	3	2
Rwanda	1	0	0	0
Somalia	1	0	0	0
Sudan,GOS	5	3	2	2
Sudan,S	3	2	0	3
Tanzania	5	2	1	2
Uganda	5	3	1	3

6. The process of rinderpest eradication in East Africa

Eastern Africa has experienced 30 reported rinderpest outbreaks since 1995 based on clinical and, in many instances, on confirmatory laboratory diagnosis. Most outbreaks, affecting wild cloven-hoofed ungulates and cattle, have occurred in Kenya. The causative agent has been the lineage II rinderpest virus with moderate to severe clinical disease in wildlife but with mild to unapparent picture in cattle. The last confirmed Lineage I rinderpest virus outbreak in Sudan affected cattle in Torit County in 1998.

The lineage I rinderpest virus reservoir has been pushed to the south-eastern corner of Sudan as a result of joint efforts and commitment of the Sudan Government and the Operation Lifeline Sudan Household Food Security Programme. This is operated by FAO and receives support for rinderpest surveillance from an International NGO contracted by PACE.

Persistent rinderpest rumours from Pibor Province triggered off a large scale and successful vaccination campaign of Murle cattle populations in 2001. Concomitant disease search was carried out in remote communities of Eastern Equatoria applying methods of participatory epidemiology. No clinical rinderpest was detected but results indicate recent outbreaks in underserved communities (Jie & Toposa), where vaccination has now been carried out. All rinderpest vaccinations in Sudan were terminated on 30th June 2002.

Recent occurrence of rinderpest in Eastern Africa

Country	Date	Location	Laboratory confirmation	Species affected
Eritrea	1995	Tseada Christian Asmara	Confirmed Outbreak	Cattle
Ethiopia	1995	Mehori	Confirmed Outbreak	Cattle
	1995	Temenja Yazj	Confirmed Outbreak	Cattle
Somalia	1996	Wante	Unconfirmed Outbreak	Cattle
	1998	Afmadu	Unconfirmed Outbreak	Cattle
Kenya	1994/1995	Tsavo West	Confirmed Outbreak	Wildlife
	1995	Amboseli	Unconfirmed Outbreak	Wildlife
	1995	Ijara	Unconfirmed Outbreak	Wildlife
	1995	Meru	Unconfirmed Outbreak	Wildlife
	1996	Elwak	Unconfirmed Outbreak	Cattle
	1996	Fino	Confirmed Outbreak	Cattle
	1996	Hashino	Confirmed Outbreak	Cattle
	1996	Warangera	Confirmed Outbreak	Cattle
	1996	Kajiado	Confirmed Outbreak	Cattle
	1996	Nairobi Nat'l Park	Confirmed Outbreak	Wildlife
	1996	Tana River	Unconfirmed Outbreak	Wildlife
	1999	Tsavo East	Unconfirmed Outbreak	Wildlife
	2001	Meru	Confirmed Outbreak	Wildlife
	2002	Maralal and Rumuruti	Unconfirmed Outbreak	Cattle
Tanzania	1996	Mikomazi	Unconfirmed Outbreak	Wildlife
	1997	Engare Nanyuki	Confirmed Outbreak	Cattle
	1997	Loliondo	Confirmed Outbreak	Cattle
	1997	Lositeti	Confirmed Outbreak	Cattle
Uganda	1994	Moroto	Confirmed Outbreak	Cattle
Sudan	1994	Thiet	Confirmed Outbreak	Cattle
	1995	Niarus	Confirmed Outbreak	Cattle
	1996	Tambura	Unconfirmed Outbreak	Cattle
	1998	Lafon	Confirmed Outbreak	Cattle
	1998	Lauro	Confirmed Outbreak	Cattle
	1998	Torit	Confirmed Outbreak	Cattle
	2001	Pibor	Unconfirmed outbreak	cattle

Sudan has now intensiffied surveillance. VSF-Belgium, the PACE contract holder, is co-operating with Sudan Government and FAO-OLS in the establishment of an epidemiological surveillance network using Animal Health Assistants, Stockpersons, Veterinary Assistants and Field Veterinarian for information gathering. All rinderpest rumours and outbreak reports are followed systematically for final clarification, which is a demanding task in the huge country with difficult or restricted access to many areas. During the 1st half of the current year, 21 rinderpest rumours were received, investigated and refuted.

