

Community Animal Health and Participatory Epidemiology Unit

Rinderpest Participatory Disease Searching in Ethiopia

Workshop report

Dollo Ado, Ethiopia March 21-26, 2004

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SUMMARY

Rinderpest (RP) Participatory Disease Searching (PDS) is the application of Participatory Rural Appraisal (PRA) approaches and 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. PDS makes use of indigenous animal health knowledge as a source of disease reports and intelligence. When used as an integral part of a surveillance system, it increases the sensitivity, timeliness and representativeness.

The Community-based Animal Health and participatory Epidemiology (CAPE) Unit of AU/IBAR supports the further development of participatory approaches and methods by veterinarians, particularly those working in pastoral areas. As a direct follow-up to one of the recommendations of the mild rinderpest workshop held in Nairobi in June 2002, CAPE organized a regional training workshop in PDS for selected veterinarians from the three Somali ecosystem countries (Ethiopia, Kenya and Somalia) in November 2002, and was followed by a training of trainers (TOT) course in February 2003 and later a workshop to assess implementation of PDS in the Somali ecosystem in December 2003.

During the PDS implementation assessment workshop it emerged that Ethiopia had not implemented any PDS for a variety of reasons, the main one being that all those who had been trained in the PDS and TOT for PDS had left public service. The workshop therefore recommended the need for training the current PACE Ethiopia staff in PDS in order to harmonize surveillance activities in the region, hence the current training consultancy.

The objective of the consultancy was to build capacity in Ethiopia to carry out active disease surveillance through training in participatory disease searching, identification of high-risk areas and the development of a work-plan for future PDS activities.

The venue for training was changed from Jijiga in the Eastern part of the country to Dollo Ado in the South East, on the border with Somalia and about 35 KM from Kenya's border town of Mandera. The change was necessitated following the detection of rinderpest compatible events in Kenya late 2003/ early 2004 through PDS, coupled with an unexplained sero-positivity in cattle sampled in Ethiopia close to the Kenyan border in February 2004. By the time training started, two teams from PACE Ethiopia had been to the area to carry out investigations and take the necessary samples.

There were a total of 21 participants made up as follows: 2 vets (PACE Headquarter, Addis Ababa), 2 vets (Veterinary Investigation Laboratories serving Somalia and Oromia regions), 2 vets (PACE branch coordinators- Somalia and Oromia regions), 1 field vet (Jijiga / Somalia region), and 14 field animal health assistants working in Somalia region.

The six-day (initially intended for seven) programme of the training workshop was divided into three parts. The first part consisted of three days of classroom activity where participants were led through a discussion of basic concepts of PRA and PDS, and

developed their skills through class exercises and role-playing. Reading assignments complemented this. The next three days were devoted to field practice of PDS. Rumors of RP in the area gave the participants an opportunity to practice PDS in the “real world”. The participants were divided into 4 hunter groups (Lions of Dollo Bay, Wolves of Negele, Tigers of Dollo and Eagles of Ethiopia) of 5 persons each. The first two days of the field practice were spent along the Ethiopia-Kenya border, the furthest point (Kurawa) being 80 KM from Dollo Ado. The long distance from training venue called for a temporary re-location of the training venue from Dollo Ado to Suftu (see map of area). Each of the teams was assigned a starting point based on the findings of the earlier investigation teams (see training highlights).

On day 1 of fieldwork, the teams went to the field in the morning and discussed their findings in the plenary in the evening at Suftu, on whose basis a plan of action for day 2 of fieldwork was drawn. At two sites (Kajama and Barjiif), *elimyn or elimen*” whose meaning is tearing, was listed among the current diseases. Some respondents qualified it further to mean tearing with laceration. Other clinical signs reported were emaciation, coughing, and later mouth lesions especially on the lower gum. At Barjiif, *haar* meaning diarrhea was also reported as a current disease. Further inquiry established that *elimyn* is a non-fatal condition that has been commonly observed over the years. By the end of the second day of fieldwork, one of the teams was able to detect a rinderpest compatible event (tearing, diarrhea, mouth lesions) at Kajama.. Similarly, the other three teams came very close to identifying RP compatible events (case description did not fit the mild RP case definition). Nonetheless, at all the four sites, samples were taken for laboratory diagnosis.

