

Training Course for Participatory Epidemiology Trainers



January 25-29, 2010

Lomé, Togo

Participatory Epidemiology Network for Animal and Public Health
(PENAPH)

Table of Contents

Table of Contents	2
Acronyms.....	4
Acknowledgements	4
Programme.....	5
Executive Summary	7
Day one.....	8
1.1 Welcome and introductions.....	8
1.2 Objectives of the training workshop.....	8
1.3 Ground rules, time keeper and team leader.....	8
1.4 Expectations and fears	9
1.5 Previous training experiences.	9
1.6 Adult learning.....	9
Day two.....	14
2.1 Planning a PE training course.....	14
2.2 Giving and providing feed back.....	18
2.3 Planning for a PE training course: didactical materials.....	19
2.4 Distribution of practical exercises during TOT	20
2.5. PE study design	20
2.6 Data analysis	22
Day three	24
3.1 PE Tools presentation	24
3.1.5 Proportional piling	30
3.1.6 Participatory mapping	31
Day four	32
4.1 PE tools (continued)	32
4.1.1 Pair wise ranking.....	32
4.1.2 Matrix scoring.....	33
4.1.3 Proportional piling for morbidity and mortality	34
4.1.4 Disease Impact Matrix Scoring (DIMS)	35
4.1.5 Timeline	36
4.1.6 Seasonal calendar	37
4.1.7 Transect walk.....	38
Day five.....	39
5.1 PE tools (continued).....	39
5.1.1 Surveillance and surveillance system	39
5.2 Writing a training course report	41
5.3 Monitoring and evaluation of a PE training and field work.....	41
5.4 Action plans – personal, organizational, projects.....	42
5.5 Evaluation of training.....	44

5.6 Closing of TOT workshop	44
Lessons learnt & recommendations.....	44
Annex 1 – List of participants	46
Annex 2 – Energizers	48
Annex 3 – Examples PE studies	49
Annex 4 – Report writing.....	54
Annex 5 – EDRSAIA trainee evaluation form.....	55
Annex 6 – Mood meter results.....	57
Annex 7 – TOT course evaluation.....	59

Acronyms

ASF	African swine fever
AI	Avian Influenza
DIMS	Disease Impact Matrix Scoring
FMD	Foot and Mouth Disease
HPAI	Highly Pathogenic Avian Influenza
ILRI	International Livestock Research Institute
M&E	Monitoring and Evaluation
MS	Matrix Scoring
ND	Newcastle Disease
PA	Participatory Appraisal
PDS	Participatory Disease Surveillance
PE	Participatory Epidemiology
PP	Proportional Piling
PPMM	Proportional Piling to assess Morbidity and Mortality
PPR	Peste des Petits des Ruminants
PWR	Pair Wise Ranking
TOT	Training of Trainers
RVF	Rift Valley Fever
SC	Seasonal Calendar
SPINAP	Support Program for Integrated National Action Plans on Avian & Human Influenza
SR	Simple Ranking
TW	Transect Walk

Acknowledgements

We would like to express our gratitude to all stakeholders who have contributed to the success of the training course. In particular we thank Phyllis Namukula and Cyrille Pissang for the logistical arrangements.

We also thank all the trainees for attending and actively participating in all sessions and taking extra responsibility to ensure smooth running of the course.

Author of this report

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Programme

Time	Topic	Time
Day One		
8.30 – 10.30	Opening & Introductions Course objectives, timetable & ground rules Expectations and fears Share questionnaire on training experiences	40' 25' 30' 25'
10.30 – 11.00	Break	
11.00 – 13.00	Principles of adult learning	120'
13.00 – 14.00	Lunch	
14.00 – 15.30	Principles of adult learning (continued)	90'
15.30 – 16.00	Break	
16.00 – 17.00	Participatory training methods, training in practical techniques	60'
Day Two		
8.00 – 10.00	Review day 1 Planning a training course Giving feed back	15' 60' 45'
10.00 – 10.30	Break	
10.30 – 12.30	Preparing for training: training session plans, training materials and handouts Distribution of practical exercises during TOT	90' 30'
12.30 – 13.30	Lunch	
13.30 – 15.00	PE study design: objectives, hypothesis, checklist, choice of tools, study area, informants, secondary data, complementary tools	90'
15.00 – 15.30	Break	
15.30 – 16.30	Data analysis	60'
Day Three		
8.00 – 10.00	Review day 2 Introduction to PE Feed back Existing veterinary knowledge Feed back	15' 50' 15' 30' 10'
10.00 – 10.30	Break	
10.30 – 12.30	SSI and checklist Feed back	100' 20'
12.30 – 13.30	Lunch	
13.30 – 15.00	Simple ranking Feed back Proportional piling Feed back	30' 10' 40' 10'
15.00 – 15.30	Break	
15.30 – 16.30	Mapping Feed back	50' 10'

Day Four		
8.00 – 10.00	Review day 3 Pair-wise ranking Feed back Proportional piling to assess morbidity and mortality Feed back	10' 30' 10' 60' 10'
10.00 – 10.30	Break	
10.30 – 12.30	Timeline Feed back Matrix scoring Feed back	30' 10' 70' 10'
12.30 – 13.30	Lunch	
13.30 – 15.00	Disease Impact Matrix Scoring (DIMS) Feed back	80' 10'
15.00 – 15.30	Break	
15.30 – 16.30	Seasonal calendar Feed back	45' 15'
Day Five		
8.00 – 10.00	Review day 4 Transect walk Feed back Surveillance and surveillance systems Feed back	10' 30' 15' 50' 15'
10.00 – 10.30	Break	
10.30 – 12.30	Training course report Monitoring and evaluation of training and field work: methods, experiences	60' 60'
12.30 – 13.30	Lunch	
13.30 – 14.30	Action plans – personal, organizational, projects Evaluation and closing	30' 30'

Executive Summary

During the past 2 years, ILRI has coordinated the project entitled Early Detection Reporting and Surveillance - Avian Influenza in Africa (EDRSAIA). EDRSAIA is funded by USAID and implemented by ILRI in partnership with AU-IBAR, VSF Belgium and VETAID, and in coordination with other key implementing partners such as FAO. It is implemented in selected countries of East, West and Southern Africa. The overall goal of the project is to increase the capacity of veterinary services in practical, community-focused active surveillance methods such as participatory disease surveillance (PDS).

ILRI encourages sustainability of PE/PDS within the existing national animal disease surveillance systems. It has therefore trained more than 100 veterinarians in PDS. Upon request of the decision makers involved in the EDRSAIA project, the Participatory Epidemiology Network for Animal and Public Health (PENAPH) financially supported this training of trainers for professionals trained under the EDRSAIA project in Francophone project countries in West Africa. This was the first training for trainers in PE to be conducted for Francophone countries in West Africa.

The main training objectives were:

1. Describe the basic principles of adult learning and apply them to training programs.
2. Describe the key elements that define Participatory Epidemiology (PE) and Participatory Disease Surveillance (PDS).
3. Design, plan and implement PE training, including:
 - Training in the development and testing of a PE hypothesis.
 - Training in the development of a PE checklist.
 - Training in the use of PE tools such as semi-structured interviews, ranking techniques and visualisation techniques.
 - Action plan and field monitoring for trainees.
4. Record and analyse information received and understand ways to use this information at different levels.
5. Understand the roles, benefits and limitations of PE/PDS in disease surveillance and research.

The training course was successful and met all the above objectives despite the loaded agenda. As for the next steps, although neither PENAPH or ILRI has currently funding to conduct further training at national level, the participants were requested to inform ILRI about the possible training courses to ensure that PE trainers can support the training course and ensure that the trainers work towards achieving the PE trainers' certificate.

This report documents in chronological order the training of trainers in PE that was conducted in Lomé, Togo 25-29 January 2010 with participants from Benin, Burkina Faso, Côte d'Ivoire and Togo.

Day one

1.1 Welcome and introductions

Cyrille Pissang opened the training course on behalf of the Ministry of Agriculture, Livestock and Fisheries whose representatives could not be present due to other commitments. After that, the participants were asked to talk to their neighbor and introduce him or her to the group by answering the following questions:

- Name of the person
- Country of origin
- What does he/she like and dislike?

In total there were 11 participants from 4 countries: Benin, Burkina Faso, Côte d'Ivoire and Togo. There was one observer, Prof Belem from the Institute of Rural Development in Bobo Dioulasso, Burkina Faso. There were 3 facilitators and a translator. There was only one female participant from Benin. For the list of participants see Annex 1

1.2 Objectives of the training workshop

By the end of the workshop, the participants will be able to:

1. Describe the basic principles of adult learning and apply them to training programs.
2. Describe the key elements that define Participatory Epidemiology (PE) and Participatory Disease Surveillance (PDS).
3. Design, plan and implement PE training, including:
 - Training in the development and testing of a PE hypothesis.
 - Training in the development of a PE checklist.
 - Training in the use of PE tools such as semi-structured interviews, ranking techniques and visualisation techniques.
 - Action plan and field monitoring for trainees.
4. Record and analyse information received and understand ways to use this information at different levels.
5. Understand the roles, benefits and limitations of PE/PDS in disease surveillance and research and be able to apply facilitation techniques with decision makers and donors to support its use.

1.3 Ground rules, time keeper and team leader

What should we consider in order to run a good workshop without interruption?

1. Punctuality
2. Phones on silent mode
3. Participation from all participants
4. Respect opinions
5. No side talks
6. Be concise during an intervention

If the rules are broken, the person should sing or dance, speak in English.

Prof Belem was selected as team leader.

1.4 Expectations and fears

Expectations: What are you hoping to achieve from this five day TOT course in Lomé?

Fears: What fears do you have about this five day TOT course in Lomé?

The participants were asked to work in pairs and come up with no more than 2 expectations and 2 fears. These were all discussed in plenary. Below the answers.

Expectations	Fears
To acquire needed skills to be effective in the field	Follow up of resolutions made by this group
Improvement of skills	Lack of funding to ensure proper follow up activities to this training course
Further improve and consolidate the ideas about PE tools (2x)	No field activities
Better understand the approaches in function different audiences	Follow up after this training course (4x)
To be able to facilitate training course	Newly trained trainers are not able to train in respective countries
To learn more about PE network	The trainers are not good enough
Be active in the PENAPH network.	Time is too short
	No certificate after training course

1.5 Previous training experiences.

The participants were asked to fill a form outlining their previous experience as trainers and their understanding of English. The level of expertise varied from no training experience at all up to more than 15 years of teaching experience. The knowledge of English was reasonable which allowed for some sessions to be conducted in English without having to translate everything. The results questionnaires can be obtained from the authors of this report.

1.6 Adult learning

By Purvi

Definition of Adult Learning: "Adult Education is an intervention into the ordinary business of life--an intervention whose immediate goal is change, in knowledge or in competence. An adult educator is one, essentially, who is skilled at making such interventions."

Courtney, S. (1989). *Handbook of Adult and Continuing Education*.

Andragogy is the art and science of helping adults learns; **Pedagogy** is a term used for education of children. The following table summarizes the basic differences between traditional pedagogy and andragogy.

