Community-based Animal Health and Participatory Epidemiology Unit

Rinderpest Participatory Disease Searching in the Somali Ecosystem

Workshop Proceedings

Griftu, Kenya November 10-17, 2002

Edited by Jeffrey C. Mariner and Berhanu Admassu

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Acknowledgement

The CAPE Unit would like to thank PACE/Ethiopia, Kenya and Somalia for their active participation and the depth of experience that was shared at the workshop. Special thanks go to the Government of Kenya for providing access to an appropriate venue in the heart of the Somali pastoral areas and permission to conduct practical participatory disease searching training exercises with local pastoralists in Wajir.

Summary

Rinderpest (RP) Participatory Disease Searching (PDS) is the application of participatory rural appraisals (PRA) methods to the search for outbreaks of rinderpest. It is a form of active disease surveillance designed to locate current disease events and to understand the epidemiological history of the target disease in a specific community. Participatory disease searching makes use of indigenous animal health knowledge as a source of disease reports and intelligence. It is designed to increase the sensitivity, timeliness and representativeness of surveillance system.

Participatory rural appraisal is a highly flexible tool kit of methods that allows participants to present information in their own words and in the context of their own knowledge systems. Beyond the methods, PRA is based upon a philosophy of an open-mind, learning and respect for all knowledge and views. In PRA, the value of education and training is seen more as providing tools that allow one to respond to new information and situations rather than as a source of ready-made solutions.

The objectives of the workshop were to conduct a strengths, weaknesses, opportunities and threats (SWOT) analysis of present surveillance activities, provide basic skills in PRA and PDS, and to develop harmonized action plans for the initial implementation of PDS in the Somali ecosystem.

The programme of the seven-day workshop (Annex 1) was divided into three sections. The first section consisted of three days of classroom activity where participants discussed basic concepts of PRA and PDS (described in Annex 2) and developed their skills through role-playing and in class exercises. The next three days of the workshop were spent in practical field exercises in the cattle camps surrounding Griftu conducting actual PDS interviews. The participants were divided into four groups, each group conducted their own independent interviews and members of each group took turns leading the activities. The results of the interviews were reported back to plenary meetings of the workshop in the afternoon. The group discussed the results and critiqued each other's methodology. The unedited results of each group's interviews as presented to the plenary are reported in Annex 3.

On the last day of the workshop, the participants formed national working groups to develop harmonized action plans for immediate implementation. These unedited action plans are presented in the body of the report.

The facilitator would like to note that one of the strengths of PDS is the learning process that experts undergo when in direct communication with livestock owners. This direct experiential learning is a central aspect of all PRA work. Attempts to systematize, localize or compartmentalize PDS at the district, zonal or wereda level will reduce the effectiveness of the approach. Conventional methods of paper reporting and verbal debriefing will not be sufficient to transfer the knowledge gained at the local level between field teams or up the hierarchical ladder of veterinary services. It will also greatly reduce the effectiveness of PDS as a disease search tool by reducing the flexibility of teams to rapidly respond to livestock owner reports. The facilitator recommended that countries establish expert teams that could work across

the ecosystem or at least broad parts of the ecosystem. These expert teams could incorporate representatives of the local veterinary authority as they moved between areas.

In regard to national training programmes the concern was expressed that in certain cases the proposed facilitators had no actual field experience with the PDS technique beyond what was gained in the present workshop. The workshop identified the need for a training of trainer workshop to further build skills, but it needs to be emphasized that participants will not be qualified trainers until they have gained adequate field experience with the techniques.

The participants identified six key recommendations to insure the prompt and effective adoption of PDS activities in national rinderpest surveillance systems.

Recommendations

The Workshop participants made six recommendations.

1. On the adoption of participatory disease searching, the workshop recommended that:

- The technique of PDS was found to be a sensitive method of disease surveillance for the detection of RP and RP-like disease as well as for understanding the history of disease circulation in the Somali ecosystem.
- Participatory disease searching should be adopted *without delay* as a surveillance technique by all three PACE Projects operating in the Somali ecosystem as an integral part of comprehensive surveillance systems.
- As the first step in the implementation of PDS, Ethiopia, Kenya and Somalia should identify and describe cattle populations at risk based on epidemiologic and socio-economic criteria.

2. On information exchange, the workshop recommended that:

- Public sources of information such as scientific literature on mild rinderpest should be made available at a common source (AU/IBAR/CAPE website) for use by the three partners. Epidemiologic reports, disease investigation reports and results of PDS should be shared by electronic mail.
- There should be regular meetings of the PACE National Epidemiologists to sharing information collected through disease searching.
- Participatory disease searching teams should meet regularly to share information and ideas.
- There should be transparency on RP information exchange at all levels between all three partners in the region.

3. On harmonization of PDS activities, the workshop recommended:

That PACE National Epidemiologists with the facilitation of the East African Regional Epidemiologist should harmonize and coordinate PDS as part of disease surveillance in the ecosystem. Border district field officers should establish direct communications with their counterparts and harmonize cross-

border PDS activities through meetings, workshops and synchronized activities.

4. In regard to training, the workshop recommended that:

A training of trainers (TOT) workshop should be held for five to ten participants who have completed this PDS workshop in order to further develop skills and develop capacity for the transfer of skills. The workshop noted that the facilitator(s) of the PDS TOT should have both TOT and PDS skills, that the workshop should last two weeks, and that the training should be completed before June 2003.

5. On community-based disease surveillance, the workshop recommended:

That national veterinary services, projects and NGOs should establish specific frameworks for the incorporation of community-based animal health worker networks within general disease reporting systems. All such information should be channelled through the district level animal health authority using a mutually agreeable process.

6. On future workshops, it was recommended:

That a five to seven day workshop should be held in June 2003 at Jijiga, Ethiopia to review the RP situation in the ecosystem and progress on the implementation of PDS Action Plans. That meeting should review the results from:

- hunting for mild RP using PDS
- serological studies
- questionnaire surveys
- other conventional techniques

The meeting recommended that CAPE and PACE facilitate the Jijiga meeting and that further field training exercises should be included to refresh and expand on participant skills.

Somali Ecosystem Surveillance SWOT Analysis

This session began with the participants breaking up into national groups to outline their respective surveillance systems followed by 10 minute reports back to the plenary by a reporter nominated by each national working group.

The participants then summarized the relative amounts of emphasis placed on different activities in one table (Table 1) for the whole region. This was to synthesize the three presentations and provide one overview of activities in the region.

Thereafter the facilitator introduced the concept of SWOT analysis. The seven indicators of effective surveillance were introduced as follows:

- sensitivity – able to detect and investigate a reasonable percentage of suspicious events
- specificity – able to adequately diagnose detected events
- timeliness – reporting, investigation and diagnosis accomplished in a reasonable time frame relative to the epidemiologic characteristics of the agent
- representativeness – surveillance information is truly reflects the overall situation without bias due to remoteness, inaccessibility, etc.
- simplicity – system is implementable under prevailing conditions
- flexibility – system can adapt to unforeseen events and logistic challenges
- acceptability – to all stakeholders

The results of the SWOT analysis are presented in Table 2. The participants were then asked to rank the seven indicators of surveillance to identify the priorities for strengthening (Table 3).

Table 1: Relative Emphasis of Surveillance Activities in the Current National Surveillance Programmes of PACE/Ethiopia, Kenya and Somalia

Activity	Kenya	Ethiopia	Somalia
Disease Reporting	+++	+++	+
Serology	++++	++++	++++
Clinical Surveillance	++++	+++	++++
Questionnaire Surveys	++++	++++	++++
Active Reporting (Rumour registries)	++	++	+
Participatory Disease Searching	-	+-	PE/++
Wildlife Surveillance	+++++	++	+
Outbreak Investigation	3	1	0

Note: The number of plus signs indicates the emphasis placed on each activity and do not reflect on the quality of implementation. These are not grades. Under questionnaire surveys, the cell for Ethiopia is split since they placed having emphasis on questionnaires in the past, but Ethiopia is no longer undertaking this activity. In the PDS category, although it was agreed that no country had undertaken any PDS activities in the past, some parts of active surveillance included PRA-like activities such as mapping. The numbers in the outbreak investigation category indicate the number of suspicious stomatitis-enteritis events investigated in the past 12 months. The participants agreed that a total of 4 investigations per year for the entire Somali ecosystem were clearly insufficient.

Table 2: SWOT Analysis of PACE National Surveillance Systems in the Somali Ecosystem

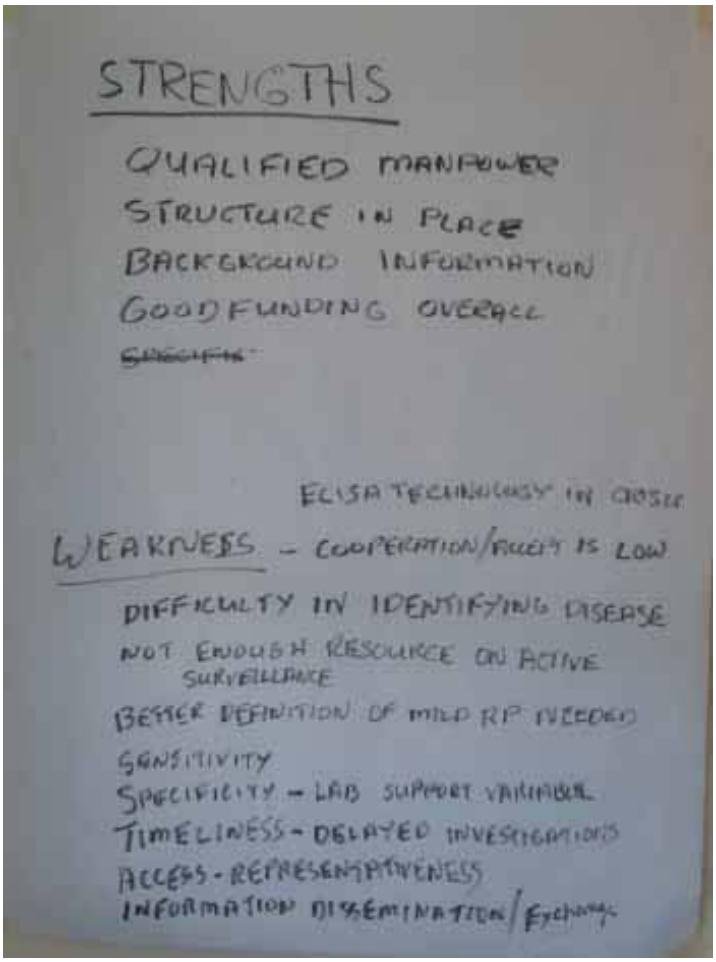
Strengths	**Weaknesses**
• Qualified Manpower • Structure in Place • Background Information • Good Funding Overall	• Cooperation/Acceptance is Low • ELISA Technology in Crisis • Difficulty in Identifying Disease • Not Enough Resources on Active Surveillance • Better Definition of Mild RP Needed • Sensitivity • Specificity – Lab Support Variable • Timeliness – Delayed Investigations • Access – Representativeness Poor • Information Dissemination and Exchange
Opportunities	**Threats**
• Develop Common Understanding • Skill Development/Training • Build Coordination • Build Common Approach: Disease Reporting PDS Outbreak Investigation • Border Harmonization Low level meetings between field workers • Better Communications • Better Info Exchange • Review Progress Periodically	• Bureaucracy • Lack of transparency • Insecurity • Natural disasters • Politicization of RP • Trade Bans • Personal Safety • Donor Fatigue • Reporting Endangers Careers • Performance Indicator Targets not Achievable

Note: Participants were asked to identify strengths and weaknesses simultaneous on one flip chart page. The seven indicators of effective surveillance were used as a checklist to stimulate discussion. Opportunities and threats were discussed in a separate page.