Day 3 of the fieldwork was spent within a short radius of Dollo Ado town. On this day, participants had an opportunity to practice PDS techniques not practiced on days 1 and 2. The results of the 3 days were discussed in the broader context of how to implement PDS in the field.

The third and last part of the training was devoted to the identification of rinderpest high-risk areas and way forward/ recommendations.

IDENTIFICATION OF HIGH-RISK AREA FOR PDS IMPLEMENTATION

A high-risk area was determined on the basis of knowledge of the region among the workshop participants and information gathered from respondents and key informants on vaccination history, livestock movement patterns and the mixing between Ethiopian cattle and those from Kenya and Somali. The initial focus will be a strip of land extending inwards from the borders with Kenya and Somali and measuring up to about 150 KM. The high-risk area will run from Borena zone of Oromio region in the south through Gode, Liben, Afder Warder, and to Korahe zones (all in Somalia region) in the north.

WAY FORWARD AND RECOMMENDATIONS

1. There is urgent need for immediate follow-up on the mild rinderpest compatible event detected at Kajama and even the less compatible ones at Kurawa, Barjiif, langerad and Shambel, all in Dollo Ado zone within the Somalia region bordering with Kenya. Teams will need to be well equipped to take as many samples both for antigen/ nucleic acid detection and virus isolation and typing. Lymph node aspirates and eye swabs should be collected and a few drops of PBS added, while for RT-PCR the same samples should be collected but in Trizol.
2. PDS implementation in the country should be centrally coordinated by the PACE Epidemiology Unit of Ethiopia.
3. From among the 21 participants up to 7 teams can be formed to implement PDS in the high-risk area. Care should be taken to balance between field and laboratory based personnel as well as between the cadres (vets and animal health assistants)
4. The desired date for PDS implementation is mid April 2004. The actual start date will depend on how soon motor vehicles will be repaired in readiness for this work.
5. There is need for continuous exchange of information with Kenya and Somali during and after PDS implementation. In the course of implementation, information exchange can be both at the local (border weredas/ districts) and national levels. After implementation, exchange of information can be during the intended Somali-ecosystem coordination meeting slated for August in Jijiga, Ethiopia.
6. There is need for a TOT course for a select number of the persons from the current training. The preferred date is May/ June following the initial implementation of PDS in the country. The trained trainers can train other veterinary professionals in July 2004 at Moyale within Borena zone.
7. The Epidemiology Unit of PACE Ethiopia needs to explore ways of adapting the data collection format prepared by Dr. Jeff Mariner for PACE Sudan or the PACE Kenya one. Regardless of which format is chosen, it is important that a form is filled for every place where PDS is conducted and supported by narrative description and map of the area.

From the workshop facilitator's own point of view, certain issues emerged in the course of the training and need to be highlighted in this report as follows:

1. The vast majority of participants were not conversant at all with the surveillance requirements for the eradication of rinderpest. The facilitator strongly recommends that PACE Ethiopia make enough copies of the book "Recommended procedures for disease and serological surveillance as part of the Global Rinderpest eradication Programme" for all the workshop participants. The same could be extended to other field and diagnostic laboratory personnel in the country. In summary, awareness creation is needed among field and laboratory

- personnel. This could be in the form of workshops on disease surveillance and reporting.
2. A disturbing tendency for the participants to solely rely on serological tests for diagnosis of rinderpest was noted. This was exhibited in the choice of samples they have taken in the past and at the time of fieldwork. The teams were poorly equipped to take samples for antigen detection and virus isolation. The fact that a confirmation of a primary diagnosis of RP is made by antigen/ nucleic acid detection and/ or virus isolation was emphasized.
 3. In line with number 2 above, sampling techniques will need to be improved, but for now, it may be necessary to include a laboratory based vet/ technician in every PDS team.
 4. Number 2 above notwithstanding and given that the last vaccination in Dollo Ado was in 1989, Mandera Kenya June 2001 and Somali 1999, all serological positives should be given a serious thought.
 5. Several opportunities exist which PACE Ethiopia can optimize on to carry out RP surveillance in the Somalia region. The opportunities include a good representation of Somali-speaking animal health assistants who were very motivated throughout the training programme and the existence of NGOs with good networks with community animal health workers (CAHWs) such as Save Children Fund (SCF) based at Dollo Ado.