Table 1 Differences between pedagogy and Andragogy

	Pedagogy	Andragogy
Self Concept	Dependence	Independence/ self Direction

Organization Design	Bureaucracy	Reduced hierarchy, Team based, high performance
Organization Goals	Slow-changing, Highly structured	Fast-changing, Dynamic
Organization Climate	Authority-oriented Formal/closed Competitive	Respect-oriented Informal/open Collaborative
Preconceived Notions about the topic	Rare/does not matter	Very High- Matters a lot
Background (age, level of understanding, culture)	Almost similar	Diverse
Level of skepticism towards the instructor	Low	High
Purpose of intervention	Orientation, Instruction, Acquisition of knowledge	Change, Development, Up gradation of knowledge
Evaluation of the Process	One sided (testing the student)	Two Way Process (evaluating the process and the trainer)

Key Principles of Adult Learning-

- Active Learning;
- Critical and reflective thinking, shared visioning;
- Simulations through Team learning, case studies, role playing, etc;
- On the job experience;
- New information;
- Interpretation, practice, adaptation, and integration;
- Experiential learning such as creative thinking, improvisation in courses, etc.

Responding to the Adult Learner’s needs the Adult Educator (trainer) has to keep the following factors in mind while developing and disseminating training:

Educators must remember that learning occurs within each individual as a *continual process throughout life*. People learn at different speeds, so it is natural for them to be anxious or nervous when faced with a learning situation. Positive reinforcement by the instructor can enhance learning, as can proper timing of the instruction.

Learning results from stimulation of the senses. In some people, one sense is used more than others to learn or recall information. Instructors should present materials that stimulate as many senses as possible in order to increase their chances of teaching success. There are four critical elements of learning that must be addressed to ensure that participants learn. These elements are:

- *Motivation*: The best way to motivate adult learners is simply to *enhance* their reasons for enrolling and *decrease* the barriers.

- *Reinforcement*: Reinforcement is a very necessary part of the teaching/learning process; through it, instructors encourage correct modes of behavior and performance.
- *Retention*: In order for participants to retain the information taught, they must see a meaning or purpose for that information. They must also understand and be able to interpret and apply the information.
- *Transference*: it is the ability to use the information taught in the course but in a new setting. Transference is most likely to occur in the following situations:
 - *Association* -- participants can associate the new information with something that they already know.
 - *Similarity* -- the information is similar to material that participants already know; that is, it revisits a logical framework or pattern.
 - *Degree of original learning* -- participant's degree of original learning was high.
 - *Critical attribute element* -- the information learned contains elements that are extremely beneficial (critical) on the job.

Group work:

Group-1 (Development): What are the factors you will keep in mind while designing an adult learning/training course.

Group-2 (Delivery): What are the elements you will keep in mind while delivering a training course for adults.

Key Training/Leadership Styles-

Directive: The facilitator provides instructions about “what” and “how” goals and tasks are accomplished. At the end supervises the individual’s performance.

Supportive: The leader listens, encourages and facilitates self-reliant learning.

Directive Leader instructs... Supportive Leader Facilitates...

Exercise: Recognize the directive & supportive leader. What kind of leader are you?

Different Styles/Attitude of a Learner-

Active Learner – Activists involve themselves fully and without bias in new experiences. They tend to act first and consider the consequences afterwards.

Reflective Learner – Reflectors like to stand back to ponder experiences and observe them from many different perspectives. Their philosophy is to be cautious.

Theorizing Learner – Theorists adapt and integrate observations into complex but logically sound theories. They assimilate disparate facts into coherent theories.

Experimental Learner – Experimental learners or pragmatists are keen on trying out ideas, theories and techniques to see if they work in practice.

Different Reasons to be a Learner...

Social – to make new associations or friends

External Expectations – to comply with instructions/recommendations from a formal authority

Social Welfare – to serve the community better, improve ability to serve

Personal Advancement – Achieve higher status in job, secure professional advancement and stay abreast of competitors

Escape/Stimulation – to relive boredom, break from routine

Cognitive Interest – to learn for the sake of learning

Role play number 1:

A- Trainer

B- Head of Vet Services - some one who knows PE very well...

C- Agronomist who knows nothing about PE

A explains B and C, individually, how PE works in his country...

Role play number 2:

Explain the purpose and advantage of this workshop to a political leader in your country

Effective Teaching Styles for Adults

- Adult Learning is a Two way process.
- Trainer Plays a Leadership Role...Trainees as Peers...
- Keep changing styles...
- Encourage understanding not memorizing
- Make it possible for learner to use their own style of learning..
- Create a respectful environment
- Provide Opportunities for Interaction-experience sharing
- Learn - not just *Teach*
- Listen - not just *Speak*
- Make decisions on topics, time, space participatory
- Be sensitive to cultural issues
- Constantly motivate participants to learn and listen

Group work:

Group 1: List out Characteristics of a Good Trainer...

Group 2: List of Characteristics of a Good Training program...

Body language – do's and don'ts

The body language of a trainer is very important; it can make or break the training.

Table 2 Issues to take into account:

Do's

Entry does it all – use it!
Introducing self or being introduced
Posture- confident yet partnering
Scanning through the audience
Capture the audience 'piece by piece'
Be humble- but to a limit
Be natural (language, pronunciations)

Don'ts

Stick in the hand
Pointing fingers at the trainees
Facing the board

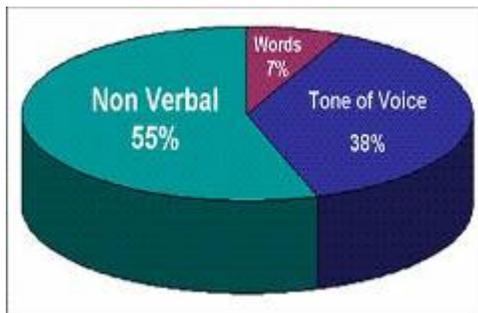
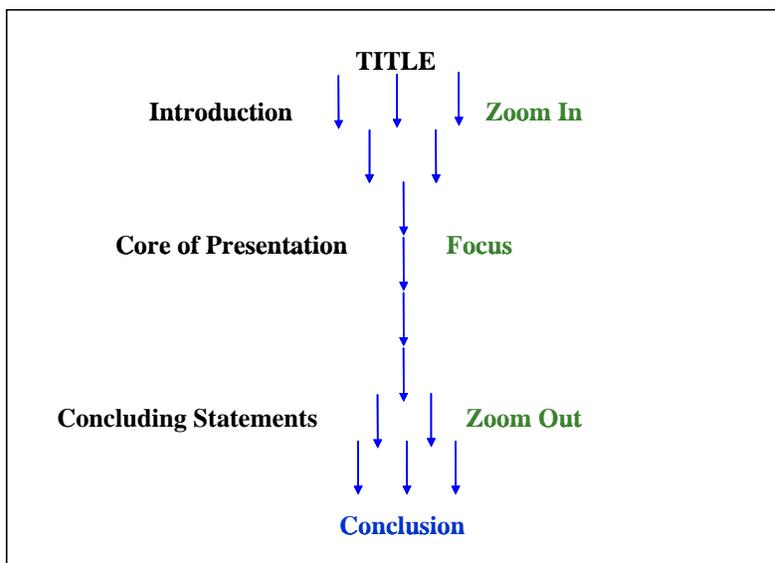


Figure 1: Importance of body language

Presentation skills

Important issues when presenting

- Natural style
- Diction
- Eye expression
- Posture and gesture, hand expression
- Involving the audience
- Knowledge of subject
- Looks (personality, dress, appearance)
- Visual aids



Structure of the presentation

1. Title
2. *Zoom in*: Introduction
3. *Focus*: Core of Presentation
4. *Zoom out*: Concluding Statements
5. Conclusion

“ Dites leur ce que vous allez leur dire, Puis dites le leur et enfin dites leur ce que vous leur avez dit”!

Day two

Review day 1

2.1 Planning a PE training course

By Saskia

By the end of the session, the participants should be able to understand the importance of considering different issues regarding the organization of a training course.

Advance preparation and planning will help the training run smoothly and improve the outcome because both the facilitators and the participants will be more relaxed. Participatory training is as much about changing attitudes and behaviors as it is about learning new skills. Relaxed participants are positive and will be more likely to interact in a participatory manner with the facilitators.

Preparations for training will vary in different regions because of differences in governance and culture. In some areas, close coordination with government agencies will be essential while in others this may not be as important. Other issues of local culture, including providing time during the day for activities such as daily prayer or having specific kinds of foods available, should also be taken into account. The planners should be fully aware of these issues and involve a number of local stakeholders in the planning process. Any training reports that have been written for the region should be reviewed by planners and facilitators in advance of the training. This may provide insight to local issues that may arise during the training and prevent the repeat of previous mistakes.

The following chapter will guide the preparation phase of a PE training program. Topics covered are broken into the following categories:

- Program Assessment and Participant Selection
- Budgeting and Logistics
- Course and Session Content
- Field Practice

Program Assessment and Participant Selection

Defining program objectives – A PE training should occur at the beginning of a field study or during the development of a PDS surveillance system. The first step in preparing the PE training is to understand the overall objective of the field investigations that the graduates of the training will be required to conduct. There is often a reason that a PE training is proposed at a certain time in a specific area. It may be a reaction on the part of government agencies, international donors, NGOs, or other stakeholders to a new disease outbreak of economic or zoonotic importance, a suspected change in disease incidence, or the recognition of a weakness

in an existing surveillance system. Program objectives should be clearly defined before preparation of the training proceeds

Assessment of program needs – After defining the object, the current capacity of the surveillance and epidemiology program of the region should be assessed. Planners should determine if there is truly a need for PE training and if other groups or organizations are already working in this field in the area. How will PE fit into the current system?

Planning with decision makers – Key decision makers must be aware of the program that is being proposed and fully briefed on the principles, benefits and weaknesses of PE. A meeting or workshop should be held to reach consensus on how the training will benefit the overall surveillance and epidemiology program in the area. Buy in from key decision makers helps ensure sustainability and financial support for future PE activities. Decision makers should be involved in planning the training program to the extent that is appropriate for the circumstances.

Selection of trainees – Decision makers meetings should also involve a discussion on the selection criteria for the trainees and the optimum number of participants. There should be consensus on who will make the final selection of participants. It is recommended to have a maximum of 15 to 20 participants but the program budget may limit this. Having a larger group causes certain individuals to be reluctant to participate and a larger group will limit the effectiveness of the training. PE investigators are often required to work in remote places and interact closely with livestock keepers. Participants should be selected who are familiar with fieldwork and can use the techniques in their daily activities. Participative training techniques require trainees to be responsible for their own learning and invest time and effort into the training. This will be more likely to occur if the participants can see the how PE will be useful in their work. Other considerations, such as gender, education level, and experience should also be taken into account during the selection process.

Facilitators – Although it is possible for one trainer to manage 15 to 20 participants, having two trainers, especially if they have different training styles, can help to keep the training lively and interesting for the participants. A third person working to handle administration and logistics, especially those related to field practice, computing and projecting, payments of per diem, and meals and accommodation, will help the program run smoothly. Local facilitators are ideal so that they are familiar with the language and culture of the area. If there are no local facilitators trained and available outside facilitators should be used but it must be determined in advance if translation will be required.