Table 3: Ranking of Surveillance Characteristics Requiring Strengthening

Surveillance Characteristic	Ranking
Sensitivity	1
Specificity	3
Timeliness	2
Representativeness	4
Simplicity	6
Flexibility	7
Acceptability	5

Note: The ranking indicates the participant's perceptions on the order of priority of the characteristics of existing surveillance systems requiring the strengthening. Sensitivity, timelines and specificity, in that order, were identified as the priority areas requiring strengthening if RP is to be eradicated from the Somali ecosystem.



Participant Analysis of RP Reports

At the end of each practical day, field teams were asked to report back to the plenary and questions on methodology and disease intelligence were discussed. The detailed reports of the field exercises are presented in Annex II.

At the end of each day, historic RP disease reports received by each field team were described in detailed. A chart was kept on the wall and only those reports that the plenary felt were first-hand observations, adequately described RP and internally consistent were added. These reports are presented in Table 4 in the order of receipt and acceptance.

Table 4: Livestock Owner Reports of Rinderpest (*Shifow* and *Madobaye*) as Collected by Field Teams and Tabulated in the Plenary Discussions

Respondent	Year	Location	Mortality
M. Ali Noor	1977	Griftu	high
Sharif Ahmed	1952*	?	?
Ali Shehu	1964	Habaswein	high
M. Mahboub	1998	Tarbaj	low-moderate
M. Mahboub	1980	Widespread	high
Ahmed Ali Salat	1982	Griftu	low-moderate
Ahmed Far	1982	Griftu	low
Aden Hassan	1982-1992*	Griftu	low-moderate
Abdi Dahil	1965	Griftu	high
Korani Duban	Before 1992*	El Noor	low
Aden Hassen	1969	Mandera, Ramu, Tarbaj, Ballisa	moderate-high
Aden Hassen	1972	Mandera, Afmadu, Hagdar	high
Ibrahim Abdi Gehdi	1992	Griftu	?
Abdi Rasheed	1996	Griftu	moderate
Hassan Ali	1987	Abak Mado	high
M. Abdi	1999	Khadjaja	low-moderate

Y. Ahmed	1980	Dadaab (small Geneva)	moderate
Abdi Haroun	1994	Dabhantala	low
Abdi Nur Dahir	1997	Griftu	low
Abdi Nur Dahir	1965	Griftu	high

Note: Dates with asterisks indicate that the field teams had not probed the subject sufficiently to fix the exact year. Question marks indicate that no information was collected for the item. The participants noted an emerging pattern in the data, but that more data collection was needed before a full interpretation could be made. Potential cluster areas were 1964-65, 1980-82, 1990-92, and 1996-99. The reports from 1980-82 and 1990-92 correlated with three previous in-depth studies conducted in southern Somalia and the Mandera/El Wak area.

The participants noted that the clinical presentation of mild RP might include only a limited number or only one of characteristic signs of RP. For this reason, the workshop requested that a separate table be constructed for tabulation of atypical reports that could be consistent with mild RP (Table 5). Only one entry was recorded in this table by the end of the workshop. The participants also noted that reports should be tabulated for analysis by other criteria such as the presence of specific clinical signs or the location of the outbreak. Time did not permit the completion of such important analysis during the workshop.

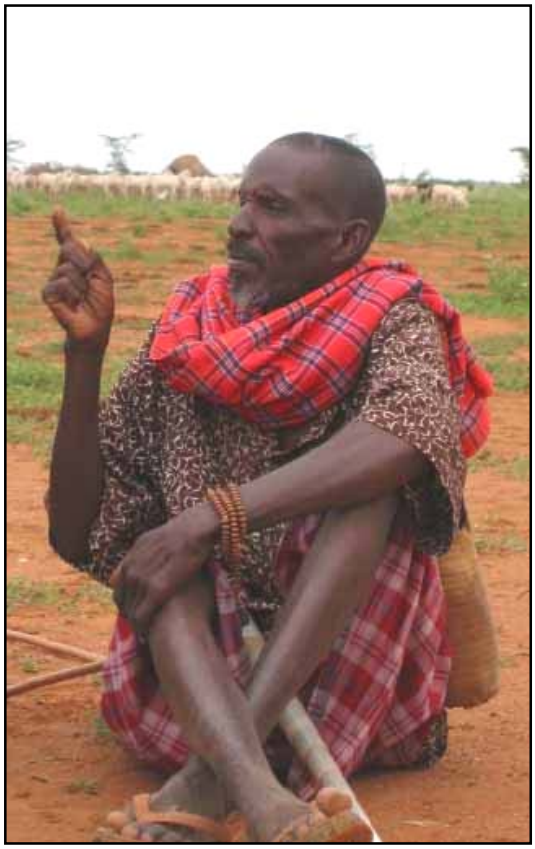


Table 5: Livestock Owner Reports of Atypical Rinderpest (*Shifow* and *Madobaye*) as Collected by Field Teams and Tabulated in the Plenary Discussions

Respondent	Year	Location	Mortality
M. Abdi	2001	Griftu	Low

Note: The respondent had previously provided a full description of RP relative to a 1997 outbreak. He then gave a report of *shifow* in 2001 where lachrymation was the only characteristic sign of RP reported.

PDS Action Plans

The unedited action plans of the each of the national working groups are presented below.

Kenya

I. Identification of Risk Populations, see map – 4 population areas (A, B, C, D) (n/b. already done)
   a. A = Dif to Boni Forest in the South
   b. B = Both sides of River Tana (delta) from Kora to Kipini
   c. C = Taita and Taveta Ranches
   d. D = From Kora Tana River area up to Meru North, Isiolo and Mukugodo Division in Laikipia

II. Training
   a. Needs Assessment
      i. Immediate induction training for veterinary assistants at Garissa in early Dec 2002
      ii. Composition of training participants
         1. 8 vet assistants from the risk population areas (locals)
         2. 10 trainers (trainees of current workshop)
         3. Representative from Somalia
      iii. Long-term
         1. envisage TOT to enable coverage of whole surveillance zone
      iv. Programme
         1. Duration 1 week tentatively 9-14 Dec 2002
         2. 2 days theory
         3. 3 days of field work

III. Field Implementation of PDS
   a. Team Structure
      i. 6 teams
         1. 2 vets – PDS trained
         2. 2 vet assts – PDS inducted
      ii. 2 central epidemiology unit follow-up team
         1. epidemiologist – PDS trained
         2. central team will work on the ground with field teams
   b. Time-Frame: Jan/Feb 2003
   c. Team Requirements
      i. Sampling kit
      ii. Cold chain
      iii. P/M kit
      iv. Protective clothing
      v. Tents
      vi. Radio communication
      vii. GPS
      viii. Camera
      ix. Transport/fuel

x. Stationary

d. Diagnosis
   i. Lab consumables – Kabete
   ii. Service charge – Muguga

e. Follow-up
   i. Develop indicators
   ii. Self appraisals
   iii. And by central epidemiology teams

f. Cross-border linkages – especially Somalia
   i. Synchronization
   ii. Continuous exchange of information during and after implementation

IV. Data Analysis and Preparation of Reports
   a. Field teams prepare field reports and preliminary analysis
   b. Epidemiology Unit will do data analysis and prepare final PDS field reports.
   c. Time-frame March/May 2003