Sudan is progressing well and we are eagerly waiting for the deployment of the PACE Technical Assistant to Khartoum in near future, who will strengthen the teams in the continuing eradication verification process.

The apparent prevalence of lineage II rinderpest virus in the Somali Pastoral Ecosystem continues to be of great concern. The infection, which remained undetected over a long period, reappeared in the middle of 1990th causing mild or unapparent disease in cattle with accompanying mild to severe disease in wildlife. It is suggested that lineage II rinderpest virus has a kind of endemic centre in cattle populated regions of southern Somalia, from where the infection is carried by trade-related and pastoral livestock movements to susceptible animal populations in surrounding areas.

Routine seroscreening of young buffalo in Meru NP, which took place in August 2001, revealed two rinderpest positive animals on VNT. During follow-up investigations buffaloes aged 1.5 to 5 years and appearing unwell, were VNT positive. Eleven samples from 5 animals tested at the World Rinderpest Reference Laboratory were positive on RT-PCR. Sequencing of the PCR products found them to be 99% similar to the 1994 buffalo isolate of the lineage II rinderpest virus.

Kenyan Department of Veterinary Services organized and carried out a major rinderpest search operation in February-March 2002 in seven districts surrounding Meru NP with an estimated cattle population of 720,000. No clinical rinderpest was detected and serology applying H c-ELISA on 9651 samples gave very variable results difficult to interpret, because rinderpest vaccination had continued east of the area up to the end of 2001. It was concluded by the Kenyan DVS that the rinderpest infection had not spread from Meru NP to areas investigated.

Two highly rindepest suspicious outbreaks occurred recently in Samburu and Laikipia Districts of Kenya. The first one occurred in Maralal in July 2002. Cattle of all ages died with clinical signs consistent with rinderpest. Laboratory tests carried out were, however, negative for rinderpest infection. The second outbreak occurred in Rumuruti in October 2001. Clinical diagnosis of rinderpest was established by the investigating veterinary team. Laboratory tests were negative but no alternative disease as cause of clinical signs, which were indistinguishable from rinderpest, could be confirmed.

As the consequence, both outbreaks have been recorded as unconfirmed outbreaks, where rinderpest has not been ruled out as the cause.

Results of the very recent rinderpest serosurvey in northern Laikipia and Samburu Districts show a seroprevalence of 30% and 15%, respectively. The reason for the exceptionally high figures in two districts inside the Kenyan provisionally rinderpest free zone demand for a thorough investigation.

It has been claimed that the cause may be restocking from the east (where rinderpest vaccination continued up to end of 2001) after a period of drought. If this will be proven to be the reason, indicating problems to control animal movement to and from the provisionally free zone, responsible Kenyan Authorities may have to rethink the borders of that zone.

7. Comments and Recommendations

The ongoing PACE mid-term review team has been discussing long with members of the Epidemiology Unit, as well as with other Common Services Units. Also the views of the reporting officer are reflected in their mid-term report with detailed recommendations for the future orientation of the programme in East Africa.

7.1. Concentration in rinderpest eradication and eradication verification

The recent epidemic of lineage II rinderpest in Kenyan Meru National Park questioned our surveillance methods, eradication/control strategies and the application of the process for international recognition for freedom from rinderpest. For this reason, AU-IBAR and the Kenyan Veterinary Department organized a workshop to review strategies for the control/eradication of mild strains of lineage II rinderpest virus in June 2002.

It called for an effective, comprehensive and harmonized approach, applying methods and instruments in a complimentary manner for the achievement of rinderpest eradication. PACE components in the Somali Pastoral Ecosystem are facing here a challenge and are having a chance to concentrate their resources in rinderpest search, followed by tactical eradication measures, if necessary. PACE Epidemiology and CAPE Units will have a specific role and responsibility in providing technical support and assistance in facilitating field operations in Somali pastoral areas. Reliable laboratory support will be indispensable.