Assessment of training needs – Facilitators should become familiar with the background of the trainees in advance of the training, if possible. For example, are the participants veterinarians? Do they have knowledge and experience in epidemiology and disease surveillance? Do they have knowledge and experience of participatory approaches? Having this insight will help guide program and session planning and determine the depth to which certain topics may be explored. A participant questionnaire may be administered on the first day of training to gain more specific insight into their knowledge and experience (see Chapter 4a) and facilitators will quickly learn about the personalities and knowledge of the individuals as the training progresses.

Budgeting and Logistics

Budget – Many of the details of the training will be determined based on the available budget. It is important to realize that a PE training course is more than a 10-day introductory course. It also includes a minimum of 20 field days followed by a refresher course.

Issues to consider are the number of participants and the length of the training program but also specific details such as the venue, refreshments, transportation, accommodation and materials and equipment.

Length of training course – Experience has shown that about ten days is the optimum length for an introductory PE training and this length is the basis for this training manual. Other considerations, however, such as the availability of participants and the program budget should be taken into account. Participatory training methods are recognized to be extremely effective, especially for adult education, but they also take a significant amount of time. As mentioned, Learning PE methods goes beyond simply learning a set of skills and requires a change in attitudes and behaviour. Enough time should be allotted for participants to practice with guidance. In addition to the overall length of the program, facilitators and planners should also decide if the training will be continuous or include a break. How long should this break be? Factors such as distance travelled and time spent away from family and regular work duties should be taken into consideration.

Location and Training Venue – The training should be held in an area with relatively easy access to livestock keepers for fieldwork practice. Ideally, it should be the same or a similar region to the area where the PE activities will be conducted. The training venue should be comfortable and away from distractions such as participants' offices or government headquarters. The training center should be well-equipped with a flexible room so that chairs and tables can be moved around and participants can spread out for group practice sessions. There should be blackboards or whiteboards, flipcharts, projectors and plenty of wall space to display ground rules, expectations and fears and various examples of other PE tools as they emerge during the training.

Seating plans – The seating arrangement during the training can affect the level of communication and participation. A strict arrangement of tables and chairs may be desirable during a formal opening or closing ceremony but for the majority of the training, chairs should be arranged without tables in a U or open circle arrangement. This places the participants at the same distance from each other and there are no barriers between trainer and participants.

Invitations – Formal invitations to the training should be sent in good time and include objectives, agenda, and venue for the training. A request should be made to RSVP the training so that replacement participants can be invited in case of any regrets.

Course and Session Content

Training course agenda – Detailed content of the training agenda will be discussed in the next session.

Field Practice

Field practice is a very important component of the training course. Participants need plenty of time with “real informants” in order to practice the skills learned in the classroom and develop the capacity to adapt methods to suit particular situations. Field practice sessions need to be planned well in advance. Each group of 3-5 trainees needs enough villages/groups of people to practice interviewing and use of PE tools during 4-5 field practice sessions. This is likely to require planning with local leaders before the training course to ensure that livestock keepers are informed in advance and the interview is at a convenient time for them. The timing for practical work should fit with the livestock keepers’ availability. Adequate transport should be organised.

The biggest challenge to setting up fieldwork is handling the livestock keepers’ expectations after spending their time with the trainees. If the PE training fits into a larger animal health program that will be conducted in the area, the livestock keepers should be told about the program and what it will involve. The training may even be used as a starting point from which to launch the program. Often, however, the PE training will be a one-time event for the area where the training is conducted. In this case, the field practice coordinators need to be very honest with the livestock keepers and let them know not to expect any material goods such as vaccines or medicines after the training session. Some may choose not to participate after knowing this, which is fine. Local animal health workers should be included in the planning of fieldwork and may also accompany the trainees to the field. In this case, the worker may be able to address the issues that are brought out during the practice session.

Planning for the field practice – The following should be addressed in advance of the field practice session:

- Consultation with local authority leaders on where and when the field practice will take place and permission to work in the area
- Background information on the livestock and management practices in the area to be sure they fit with program objectives
- Identification of a focal person to link and coordinate the training team with the local community (perhaps a local animal health worker)
- Meeting sites identified keeping in mind the possibility of inclement weather
- Timing of fieldwork should be convenient for the livestock keepers
- Official documentation of the field practice session including the number of interviews per day, number of practical days during the training workshop, number of participants [interviewees] expected per interview (5-15), number of interviewers per group (3-5) and sites of the meetings
- Transportation arrangements for participants
- Preparation of refreshments, equipment, and stationary for field work
- Last minute confirmation with communities to make sure they are ready to welcome participants. This should be done in person 1-2 days before the fieldwork session.

On the day of the field practice – The following should be addressed the day of the field practice session:

- Field practice focal person and trainers should brief the trainees on the situation in the field (number of informants to expect, what informants have been told about the fieldwork, etc), amount of time allotted for fieldwork, and what is expected of them after the fieldwork is completed
- Discussion on professional and culturally sensitive conduct in the field (including smoking, use of cell phones and digital cameras, etc)
- Trainees should be broken up into groups of 3-5 people and roles assigned (who will be the interviewer, who will be the data recorder, which tools will be used and who will explain them to informants and conduct them in the field)
- Each group should be accompanied by a facilitator or focal point
- Refreshments, equipment and materials gathered
- Transportation confirmed and driver briefed on behaviour during field practical

After the field practice – The following should be addressed after the field practice session:

- Each group should prepare a short presentation on the results of their fieldwork. This may include:
 1. Group members and their roles
 2. Tools used
 3. Self-assessment (what went well, what went wrong, what could be improved next time)
- Facilitators and focal points should give feedback on observations in the field

2.2 Giving and providing feed back

By Purvi

Why?

- Self Evaluation of the Trainer
 - Evaluation of the process (material, slides, timing, overall environment)
- Self Reflections Trainees
 - What did I learn?
 - Did it meet my expectations?
 - Was my investment of time worth it?

When?



There are different ways of continuous feed back during an adult learning session. Many of them we have already used in the past day and half. Some ideas:

- Expression- scanning of audience
- ‘Let me know what you think’ ...
- Informal interactions at breaks/during role plays

- Feedback embedded in role plays/exercises

Methods for mid – level evaluation:

- Reflections from previous day
- Mood meter
- What I liked in day-1 and what I did not
- Mid-level evaluation forms

Methods for final evaluation

- Discussions
- Mood meter
- Evaluation forms
- Role Plays

Training evaluation:

- Forms
- Informal (one-on-one feedback)
- Discussion/feedback valedictory session

And remember: feed back should always be honest, constructive and respectful. The advice should be taken into account to further improve ourselves and our training course.

2.3 Planning for a PE training course: didactical materials

By Cyrille

Introduction

- A good training session is planned ahead
- Practice before
- Each session should combine: “Seeing, hearing & doing”
- A session breaks down to the following :
 - Objective
 - Session plan,
 - Material need
 - Complementary/support tools

Objectives

- What are the results at the end of the session?
- What will we be able to achieve at the end of the session?

Planning the session

- Time management
- Identify the methods/ the approaches
 - Theory presentation
 - Discussion
 - Work group
 - Brainstorming

- Role play
- Case study

Please see Annex 2 for an overview of different energizers.

What materials and equipment are needed? A PE training course does not require specialized equipment.

Complementary tools

- They are used to
 - Illustrate the content of the session
 - Motivate learning
 - Help in having reference at any time
- Examples:
 - *Papers: brochures, handouts, books*
 - *Electronic: CD, USB flash disc, videos*

2.4 Distribution of practical exercises during TOT

Table 4 Task distribution for training practice

Topic and facilitator	Topic and facilitator
Introduction to PE by Nestor	Existing veterinary knowledge by Belem
SSI and checklist by Marcel	Simple Ranking by Privat
Proportional Piling by Karamatou	Mapping by Steed
Pair Wise Ranking by Samuel	Matrix scoring by Ouatt
Time line by Dao	Transect walk by Da
Proportional Piling for morbidity and mortality by Karamatou	Disease Impact Matrix Scoring by Cyrille & Saskia
Surveillance and surveillance system by Guy	Seasonal Calendar by TchouTchou

2.5. PE study design

By Cyrille

Introduction

- PE is the use of an approach to find solutions to concerns/problems,
- The practitioner makes a choice of adequate tools to collect the maximum of information,
- Any use or practice of PE/PDS is a study

There are different steps to follow:

- Topic/subject
- Objectives
- Hypothesis
- **Case definition**
- **Check list**

- **Choice of tools**
- Study area/ secondary data
- Sampling
- Key persons/ Informants
- *Report plan*

The steps were discussed in more detail in a very interactive way.

Topic/subject:

- What is it what we want to study
- The subject of the study ◊ the reason/ object
 - Example 1: « *Prevalence of haemorrhagic septicaemia in North Togo* ».
 - Example 2: « *Incidence of PPR for the cattle in the regions of Oueme and Plateaux* »

Objectives:

- What is the interest for the study?
- What problem will the study solve?
- At the end of the study what will be the benefit?

Hypothesis:

- Assumption based on observation or reflexion
- In PE hypothesis can change/ can be readapted during the study,

Examples:

- Hemorrhagic septicaemia is one of the most harmful diseases among cattle in the North Togo.
- Avian Influenza still exists among the poultry raised in Togo.

Case definition:

- What is it? “Robot portrait of suspected disease”
- What is the utility?
 - Helps enlarge the field, include false positives,
 - Uniformity of the minimum knowledge,
 - Helps integrating the farmers knowledge
- It can be clinical, necrotic or of lab

Group work: develop a clinical case definition for “Hemorrhagic septicaemia”.

Checklist:

- It is a "reminder"
- It is compared to the « Questionnaire »
- strengths:
 - *Flexible,*
 - *Reminds,*
 - *Helps to discover & learn*
- 2 Types:
 - *Paper checklist*
 - *Mental checklist*

- The questionnaire
- Activity: *work group on the checklist for PPR research in North Benin.*

Choice of tools:

- To each point of the checklist there is one or more appropriate tools
- The choice of tools is based on the types of information/data needed to be collected
- There are tools for :
 - observations
 - ranking
 - description

Area of study/Secondary data:

- Any study starts with a revision of the existing literature on that topic
- It is important to collect basic information on the study area
- Try to find as much as possible previous work on the study area

Where to go – selection of sites:

- In PE/PDS, representation is not only based on the number of sites or participants
- The selection of villages and in PE/PDS is risk based and on rumours
- The quality of the participants is preferable to a large number: gender, minority, minorities...

Key informants:

- Always rely on those having a strong knowledge of the area to make introductions,
- Experiences help people to survive but people do not have the same amount of experience.

Analysis plan:

- The type of analysis needed should influence the data gathering,
- During a PE study, use the same tools for all communities.

Report plan:

The report should follow the different steps outlined above, see also more on this topic on day 5.

2.6 Data analysis

By Saskia

When do we carry out analysis?

