



Programme for the Pan African Control
of Epizootics

Community Animal Health and Participatory Epidemiology Unit

**Rinderpest Participatory Disease Searching
in the Sudan**

Workshop Report

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Executive Summary

Participatory disease searching (PDS) is the application of participatory approaches to the collection of epidemiological information as part of an active, targeted disease surveillance programme. Livestock owners have detailed knowledge of the diseases occurring in their community. They can usually recognize, name and describe the diseases of importance. It is this existing veterinary knowledge that PDS seeks to understand and make accessible to veterinary authorities and decision-makers.

Participatory assessments are usually conducted by expert teams of two to four members. They interact with and learn directly from key informants. One of the strengths of PDS is that the expert teams have the ability to move from region to region in a country and develop an overall view of the epidemiology of the disease in the country. Expert teams also have direct access to decision-makers and can communicate the livestock owner's needs and



intelligence with a minimum of filtration or distortion. This means the PDS process can result in more appropriate disease control strategies that are well grounded in practical reality and that truly reflect the epidemiological status of the country.

Beyond PDS, participatory epidemiological (PE) skills can strengthen the relationship between veterinarians and livestock owners and enhance routine information flow as part of the national disease reporting system. A training of trainers approach has been adopted as the most effective way to ensure both the development of expert PDS teams and broader dissemination of PE skills within the veterinary services of Sudan.

The Participatory Disease Search (PDS) Training Programme for Sudan has been divided into three phases. These are:

1. A seven day training course on the use of PDS in the search for rinderpest (RP).
2. A three week (15 working day) field assignment where participants gain experience in the application of techniques as part of the national RP surveillance programme.
3. A five day training of trainers course where the participant's technical knowledge is re-enforced and training skills are developed.

This report describes the completion of the basic training programme and preparations for the field assignments.

The participants attending the course were carefully selected and highly motivated. Logistically, the course was well organized and the consultant wishes to thank PACE/Sudan for its efforts in arranging the course.

It is suggested that PACE/Sudan utilize the participatory disease search programme as an opportunity to understand the impact of CBPP. Initial information indicates that CBPP epidemiology and impact differ widely between regions of Sudan. This information can guide the development of a national disease control strategy that is both locally appropriate and achievable. More explicit incorporation of CBPP activities in the PDS programme will be addressed during the training of trainers workshop.

It is recommended that PACE/Sudan seek to form a small number of expert teams to carry-out the active disease search for rinderpest while at the same time making PE training more widely available to field veterinarians as a tool to strengthen the interaction between pastoralists and the veterinary services. This second objective will enhance routine disease information exchange and more general surveillance activities.

Training Highlights

The expectations of the participants were in line with the objectives of the training course. The participants described the following expectations about what they hoped to learn in the workshop:

- PRA techniques
- approaches to communities
- collection of information
- how to fill out forms
- ways to strengthen relationship between communities and veterinarians
- how to obtain existing veterinary knowledge (EVK)
- how to submit samples
- new techniques of active disease surveillance
- how to evaluate and analyze EVK
- how to make diagnosis based on EVK or historical information
- how to identify community problems and needs
- how use PE to make maximum use of resources to help people
- how to use PE as a tool for planning appropriate interventions



It was explained that PRA did not make use of questionnaires and that forms were not usually a major concern in PDS. It was also explained that PRA approaches were largely built upon a shared learning experience (co-learning) between both the PRA team and the respondents as opposed to ‘obtaining’ or ‘extracting’ information.

The PDS interview begins with the interviewer asking an open-ended question about the disease problems currently occurring in the community. In response to this question, the informants usually list and describe a number of problems. Once the problems are adequately identified, two proportional piling exercises are completed.

The first asks the respondents to indicate the relative importance (overall impact) of the diseases they have mentioned. The second piling exercise asks the respondents to indicate the relative prevalence (frequency) of the diseases. Thus, each interview establishes the disease priorities of the communities. This process gives the informants opportunities to mention RP without the interviewer asking leading questions.

Two female veterinarians were trained as part of the PDS course. This was done to insure that women could be interviewed in all female groups where they would feel most comfortable to fully voice their views. Women have important roles in livestock keeping in Sudan and are often the first to recognize disease.



One of the discoveries during the practical exercises was the recognition by workshop participants that full efforts to involve women respondents in the group interview programme had not been made. During the field practical exercises, *sheikhs* were requested to organizing livestock owner meetings. The issue of women's participation was not discussed with the *sheikhs*. At one of these meetings, a large contingent of women (7) was

present and participated. The workshop participants realized that they had inadvertently assumed that women could not participate in the same meeting with the men. The participant's agreed that women should always be invited to meetings, but that it would be left to the local community to decide whether or not women should accept the invitation. Women's involvement in group interviews does not replace the need for specialized interviews by female PDS teams.