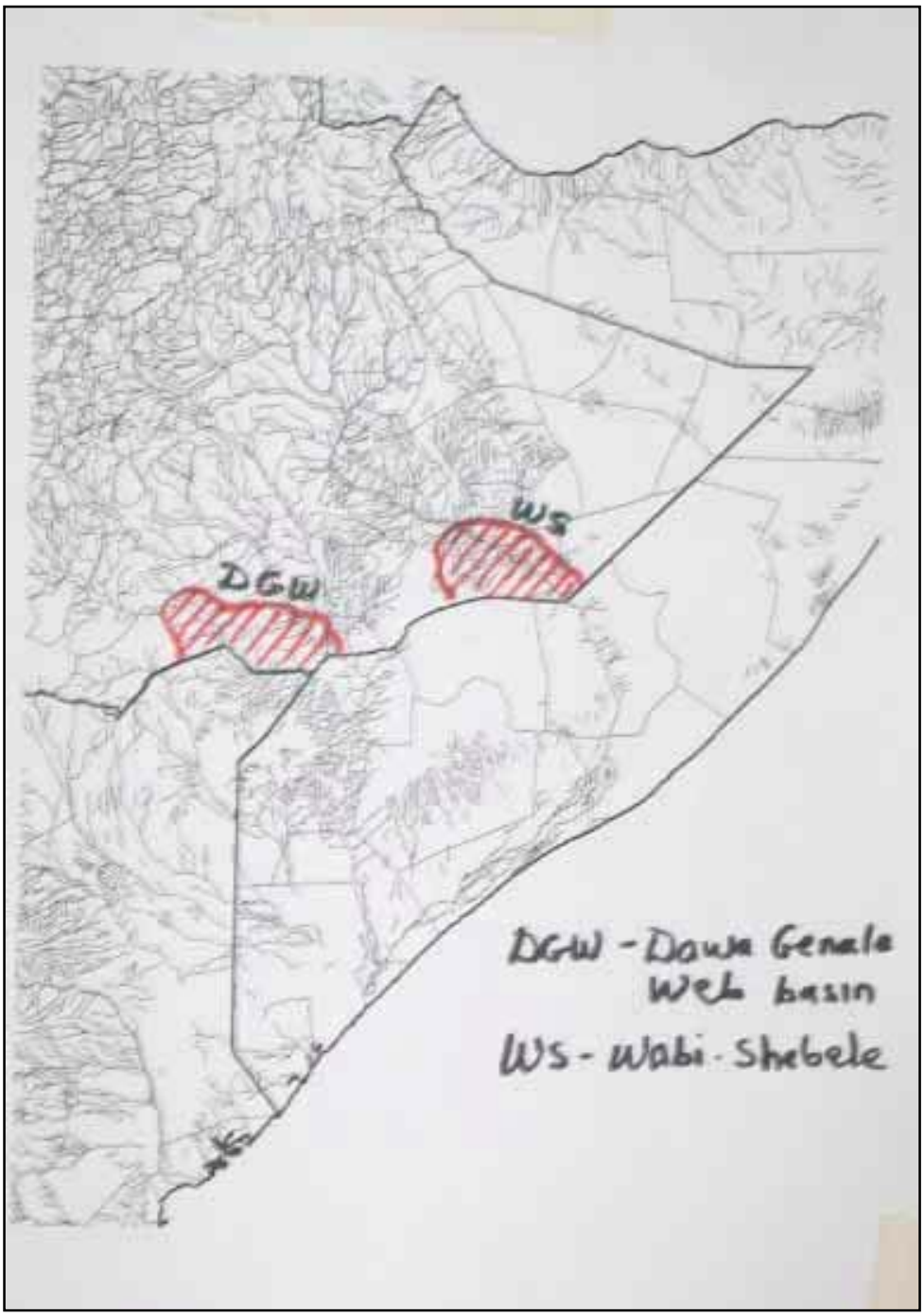
V. Follow-up Workshop
   a. Jijiga, June 2003
   b. Liaise with regional epidemiologist, CAPE and country epidemiologists
   c. Present country PDS report and other surveillance activities
   d. Share experience
   e. Way forward

Ethiopia

I. Debriefing to PACE NCO
II. Establish national expert team with TOR
III. Implementation of PDS
    a. Review PACE RP surveillance from PDS point of view
    b. Secure fund for PDS
    c. Conduct TOT and training for skill
    d. Establish communication network with PACE/Kenya and Somalia
    e. Split national expert team into two sub-teams and carryout hunt for RP
    f. Develop indicators for follow-up
IV. Activities in Focal Areas (see map)
    a. Characterize population at risk and community structure
    b. Gathering secondary information
    c. Conduct PDS
    d. Analyze and review the result

Activity Plan

Activity	**Time**	**By Whom**
National Expert Team	Dec/02	PACE/ET
Review RP Surveillance	Dec/02	Expert Team
Secure Fund	Dec/02 – Jan/03	PACE/ET – CAPE
TOT	Feb/03	CAPE – PACE/ET
Training of locals	Mar/03	ET Expert Team
Networking	Dec02 – Jan/03	PACE Epidemiology
Implement PDS	Mar - Apr/03	Expert Team
Develop Indicators	Mar/03	Expert Team
Follow-up	Mar – Apr/03	Expert Team
Analyze and Interpret	May/03	Expert Team
Report	Jun/03	Epidemiology Team


WS
DGW
DGW - Dawa Genale Web basin
WS - Wabi Shebele

Somalia

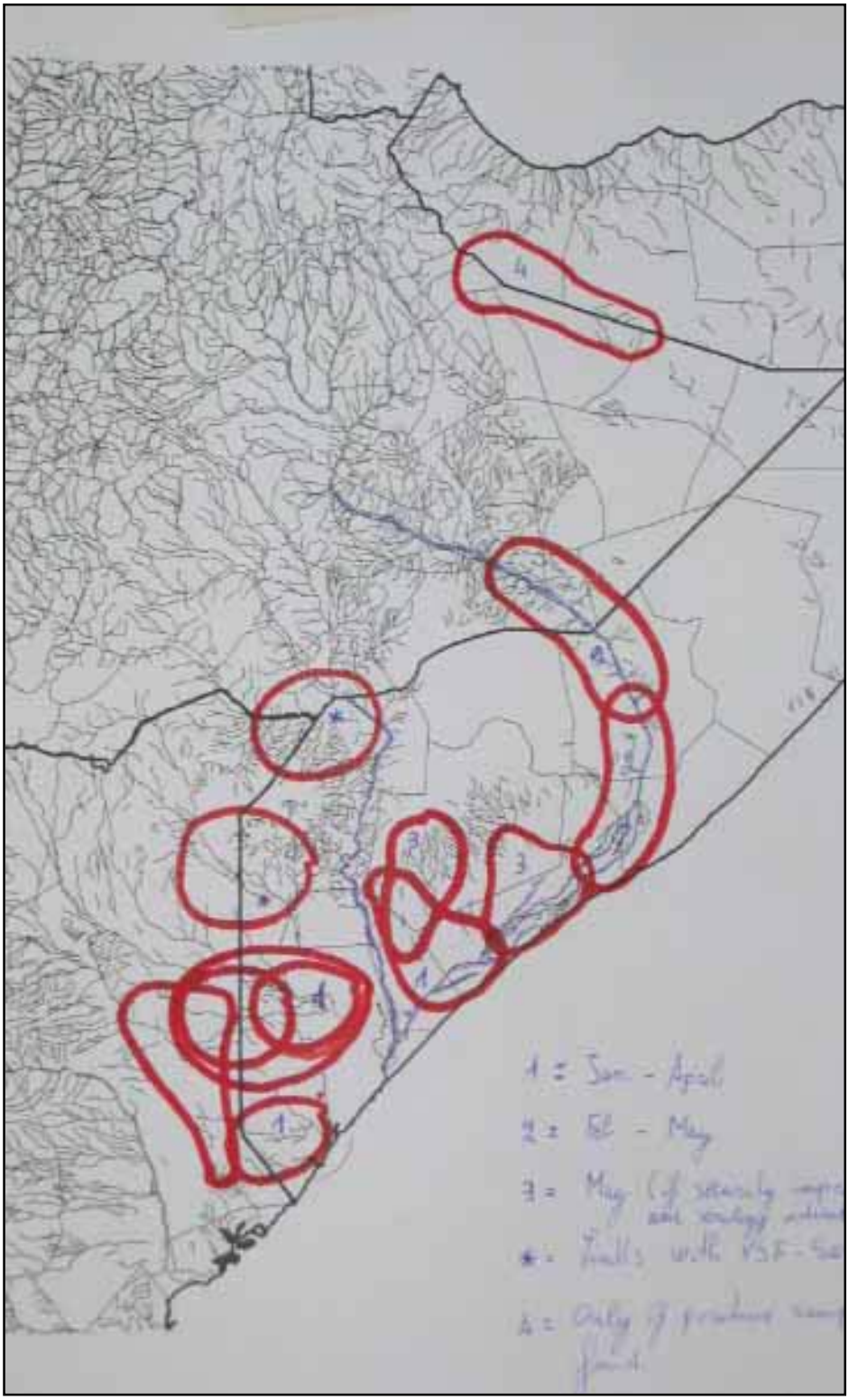
I. Areas of Interest
   a. Lower Juba
   b. Middle Juba
   c. Hiran

II. Time-frame
   a. Training
      i. Badade District and Buale/Jilib
         1. December 2002
         2. 7 days
      ii. North of B/weyne
         1. February
   b. Implementation of PDS
      i. Badade District and Buale/Jilib
         1. Jan – Feb 2003
         2. 20 days per month
      ii. North of B/weyne
         1. Feb – March 2003
         2. 20 days per month

III. Team Composition
   a. 3 Somali vet personnel + 1 PACE permanent staff
   b. Starting points
      i. Badade District
      ii. Buale/Jilib
      iii. North of B/weyne
   c. Coordination
      i. Frequent radio contacts between teams and base
      ii. Kenya team in Hulughu
      iii. Ethiopia team in Ferfer
   d. Team activities
      i. Identification and follow-up of all RP clinical cases, rumours in the area – using PDS
      ii. 1st screening of suspected RP cases using RP pen-side test
      iii. Immediately report the suspected cases and collection of appropriate samples for lab confirmation with close collaboration with Regional PACE
   e. Sampling Materials
      i. Sterile swabs
      ii. Disposable needles G18
      iii. Disposable syringes 10ml
      iv. Vacutainer needles, red tops and holders
      v. Cryo-vials
      vi. Markers
      vii. Filter paper
      viii. Universal bottles
      ix. Formalin
      x. PBS
      xi. Scalpel holder and blade
      xii. Butcher knives

xiii. Ropes
xiv. GPS
xv. Camera
xvi. Pen-side kit
xvii. Toolbox
xviii. Plastic bags
xix. Pasteur pipettes

f. Training Materials
    i. FAO manuals
    ii. Training manuals
    iii. Handouts: lit
    iv. Etc.
g. Reference Labs
    i. NVRC Muguga (MOU ready)
    ii. Pirbright
h. Permit for Importation of Biological Materials from DVS, MoLRD
i. Budget Requirement
    i. Already prepared
j. Follow-ups
    i. Monthly
    ii. On need basis
k. Final Evaluation
l. Regional Meeting
m. Dissemination of Findings


1 = Jan - April
2 = Feb - May
3 = May

Annex 1: RP Participatory Disease Searching Workshop Programme

Day	Time	Session Title	Preparation
Day 1	8:00 AM	Welcome	
	8:30 AM	Introductions	
	9:00 AM	Participant Expectations	What do you hope to obtain from this training course?
	9:30 AM	Discussion: Participation in Animal Health	Methods on the Move: pp 8 and 9
	10:00 AM	Tea Break	
	10:30 AM	Community-based and Participatory Programmes in Disease Surveillance	
	11:15 AM	What do we mean by a community?	Methods on the Move: pp 7
	11:30 AM	Existing Veterinary Knowledge	Be prepared to provide examples of local knowledge
	12:00 Noon	Fruit Salad	
	12:30 PM	Lunch	
	2:00 PM	Informal Summaries of Active Disease Surveillance Programs	
	3:00 PM	Tea Break	
	3:30 PM	Disease Surveillance SWOT Analysis	
	5:00 PM	End of Day 1	Reading for Day 2: Methods on the Move: read pp 5-15, 38-43.