- during the interview by cross-checking and probing
- summarizing the interview
- summary report for the village or area
- at central level

Analysis should be a continuous process that happens throughout the interview and afterwards. Continuous cross-checking should be carried out. If necessary the checklist and tools can be updated based on information gathered during earlier interviews so that new leads can be followed and to be open to new information.

Triangulation is carried out:

- between questions and tools used with the same informants
- between questions and tools repeated with multiple informants
- between information collected from interviews and tools with laboratory diagnostics
- between PE findings and secondary information

Information should be examined for levels of agreement or disagreement.

Analysis of simple ranking data

Example: you have conducted 5 interviews with different groups of livestock keepers. In each interview you have asked them what livestock are being kept in their village. Using the list of livestock species they have given you ask them to rank the species in order of importance to their livelihoods.

Group 1 result:	Group 2 result:	Group 3 result:	Group 4 result:	Group 5 result:
1. cow	1. cow	1. goat	1. cow	1. cow
2. goat	2. goat	2. cow	2. goat	2. goat
3. sheep	3. sheep	3. sheep	3. chickens	3. sheep
4. donkey	4. chickens	4. donkeys	4. sheep	4. donkey
5. chickens	5. donkeys	5. chickens	5. donkeys	5. chickens

This data can then be summarized in a table format

Species	Interview					Total	Rank
	1	2	3	4	5		
Cow	1	1	2	1	1	6	1
Goat	2	2	1	2	2	9	2
Sheep	3	3	3	4	3	16	3
Donkey	4	5	4	5	4	22	4
Chickens	5	4	5	3	5	22	4

However if there were a sixth group that gave the following result:

Group 6 result:

1. Cow, 2. Goat, 3. Sheep, 4. Chickens, 5. ducks

Then the data is less easy to analyse.

Species	Interview						Total	Rank ?
	1	2	3	4	5	6		
Cow	1	1	2	1	1	1	7	2?
Goat	2	2	1	2	2	2	11	3?
Sheep	3	3	3	4	3	3	19	4?
Donkey	4	5	4	5	4	-	22	5?
Chickens	5	4	5	3	5	4	26	6?
Ducks						5	5	1?

The final ranking is obviously incorrect.

In this case the original ranks should be converted to scores.

Because the number of species is six the lowest score would be 1 and the highest would be 6. For each interview the species ranked 1 is given a score of 6, species ranked 2 is given a score of 5, 3 = 4, 4=3, 5 = 2, and 6 =1. So using the data in the above table:

	Interview							
Species	1	2	3	4	5	6	Total	Rank
Cow	6	6	5	6	6	6	35	1
Goat	5	5	6	5	5	5	31	2
Sheep	4	4	4	3	4	4	23	3
Donkey	3	2	3	2	3	-	13	5
Chickens	2	3	2	4	2	3	16	4
Ducks	-	-	-	-	-	2	2	6

Analysis of proportional piling data

Example: you have conducted four interviews with four groups of livestock keepers. In each interview you asked them to show the relative importance of different livestock species to their livelihoods by dividing a pile of 100 beans. The results have been put in the table below:

	Interview						
Species	1	2	3	4	Total	Median	Range
Cow	50	40	45	40	175	42.5	40-50
Goat	20	25	20	15	80	20	15-25
Sheep	15	20	20	15	70	17.5	15-20
Donkey	10	10	5	10	35	10	5-10
Chickens	5	5	10	15	35	7.5	5-15
Ducks	0	0	0	5	5	0	0-5
	100	100	100	100			

The median is the middle number. In our case where we have 4 numbers we take the average of numbers 2 and 3. The variation in scoring is captured by also recording the range – the highest and lowest scores.

See Annex 3 for some examples of PE studies.

Day three

3.1 PE Tools presentation

3.1.1 Introduction to Participatory Epidemiology

By Nestor

Objectives

By the end of this session the participants will be able to:

1. Understand the principles of Participatory Epidemiology
2. Describe the evolution ,applications and methods of PE

Participatory approaches

Some definitions:

- **Participation** The empowerment of people to find solutions to their own development challenges
- **Participatory appraisal** – a family of approaches and methods that enable people to present share and analyse their knowledge of life and conditions, to plan and to act. It is participatory, flexible, lightly structured, adaptable, exploratory, empowering and inventive.
- **Epidemiology:** The study of the patterns of diseases in populations.
- **Participatory epidemiology (PE)** is the use of participatory approaches and methods to improve our understanding of the patterns of diseases in populations.
- **Participatory disease surveillance (PDS)** is the application of PE to disease surveillance.

Key principles of participatory approaches:

- *Behaviour and attitude* – listen, learn and respect, be a facilitator not an expert, be prepared to unlearn
- People accumulate a body of knowledge on subjects that are important to their livelihood. Certain individuals have a unique and very valuable perspective on a situation.
- *Co-learning:* sharing of knowledge, experience and analysis; combining local and professional knowledge for effective acceptable action
- *People think and behave rationally* based on the information available to them. If it appears that people are not behaving rationally then we have probably failed to understand some key factor in the situation.
- *Optimal ignorance:* we don't need to know every possible detail of a problem in order to solve the problem
- *Action-oriented* rather than data driven

Evolution of Participatory Epidemiology

1960's → Participatory rural appraisal → participatory epidemiology

Table 5 Quantitative vs Qualitative Epidemiology

• Objective	• Flexible
• Numerical estimates	• Rapid
• Data intensive	• Discovery
• Expensive	• Simple
• Logistically complex	• Sensitive
• Long-time frames	• Subjective
• Difficult to sustain	• Skilled field personnel
• Information gaps	• Analytical challenges

Join Qualitative and Quantitative approaches → Win-Win Combinations

Every epidemiological study has qualitative elements. Whereas statistics measure association, causality is a subjective judgment. Quantitative data gathered should always be interpreted in a context.

When validating data there is a difference among the 2 approaches, in quantitative epidemiology you look into probabilities whereas in qualitative epidemiology there is a weighing of evidence by the researchers or a group of experts in some occasions.

Data Checking and Analysis

The fact that PE is a qualitative method does not imply that no data recording or data analysis takes place. There are several ways in which data is checked and analyzed at different stages of the process of information gathering:

- *Probing* during the semi-structured interview (SSI) for internal consistency of the information provided by the key informants. During the interview the PE practitioner is already conducting an analysis as the hypothesis is evolving, he or she may ask additional questions there were not on the checklist initially.
- *Triangulation* is the analytical process where evidence collected by different methods and sources of information can be used to check the information provided. Triangulation is needed to understand the bias involved but also to understand the patterns and the coherence between all information provided.
An example of triangulation is conducting a transect walk with 1 or 2 key informants through the village after having conducted a SSI and/or a participatory mapping exercise.
- *Conflict of interest* – it is important to understand the potential conflict of interest of your key informants in order to interpret the information you gather.
- *Weighing of evidence* – although subjective the PE practitioner needs to weight the evidence of the information gathered from different sources.

Application of Participatory Epidemiology

Participatory epidemiology has been used in the past for different purposes:

- Needs Assessments
 - Priorities of and entry points into communities
- Participatory Epidemiology Research
 - Basic epidemiology studies
 - Disease modeling
 - Risk assessment
- Community-based Disease Reporting
- Participatory Disease Surveillance
 - Case finding
 - Proving of disease freedom
 - Rinderpest (RP), Foot and Mouth Disease (FMD), Peste des Petites Ruminants (PPR), Classical Swine Fever (CSF) and Highly Pathogenic Avian Influenza (HPAI)
- Impact Assessment
- Strategy and Policy Reform

Participatory epidemiology methods

Participatory epidemiology is based on communication and transfer of knowledge, using a variety of tools. There are three main groups of methods:

- **Informal interviewing:** semi-structured interviews, with key informants, focus-group discussions
- **Ranking and scoring:** simple ranking, pair-wise ranking, proportional piling, matrix scoring
- **Visualization:** mapping, timelines, seasonal calendars, Venn diagrams

These tools are complemented by:

- Secondary information sources → to be obtained before you go to your study area
- Direct observation → while in the study area

- Laboratory diagnostics → often rapid antigen tests are used in the field; if needed samples are taken and tested by a regional or national laboratory for confirmation.

3.1.2 Semi structured interview (SSI) and checklist

By Marcel

Objectives

By the end of this session the participants will be able to:

1. Describe the elements of a semi-structured interview
2. Write a semi-structured interview checklist

Interviewing is a specialized skill that improves with practice.

Semi-structured interview

What is an interview? Conversation between two or more people.

What is a structured interview? Interview using questionnaire to collect data.

What is semi-structured interview? Interview using checklist to collect data.

What is an open-ended question?

- questions starting with why, when, how, what, where, who?

What are closed-ended questions?

- a question where the answer is either yes or no

What is a leading question?

- a question that includes part of the answer within the question

Differences between questionnaires and checklists

Questionnaire	Checklist
Using a list of questions to be followed when collecting data	Uses bullet points of topics to guide the facilitator in capturing the main points during the interview
Fixed questions - not changeable	Questions are not fixed, can vary depending on the situation
Not flexible in different situations	Flexible and suitable for all environments
Enumerators collect information	Facilitators collect information

A questionnaire is a conventional way of collecting data using fixed questions to be followed in a fixed order. A checklist is used in participatory assessment, whereby important points to be addressed are listed to remind the interviewer when gathering information from respondents.

Two participants volunteered to conduct two interviews with their colleagues acting as key informants. The first interviewer was asked to use a questionnaire and the second interviewer used a checklist. The interviews demonstrated the difference between the two methods for collecting information.

Example of a checklist for the identification and prioritization of animal health issues

- Introduce the appraisal team
- Identify the respondents

- Livestock species kept
- Husbandry systems
- Grazing locations
- Problems facing livestock keeping: identify and describe 3 diseases for each major species
- Proportional piling/ranking exercise on disease importance
- Direct observations (transect walk)
- Ask participants if they have any question for the team members.
- Give advice to respondent if possible before departing the venue.
- Thank the respondent at the end of SSI exercise Introduce the appraisal team

What should the team consider before conducting a semi-structured interview?

Objective of conducting interview

Time and place of interview

How long an interview can last? It depends on the respondents' participation and willingness during the interview session.

Have open ended question without giving restriction and direction to respondent

Talk to key informant/respondent: veterinary workers, extension officers, leaders of the community and livestock owners or workers.

Understand community culture and background

Know the area before conducting SSI through secondary or background information

Have a contact person to introduce you to the community/village leader (extension officer)

Brief the team members and give roles to each

What should the team do during a semi-structured interview?

Listen, observe, be patient, and open-minded

Avoid raising community expectations during the interview

Probe for in-depth information (a technique for data gathering and quality control)

Use simple (local) language and make sure it is understood by all.

Work as a team (note taker, observer/s, a person from the area and interviewer).

Know how to deal with dominant talker (individual/ focus group discussion).

Interview all types of people - men, women, youth.

Our attitude and behavior during PE/PDS field work

Watch both the team and respondents' behavior and attitude

Body language - how we dress, eye contact and body movement, those can send good messages or wrong impression

Cultural background of a given community needs to be taken into account by the team.

What should the team do after semi-structured interview?

Check on your notes and fill all missing points

Review what went well and not so well after each interview and draw lessons for future improvement.