The workshop on mild rinderpest discussed exhaustively a number of eradication options and made recommendations for appropriate actions. Main recommendations of the workshop call for

- the implementation of continuous surveillance with the objective to identify high-risk areas and foci of active infection, if present;

- training in participatory disease searching and wildlife surveillance;

- furnishing of supporting National/Regional laboratories with resources essential for prompt testing of samples according

are sensitive, specific and validated for all rinderpest and PPR strains;

- targeted vaccination of cattle population with confirmed disease, or where there is a high index of suspicion, to achieve immuno-sterilisation;

- regular and frequent monitoring of wildlife populations in the Somali Ecosystem and adjacent areas.

PACE Co-ordination and Common Services Units are facilitating the implementation of recommended measures in Somali areas. Rinderpest search has been reorganized and intensified by PACE Kenya and Kenyan Wildlife Service along the eastern border. PACE Somalia has taken up surveillance in Middle and Lower Juba Regions and has plans to extend the tracing of rinderpest to Hiron, Middle Shebelle and South Mudugh before the end of 2002.

We are well aware that problems, other than security, will be met. They may be related to the inapparent clinical expression of the prevalent infection and complicated by the fact that a portion of target populations may have antibodies to field as well as to vaccine virus. Eradication of the infection in an endemic situation will be a complex undertaking, where the availability of a vaccine that allows differentiation of vaccinated and field infected animals would give a significant advantage. In this respect time seems to be running out, as research on improved vaccines will be a long-term process. A recombinant rinderpest vaccine is currently being evaluated and the possible use of PPR vaccine in target areas is being considered.

7.2. Political will to finance livestock development and animal health

The government support to veterinary services is limited and is casting doubts on the sustainability of PACE efforts to build capacity and to increase functionality of epidemiological surveillance systems.

Ministries responsible for livestock in East Africa are increasingly facing budgetary problems, while trying to keep the public sector driven services running. In order to ease the pressure in the ministries, civil service and agricultural sector reform policies have been implemented. Many models have been applied, which are offered by donors and credit institutions to merge ministries, to increase the role of private sector, to streamline and decentralise structures, to ensure transparency and accountability, or to retrench personnel and to unify extension services.

In many countries the share of agriculture, including livestock

shows that, although countries relay on rural population, governments are not committed to support the sector and funding remains inadequate.

Chances to sustain structures, which are being developed by PACE, will remain limited, unless governments are seeing and understanding concrete benefits in return. Reference to poverty alleviation and increased productivity is not good enough to increase budgetary allocations; they are key words of donors. To open livestock markets, which are export oriented, would certainly draw the attention of governments and lead to political will to finance animal health as the basic requirement for international trade on livestock and its products.

7.4. PACE and public relations

Donors and international institutions seem not to be well aware about the goals of the PACE programme. The website has improved Information transfer but penetrating messages at right moment would elevate the public standing and acceptance of the programme.

Workshops and meeting of many projects are getting ample publicity in the press and other media. Strong PR for optimal information penetration is not only for general public but specifically for institutions developing and imposing new policies, like the World Bank Group, so that they do not overwrite other projects in implementation, but understand the significance and give continuous support to all agreed efforts for the achievement of set developmental goals.

This applies also for the possible 2nd phase of the programme. Lobbying for the continuation in an appropriate design should start well before the end of current supporting period, so that continuation can be guaranteed without often detrimental disruption of assistance.

7.5. Wildlife surveillance

Susceptible wildlife species are being investigated, because of their role as serological and clinical indicators for the presence/absence of rinderpest field virus. Sample collection from selected wild animal species requires special knowledge and experience, and is relatively expensive. Material collected should be, therefore, stored in an appropriate manner in serum banks for other subsequent present or future investigations, in order to reach an optimal cost/benefit ratio. Aliquots of Wildlife samples should go to national serum banks for safekeeping, following the guidelines of good laboratory practice.

8.6. Team spirit

Technical personnel of PACE Co-ordination and Common Services leave the impression of fully immersed workforce performing under certain degree of stress. There is limited interaction between experts outside of formal gatherings. Consequently the team spirit is suboptimal with low feeling of "corporate identity".

Small workshops and frequent meetings of short duration outside the office environment would help individuals from different units to become part of common planning and make everybody to identify themselves with all set procedures. This promotes unity and would contribute significantly to the development of team-spirit.