Day	Time	Session Title	Preparation
Day 2	8:00 AM	Reading Discussion	
	8:15 AM	PE Tools 1: Interviewing, Ranking and Scoring Techniques	
	10:00 AM	Tea Break	
	11:00	PE Tools 2: Visualization Techniques – Mapping and Venn diagrams	
	12:30 PM	Lunch	
	2:00 PM	Analysis and Validation of Results	
	3:00 PM	Optional Technique	
	4:00 PM	End of Day 2	Reading for Day 3: Methods on the Move: read pp 47-57, skim 57-82.

Day	Time	Session Title	Preparation
Day 3	8:00 AM	Reading Discussion	
	8:15 AM	PDS I	
	10:30 AM	Tea Break	
	11:00 AM	PDS II	
	12:30 PM	Lunch	
	2:00 PM	PDS III – Discussions of Field Experiences	
	4:00 PM	End of Day 3	Reading for day 4-6: Participatory Epidemiology Manual

Day	Time	Session Title	Preparation
Day 4	7:00 AM	Practical Field Exercises PDS interviews with mapping and proportional piling	
	7:00 PM	Group reports and discussion	10 minute presentations by each group
	8:00 PM	Objective for RP PDS Plan	
Day 5	7:00 AM	Practical Field Exercises PDS interviews with proportional piling and seasonal calendar	
	7:00 PM	Group reports and discussion	10 minute presentations by each group
	8:00 PM	Objective for RP PDS Plan	
Day 6	7:00 AM	Practical Field Exercises PDS interviews with mapping and Venn diagram	
	7:00 PM	Group reports and discussion	10 minute presentations by each group
	8:00 PM	RP PDS Plan Preparation – Plenary Discussion	

Day 7	8:00 AM	RP PDS Plan Preparation in National Working Groups
	10:00 AM	Tea Break
	10:30 AM	Presentation of National Plans
	11:30 AM	Group Discussion
	12:30 PM	Lunch
	2:00 PM	Harmonization of RP PDS Work Plans in National Groups
	3:00 PM	Final Group Presentations and Discussion
	4:00 PM	Conclusion and Closing

Core Reading

1. Catley, A. Participatory Approaches to Veterinary Epidemiology: Methods on the Move Catley, A. London: Sustainable Agriculture and Rural Livelihoods Programme, IIED; 1999.

2. Mariner, J. C. Manual on Participatory Epidemiology. Rome: Food and Agriculture Organisation; 2000.

Supplemental Reading

1. Catley, A. The use of participatory appraisal by veterinarians in Africa. Rev Sci Tech. 2000 Dec; 19(3):702-14.

2. Catley A. ; Irungu, P.; Simiyu, K.; Dadye, J.; Mwakio, W.; Kiragu, J., and Nyamwaro, S. O. Participatory investigations of bovine trypanosomiasis in Tana River District, Kenya. Medical and Veterinary Entomology. 2002; 161-12.

3. Catley, A.; Okoth, S.; Osman, J.; Fison T. ; Njiru, Z.; Mwangi, J.; Jones, B. A., and Leyland, T. J. Participatory diagnosis of a chronic wasting disease in cattle in southern Sudan. Preventive Veterinary Medicine. 2001; 51161-181.

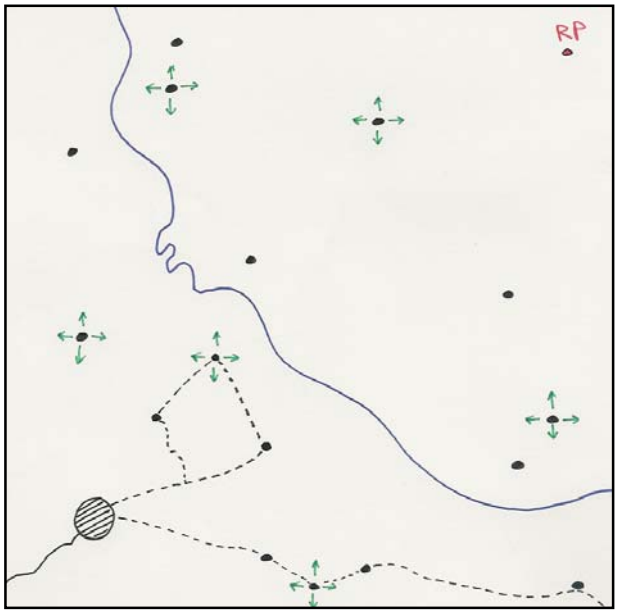
4. Catley, A.; Osman, J.; Mawien C. ; Jones B.A. , and Leyland T.J. Participatory analysis of seasonal incidences of diseases of cattle, disease vectors and rainfall in southern Sudan. Preventive Veterinary Medicine. 2002; 53275-284.

Annex 2: PDS Handouts

Handout 20: Participatory disease searching: some principles

In participatory disease searching (PDS), the objective is to find clinical cases of rinderpest or other disease (or verify the absence of disease). For this task, researchers need to adopt an investigative, open-ended system of inquiry. Rather than use preset methods and design such as those used in surveys, an **inductive** approach is used. With this approach, each information gathering exercise generates insights that guide or induce the next stage of the process. The researchers select from a basket of methods those that best suit a particular situation and information need at a particular time and location.

Therefore, PDS differs from the kind of 'survey' that many epidemiologists are familiar with. In a survey, sample sizes and survey methods are predetermined and usually decided upon away from the survey area. Ideally, random sampling is used to enable extrapolation of results to a wider population. In practice, particularly in pastoral or remote areas, convenience sampling is used due resource or logistical constraints.



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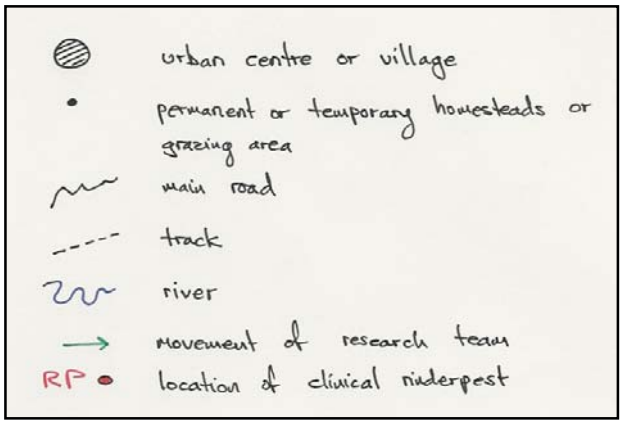
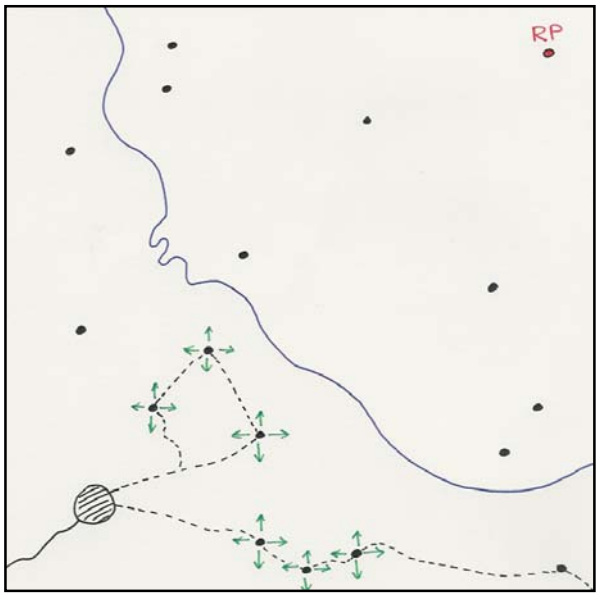


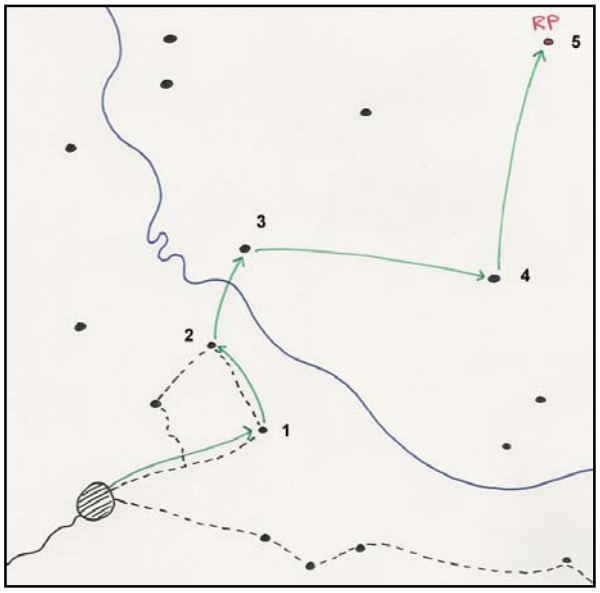
This is a survey based on **random sampling** and a questionnaire. The researchers miss rinderpest either because the rinderpest site was not selected during site identification or, the questionnaire did not include open questions concerning rumours of rinderpest. For mild rinderpest, the questionnaire may not have adequately explored livestock keepers' knowledge of the disease. In practice, this method often suffers from poor pre-testing of the questionnaire and problems with access to randomly selected locations.



This is a survey is using **convenience sampling**. Although at the design stage many surveys aim to use random sampling, in the field convenience sampling is common.

The river and lack of roads have prevented the team travelling far beyond the main urban centre. This survey suffers from the same weaknesses as random surveys with regards questionnaire methodology.

Rinderpest is overlooked because the researchers never physically get close to the disease and again, the questionnaire does not enable full exploration of informants' knowledge on the disease.



This is **participatory disease searching**. Initial interviews and mapping in the village direct the researchers to a particular grazing sites (1 and 2). The team travel by road to the place and there, more interviews, time-lines and proportional piling show that livestock keepers have good knowledge of rinderpest. Although they haven't seen the disease for some years, they've heard rumours emanating from a distant grazing area that is rarely visited. Using mapping, the team learn how best to access this area. They decide to abandon the vehicle and continue on foot to point 3. After two days they reach the rumour area (4) and following more interviews, reach a grazing area with cattle showing clinical signs of rinderpest (5). Recent clinical cases are sampled.