Change the roles of team members to build confidence and interview skills to give a chance to every member to have field experience.

Keep all the raw information in a safe place for future reference.

Write a final report after gathering enough information to be representative of the community status.

Group work: participants were divided into two groups to role-play an interview in a village & afterwards conduct their interview in front of the rest of the group. After each role play participants gave constructive comments for the team to improve their performance during the field practice.

3.1.3 Existing veterinary knowledge

By Prof Belem

By the end of the session, the participants should be able to understand the value and the source of existing veterinary knowledge

What do you understand by existing veterinary knowledge?

- passed from ancestors, mothers
- specific to the country – culture
- addressing local problems
- simple, not based on science
- some wrong habits
- difficult to change

What is the importance of existing knowledge for PE work?

It is important for us to know in order to carry out our work effectively, to be aware of local terminology and practices for livestock management, diseases and disease control. Most livestock keepers know a lot about the animal diseases and their different clinical presentations as they occur in the local area. They have local names for the different disease syndromes that commonly occur, especially if the disease has been present in the area for a time. They often understand the pathology, vectors and reservoirs linked to the occurrence of disease. PE aims to explore this existing knowledge with communities and key informants to better understand the local disease situation.

What others types of knowledge do farmers (poultry keepers) have?

- experience and observation
- scientific from vet, vet department, other farmers, sons/daughters

Together these can be termed existing veterinary knowledge.

3.1.4 Simple ranking

By Privat

Objectives

By the end of this session the participants will be able to:

1. describe the simple ranking technique
2. outline when it is supposed to be used
3. demonstrate how it is carried out in the field

What is simple? – Easy

What is Ranking? – Category, arranging or prioritizing

Strengths of SR:

- Fast and easy tool that allows many people to participate
- Easy way to make sure there is consensus among the group and gives opportunity to the investigator to probe more deeply into the meaning behind the ranking
- Quick way of gathering data
- Can be used for any number of topics e.g. species, disease of importance etc.

Method: With simple ranking the key informants are requested to order a list of items based on some defined criteria. A typical example is to ask farmers to rank livestock species kept based on the number of animals. Other examples are:

- Poultry species by importance to family's livelihoods or income
- Common livestock diseases based on importance, mortality, frequency of occurrence

Once they have ranked the cards, the interviewer asks if they all agree, and then asks probing questions to find out why they have put a certain diseases first, why another one last, etc.

With simple ranking it is very important that you clearly state the question and that you also record this question in order to be able to compare with other simple ranking done during other interviews.

It is important to substitute pictures, symbols or objects to present words as some times there is different level of literacy among respondent.

Group work was done to further demonstrate the tool.

Conclusions:

- Tool is simple
- Limited time needed compared to other PE tools
- It gives you an initial idea of the situation and can lead you into more detailed questions.

3.1.5 Proportional piling

By Kara

Objectives

By the end of this session the participants will be able to:

1. describe the proportional piling technique
2. outline when it is supposed to be used
3. demonstrate how it is carried out in the field

What is Proportional piling? It is a technique that allows participants to give relative scores to a number of different items or *categories* according to a given criteria/*one parameter*.

Method

1. Have your proportional piling question clear in your own mind and write it down in your notebook.

2. To develop the list items of categories for scoring, begin with an open-ended question. For example: What are the disease problems affecting your cattle?
3. Probe the responses: Ask for descriptions and clarifications.
4. Explain that you want to do an exercise to better understand what you are learning about their livestock disease problems. Draw circles on the ground in a line. Draw one circle for each disease mentioned and place a drawing or card next to each circle that illustrates the disease.
5. Give them 100 counters and ask to divide them according by a particular characteristic or parameter. Record the question now if you haven't already.
6. Explain the whole exercise. As you list categories draw their attention to each circle and drawing and make sure that they recognize each category
7. Give them time to discuss and divide the piles by consensus. When they appear to be finished, ask them if they all agree on the result.
8. Count the beans, but leave them in place.
9. Probe the results.

Demonstration: proportional piling for common food sources consumed in Lomé (foufou, rice, cassava, peas).



Conclusion:

Proportional piling can be used to get a general picture of how events occur compared to others. You should pay close attention to the types of stakeholders or key informants who participate in the interviews. Often different stakeholders or key informant groups will provide very different scores and probing differences provides a lot of insight into the different perceptions and priorities of the groups.

3.1.6 Participatory mapping

By Steed

Objective

By the end of the session, the participants should be able to understand and demonstrate the use of participatory mapping in disease investigation and risk factors.

What is mapping? Plotting, representing and sketching

Why conducting participatory mapping:

- Spatial information on livestock distribution, movements, interactions, diseases and disease vectors is extremely useful in epidemiology
- Some information is easier to describe and analyse visually than in written form. It is easier to draw a map than describe a map in words
- Mapping is useful at the beginning of an inquiry to define the spatial boundary of the system under investigation. It also acts as a good ice-breaker as many people can be involved.
- Maps produced on the ground using locally-available materials are easy to adjust until informants are content that the map is correct

- Maps do not need written words or labels, and therefore non literate people can participate

As with other activities, it is useful to prepare a mental checklist of items to be probed during the mapping exercise. Respondents should not only be asked to illustrate locations on the map, but to provide underlying reasons for movements and resource use.

Method: Request the group to draw key features of their village or area on a map: the place of the meeting, main roads, rivers, lakes etc.

Request them to draw key livestock features: markets where animals are sold, vet services, locations of farms, disposal sites etc

Ask probing questions e.g. how animals are marketed, where do new animals come from.

Group work:

The participants were divided into two groups and asked to draw a map of the TOT location (Novella star hotel), indicate the key features and outline the best way to come to the conference room.

Day four

Review day 3

4.1 PE tools (continued)

4.1.1 Pair wise ranking

By Samuel

Objectives

By the end of the session, the participants should be able to:

Understand and demonstrate the use of pair-wise ranking in PE

This is a more complex method of ranking where each item is compared individually with all the other items one by one.

Method: each disease is written on a card. Two cards are held up and the participants asked to compare the two diseases – which is the most important? The most important one is written in the relevant box of the table. This is repeated for all combinations of diseases until one side of the table is complete. The diseases are then scored based on the number of times they were ranked as most important. The disease with the highest score is ranked highest. Probing questions are asked when the diseases are being compared – why is that disease more important.

Demonstration:

The facilitator demonstrated PWR and divides the participants into four groups to practice more. The example used was poultry diseases.

Diseases	NCD	Fowl typhoid	Coccidiosis	Coryza	Fowl pox
NCD		NCD	NCD	NCD	NCD

Fowl Typhoid			Coccidiosis	Fowl Typhoid	Fowl Typhoid
Coccidiosis				Coccidiosis	Coccidiosis
Coryza					Coryza
Fowl Pox					
Scores	4	2	3	1	0

Pair wise ranking can also be done for diseases or for signs of a particular disease.

Group work:

Group 1: Types of transport in Ouagadougou

Group 2: Types of transportation in Cotonou

4.1.2 Matrix scoring

By Ouatt

Objectives

By the end of this session participants will be able to understand and demonstrate matrix scoring technique in the field.

First a discussion was held to clarify the name of this tool. Once everybody had the same understanding the facilitator explained the tool in different steps.

A matrix is a systematic arrangement of data in rows (horizontal), columns (vertical) and cells (individual squares). The following matrix has six rows, four columns and twenty-four cells. All of the cells in a specific row or column share characteristics with one another.

Method for matrix scoring

1. Have a list of five to six items such as common diseases or disease syndromes that the participants have mentioned. Use the same names as used by the participants.
2. For each item, obtain a list of indicators, or characteristics, of the item. In the case of diseases, this may be the main clinical signs or epidemiological characteristics of the disease.
3. Use pictures, objects or cards to represent the items and place these across the top of the matrix.
4. Write the first indicators on a card or use a picture/object to represent it. Place this to one side of the first row of the matrix
5. Place a pile of counters next to the indicator and ask the participants to use the counters to show how strongly the indicator correlates with each item. Summarize and crosscheck for agreement on how they have scored.
6. Repeat for each indicator, gradually building up the matrix. Leave the matrix in place so that everyone can view the results and discuss as a group.
7. During the exercise and after the matrix is complete, it is essential that the investigator carefully probe the informants as to why they are scoring the way they are. After the matrix is complete, summarize the results and give the informants the opportunity to make changes if they wish.

8. Record the results in a matrix in your notebook.

This tool can take some time, so it is usually carried out with particularly knowledgeable farmers who are willing to spend a bit longer talking in detail. It should not be carried out during every interview unless this is a preset part of the study design.

Approximately five counters should be used per item across the top of the matrix. For example, if there are six categories (columns) then 30 counters should be used per indicator (row). If there are only four diseases, then 20 counters could be used. It is best not to have more than six items across the top and up to 10-12 indicators. If more are used, the exercise becomes more complex and lengthy and respondents will lose interest.

Group work was done to further explain the tool.

4.1.3 Proportional piling for morbidity and mortality

By Kara

Objectives

By the end of this session the participants will be able to:

- Describe the uses of proportional piling for disease morbidity and mortality
- Demonstrate the uses of proportional piling for disease morbidity and mortality

USES

- Assess the impact of disease
- Demonstrate relative morbidity, mortality and case fatality of different diseases

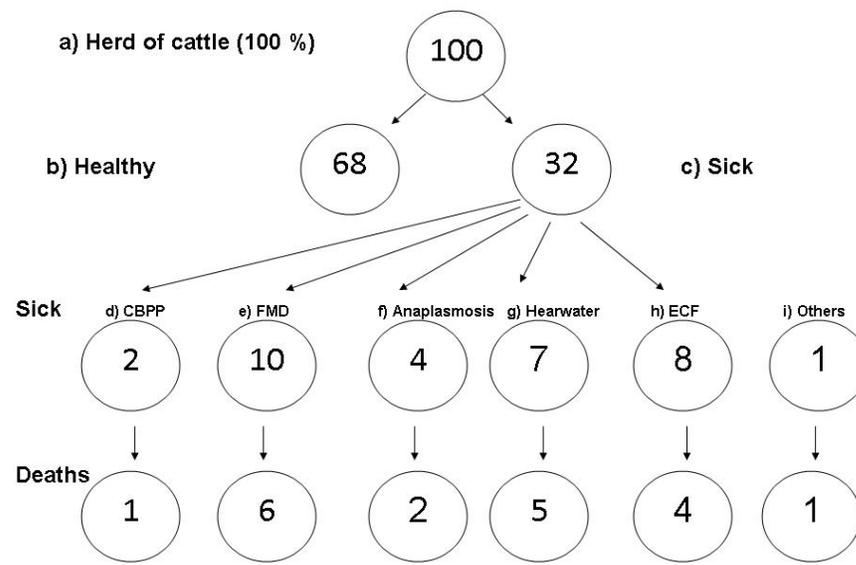
STRENGTHS

- No need to know actual numbers of animals
- Compares morbidity and mortality. Reduces bias towards a disease
- Gives proportion not absolute numbers

METHOD

- Use 100 counters (Beans, stones, beads and etc)
- Ask for the proportion of healthy and sick in the last year
- List common diseases that have been given earlier during the SSI (write names on cards or use pictures)
- Use 4 or 5 diseases and lump the rest as others
- Use counters allocated to sick to show proportion that suffered from the different diseases
- Take a disease at a time, let them allocate the proportion that died from the sick
- Count the counters after scoring each disease
- Summarize and crosscheck result with farmers

Demonstration:



SUMMARY DATA

Crude morbidity = 32/100
 Crude mortality = 19/100
 Over all case fatality = 19/32
 Cause specific morbidity eg CBPP = 2/100
 Cause specific mortality eg CBPP = 1/100
 Case fatality rate eg CBPP = (1/2)*100: 50%

Participants were divided into four groups to practice PPMM in poultry diseases and cattle diseases

CONCLUSION

PPMM useful tool for comparing mortality, morbidity due to different diseases and age groups

4.1.4 Disease Impact Matrix Scoring (DIMS)

By Cyrille

Disease impact matrix scoring is a form of matrix scoring where the indicators have been scored in advance to show their relative importance. It is a useful tool for showing the overall impact of different diseases on the household or farm as well as the impact on the different benefits of keeping poultry.