Appendix 1: Terms of Reference for the East African Epidemiologist

4. Terms of reference for the East Africa Epidemiologist

4.1 The post

The East Africa Epidemiologist will be based in the offices of the OAU/IBAR in Nairobi. He/she will work with staff of the PACE Programme in Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Tanzania and Uganda. In Sudan he/she will work closely with the PACE Programme's Epidemiologist for Central Africa.

The incumbent will work under the auspices of the Director OAU/IBAR. He/she will report on all technical and administrative matters and activities to the PACE Programme Co-ordinator, through the Main Epidemiologist.

His/her work programmes will be approved by the PACE Programme Co-ordinator and will be formulated as an integral part of the Programme Co-ordination Unit's annual work plan. This will entail full participation in the PACE Programme's planning, monitoring, reporting and administrative procedures.

4.1.3.1 4.2 Outputs to be achieved by the East Africa Epidemiologist

- Sustainable animal epidemiological services* in the East African PACE countries are harmonized and a functional network is in place by the end of 2003 (Year 4 of the PACE Programme).

  (* – including survey/surveillance methods, data management, reporting, diagnostics and follow-up)

- An appropriate system is in place and managed by the East African countries to provide up to date information on epizootics in the zone by the end of 2003 (Year 4 of the PACE Programme).

- Responsibilities for day to day epidemiological surveillance activities of the PACE Programme are handed over to the National counterparts by the end of 2003 (Year 4 of the PACE Programme).

- The PACE member countries in East Africa produce and share up to date information on the major epizootics occurring in their zone.

- The epidemiological activities of all actors/stakeholders in the countries of East Africa are co-ordinated effectively from the end of 2002 (Year 3 of the PACE Programme) onwards.

4.3 Duties and activities

The East Africa Epidemiologist will be responsible for the development and maintenance of epidemio-surveillance of rinderpest and other epizootic diseases in the

prevalence of antibody-positive cattle and wild animals, as appropriate;

4.3.10 *provide appropriate training and coaching* for the PACE Programme's Counterparts; [training will include the clinical recognition of rinderpest, correct disease reporting procedures, correct specimen collection, storage and dispatch, to all levels of animal health worker working within the cordon-sanitaire and its environs.]

4.3.11 *supervise and provide support for the region's laboratories* that form part of the diagnostic network that was established during the PARC Programme, and report to the Main Epidemiologist;

4.3.12 *provide immediate advice and assistance in the event of a suspected outbreak of rinderpest in East Africa;*

4.3.13 *provide accurate and appropriate information* to the PACE Programme Co-ordinator and other members of the PACE Programme's technical staff on such subjects as the current status and implications of epidemic diseases of livestock, including rinderpest, in East Africa;

4.3.14 *prepare quarterly, annual, mission and other reports* in the PACE Programme's approved format [all reports shall be submitted to the PACE Programme Co-ordinator for his comment and approval before they are circulated: only the PACE Programme Co-ordinator shall circulate reports];

4.3.15 write scientific papers, as appropriate, to be published through the PACE Programme and the OAU/IBAR; and,

4.3.16 perform other duties that may be assigned by the PACE Programme Co-ordinator that are consistent with the objectives of the Programme.

5 4.4 Qualifications and qualities required

4.4.1 University degree in veterinary science from a recognised university, with appropriate postgraduate training in infectious diseases.

4.4.2 At least 10 years postgraduate field experience in Africa in the control of epidemic diseases of livestock.

4.4.3 Extensive experience of organising and conducting animal disease surveys and surveillance.

4.4.4 Proven ability to direct and motivate professional and technical teams in the field and

PACE member countries of East Africa. He/she will oversee vaccination campaigns related to the PACE Programme and will assist the establishment of intensive disease surveillance. He/she will be responsible for the overall planning and management of epidemiological activities in East Africa. He/she will:

4.3.1 *provide regional assistance* in East Africa;

4.3.2 *co-ordinate and harmonize vaccination, disease surveillance and sanitary procedures* in the PACE member countries of East Africa, through agreed common operating procedures and regular cross-border meetings of relevant veterinary staff (government, private and NGO-based);

4.3.3 *advise and assist with improved vaccine delivery* (by government, private or NGO staff employing conventional and community based approaches plus thermostable vaccine) to achieve high levels of herd immunity;