ITINERARY

17.3.2004. Arrived in Addis Ababa in the morning from Khartoum. Visited CAPE office in Addis Ababa and held discussions with Dr. Berhanu Admassu the country CAPE Coordinator, later met Dr. Sileshi Zewdie, PACE Ethiopia Coordinator/ Director of Veterinary Services in his office. Was informed of the change of training venue from Jijiga to Dollo Ado and the reasons thereof. The following work itinerary was agreed upon.

18.3.2004- Depart Addis Ababa for Dollo Ado by road (total distance 1000 KM) and night stop at Negele

19.3.2004- Do the final leg to Negele

20-22.3.2004- Conduct theoretical PDS training in Dollo Ado

23-26.3.2004- Conduct field PDS practice in selected areas

27.3.2004- Depart Dollo Ado for Awassa

28.3.2004- Do the final leg of the journey to Addis Ababa

29.3.2004- Debrief Dr. Sileshi and later depart for Nairobi

It was however not possible to leave Addis on the 18.3.2004 as per the above work-plan because transport was not ready until late in the evening. I therefore left for Negele on the 19.3.2004. This resulted in a reduction in the total number of days allocated to field PDS practical from 4 to 3.

TRAINING HIGHLIGHTS

Examples of failed projects in Ethiopia and the reasons for failure

1. SERP- lacked sustainability
2. South Gode Farming and Re-settlement Project
 - Was forced and imposed
 - There was no consultation
 - No ownership
 - Resources were mismanaged
 - There was political instability at the time
 - Lack of professional skills
3. Dairy Goat (Bale) / Farm Africa Dairy Goat project
 - The community was not adequately consulted
 - Project was introducing inappropriate technologies to the community
4. Cow traction/ ploughing project in Central Highlands
Was in the interest of researchers (ILRI and IAR)
The community was not consulted
Against cultural norms- A COW PLOUGHING

SWOT ANALYSIS OF ETHIOPIA'S SURVEILLANCE SYSTEM

<p>STRENGTHS Structure exists Legislation on animal diseases in place Diagnostic labs available up to regional level Some diagnostic capability for RP available at the national level</p>	<p>WEAKNESSES No laboratory diagnostic capacity for RP differentials Low detection of SE cases and therefore under-reporting of the cases Under-utilisation of legal framework Uncontrolled livestock movement Regionalisation of vet services leading to a weak chain of command Late reports from passive reporting Under-reporting from passive reporting Inadequate feedback to data sources The diagnostic capability available at national level is in a different ministry Poor access to remote areas Weak linkages with NGOs/ CAHWS Inadequate support from regional governments No specialized unit for wildlife surveillance in the country- rely on PACE AU-IBAR</p>
<p>OPPORTUNITIES Ministry is being re-structured at the top All cadres of veterinary personnel available in the country Several NGOs working in animal health exist in the country Existence of CAHWS PDS techniques available Currently 21 staff being trained in PDS Regional labs can be strengthened Exchange of information with neighbours Harmonization/ coordination of surveillance with neighbouring countries Existence of wildlife sentinel population</p>	<p>THREATS Insecurity in some areas High mobility of the pastoralists High staff turn-over to greener pastures Unwillingness on the part of pastoralists to have their animals sampled</p>

Using the seven indicators of effective surveillance as a checklist, participants identified the strengths, weaknesses, opportunities and threats associated with each of the 6 surveillance activities one at a time, and were finally merged into one as presented in the table above. The six surveillance activities considered were:

- General disease surveillance and reporting (passive)
- Active disease search using formal surveys and questionnaires
- Outbreak investigation

- Laboratory diagnosis
- Sero-surveillance
- Wildlife surveillance

Key areas requiring strengthening were identified as sensitivity, timeliness and representativeness, and that PDS has a role to play here.