After the three days of semi-structured interviews with Hawazma pastoralists, important trends were noted:

- land pressure and agricultural encroachment on traditional migration routes was a major concern for pastoralists in Kordofan
- no first-hand reports or rumours of RP were received for the last five years
- for many livestock owners RP remained an important concern
- pastoralists were unaware of the reasons behind the cessation of RP vaccination
- CBPP was not identified as an important disease constraint in Kordofan

One major concern of the trainer was the trainee's tendency to immediately translate local disease terms into English without first confirming the description of the disease. In PE, one is primarily studying local disease knowledge and terminology. These terms are built upon the clinical, pathologic and epidemiologic characteristics of disease syndromes. In Western medicine, disease terminology usually defines disease entities by causative agent, but information on the causative agent is not available to livestock owners. Thus, the conceptual model of the pastoralists is very

different from that provided in veterinary school and direct translation of terms can be misleading.

A good example is the Arabic term *goradia*. The trainees usually translated this term as ‘tick-borne disease.’ Exploration of the traditional term revealed that the pastoral definition of *goradia* was more complex than this. When using this term, pastoralists were not differentiating between tick-borne disease and more direct effects of ticks on their hosts. Although the subject was not fully investigated, the definition ‘conditions associated with ticks’ is probably more accurate. There are also terms for at least some specific tick associated syndromes which correspond more closely to specific western definitions for particular tick borne disease.

Field Programme

The workshop participants were asked to draw up work plans for their field assignments. Eight field teams of 2 to 3 individuals each were formed.



The work plans produced by the groups began by identifying epidemiologically high risk areas for disease searching. The initial plans were very comprehensive and were more appropriate as overall work plans for the PDS programmes rather than for the three week initial assignments. It was agreed that teams should select a limited number of areas (2-3) and go into detail in those areas rather than try to ‘survey’ all locations. The nature of PDS as a searching or hunting activity (rather than a systematic survey approach) was re-iterated. Thereafter, strategies for developing a mixture of interview session with different key informant groups were discussed in relation to the field plans.

The following logistical points were identified and agreed upon:

- the PACE project could provide up to 15 days per diem to government staff
- the PACE project could not directly pay fuel costs, however per diems should be sufficient to cover fuel costs
- the PACE project will provide a letter describing the PDS programme and requesting that teams be provided with access to transport and fuel by state offices.
- the field teams would complete 20 to 30 interviews in 2 to 3 locations
- the FAO/UN would facilitate flights and travel in the south.
- small, simple sampling kits will be assembled in Soba and distributed to the teams. FAO will facilitate the distribution of sampling kits to southern teams.

The workshop discussed how they should report the results of their field assignments and the following core outline for reports was agreed upon:

- Introduction
 - brief description of communities, locations and itinerary
- General Data – Only information from the participants
 - Field observations
 - Lexicon of local disease terms
 - local term
 - traditional case definition
 - best-bet translation
 - Tables of proportional piling results by ethnic group
 - importance (impact)
 - prevalence
 - Description of movements from an epidemiological perspective
 - include contacts with other communities
- Stomatitis-enteritis data – Only information from the participants
 - History of RP in area from livestock owners perspective
 - Table of first-hand reports of RP events
 - Livestock owners RP case definition(s)
 - Rumours (second-hand reports)
 - Information on SE syndromes
- Discussion and Conclusion
 - PE data discussed relative to other data sources and official records
 - Summarized conclusions

It was agreed that other information could be provided in the report, but that this core framework would be followed to insure that the main objectives will be adequately addressed.

The participants were provided with an interview reporting form to record a very limited number of key points from each interview. The form (Annex III) is less than one page long and is to facilitate the collation of information for reporting to the Office International des Epizooties relative to the RP pathway. The form is to be completed after the interview.

Conclusion

The workshop participants were active and did an excellent job mastering the material. They are adequately prepared for the field assignment phase of the PDS training programme. There will undoubtedly begin minor logistic problems, particularly with the arrangements for transport, and the consultant requests that PACE/Sudan monitor the progress of the field teams during October and November. A target date of early December was set for the PDS training of trainers workshop. Only those who have completed the field assignment will be able to attend that course and be accredited as trainers in PDS.

Beyond validating the current RP situation in Sudan, the PDS programme will generate a significant amount of information on livestock owner needs and priorities.

In the consultant's opinion this is the core of the 'participatory' component of PDS. Surveillance has been defined in the textbooks as 'information for action.' Decision-makers will need to utilize the information on livestock owner priorities to refine animal health policy and appropriately target interventions to meet the needs of Sudanese livestock owners.