Prepared by **Andy Catley**

Handout 21: A methodology for rinderpest participatory disease searching

Jeffrey Mariner

Adapted from: Mariner, J. C. (2001). Manual on Participatory Epidemiology. Methods for the collection of action-oriented epidemiological intelligence. FAO Animal Health Manual no.10. Food and Agriculture Organisation, Rome. ISBN 92-5-104523-2.

This handout describes participatory disease searching (PDS) as it directly relates to rinderpest. The specific techniques that are most useful are open-ended questions, probing, time line construction, triangulation (cross-checking of reports), key informants (community leaders, traditional healers, veterinary staff, expatriate technical assistants and international campaign co-ordination offices), mapping as well as direct clinical observation and transects.

Preparations

Rinderpest is a disease that depends on the mixing of livestock for survival. There are no known carrier states or examples of chronic infection. The virus survives through the continuous occurrence of new acute cases in susceptible animals. Thus, the virus must continuously find new susceptible animals for survival. A safe, effective and inexpensive vaccine exists that has been successfully applied in most areas where veterinary service delivery is reliable. These factors suggest, and indeed experience has shown, that remote, marginalised pastoral communities, where livestock contact rates are high and vaccination is sporadic, are often the reservoir for the endemic persistence of rinderpest.

Rinderpest PDS should take these factor into account when designing reconnaissance missions. As a first step, an inventory of remote cultures and communities should be made and secondary sources of information should be obtained and researched. In PRA, one often looks at ‘proxy indicators’ in regard to sensitive subjects for which it may be difficult to obtain unbiased direct information. Remoteness, insecurity, and lack of services can serve as proxy indicators for the likely presence of infectious disease when prioritising search areas at the national level. It is especially important to avoid ‘tarmac’ or access bias in regard to rinderpest searching.

As with any disease investigations, the appraisal team should carry all necessary sampling materials in case a SE outbreak is encountered. In addition, the team should carry Clearview tests and a camera, if these are available. Photographs of affected animals and lesions are supporting data for diagnostic purposes and in some cases become invaluable training and communication materials.

In general, it is better to involve a representative of the veterinary services from the national level as members of the study team who is not known by community members. Local representatives of the veterinary services are included in the study as key informants. The presence of local veterinary authorities in the appraisal team can introduce bias as the respondents may wish to avoid sensitive subjects. Incorporation of local officials in the study team makes the process less anonymous and confidential.

Interviewing

As with other types of disease searches, the interviewer should be careful not to communicate their specific interest in rinderpest to the respondents. If possible avoid travel in vehicles used in rinderpest control activities or with individuals locally known to be specialised in rinderpest control. The interview should be introduced as a general study of animal health issues in cattle or a similarly broad theme.

A sample PRA checklist for rinderpest disease searching is presented in Box 1. Items 1 to 3 introduce the subject and establish the identity of the participants. Items 4 to 6 are an expanding enquiry into animal health problems. Item 4 investigates what animal health problems the respondents are *personally and presently* facing. Item 5 inquires into what animal health problems the immediate community is *presently* facing. Finally, Item 6 inquires into the most significant animal health problems the community has faced regardless of time. It is important to note at which stage in the interview process rinderpest is mentioned.

Box 1: Sample PRA Checklist for a Participatory Rinderpest Disease Searching

Avoid mentioning rinderpest before the cattle owners do.

1. Introduce the appraisal team as an animal health appraisal.
2. Identify the respondents and establish if they cattle owners.
3. Establish their main herding locations (mapping).
4. What are the current cattle disease problems in their herd?
   If tearing or diarrhoea is mentioned, explore these syndromes in detail.
5. What are the current cattle disease problems in the area?
6. Historically, what are the most important disease problems of cattle? Invariably rinderpest is mentioned in the response to this question if the cattle owners have experienced outbreaks in the last two decades. Frequently it will be the first disease mentioned.
7. Have they personally seen rinderpest in the their lifetimes? What does it look like?
8. When was the last time their cattle where affected by rinderpest? Where? Where did it come from?

As warranted, further probing questions can be added to cross-check reports made in other interviews, further define cattle movements which may affect the epidemiology of the disease, or to contrast current outbreaks with previous outbreaks in regard to the severity of disease.

Rinderpest should not be mentioned in an interview by the appraisal team prior to the respondents listing of animal health problems. If a respondent introduces the subject of rinderpest, he should be asked to describe the disease as part of the verification process. If the respondent cannot accurately describe the disease, his report should be discounted. A procedure for weighting reports is outlined in Box 2.

If rinderpest has been described accurately, the following topics should be probed:

1. Have they had personal experience with the disease or did they learn about it from others?
2. If they have had personal experience with a rinderpest compatible event, when, where and in whose cattle did they observe the disease?
3. How severe was the outbreak? What was the relative importance of symptoms?
4. What were the general circumstances at the time of the event (grazing conditions, water availability, security conditions, livestock contacts with other communities and wildlife, trade links, etc.)?

5. Has the disease occurred at any other time? Repeat questions1 to 3, as time permits, for each previous occurrence of SE outbreaks.

Box 2: Weighting reports of rinderpest

Concerning assessing reports, the following weighting criteria may serve as an example for the categorisation of volunteered reports from individuals who can accurately describe the disease:

I. A first hand report from a herder of cases in his own herd.

II. A first hand report of clinical cases observed by a veterinarian or veterinary assistant.

III. A report of cases directly observed by a cattle owner but in other's cattle.

IV. A second-hand report or hearsay from veterinarians, herders, public officials or elders who did not actually see the disease. This last information should be noted and may be used as leads to assist the team in selecting locations for further study, but should not be used as data in the construction of maps and time lines or other forms of analysis.

The individual reports that are internally consistent from categories I, II and III can be tabulated and mapped to build a consensus view of the historical and recent incidence of the disease in the region.

By the end of the interview, if the respondents have not mentioned rinderpest, the study team can inquire directly about rinderpest. In this case, it is important to note that the participants did not volunteer rinderpest as an animal health problem and that despite whatever information is obtained through direct questioning, rinderpest is not a stated priority of the respondents. It is recommended that the information obtained through such types of direct and possibly leading questioning does not constitute data for epidemiological analysis. With caution, it may serve as background information or leads to provide direction to future fieldwork.

Topics for Probing

Probing on specific subjects can provide very useful insights into community knowledge on disease epidemiology, pathology and diagnostic processes. Often it is best to reserve these probing sessions for especially knowledgeable key informants. These are usually more senior members of the community respected and consulted by the community for their livestock knowledge.

Diarrhoeal disease: In a subset of interviews, the community should be probed about the different terms used to describe diarrhoeal disease. Points to be investigated are:

- What terms are used to signify diarrhoea in general?
- Are different types of diarrhoea distinguished (i.e. bloody vs. non-bloody, acute vs. chronic, etc.)
- What specific diseases do they associate with diarrhoea?
- What indicators are used to differentiate between different diarrhoeal diseases?

Clinical forms of rinderpest: At appropriate times, subsets of respondents should be probed about the relative severity of different rinderpest events they have observed over the years. If diarrhoeal diseases are being described, but not identified as rinderpest, respondents can be asked how this distinction is made. In light of the occurrence of mild rinderpest, this is an especially important theme for exploration in

East Africa. Some communities may distinguish rinderpest as a disease that kills and rule out rinderpest as a diagnosis of non-fatal diarrhoea. It is important that the appraisal team adequately identify the criteria for traditional rinderpest diagnosis and establish if any clinical forms of rinderpest are excluded from the local traditional definition.

Disease concepts and methods of rinderpest transmission: It is useful to attempt to understand local concepts regarding the cause of disease and methods of transmission. In regard to rinderpest, pastoralists can often accurately describe risk factors and types of contact that lead to transmission. Knowledge in these areas varies significantly between communities and it is important not to make assumptions.

Community responses to rinderpest: Understanding community responses to rinderpest, either endemic or epidemic, can contribute to risk analysis in regard to the spread of the disease or provide insight into the mechanisms of endemicity. Some responses to rinderpest that have been noted in the past are:

- 'Quarantining' affected herds by making them graze away from unaffected herds or water after other herds
- Avoidance of wildlife
- Running away from outbreaks
- Traditional vaccination

Informal quarantine is a method used by several communities in response to a variety of disease situations. It is one of the more desirable responses as informal quarantine does work to reduce contact rate. As with most great plagues, a popular desire to flee is a frequent response. Although this may benefit individuals temporarily, it has the obvious effect of facilitating spread of the disease through increased contact rates over greater distances. Traditional rinderpest vaccination is an interesting practice that is probably no longer used. At least all known descriptions are historic.

Mapping

Rinderpest is a disease that depends on cattle contact and movement for its very survival. Mapping of cattle movement and determination inter-community contact is a very important activity in regard to understanding local rinderpest ecology.

In order to initiate a mapping exercise, respondents should be asked to specify their primary grazing sites by season. Depending on the complexity of the bio-climatic system, it may be worth constructing a seasonal calendar as a companion exercise. Often, pastoralists will specify location names that are not evident on modern maps. These initial questions often turn to a discussion of just exactly where these key resource sites are which naturally leads to the sketching of maps on the ground.

A broad area about an arm and a half's reach should be cleared and smoothed. Usually, participants will naturally gather round and equip themselves with the necessary tools: normally sticks and other objections to assist in drawing and act as land marks. The participants should first be asked to indicate key landmarks such rivers, market towns, major wells or watering sites. Then the grazing sites can be indicated. In addition to normal grazing sites, emergency-grazing areas used in time of drought or insecurity should be indicated. The participants can also indicate the territories occupied by other communities and points of contact as well as shared or

contested resources. During the mapping process, information can be collected on the nature of the interaction with neighbouring communities (e.g. trade, competition, raiding, hostility, etc.). Eventually, the map will become crowded with information and it will be time to stop and transfer the information to note books.

If desired, the mapping exercise can be repeated in later sessions for the collections of other types of data such as the location of forests, bush and crop areas, or wildlife distribution. Later, the different types of information can be analysed conceptually as layers, much as in geographic information systems.

For rinderpest epidemiology, the data on movement, mixing (contact) and trade will be the most significant. These will be key factors in subsequent risk analysis and in disease control strategy design. Movement and contact data relative to the presence of the virus will determine where and when vaccination or surveillance is appropriate.