Method:

1. Ask the participants, what are the benefits of keeping poultry?
 - hobby
 - source of income
 - food for household
 - social status

- gifts
 - ceremonies
2. Carry out proportional piling of the relative benefits of keeping poultry:
Using 100 beans, ask the participants to show the relative importance of the different benefits of keeping poultry:

Hobby	6
Source of income	48
Food for household	17
Social status	5
Gifts	4
Ceremonies	20
 3. Obtain a list of common poultry diseases from the participants (most likely already given to you during the course of the SSI)
 - Fowlpox
 - ND
 - Gumboro
 - Coccidiosis
 - Worms
 4. Create a matrix with 5 or 6 common diseases across the top and the benefits and their relative scores down one side.
 5. Ask the participants to take the beans from the first benefit and show the relative impact of the diseases on this benefit.
 6. Repeat for all the benefits.
 7. At the end of the exercise the total score for each diseases can be calculated, showing the relative impact of each disease as well as the details of the nature of the impact, whether mainly on food and income or more on cultural benefits.

	Relative importance	Fowlpox	ND	Gumboro	Coccidiosis	Worms
Hobby	6	6	-	-	-	-
Income	48	-	40	3	5	-
Food	17	3	10	2	2	-
Social status	5	-	2	2	1	-
Gifts	4	4	0	0	-	6
Ceremonies	20	11	4	2	2	1
Total impact		24	56	9	10	7

Group work:

Group 1: Small ruminants: uses and impact of different diseases

Group 2: Cattle: uses and impact of different diseases

4.1.5 Timeline

By Dao

Objectives

By the end of this session the participants will be able to:

- Explain what a timeline is
- How it is used in PE
- What information can be obtained from a timeline

Timelines are a useful tool for exploring the frequency of key disease events and patterns over time. Besides providing information in itself, the timeline will provide a useful reference for verify the year of reports made by the community. Information on other major events, such as droughts and famines or political events should be collected. Try to use the local names as much as possible.

Method: decide on scale based on issues of interest; subsequently ask the participants to indicate key events during the timeframe – events affecting the community, major livestock and disease events.

Group work:

Group 1: Timeline of events since your arrival in Togo

Group 2: Timeline of important events in your life for the past five years

4.1.6 Seasonal calendar

By Tchoutchou

Objectives

By the end of this session the participants will be able to understand and demonstrate use of seasonal calendars

Introduction

- Seasons are defined by different characteristics in different regions – tropical areas by amount of rainfall.
- In temperate areas seasons may be distinguished by temperature/length of the day.
- Many animal health problems and issues are seasonal and can be analysed through the use of calendars.

Uses

- Calendars provide information on seasonality of diseases and risk factors
- Better target disease control intervention such as vaccination of particular diseases and ticket control

Method: To construct a seasonal calendar, first determine what type of calendar is used in the local culture. Then ask the participants to name the months in order. A line can be drawn on the ground and divided into months. The appraisal team can work with the participants to display different types of information.

The participants can be asked to divide the line into different seasons while discussing major issues for each season. Finally, if a list of seasonal disease problems has already been generated, participants can be asked to indicate the relative significance of the problems using ranking tools at different points along the line.

An alternative method is to use the counters to indicate the amount of rainfall or disease more accurately than with a line only.

4.1.7 Transect walk

By Da

Objectives

By the end of this session the participants will be able to:

- Understand the importance of direct observation during data collection
- Understand and demonstrate the use of transect walk

A transect walk is a tool for describing and showing the location and distribution of resources, features, landscape, main land uses along a given transect. The tool really stresses the role of the PDS practitioner as detective trying to put the puzzle pieces together to come to a possible solution to the problem that brought him to the village.

For what can it be used?

- identifying and explaining the cause and effect relationships among topography, natural vegetation, animal husbandry systems and other production activities and human settlement patterns;
- identifying major problems and possibilities perceived by different groups of local analysts in relation to features or areas along the transect;
- learning about local technology and practices (“daily live” _);
- triangulating data collected through other tools;
- probing the information that has already been mention by community.

Method:

Transects refers to the process of getting out and walking a straight line (or as straight as possible) right through the community.

The transect walk should not coincide with the main road. The idea is to directly observe production systems and community life, not just on the main street. The appraisal team should be accompanied by community members and can stop and ask questions of other residents as the need arises.

Group work: the participants were divided in 2 groups (those with glasses and those without) and ask to discuss the 2 following village scenarios. Some information was given but the participants had to find additional information from the drawings provided. See below.



Day five

Review of day 4

5.1 PE tools (continued)

5.1.1 Surveillance and surveillance system

By Guy

Objectives

By the end of this session the participants will be able to:

1. understand the types of surveillance
2. describe and understand surveillance system
3. the role of participatory disease surveillance practitioners in investigating and control disease outbreaks in livestock

Surveillance is the ongoing collection of action-oriented information and intelligence within a realistic time frame. **Information for action.** (USA Centres for Disease Control (CDC), 1998)

A **surveillance system** is a collection of activities (e.g. case finding, disease reporting and laboratory confirmation) that complement each other to give an accurate picture of the disease situation. The term implies that these activities are ongoing rather than part of an epidemiological study of a pre-determined duration.

According to a modified definition of Thacker *et al.* (1988), the seven attributes of an effective surveillance system are:

- **High detection rate:** The system should be able to detect as many disease events as possible.
- **Sensitive:** is the number of true cases a system correctly identifies out of the total number of truly diseased subjects studied. The higher the sensitivity of the system, the more truly diseased cases are identified (hence a lower number of false negative cases).
- **Timely:** The system should be able to detect, investigate, provide feedback and allow for action on a suspect disease event within a timeframe relative to the infectious cycle of the disease.
- **Representative:** The system should reflect the true occurrence and distribution of the event in all communities, production systems and social strata.
- **Flexible:** The system should be able to detect and accommodate emerging diseases.
- **Simple:** If the procedures are too difficult farmers and surveillance staff will probably not be motivated to report, act and control suspect disease events.
- **Ownership:** Stakeholders should feel a sense of ownership based on their participation in the design of the system and the relevance of the output to their needs.

In practice, no single surveillance system will have all of these seven characteristics, so a surveillance system must integrate different activities to meet stakeholders' needs and technical objectives. For example, some activities within a disease surveillance system improve the sensitivity (e.g. using a broad case definition) and some improve the specificity (e.g. laboratory confirmation).

Livestock disease surveillance systems may include the following elements:

- **Passive surveillance**, which captures information from existing data sources such as disease reports from livestock keepers, community-based animal health workers, and public and private veterinarians; diagnostic laboratory submissions and abattoir reports. It is a continuous process that involves routine collection of information on a wide range of diseases, e.g. in the form of monthly reports from veterinary officers to the national disease information system.
- **Active surveillance**, which is a specific exercise or set of exercises to search for a specific disease or infection in a population or provide evidence of absence of a disease or infection. Methods of active surveillance include the search for clinical disease and/or collection of samples for laboratory analysis. Surveillance may be randomized (e.g. serological surveys) or purposive, depending on its objective.
- **Epidemiological studies** to develop a deeper understanding of the manifestation of a disease in a population.

Participatory Disease Surveillance

Participatory disease surveillance (PDS) is PE applied to surveillance. In this application we can investigate disease outbreaks for the most rapid and informed understanding of the situation. In a surveillance system, we can use PDS for targeted, purposive searching for disease presence or to demonstrate the absence of disease. It is a professional activity carried out by

veterinarians and para-veterinarians. It is good for identifying the majority of outbreaks as they occur, and is rapid because it relies on traditional information networks.

The PDS approach can be used retrospectively and longitudinally to explore the evolution of disease situations over time.

Of the characteristics of an effective surveillance system, PE increases the percentage of events captured for investigation, as well as sensitivity and specificity through the process of iterative analysis. Diagnostic test support, including field-based tests, also increases sensitivity and specificity. Laboratory-based tests for definitive diagnosis are critical in disease free situations. PDS should be linked to a field or laboratory diagnostic test to maximize the sensitivity and specificity of the case finding methodology.

5.2 Writing a training course report

By Saskia

Reports are written to document the work done and serve as reference for future training courses. Supervisors and donors require reports of the conducted activities within a project. The reports vary according to the audience. We discussed on plenary what a potential outline for the report of the current TOT course would look like.

Group work:

Group 1: write the outline for a small scale PE study report

Group 2: write the outline for a disease outbreak investigation report

See for the answers of the group work Annex 4.

5.3 Monitoring and evaluation of a PE training and field work

By Cyrille

First the different terminology was explained with some key words.

Monitoring: supervision – repetitive – continued (inter dependent) – after a thing/event.

Evaluation: supervision – in the field or after activity – certain point in time – assess progress – by supervisor or trainees (self evaluation).

Definition of evaluation: A process that attempts to determine as systematically and objectively as possible the relevance, effectiveness and impact of activities in the light of the training objectives.

Training course evaluation

By the trainees →

- Flow of topics during course
- Relevance of topics and delivery
- Satisfied or not: were my expectations met?

When: at the end of the day and course

By the facilitators →

- Did the audience get my message?
- Were the training course objectives met?
- Self evaluation

When: after each session, at the end of the day with colleagues and at the end of course.

Field work evaluation

Why?

- To ensure proper application of tools
- To measure progress
- To ensure quality of work

When?

- During the field practice as part of the introductory training course
- Half way during the field work period

Where?

- In the area of work of the practitioner
- In a certain chosen area.

By who?

- The training facilitators
- With the project focal point and/or supervisor
- Self evaluation of trainees

How?

Planning is needed: announce your itinerary in advance

Inform stakeholders of the purpose of your visit

Assess the different aspects of the methodology taught.

Ensure that you have enough time for debriefing with the trainees. What went well, what didn't go that well and what are the points that he/she should work on.

Please see Annex 4 for the evaluation for used for the field monitoring of the EDRSAIA project. This form was discussed and subsequently the Access database was shown with all the information from the different trainees.