4.3.4 *encourage the use of permanent visible marking systems for vaccinated cattle* in the appropriate zones, and assist with improving cost recovery for vaccination where this is appropriate;

4.3.5 *continually monitor the movement of cattle* across borders to develop an accurate overview and to have up to date information on their location;

4.3.6 *establish close contact with farmers groups* and their representatives, and with influential leaders of public opinion so that the livestock owners will be made aware of the PACE Programme (related to the surveillance and eradication of rinderpest and other epizootics, as appropriate) and of the need to report any suspicious clinical signs to animal health staff;

4.3.7 *promote the development and routine use of national systems of disease surveillance* designed to detect clinical rinderpest and other major epizootic diseases [This will include routine "passive" reporting to all available animal health services providers (government and private veterinarians, NGOs, CBAHWs etc.) of all suspect cases, supported by routine purposive surveillance of high risk cattle populations at markets, border crossings, stock routes etc. Random surveys for clinical disease will reduce the spread of diseases through an unsuspected route and will assist in preparing for eventual declarations of freedom from rinderpest and other diseases.]

4.3.8 *facilitate and assist in follow-up investigations* of all suspect cases of rinderpest, including the submission of appropriate samples to national, regional and/or world reference laboratories;

4.3.9 *advise on and assist with routine random serological monitoring* to assess the

in the laboratory (*appropriate leadership qualities and experience*).

4.4.5 Fluency in English with a sound working knowledge of French.

4.4.6 Ability to communicate and work effectively and efficiently with people of different nationalities and cultures at all levels (farmers, technical personnel and political leaders) (*communication skills*).

4.4.7 Good knowledge of the current epidemic diseases to be covered by the PACE Programme would provide a distinct advantage.

4.4.8 Willingness to travel and work in remote, undeveloped rural areas.

4.4.9 Possession of *computer skills* including word processing and databases.

4.4.10 Report writing and presentation skills.

Appendix 2: Tabulation of duty missions

Duty Mission Diary I

Period covered: from 20/06/2000 to 31/12/2001

No.	First day	last day	departure	destination	Nb. days diary EZ	Mission purpose
1	03/07/00	04/07/00	Nairobi	Loliondo	2	Outbreak investigation
2	19/07/00	21/07/00	Nairobi	Hola	3	RP vaccination assessment
3	25/07/00	27/07/00	Nairobi	Entebbe	2	PACE proposal review
4	28/07/00	29/07/00	Nairobi	Mombasa	2	Interview with contractor
5	01/08/00	03/08/00	Nairobi	Dar es Salaam	3	PACE proposal review
6	08/08/00	11/08/00	Nairobi	Taita Taveta	4	Surveillance
7	15/08/00	19/08/00	Nairobi	Khartoum	4	PACE proposal review
8	29/08/00	02/09/00	Nairobi	Entebbe	5	Investigation & PACE propos.
9	02/10/00	07/10/00	Nairobi	Machakos	6	Workshop of PCU
10	06/11/00	08/11/00	Nairobi	Garissa	3	RP survey follow-up
11	15/11/00	17/11/00	Nairobi	Lokichogio	3	CAHWs Coordin Meeting
12	03/12/00	05/12/00	Nairobi	Entebbe	3	Steering Committee of PARC
13	30/01/01	02/02/01	Nairobi	Khartoum	4	North/South Coordin. Meeting
14	03/02/01	05/02/01		Kenya	3	
15	20/03/01	31/03/01	Nairobi	Tepi/Ethiopia	12	Aerial survey in West Ethiopia
16	22/04/01	28/04/01	Nairobi	Dar es Salaam	7	PACE Workshop Bagamoyo
17	21/05/01	24/05/01	Nairobi	Mbale/Uganda	4	Karamoja Cluster Workshop
18	29/05/01	01/06/01	Nairobi	Khartoum	3	Co-ordination Meeting
19	07/06/01	10/06/01	Nairobi	Khartoum	3	Field work preparation
20	20/06/01	22/06/01	Nairobi	Pibor/S Sudan	8	Field investigation
21	09/07/01	12/07/01	Nairobi	Garissa	3	Somalia Workshop
22	28/08/01	01/09/01	Nairobi	Entebbe	4	EA Co-ordination Meeting
23	18/10/01	21/10/01	Nairobi	Lokichogio	3	FAO-OLS Meeting
24	22/11/01	30/11/01	Nairobi	Khartoum	8	Tripartite meeting
25	07/12/01	08/12/01	Nairobi	Nakuru	1	Pace Kenya sensitization
Total	**06/00 to 12/01**				103	