Clinical Observation, Sample Collection and Transects

Before or after an interview, it is always useful to walk the camp, herd and adjacent environment. In rinderpest disease searching, tearing is a sign that can be detected at a distance. If you are walking the herd prior to the interview and note tearing, it is best not to call attention to the sign. Proper clinical exams should be carried out after the interview. The only exception is when the livestock are on the move and you run the risk of losing the opportunity. If you are unfamiliar with the temperament of local breeds or they are know to be aggressive, due caution should be exercised.

If active rinderpest is reported or tearing is noted, a complete clinical exam of affected animals is essential. Detailed notes on the individual history and clinical presentation of each animal should be taken. After examination, clinical cases compatible with the SE outbreak definition should be sampled.

In any event, the appraisal team should take a moment to investigate any examples of current health problems the livestock owners would like to present. This gives the study team an additional opportunity to cross check disease descriptions with actual clinical cases. Further, as the livestock owner has donated his valuable time to the study, it is only appropriate that the team take a moment to investigate the farmer's concerns and provide useful advice. Bear in the mind the problem of creating false expectations. It is best not to promise or suggest any future assistance. The provision of free drugs, although it may seem helpful and even be enjoyable, contributes to the creation of false expectations and perpetuates the psychology of dependence. If drugs are required, the best solution is often to provide the farmer with a verbal or written prescription and advice on where they can be purchased.

Analysis of Results

Participatory disease searching is somewhat different from other types of PRA. Most PRA interviews start at a general level and work towards specifics. The interview technique used in PDS casts an ever-broadening net until the respondents volunteer rinderpest as a problem. At this point the interview begins to focus down on EVK regarding rinderpest. This could happen at any of three levels: current personal experience, current personal observation or in the past. Part of the process of judging the quality and significance of reports relates to when the respondent introduces the subject of rinderpest. The earlier in the interview process that the subject is raised, the more significant the report (see Box 2).

As described previously, reports of rinderpest or other SE events should be categorised, tabulated and examined for trends or unifying factors. This process should begin in the field and be carried on throughout the study. The lessons learnt during the PDS will lead to the reformulation of hypothesis, new questions and modification of the criteria of analysis. Always bear in mind that rinderpest intelligence may be sensitive information at any level of the system from the herder to head of veterinary services. The key is to remain flexible, patient and open-minded throughout the process.

The existence of the stomatitis-enteritis outbreak definition and guidelines for comprehensive rinderpest surveillance assists in the analysis of rinderpest PDS results. If the community's terminology fits the SE outbreak definition, then the reports collected as part of the PDS should enter in the rinderpest report registries. If the community consensus points to the circulation of rinderpest or another SE agent, then the investigation should continue until a definitive diagnosis is reached. The principals of comprehensive rinderpest surveillance and performance monitoring require that the PDS should continue until active cases are found for sampling. In the event that active SE cases cannot be found, then a purposive serosurvey is indicated.

In the event that a PDS detects a rinderpest focus and representative cases are confirmed, then all the cases that are epidemiologically linked to the confirmed case are themselves confirmed. The linked cases are all those that fit the same clinical description and were determined to be in contact or for which a chain of transmission can be reasonably assumed. In regard to rinderpest, a chain of transmission could be reasonably assumed where herds share a watering hole or grazing area.

In the event that a detailed PDS detects a rinderpest focus and representative cases are not confirmed, then the epidemiological intelligence gathered by the PDS should form a working hypothesis for future disease control efforts in the area. The PDS result can be used to formulate future surveillance and vaccination tactics. The PDS may also serve as a research hypothesis for further detailed epidemiological studies using both qualitative and quantitative techniques. The need to conduct further research must be balanced with action-oriented needs. This is especially the case in regard to vaccination activities that will preclude serological investigation or may obscure clinical disease without achieving eradication. It is better to have a full understanding of the epidemiological and ecological dynamics of the disease prior to embarking on extensive vaccination programmes with vague objectives.

Annex 3: PDS Reports of Field Teams

14/11/2002

PDS Exercise at Griftu

Team Passion

Respondents: Ali Nur Mohamed
Aden Gare
Two ladies and seven children

Methodology

Introduction
Visual appraisal
Transect drive / walk
Interviews
Mapping
Ranking and scoring

Introduction:

Dr. Mwongela introduced the team and seeked permission to examine the animals.
Pastoralists introduced themselvesand welcomed the team.

Visual appraisal

3 cows with lacrimation
mouthing did not show any lesions

Transect drive

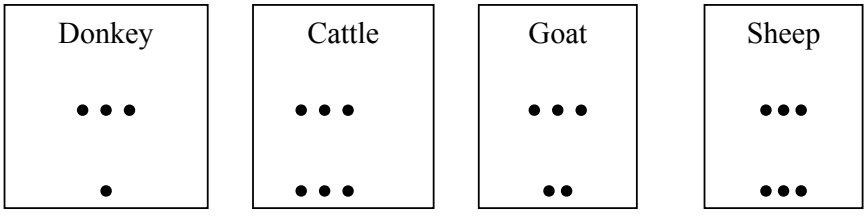
Area is level with sandy soil
Adequate pasture and water sources (rivers, wells)
Different species of livestock seen

Interview

Species of livestock kept

1. Cattle, goats, sheep , donkey

Ranking according to importance by proportional pilling



He seemed to rank them on the number of uses rather than the importance.

Disease listing
Diseases he has encountered in the herd

Kud

Abeb / oyale
Shiffow / dadd
Furuq
Shillin
Berfu
Ketan
Gorian
Garab goiye/ Haraka

Ranking / proportional pilling was done for Abeb (FMD, Shiffow /rinderpest, and CBPP
The respondent was able to describe the clinical symptoms of all the three diseases.

Abebe	lesions in the mouth and foot
	Salivation
Shiffow	lacrimation
	Diarrhoea
	Death
CBPP	Coughing
	Death

Further probing on Shiffow
Last time he saw the disease was 25 years ago at Griftu
Most of the animals (10-20) died
Animals vaccinated before getting the disease survived
He has not encountered with the disease even in other herds
Lacrymation is common in his herds but they do not consider it as a disease.

A vote of thanks was given
Farmer was advised to be reporting suspicious cases to DVO Wajir.

Conclusion

1. Pastoralists named the disease and described the disease
2. 2. He had the disease 25 years ago
3. Unable to identify mild shiffow

Team Avocado

Village name Boji

Team members	Martin
	Nega Tewelde
	Omondi
	Abdi
Translator	Noor (CAHW)

Informants	Ali Shehu
	Mohammed ille

Mohammed Aden
Abdi Kaile

Checklist (mental)

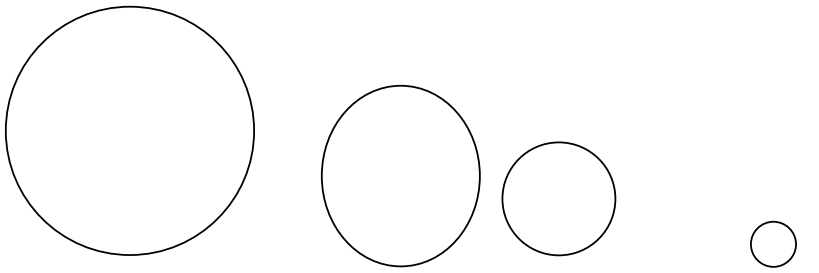
Proportional pilling

Clan	Lo (cattle)	Gel (Camel)	Ari (shepp and goats)
Degodia	54	59	52
Ajuran	11	4	27
Murule	11	15	15
Gare	24	12	6

Common disease with simple ranking exercise

1. Furuq
2. Kut
3. Shiffow
4. Abebe

Proportional pilling on the importance



Furuq Abeb Kut Shiffow

Probing on Shiffow

Clinical signs

Sloughing of the tail
Diarrhoea
Lacrimation

Does it kill? Nearly all animals

Has he ever seen the disease? Yes

When During the 1964 emergency, when they fled to Somalia

Where? Abasweni

Do your animals tear? No

Importance: Why ranked as importance when it occurred long time ago? They know it kills all the animals.

Control: vaccinations

Observation / Transect

Soil sandy
Pasture plenty

Observation tearing 5 animals

It was not possible to check for the mouth lesions

Conclusion

If mild rp occurred it would not be possible to recognize it, since the animals are usually bright, feeding and no mortalities.

Team Mango

Members Mohammed Keinan
Munthi Mbabu
Triku Sintaro
Wondwossen Tsegaye
Site Kutu
Clan Asharraff (religious sectoion)
Introduction
Respondents
Aaron Shariff Ibrahim
Abdi Noor Barree
Shariff Ahmed (CAAHW)
Interview
Livestock owned
Cattle, sheep and goats, 2 camels aand donkeys
Proportional pilling
Verbal information

Cattle, sheep and goats	20 households
Cattle only	5 households
Sheep and goats only	30 households

Grazing area (Mapping)
Dry
Wet
Current cattle diseases in the herd

Abeeb	FMD
Fruq	LSD
Koffa	Coughing
Ngorian	Helminthiasis
Tunya	Ephemeral fever
Shillin	Ticks
Kut	Anthrax

Unknown or new disease in the area which doesn't have name but the clinical signs are fever, respiratory distress, red urine, salivation, tearing.