5.4 Action plans – personal, organizational, projects

By Saskia

Different training opportunities were discussed with the participants:

From the EDRSAIA decision makers' workshop in Bamako in August 2009, it was clear that the participants believed that PE is a useful methodology and would like to train more veterinarians in their respective countries. The participants were encouraged to contact their supervisors about the recently held TOT and discuss future training possibilities in your countries.

Unfortunately ILRI/PENAPH cannot fund this training for all participants but we will cover own expenses to attend any of the PE training course that the trainees will organize in the near future. This is required in order for the trainers to obtain the PE trainers' certificate.

The participants were also told that all their countries have SPINAP¹ funds that could potentially cover for future training courses in PE and related field work. Project countries should be maximized in all project countries given the spending deadline of June 2010 for these funds. The colleagues in Sierra Leone used this approach and were able to train another 15 PDS practitioners.

The participants asked ILRI to send a letter to their supervisors informing them about the recently conducting training course and outline the suggested financing mechanisms.

Inclusion of PE into the vet school curriculum

There are no Veterinary schools in the participating countries. The only one for the region is the École Inter-États des Sciences et Médecine Vétérinaires (EISMV) in Dakar, Senegal. Although most of the participants are graduates from that school the tights to their former university are not very strong and therefore inclusion of PE into the veterinary curriculum is not very likely at this stage.

Prof Belem mentioned that participatory rural appraisal (PRA) techniques are already included into the curriculum of his Institute. Upon his return he will discuss with the institute direction and colleagues about the possibilities of having at least a few sessions on PE. Marcel Ouedraogo from Burkina Faso has close links to an animal health institute in his country and would also discuss them the possibility of inclusion of PE into the curriculum.

Participatory Epidemiology Network for Animal and Public Health (PENAPH)

This network has set a series of criteria in relation to different levels of expertise in PE:

PE Practitioners

- Candidates are formally trained professional (for PE practitioners medical background is preferred).
- Candidates become a PE practitioner after completing:
 - A 10-day introductory course to PE.
 - A period of field work (with a minimum of 20 working days in the field before refresher course)
 - Having received visit of mentor (trainer of the course)
 - Having reported back on field findings at refresher course.
- The PE practitioner leads multi disciplinary teams

PE trainers

¹ Support Program for Integrated National Action Plans on Avian & Human Influenza

- Candidates are PE practitioners
- Candidates become a PE trainer after completing:
 - A training of trainers in PE (minimum course duration 5-6 days)
 - Conducting a training in PE mentored by Master trainer

Master trainers in PE

- Candidates are selected from trainers
- Candidates have advanced training & mentoring skills
- Candidates have completed a Training of Master PE Trainers (TOMPET)
- Coach trainers during their first trainings

Please check: www.penaph.net for the PENAPH website. We will be sending out invitations to join the PE virtual community of practice shortly.

5.5 Evaluation of training

The participants were asked to complete a mood meter daily and at the end a training workshop an evaluation form. The results are presented in Annex 6 & 7.

5.6 Closing of TOT workshop

Training of trainers was officially closed by Cyrille on behalf of the Ministry and Saskia on behalf of PENAPH. Certificates of attendance were handed out to all participants.

Lessons learnt & recommendations

Lessons learnt

- Five days course for TOT is doable.
- Participants from diverse backgrounds and nationalities allow for good interaction and sharing experiences from their countries.
- More than two facilitators allows for better distribution of training sessions according to area of expertise.
- Only one female participant was not great.
- PDS practitioners with good field practical skills make good participants during TOT course.
- Early preparation for TOT course by facilitators (in reference to invitation of participants, stationary, handouts and other equipments) helps in delivery the course objective with minimum problem.
- Some topic needs more time for class demonstration and practice (PWR had not been explained at any of the training courses before conducted in Francophone project countries).
- Besides preparing the session in MS Power point all facilitators need to be able to give session with flip charts in case there is no electricity.
- In the introductory session (Day-1) while discussing the expectations/fears clarify that there will be some topics (eg. Data analysis on Day-2) that are a bit elaborate and theoretical but are important.

- Day-3/4 participants presentations- it needs to be clarified that the participants need to cover the points covered in the trainers' manual provided as back ground information.
- Day-3/4- after the presentations by the participants- while we take the group's feedback – ask the participant to sit down with the group- not to stand- so that he/she does not feel he is being cornered and the discussion looks a bit in-formal...
- Always ask/encourage the group to start with something positive (“sugar coated feed back”) before commenting on what went wrong. It's a learning process for all.

Recommendations

- Six days for TOT course is recommended for more than 10 participants to allow for more interaction between participants and trainers and possibly include a field visit.
- Have two or more facilitators during TOT course.
- A bigger effort should be made to include women in the training courses.
- Trainers should already assess the performance of trainees during the PE intro training course, throughout the field mentoring and the refresher training course.
- Invitation of participants for TOT course must be done four weeks in advance since supervisor approval is required. The individual must confirm his/her willingness to attend in two weeks prior to commencing of the training otherwise get a substitute on time.
- All PE tools and topics can be presented by participants in class but data analysis should be handled by expert.
- A visit to assess the training facilities in advance is recommended to avoid inconvenience.
- Participants must prepare session plans in detail and list the materials needed for presenting the topic. The session plans should be shared with the facilitator in advance to build a harmonize system of PE/PDS facilitation approach.

Annex 1 – List of participants

N°	Name	Position	Contacts
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Annex 2 – Energizers

Song: Singing songs that are easy to learn and join in with is always enjoyable. Action songs can be fun, or use songs that involve clapping or tapping out rhythms.

Mirrors: Place people into pairs. One person is the actor, the other the mirror. The mirror does whatever the actor does, mirroring their actions. After a few minutes, change roles.

Writing Ask people to mime writing their name in the air with different parts of the body. Ideas include:

- right finger
- left finger
- right elbow
- big toes
- nose

Fruit Salad: Divide the participants in different groups, each is assigned a fruit. Arrange chairs in a circle – one fewer chairs than participants. Person without a chair yells out a fruit and all people in that group change places. Person left without a chair calls out the next fruit. If someone yells “fruit salad” all participants need to switch chairs.

Gentle rain: Make the sound of a rainstorm, starting gently, getting heavier and gradually stopping. Ask everyone to follow you in tapping the palm of one hand with one finger of the other hand; then two fingers, then three, then four, then the whole hand; and then back down again to one finger.

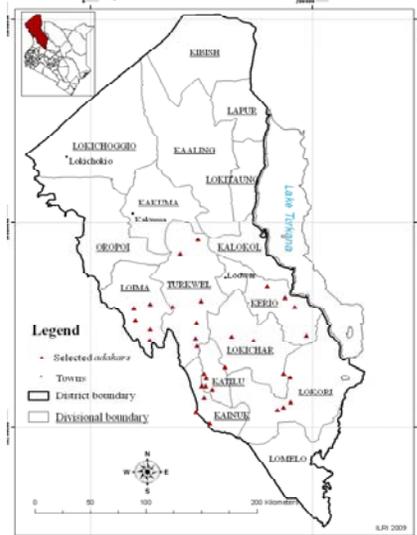
Trains: Ask participants to make train noises and actions with their arms. Take them on a journey, gathering speed through a valley, slowing to climb a hill, speeding up as they come down the hill, putting on the brakes to stop in a station and slowing starting up again. Relate the journey to local place names.

Ranking: One person secretly chooses something on which to rank everyone. This could be their shoe colour or size, the number of buttons, their age, their hair colour or length, their height, the number of pockets, the first initial of their name or their birthday, etc. Line everybody up according to the secret ranking system and let people try and work it out. For example, if you have chosen buttons, one end will have the person with most buttons on their clothing, and the other end of the line will have all those who have no buttons. You will need to be quite clever in not drawing attention to your secret. For example, if it concerns their shoes, try not to look down all the time!

Many of these ideas come from the book *Participatory Workshops A Sourcebook of 21 Sets of Ideas and Activities* by Robert Chambers, London (2002).

Annex 3 – Examples PE studies

Example 1 – Turkana area, Kenya



Study in Turkana area, Kenya

Objective: to identify and prioritize livestock diseases by prevalence and importance to livelihoods.

At all the interviews → proportional piling technique was used to rank:

- 1) livestock species by **number**
- 2) **importance to livelihoods**.

Figure 1. Map of Turkana area, Kenya

Analysing scores from proportional piling technique

- Summary of the scores by species and estimate median score, range (using minimum and maximum score) and lower and upper quartiles (25% percentile and 75% percentile)
- Plot the obtained data
- Interpretation of findings

Table 1: Scores obtained from proportional piling technique used to rank livestock species by number in Turkana South District, Kenya

Spp	Adakar (sub-location)																Median score	Minimum score	Maximum score	Lower quartile	Upper quartile
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16					
Goats	48	44	34	32	45	36	32	35	43	42	30	31	35	20	28	25					
Camels	8	24	18	29	20	19	11	20	20	20	12	18	21	12	27	19					
Cattle	15	0	20	15	6	12	11	14	0	0	23	18	12	17	0	5					
Donkeys	8	10	6	14	9	10	8	6	12	12	21	10	6	11	9	20					
Sheep	21	22	22	10	20	17	18	19	25	26	15	20	22	30	25	15					
Chicken	0	0	0	0	0	0	19	5	0	0	0	0	4	6	7	4					
Dogs	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	12					

Table 2: Scores obtained from proportional piling technique used to rank livestock species by number in Turkana South District, Kenya – results

Spp	Adakar (sub-location)																Median score	Minimum score	Maximum score	Lower quartile	Upper quartile
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16					
Goats	20	25	28	30	31	32	32	34	35	35	36	42	43	44	45	48	34.5	20	48	30.5	42.5
Camels	8	11	12	12	18	18	19	19	20	20	20	21	24	27	29	19.5	8	29	15	21	
Cattle	0	0	0	0	5	6	11	12	12	14	15	15	17	18	20	23	12	0	23	2.5	16
Donkeys	6	6	6	8	8	9	9	10	10	10	11	12	12	14	20	21	10	6	21	8	12
Sheep	10	15	15	17	18	19	20	20	21	22	22	22	25	25	26	30	20.5	10	30	17.5	24
Chicken	0	0	0	0	0	0	0	0	0	0	4	4	5	6	7	19	0	0	19	0	4.5
Dogs	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	12	0	0	12	0	0