Duty Mission Diary II:

Period covered: from 01/01/2002 to 30/11/2002

No.	N° 2002	First day	last day	departure	destination	Nb. days diary EZ	Mission purpose
sub-total 20/06/00 to 31/12/01						**103**	
26	1	21/01/02	25/01/02	Nairobi	Madogashi	5	Rinderpest search
27	2	29/01/02	31/01/02	Nairobi	Baidoia	4	PACE Somalia launch
		01/02/02	01/02/02	Nairobi	Baidoia	1	PACE Somalia launch
28	3	04/02/02	06/02/02	Nairobi	Entebbe	3	Steering Committee
29	4	09/02/02	15/02/02	Nairobi	Narus	6	Sudan field co-ordin.
30	5	26/02/02	28/02/02	Nairobi	Boka Meru	3	Rinderpest search
30	5	01/03/02	06/03/02	Nairobi	Isiolo	6	(above continuing)
31	6	20/04/02	25/04/02	Nairobi	Khartoum	6	Co-ordin. Meeting
32	7	26/05/02	28/05/02	Nairobi	Isiolo	2	Sensitization of CAHWs
33		30/05/02	31/05/02	Nairobi	Laikipia	2	Rinderpest search
		01/06/02	07/06/02	Nairobi	Laikipia	6	Rinderpest search
34	8	22/06/02	30/06/02	Nairobi	Cotonou	8	PACE Co-ordin. Meeting
35	9	29/08/02	30/08/02	Nairobi	Dar es Salaam	1	Technical Committee
36	10	05/10/02	07/10/02	Nairobi	Hargeisa	2	Sheikh Veterin. School
37	11	13/10/02	16/10/02	Nairobi	Ijara	3	Mid-term review site visit
38	12	19/10/02	22/10/02	Nairobi	Rumuruti	3	Rinderpest rumour
39	13	25/10/02	26/10/02	Nairobi	Rumuruti	1	RP sample collection
Total		**01/02 to 12/02**				**62**	
Total		**06/00 to 12/02**				**165**	

Appendix 3: Procurement

PACE EPIDEMIOLOGY PROGRAMME - Contract n° 7ACP RPR 744 /2 -

INVENTORY of articles purchased under the budget line C3 PROCUREMENT
by Dr Risto HEINONEN

Date	Item	Amount Euros	Amount Currency	Currency	Rate
4/12/01	CD with African maps and GPS	342.32	342.32	Euros	1.0000
5/18/01	fee for CD Rom	239.73	16,641.00	Kes	69.4154
7/28/01	Software Microsoft XP Pro2001	859.98	519.00	GBP	0.6035
8/25/01	Computer refunding VAT	-92.24	-56.60	GBP	0.6136
12/6/01	Mobilphone Nokia 6210	372.49	25,901.00	Kes	69.5349
6/11/01	Laptop Computer Dell *	2,586.32	1,558.00	GBP	0.6024
8/16/02	Replacement Laptop Sony	2067.57	1,301.33	GBP	0.6294
	Total euros	6,376.17			

* stolen (see annex of the invoice 16.08.02 submitted on 9th claim)

As stipulated in art. 5.2 of Annex A of the contract, equipment procured
the terms of this contract remain the property of the Contracting Authority.

The signature of this inventory is made after receipt of the goods by the Contracting Authority
which serves as acknowledgment of reception.

28/11/02

date and signature of the Consultant

date and signature of AU-IBAR Representative

28/11/2002

PACE Accounting OFFICER

AFRICAN UNION
INTERAFRICAN BUREAU FOR ANIMAL RESOURCES
NAIROBI
AU/IBAR

shifta Lap top previously used by the Dr. Connor

Obtain manual security for the vehicle

Ilea to look into the trial . . .