Current cattle disease in the area
Kut
Abebe
Furuq
Ngorian
Shillin
Labaalol Abomasal imaction
Tunya

Berfur	CBPP
Shifow	RP, but not recently seen

Probing on Abeeb/ FMD, Ngorian/ WORMs and Shiffow / RP

Transect
Investigating sick cow
Examination (mouthing) tearing cattle

Questions / observations from respondents

Purpose of visit
Absence of market
CAHWs not equipped

PART TWO
Key Informant CAHW Abdi Sillat
Trained by NGO
Covering 9 sites around Griftu

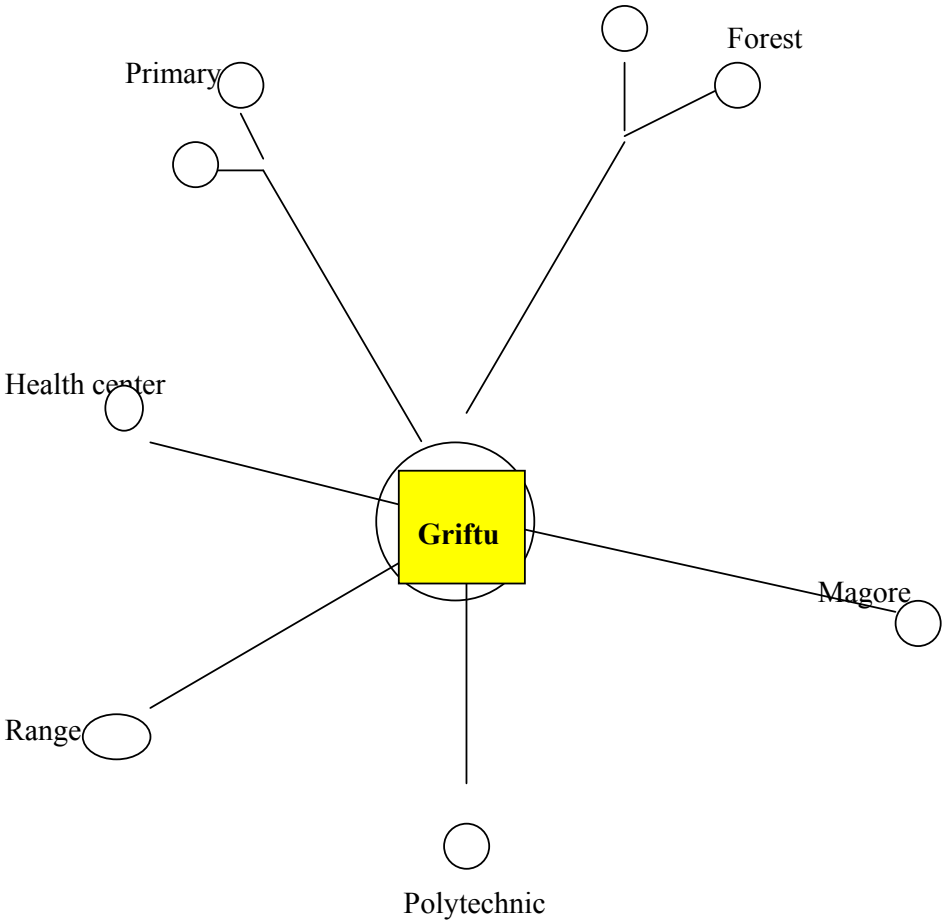
Livestock owners categorises around Griftu

Species	Number of beans
Camels	10
Cattle	16
Shoats	20
All	30
None	14

Species treated by the CAHW

Shoats	46%
Cattle	20%
Camels	22%
Donkeys	12%

Abdi Sallit service coverage areas



These coverage areas Maximum 5 Km
Minimum 2 Km

Diseases treated
Ngorian
Tunya
Wounds
Castration
Furuq
External parasites

Vaccination (Assisted)
LSD
Anthrax
CBPP

Probing on Rinderpest
He has never seen in the area
Encountered 50 years ago
Signs it kills, diarrhoea, blindness and fever

Questions
How do you stop the female dog from breeding? Spaying
How to get transport facilities motorbikes / bicycle / donkey? Sustainability / cost sharing

15/11/02

Team Mango

Site / Manyatta Dobani

Clan Degodian
Family Dubani

Respondents
Koroni Dubani
Addinure Koroni
Ali Sheke
Nooho Koroni

Species they own cattle, camel, sheep and donkey

List of cattle diseases they know
Furuq
Abebe
Aballol
Kadighi
Baa
Madobe
Tunya
Shiffow

Probing
Aballol clinical signs: Swollen stomach, no excretion and it occur after rainy season
List of cattle disease in the herd currently
Abalol
Baa
Furuq

Proportional pilling

Baa	23
Furuq	18
Aballol	9

Curennt diseases in the area
Baa
Aballol
Kut
Abebe

Shifow

Pair wise ranking

	Baa	Furuq	Aballol	Kut	Abebe	Shiffow	Score	Rank
Baa		Baa	Baa	Baa	Baa	Baa	5	1
Furuq			Furuq	Furuq	Furuq	Furuq	4	2
Aballol				Kut	Abebe	Aballol	1	5
Kut					Kut	Kut	3	3
Abebe						Abebe	2	4
Shiffow							0	6

Baa rank first because it does not have treatment
Shiffow was seen 10 years ago

Probing on the listed diseases

Abebe

Clinical signs mouth lesion in the mouth aand foot, lamness and salivation. It spread very fast.
It occurred 3-4 months ago
The chronic form or occurred animals become heat sensitive, the hair stands, become very weak till it die. They called it Guss or Jamma.

Shiffow

They observed it 10 years ago
The place of occurrence was elnur
Eventhough shared watering poit their animals died not get the disease
The disease was afftecting more calves
The clinical signs observed were
Lacrymation
Diarrhoea and death

Season Calendar

Haggay	A lot of wind and cold
Guu	Long rain
Dere	Short rain
Hora hed	hot

	Dere	Horahed	Guu	Haggay
Furuq	7	8	10	25
Aballol	25		25	
Kut		25		25
abebe	No seasonality on occurrence			

Probing on other disease

Himil (Kulula)
It occurred in their cattle three years ago
The clinical sign was lacrymation, fever, swelling in the mouth, sudden death and at that time it killed 3 animals.
Difference between Shiffow and Himil
Himil sudden death
Shiffow no sudden death

Date 16/11/02

Team Passion

Village Tulantula
GPS N 1^o 52
E 39^o 45

Respondents
- Aden Hasen
- Noor Hassen
- Mohammed garore
- Abdulahi Osman Abdille

Methodology
- Direct observation
- Informal interview
- Season Calendar
- Ranking and Scoring
- Transect Walk
- Triangulation

Direct Observation
- There was division of labour. Women and children were milking. Young men drove the animals away.
- Livestock are in Good body condition
- Plenty of vegetation and enough pasture
- Sandy Soil
- Flat topography

Informal Interview
- Elder asked the livestock owned
- Sheep, goats, cattle, donkey
- 2 male camels
- Uses of livestock
- He laughed; composed himself and then gave the following information.

Species	Uses
Camel	transport, meat
Cattle	Milk, meat, commercial
Sheep	Little milk, meat, fat
Goats	Commercial, milk (medicinal), meat
Donkey	Transport only

Scoring and ranking according to importance using 23 sticks

Donkey	3
Cattle	6
Camel	7
Goat	3
Sheep	4

Camel scored highest because it had the most uses i.e. Transport, fat, meat, milk, commercial and taxi for sick people.

Diseases in the herd per species

Species	Disease	Clinical signs
Cattle aand death	Madobe / Shiffow	Diarrhoea, ocular discharge, nasal discharge
	Abebe	Lesions on mouth and hoof, salivation
	Kulule	watery eyes, death
	Berfur	Lung infection, enlarged heart and other internal organs, loss of weight
	Rude	Diarrhoea, loss of weight, animal continue eating
	Furuq	lesions all over the skin
Sheep and Goats		
	Gasdor	Grunting and difficult in nbreathing
	Tunya	Swollen stomach, limping
	Hergeb	Coughing
Camel		
	Kut	Swollen glands
	Duguta	Coughing and grunting
	Dukan	Bad smell whole body and urine. Emaciation and can go for 3 years
	Furuq	?

Disease ranking according to importance

The respondent said that all diseases are important but on further probing he ranked diseases as follows.

Kulula
Madobe

The person was becoming impatient. Therefore we went straight to Madobe and asked him whether he had ever seen it in his herd or in other herd.

Answer "Yes'

Clinical signs bloody diarrhoea
Tearing
Nasal discharge
Death
Vaccinated animals survived
Disease common in (1-2 yrs) age

When seen? > 10 years ago

Further probing and said he cannot remember the exact year but was after Kenyattas death.

Currently he said the disease does not kill. The reason is given as animal is vaccinated.

Where the disease occurred? Griftu

Source of infection Unknown and he said probably wind

During El Nino many animals / species died from various ailments.

Death within wildlife noted? "No"

Seasons in a year

Guu	3 months	Rain / drought
Haghi	3 months	no rain / cloudy and cold
Deer	3 months	rain / no rain
Orahed	3 months	hot sun

Diseases of Guu

He refused to name. But said that diseases come any time.

He said Abebe is common during Orahed and come with traders from Ethiopia

Young people

Have you ever heard about shiffow? "Yes"

Have you seen it? "No"

How old are you? 19 years

The respondents were asked whether they had any questions. They asked whether we have drugs. We told them no but are collecting data, which will benefit the community later.

Transect walk

Followed the animals to the bush since they were late.

Observation: Shrubs, scattered grass and forage. Camels and cattle grazing

Met Mohammed Ali Salat a herder and asked him question.

Have you ever seen Shiffow? "Yes"

Where? Griftu, at his father's herd

When about 20 years ago and killed his fathers' 14 head cattle out of 60.

Ahmed Farah said the disease seen 20 years ago in Griftu. 2/30 cattle died.

Key Informant: Retired vets scout (Abdi Dahire) for triangulation.
Employed 1965 as vet scout
He saw shiffow in 1965 and has not seen the disease since then and has been in Griftu.
Mathobe and Shiffow are the same disease. 20 years ago he said there was a severe disease (Anthrax like), which killed many animals.
Clinical signs: Sudden death and the mortality was 5/20
Other important diseases of the area
CBPP
Anthrax
Blackquarter
Furuq present up to now
Garabgoy

16/11/02

Team Avocado

Village / Site Geel Gulaabis
Respondents
Aden Hassan
Mohammed Abdi
Abdi Khadir
Omar Dhubane

Animals owned Goats, Cattle, Camel, Donkey

Proportional pilling of species importance per season

Species	wet season	dry season
Sheep And goats	17	3
Cattle	16	3
Camel	10	2
Donkey	7	1

Cattle disease list

- Shiffow
- Kadidhig
- Godhobgooye
- Cabebe
- Madhoobeeye

- Kut
- Himil
- Furuq
- Shillin
- Kaneeco
- Beerfuur
- Kaddaan
- Gooryaan
- Bac
- Tynua

Diseases in the herd

Current

Himil	21
Abebe	16
Gooryaan	15
Tunya	11
Kaadidhig	10
Bac	7

Why Himil? Kills most animals

Symptoms? Lacrymation, fever, oedema. The meat is red and is condemned even vultures donot feed on it.