**PDS field practice at Kurawa
(Proportional piling)**



**PDS field practice at kurawa, 80km from Dollo Ado
(Semi-structured interviewing)**



An animal being examined for mouth lesions at kajama, 60 km from dollo ado and about 5 km from the Kenya Ethiopian border.

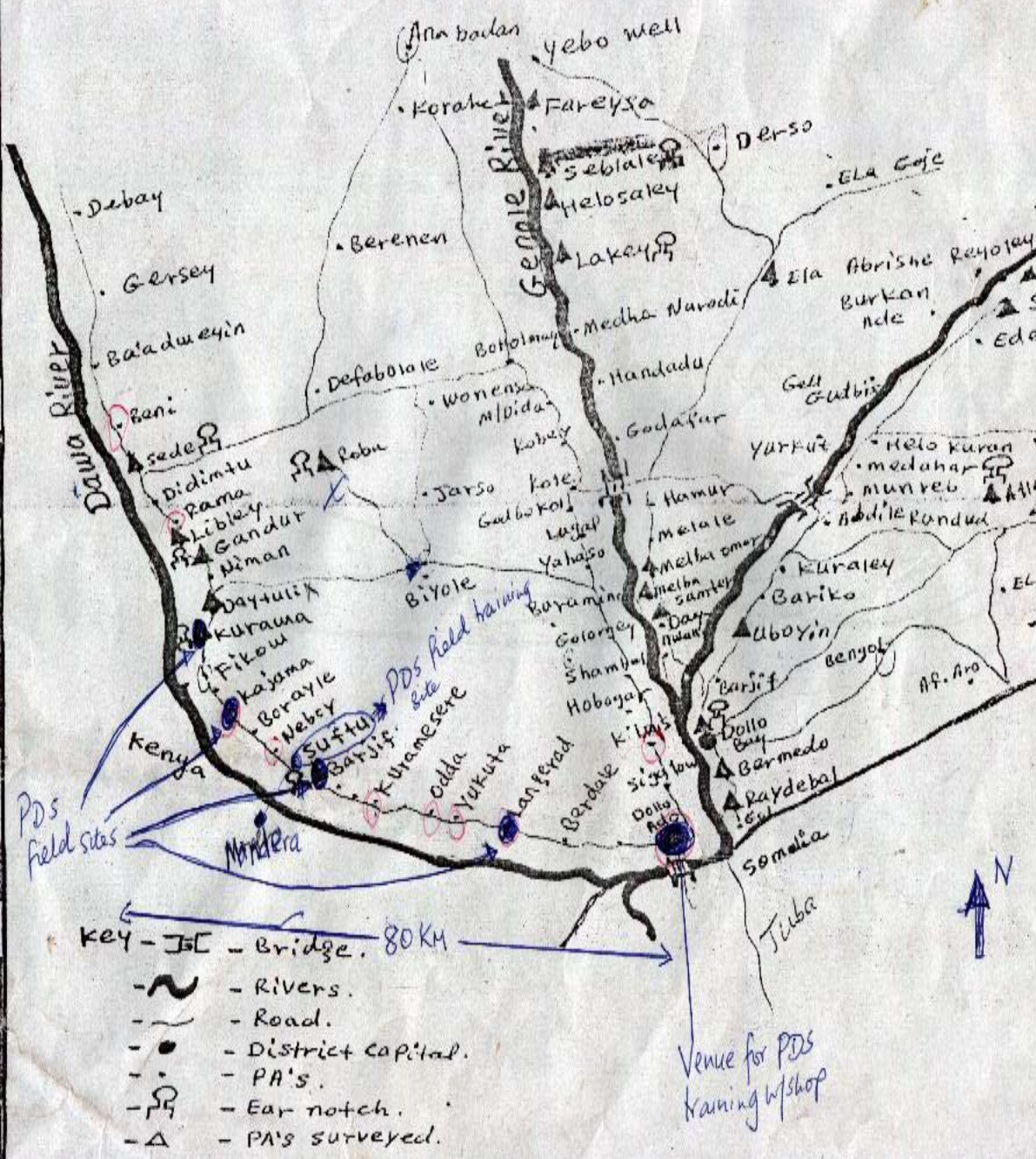


A 1-2 year old animal with bilateral lacrimation at Kajama.