Two trainees practicing with a GPS

Annex I: EL Obeid PDS Workshop Programme

Day	Time	Session Title	Preparation
Day 1	8:30 AM	Official Opening and Breakfast	
	12:00 AM	Introductions	
	12:30 AM	Participant Expectations	What do you hope to obtain from this training course?
	1:00 PM	Discussion: Participation in Animal Health	Methods on the Move: pp 8 and 9
	2:00 PM	Prayer Break	
	2:30 PM	Community-based and Participatory Programmes in Disease Surveillance	
	3:00 PM	What do we mean by a community?	Methods on the Move: pp 7
	3:30 AM	Existing Veterinary Knowledge	Be prepared to provide examples of local knowledge
	4:00 PM	Formation of Working Groups	

Day	Time	Session Title	Preparation
Day 2	8:30 AM	Reading Discussion	
	8:45 AM	Presentation: Participatory Epidemiology	
	10:00 AM	Breakfast	
	10:30 AM	PE Tools 1: Interviewing, Ranking and Scoring Techniques	
	12:00 AM	Tea Break	
	12:30 AM	PE Tools 2: Visualization Techniques – Mapping and Venn diagrams	
	2:00 PM	Prayer Break	
	3:00 PM	Analysis and Validation of Results	
	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	8:30 AM	Reading Discussion	
	8:45 AM	PDS I	
	10:00 AM	Breakfast	
	10:30 AM	PDS II	
	12:00 AM	Tea Break	
	12:30 AM	Debate on the Risk of RP in Sudan	
	2:30 PM	Prayer Break	
	3:00 PM	Investigating Stomatitis- Enteritis Events	
	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	
	1:00 PM	Group reports and discussion	10 minute presentations by each group
Day 5	7:00 AM	Practical Field Exercises	
		PDS interviews with proportional piling and seasonal calendar	
	3:00 PM	Lunch provided by El Obeid Department	
Day 6	7:00 AM	Practical Field Exercises	
		PDS interviews with mapping and Venn diagram	
	1:00 PM	Group reports and discussion	10 minute presentations by each group
	7:00 PM	Preparation of State PDS Work Plans	

Day 7	8:30 AM	presentation of PDS Work Plans by State Working Groups
	10:00 AM	Breakfast Break
	10:30 AM	Group Discussion
	1:00 PM	End of Session
	3:00 PM	Farewell lunch provided by RDP Livestock Services
	9:00 PM	Closing Dinner at the Governor's Residence

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 II: PDS Checklist

Checklist for a Participatory Disease Search

Avoid mentioning diseases by name before the livestock owners do.

1. Introduce the appraisal team as an animal health appraisal.
2. Ask the respondents to introduce themselves.
3. Ask what types of livestock they own.
4. Ask about their main grazing locations (mapping) and contact with other regions.
5. What are disease problems in their animals?
If tearing or diarrhoea (SE) is mentioned, explore these syndromes in detail.
6. Ask them to rank the five most important diseases and then conduct a proportional piling exercise on those five diseases.
7. Historically, what are the most important disease problems?
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.
8. Ask if there are any disease problems that show any of the signs of SE.
9. Have they personally seen rinderpest in their lifetimes? What does it look like?
10. When was the last time their cattle were affected by rinderpest? Where? Where did it come from?

Ask probing question when the target disease is volunteered by the respondents. These questions are intended to cross check reports made in other interviews, further define cattle movements which may affect the epidemiology of the disease (mapping), or to contrast current outbreaks with previous outbreaks in regard to the severity of disease. Probing questions can also be used to identify risk or predisposing factors for disease.

Notes should be taken during the interview. Reporting pro formas should be completed immediately after the interview, but not during. Only those disease mentioned in response to the indirect question (1 to 8) should be recorded on the data forms. Responses to items 8 and 9 should be recorded in the notes and reported. However, as the questions are leading, the information obtained should not be entered in the database.

Annex III: Interview Record

Record No.	
District:	Location:
Date:	Interview Team:
Number of Participants:	Name of Elder:
Latitude:	Longitude:
Ethnic Group:	
Contact with other regions:	
<input type="checkbox"/> public vet service <input type="checkbox"/> sedentary <input type="checkbox"/> private vet service <input type="checkbox"/> transhumant <input type="checkbox"/> informal healers	

Livestock Disease Scoring

Traditional Name	English Name	Prevalence	Importance

Rinderpest

Traditional Name:

Date of last outbreak:

Species affected:

Symptoms described:

Description of outbreak:

<input type="checkbox"/> Cases present	Pen-side test result:
<input type="checkbox"/> Samples collected:	

Stomatitis-Enteritis Description

Traditional Name:

Date of last outbreak:

Species affected:

Symptoms described:

Description of outbreak:

<input type="checkbox"/> Cases present	pen-side test result:
<input type="checkbox"/> Samples collected:	