Diseases in the last one year

Kadhidhig	29
Goryaan	17
Abebe	15
Bac	11
Tunya	11
Himl	-

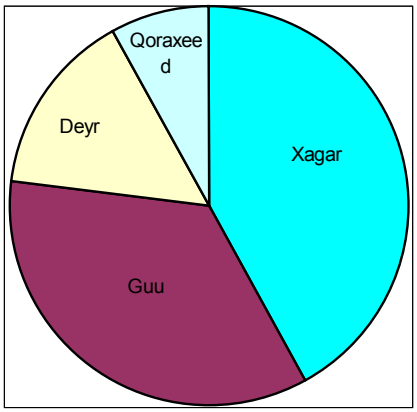
Pair wise ranking

	Gorian	Abeb	Himil	Khad	Bac	Tunya	Score	Rank
Gorian		Gorian	Himil	Gorian	Bac	Gorian	3	2
Abeb			Himil	Khad	Bac	Abeb	1	5
Himil				Khad	Bac	Tunya	2	4
Khad					Bac	Khad	3	3
Bac						Bac	5	1
Tunya							1	6

Seasonal Calendar

Do you have different seasons? "Yes" Gu, Xagahr, Deyr and Qraxeed

Length of the seasons



Seasonal calendar of diseases

	Goraian	Abeb	Kadh	Bac	Tunya	Himil
Gu						
Xagaa						
Deyr						
Qoraxeed						

Shiffow:
You mentioned Shiffow, Have you seen it? "Yes'
When? Longtime ago
When probing First in 1969
Where? Mandera, Ramo, Hola, Badiba and Tabach
Second in 1972, Mandera, hagdeer and Afmedow
Symptoms? Diarrhoea with blood, Lacrymation and death over 50% and was very sever. Carcasses were everywhere.

15/11/2002

Team AVOCADO

Village Biyamathobe
Coordinates N 1° 56.75'
E 39° 45.57'
Elevation 315 masl

Respondents Abdulahi
Mohammed Abdi
Ibrahim Salat
Mohammed Kenyare
Hussien Gurow
Mohammed Wamogi
Mohammed salat

Clan Degodia

Methodology Interview
Visualization (mapping transect)
Do you keep animals? Yes
Which types? Cattle, Sheep, Goat, Donkey and Camel
Movement pattern Nomadix
Grazing style Common
Purpose Meat / milk

Common disease problems

Disease	Symptoms
Furuq	Swelling on the skin + pus
Cabeb	Wounds between hooves, mouth lesions drolling saliva
Berfur	Bloat, blood from ear and nose
Kut	Sudden death
Sangadhut	?
Tunya	?
Labalalol	plant poisoning

No current disease problems in his herd
Disease problems in the last one-year

Furuq
Shiffow? Shiffow? Previous year
Dikku
Dabadhur

Diseases of cattle in the area

Lebohalol rainy season
Furuq
Cabeb
Kulula

Probing about Shifow?

Does he saw the disease in his herd? "YES"

When? Before the last Ramadan
Where? Griftu

Further probing
Symptoms
Lacrymation
Salivation
High fever

Action taken? No, the animals recovered with in 7 days.

Did he look in the mouth? Yes.

What did you see? Nothing

What feaces? Constipated

How was the tearing? Bilateral

Age group affected? Adults

Further probing about Shiffow

Have you ever seen shifow before this? Yes, three Ramadans.

Where? Khadjaja

Who else was there in Khadjaja?

Animals from Arbajane, beyond ethiopa liben.

How severe some animals died.

Symptoms
- High fever
- Rough hair coat
- Salivation
- Lamness, further probing

Does he know Abeb? "Yes"

The difference between Abeb and what he saw?

Abeb has drooling of saliva, long hairs

Vaccination: Government intervention greater than 5 years

Further probing 2 years ago

Age of this respondent was 18 years old.

Team Passion

Village Elble Madobe (4 miles out of Griftu)
Tools used:

1. Direct observation
2. Interview
3. Ranking and scoring
4. Mapping
5. Venn diagrams

Respondents

1. Yussf Ahmed
2. Ibrahim Noor
3. Nine elders
4. 2 young men

Direct observation

1. Livestock in good body condition
2. Three catle with lacrymation
3. Milking being done by women
4. Adequate browse (meril) and pasture

Interview

After introduction (two way)

Species of livestock kept; Cattle, Sheep , Goat donkey and Male camels.

Scoring of importance and use

Cattle	6
Camel	4
Sheep	4
Goat	6
Donkey	2

Common Diseases problems ranking

Cattle

- Berfur
- Shiffow
- Kud
- Abeb
- Furuq
- Gorian
- Jigiz

Camel

- Dukan
- Dugeto

- Yuthile
- Hergeb

Sheep

- Hergeb
- Derato
- Gorian

Goat

- Gessdor
- Her win
- Gorian

Donkey

- Kud
- Fanta Fer
- Gorain

Shiffow further probing

The informant has the disease in his herd. When? 22 years ago. Where? Dadaab.
How many died? 30/100.
Where from? Somaloia

Team Orange

Village Biamadhow – well

Respondents Abdi Noor tahir = key informant
Ibrahim Abdi noor
Bishar Osman
Latter one young and old man joind the team
Introduction done by Ibrahim Omer farah.

Methodology
Observation
Interview
Pair wise ranking
Observation
Sheep and goat
Cattle
Pasture and shrub browsers
Sandy soil
Flat topography

Movement for grazing

During sever drought they reach Ethiopia, Mandera. During normal period they circulate around Griftu

Purpose of Livestock keeping

Cattle	Milk meat, ghee and commercial
	Milk + urine + Ghee = Medicinal value
	One cattle = 30 goats
Sheep and goats	Meat/ Milk and ghee.
	Goat and man shared two things.
	Bears,
	Shore while sleeping
	Goat and women both have two breasts and respond easily

when called
Cattle and Goats both have two horns and provide ghee.
Drought is the biggest problem to cattle.
Cattle diseases

- Abeb
- Berfur
- Shiffow
- Gereb Goye
- Kud
- Shimbir
- Furuq
- Quy

Top five cattle diseases

- Shiffow
- Berfur
- Abeb
- Kud
- Furuq

Disease	**Description**
Shiffow/ mathobeye / digareb	Lacrymation, Bloody diarrhoea, Fever
Death	
	Triangulation all other informants agreed.
Berfur/Sembob	Rare, coughing, Lungs affected, mucopurulant discharge like TB – cattle, swollen lungs
	Chronic disease 2-3 years
Furuq	fever, swelling on skin and affect camel sheep and goat.
Abeb	Mouth and hoof lesions, salivation
Kud	strikes like an arrow; sudden death also affects human being. Carcass burned after death.

When did you see the above five diseases last?

Kud, Furuq and Abeb occurred seven months ago, but Furuq is still present.

Berffur and Shiffow not seen for long.
Shiffow seen during elnino (Aabdi Noor Tahir Abdi)
Where? Griftu, on other people's herd.
Death – saw one death
Heard many cattle death
Signs Fever, lacrymation,
Source Mandera, before Elnino he had seen in 1965.

Probing during El nino no wild life death

Where there abortion in 1997? Camels, goats and sheep but not in cattle.
No specific name for that kind of abortion
Other problems during Elnino foot rot in shoats / water loging
A lot biting flies

Pair wise ranking on the five diseases

	Shiffow	Furuq	Abeb	Kud	berfur	Score	Rank
Berfur	Berfur	Berfur	Berfur	Kud	//////////	3	2
Kud	Kud	Kud	Kud	//////////	//////////	4	1
Abeb	Shiffow	Abeb	//////////	//////////	//////////	1	4
Furuq	shiffow	//////////	//////////	//////////	//////////	0	5
shiffow	///////////	//////////	//////////	//////////	//////////	2	3

Kud ranks highest since it kills very fast. Fruq and Abeb are mild and do not kill.

The informant reported that he had heard outbreak of rinderpest in Ethiopia (Filtu) and very young ones were affected. The reason was given, as the young animals are not vaccinated. Vaccination in Ethiopia was done before Hailesilasie.

In Kenya the last rinderpest vaccination did three years ago. He only saw ear notching in Kenya but not in Ethiopia.

The informant has asked the team to look for two problems.
1. Hyena menace
2. Drugs availability

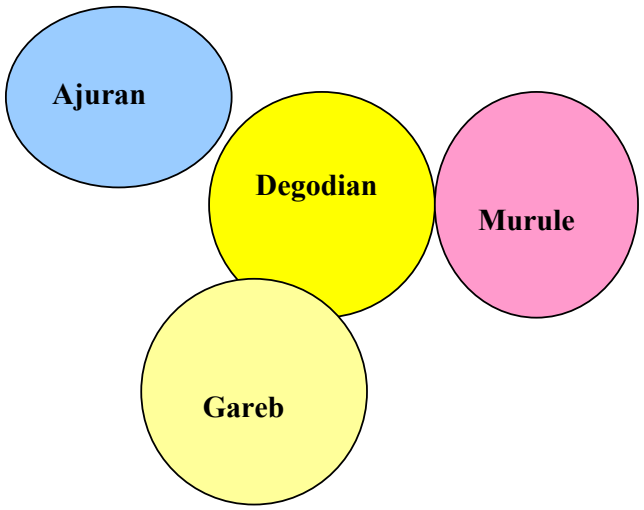
The informant promised to the DVO to see him in the Office.

Team Mango

Viallge Wajo Armati
Informants: Saney Hassen
Bishar Saney
Three other people joined latte
Clans that use the same grazing land

Gareh
Murule
Ajuran

Venn Diagram on the relationships of these three clans



Gareb and Degodian shared grazing land and inter merrages

Current Diseases in his his herd

Diseases in the area

Shiffow	Lacrymation, Nasal discharge, diarrhoea and abortion
Abeb	Salvation, lesion in mouth and foot
Kud	Fever, sudden dath
Jomma /Guss	Long hairs not walking
Baa	Polythine bag eating
Laballol	Constipation, vomiting
Gereb Goye	?
Berfur	?
Tunya	?
Kaddhig	?

Matrix scoring using 50 beans

	Shiffow	Abeb	Jomma	Kud	Berfur
Nasal discharge	24	0	0	14	12
Tearing	16	7	15	7	5
Mouth lesion	0	50	0	0	0
diarrhoea	21	0	0	12	17
Death	9	13	5	14	9
Salivation	0	16	34	0	0
Difficult breathing	0	26	0	0	24

Remark for death
Death in Abeb is mostly in calves. No treatment available
Rinderpest vaccination offered continuously.

Probing
Shiffow seen in 1994 in Abd Harrun herd. 4 out of 100 had died in the area of Eldas west (Dad Hantalay)

Fruq lesions /wounds all over the body.
Nasal discharge and no movement

Annex 4: Workshop Participants

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