(NH)

Map of Dolobay and Dolo ado

Fig. 1 - Figure of Dolo Ado and Dolo Bay districts of Somali Regional State.



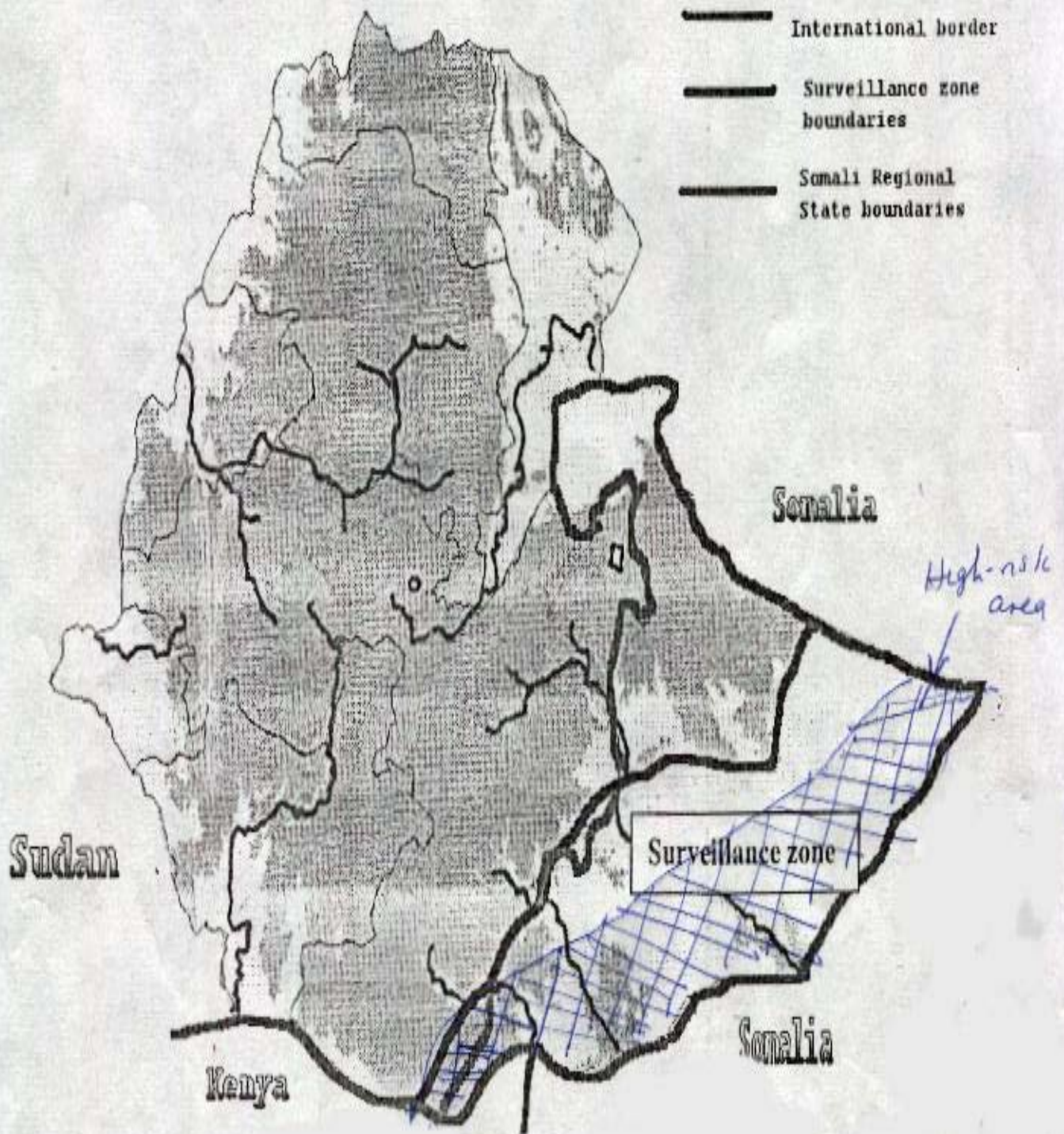
key - [Symbol] - Bridge. 80 KM

- [Wavy line] - Rivers.
- [Dashed line] - Road.
- [Solid circle] - District Capital.
- [Solid dot] - PA's.
- [Square with dot] - Ear notch.
- [Triangle] - PA's surveyed.

Venue for PDS training workshop

Map 2: Provisional surveillance zone as of January 01, 2004

RP- High-risk areas - Ethiopia



TIME-TABLE FOR PDS TRAINING CARRIED OUT AT DOLLO ADO: 21-26TH MARCH 2004

Day 1	7.30- 8.00 am	Welcome, training objectives and introduction
	8.00- 8.30 am	Expectations and fears
	8.30- 10.00 am	Community participation and why participation is important
	10.00- 10.30 am	Coffee/ tea break
	10.30- 12.00	Different types of participation
	12.00- 4.00 pm	Lunch break/ 'heat rest'
	4.00- 5.00 pm	Introduction to participatory methods
	5.00- 5.15 pm	Coffee/ tea break
	5.00- 6.00 pm	Participatory methods continued
Day 2	7.00- 9.00 am	Attitudes and behavior for participatory epidemiology
	9.00- 10.00 am	Non-verbal communication
	10.00- 10.30 am	Coffee/ tea break
	10.30- 12.00	Managing ourselves and managing groups and giving clear instructions
	12.00- 4.00 pm	Lunch break/ 'heat rest'
	4.00- 4.30 pm	PDS in relation to national surveillance needs: national RP eradication strategy
	4.30- 5.00 pm	PDS in relation to national surveillance needs: Analyzing the current surveillance system
	5.00- 5.15 pm	Coffee/ tea break
	5.15- 6.00 pm	PDS in relation to national surveillance needs: Analyzing the current surveillance system
Day 3	7.00- 9.00 am	PDS and the concept of veterinary detective
	9.00- 10.00 am	Methods for participatory epidemiology
	10.00- 10.30 am	Coffee/ tea break
	10.30- 12.00	Specific methods for PDS: SSI
	12.00- 4.00 pm	Lunch break/ 'heat rest'
	4.00- 5.00 pm	Specific methods for PDS: participatory mapping
	5.00- 5.15 pm	Coffee/ tea break
	5.15- 6.00 pm	Specific methods for PDS: proportional piling
Day 4	5.00 - 11.00 am	Field work
	11.00- 4.00 pm	Lunch break/ preparation of field work for presentation
	4.00- 6.00 pm	Presentation and discussion of field work
Day 5	5.00 - 11.00 am	Field work
	11.00- 4.00 pm	Lunch break/ preparation of field work for presentation
	4.00- 6.00 pm	Presentation and discussion of field work
Day 6	5.00 - 11.00 am	Field work
	11.00- 4.00 pm	Lunch break/ preparation of field work for presentation
	4.00- 8.00 pm	Presentation and discussion of field work and WAY FORWARD + CLOSING OF WORKSHOP
Day 7	5.00 am	Departure for Addis

READING MATERIAL GIVEN

1. Methods on the Move: A review of veterinary uses of participatory approaches and methods focusing on experiences in dryland Africa
2. Manual on Participatory Epidemiology: Methods for the collection of action-oriented epidemiological intelligence (FAO Manual)
3. Handouts
 - Why is participation important?
 - Seven types of participation
 - Notes on attitudes and behaviour in participatory epidemiology
 - Participatory epidemiology and participatory disease searching: what is the difference?
 - A methodology for rinderpest participatory disease searching
 - Participatory disease searching versus surveys: what is the difference?
 - Triangulation in participatory disease searching
 - Working as a team when using participatory methods
 - Indicators of effective surveillance
 - Summary guidelines for semi-structured interviews
 - Participatory mapping
 - Proportional piling

REFERENCES

1. Recommended procedures for disease and serological surveillance as part of the global rinderpest eradication program (GREP)- FAO-IAEA manual