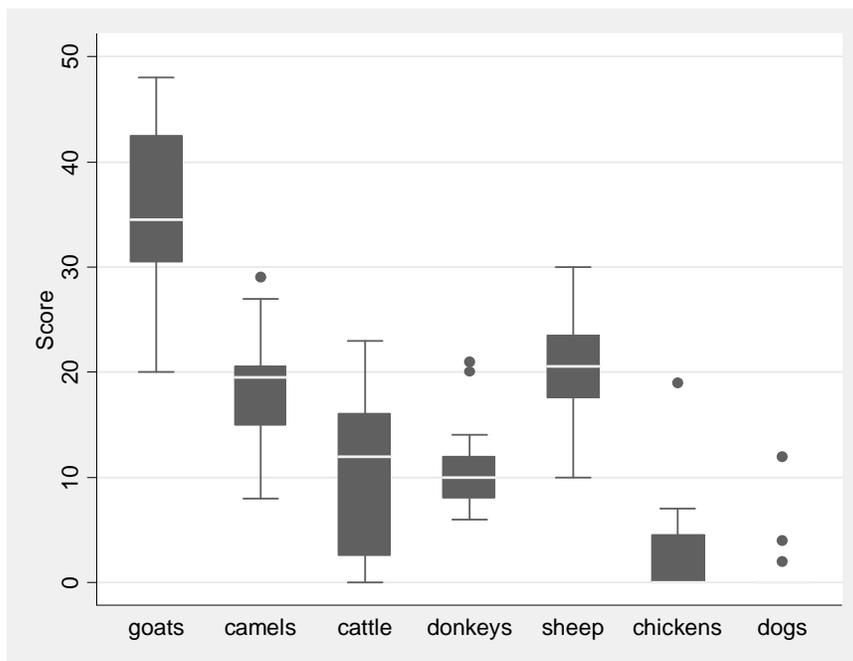


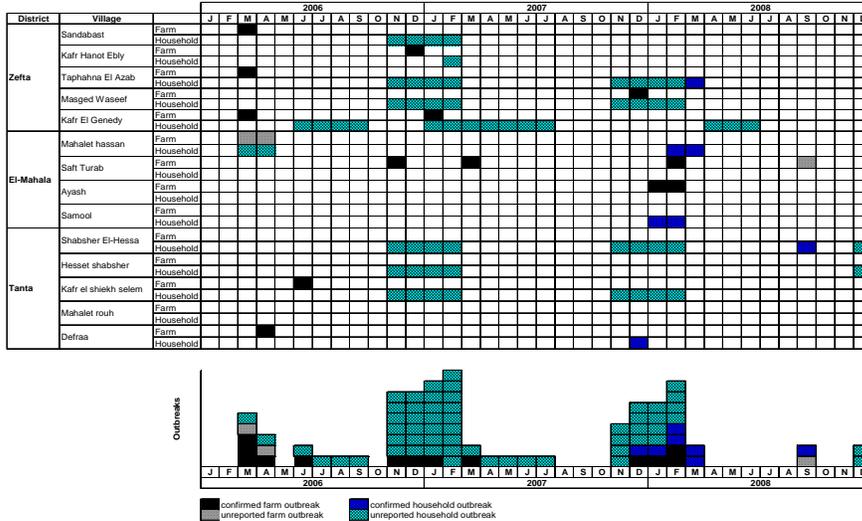
Figure 2. Box plot for ranking of species by number

Interpretation of findings

- Goats, with a media score of 34.5 per adakar [20-48] were perceived as the most abundant in 16 adakars visited in Turkana.
- Other species in order of descending rank: sheep – camels – cattle –donkeys – chicken - (dogs)

This study was published in the Journal for Preventive Veterinary Medicine: Bett, B., Jost, C., Allport, R., Mariner, J., 2009. Using participatory epidemiological techniques to estimate the relative incidence and impact on livelihoods of livestock diseases among nomadic pastoralists in Turkana South District. Preventive Veterinary Medicine. 90, 194 – 203.

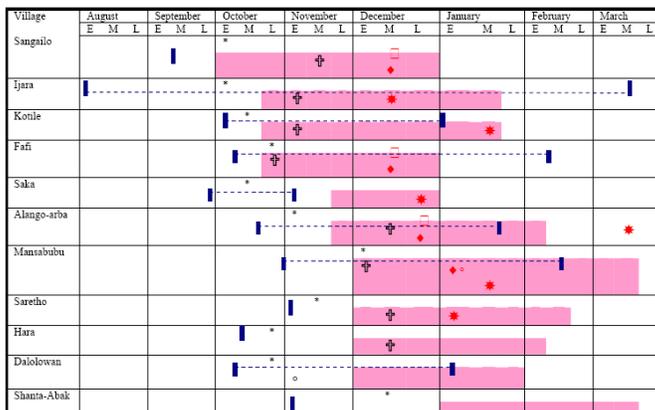
Example 2: Timeline of outbreaks constructed by PDS teams in Egypt



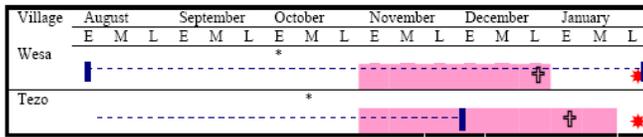
Example 3: RVF, Kenya

RVF outbreak reported in Kenya (and Tanzania) in October 2006 - February 2007. Immediately after this outbreak, ILRI conducted a participatory survey **to estimate the incidence and impact on livelihoods** of the disease in North-eastern and Coast provinces of Kenya. We also characterised the **type and timing of the responses executed by the government** and other agencies for the purposes of suggesting ways of improving surveillance systems for related outbreaks in future.

Time line developed in selected areas in Garissa and Ijara districts, Northeastern province



Time line developed in selected areas in Kilifi district, Coast province



- Key**
- Duration of exceptionally high rains
 - Time when mosquito population increased
 - Time when clinical cases of RCVF were observed in livestock
 - Time when human cases were observed
 - Time of intervention by the MoH
 - Time of intervention by DVS
 - Time of intervention by the NGOs

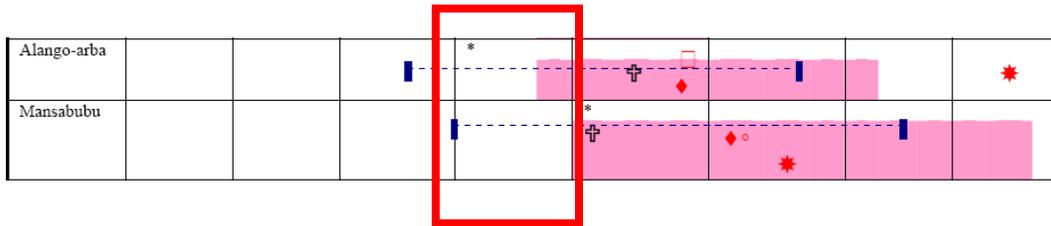
Estimated time intervals (in days) between the events captured in the RVF timeline

Timeline	Sangailu	Ijara	Kotile	Farli	Saha	Alango-Arha	Mansabubu	Sareto	Hara	Dalolowan	Shantabak	Weza	Dizo	Mean
Rain – Mosquito	20	60	20	20	20	20	30	20	20	20	50	60	70	33.1
Mosquito-Animal	0	20	10	0	30	20	0	20	50	50	20	20	10	19.2
Animal – Human	40	10	10	0	-	20	0	10	10	-	-	50	60	21.0
Animal – Intervention	-	60	80	80	30	130	50	30	-	-	-	80	80	68.9
Human - Intervention	20	40	70	50	-	10	40	20	-	-	-	40	30	35.6

There is always a trade off to make...



Where does the PDS practitioner come into this?



Where does the PDS practitioner come into this?

- You are close to the field \diamond go and investigate when you hear rumors!
- Do not wait until you have perfect information \diamond you will most likely be too late...
- Think of the key informants you will need to contact for information \diamond be creative & flexible! Think beyond the DVO's to obtain secondary information... contact health clinics, slaughterhouses...

Annex 4 – Report writing

Group work:

Group 1: write the outline for a small scale PE study

Group 2: write the outline for a disease outbreak investigation.

Group 1:

Abstract

Keywords

1. Introduction → includes in last § the objective of the study

2. Materials and methods

2.1. Study area

2.2. Selection of sites within study area

2.3. Data collection

3. Results

4. Discussion

5. Conclusion

Acknowledgements

References

Group 2:

Investigation of an outbreak of [XXX] in [species] in [ABC Municipality], [Country Name], in [month, year]

Abstract

(Keywords)

1. Introduction

PERSON/ANIMAL, TIME and PLACE

Description of the affected population (species, age groups, management system etc)

Event history until you came

Description of the study area

Other secondary information

3. Outbreak investigation

Signs & symptoms

Differential diagnosis

Environmental investigation

Further epidemiology investigation (PE tools used for what purpose)

Samples taken

Diagnostic testing conducted

3. Findings: (Possible) aetiology of outbreak

4. Treatment of patients and contingency and control measures

5. Discussion, further preventive advice.

6. Conclusion

Acknowledgements

References

Annex 5 – EDRSAIA trainee evaluation form

PE/PDS Trainee Evaluation Matrix (short)

This evaluation form is provided to the trainee during the 10-day introductory training, and will be completed 4 times during the training period:

1. By the trainer during the introductory training
2. By the trainer during the evaluation visit during the field practice period
3. By the trainee at the end of the field practice period
4. By the trainee’s supervisor at the end of the field practice period

This process of repeated evaluation will allow the trainer, trainee and supervisor to track the trainee’s performance and improvement throughout the training period.

Indicator	1 Very poor	2 Poor	3 Acceptable	4 Good	5 Very Good	Not Assessed	Comments
1. Approach							
1.a. Attitude – The trainee is patient and flexible, makes good introductions, and asks if there are any questions at the end of the interview							
1.b. Diversity – The trainee includes under-represented groups (gender, age, wealth status, production systems, remote farmers), and reaches out to diverse stakeholders (including private and public veterinarians)							
1.c. Colleagues – The trainee keeps office mates, superiors and other veterinary service personnel informed							
2. Planning							
2.a. Study plan – The trainee has developed and is using a good study plan, but remains flexible by regularly considering and updating the study plan							
2.b. Logistics – The trainee has fully planned the logistics of the PE/PDS study, including days, transport, equipment and supplies, communications, etc							
3. Technical							
3.a. Semi-structured interview – The trainee successfully leads an interview using a checklist, opening each subject with non-leading questions, probing, and developing a consensus understanding in focus group interviews							
3.b. Ranking techniques (simple ranking, pairwise ranking, matrix scoring, proportional piling). The trainee correctly facilitates ranking exercises, including providing exact criteria for the exercise and providing sufficient							

time for interviewees to consider and achieve consensus in completing the exercise, and probing the results							
3.c. Visualization techniques (mapping, seasonal calendars, timelines). The trainee correctly facilitates visualization exercises, including all members of the focus group in the exercise, and developing information on risk factors, timeframe of outbreak, introduction and spread, and proportion of households affected							
3.d. Direct observation (transect walks). The trainee correctly facilitates transect walks, making direct observations, and asking probing questions							
3.e. HPAI diagnosis – The trainee correctly diagnoses HPAI (historic and active) following the approved protocol: identifying a situation that is possibly HPAI, fitting the case definition, conducting the rapid test and taking laboratory samples							
3.f. GPS – The trainee properly uses the GPS unit, including writing the point in the notebook, saving the point, cross-referencing between the notebook and GPS unit when filing out data forms, and downloading points							
4. Analysis							
4.a. Analysis – The trainee engages in internal analysis during interviews, triangulates between different sources of information, and iterative analysis throughout the study							
5. Reporting							
5.a. Timing and coordination – The trainee follows the agreed protocol for notification of active HPAI cases							
5.b. Passive disease reporting – The trainee correctly completes and submits disease report forms in line with the agreed protocol							
6. Overall Evaluation							
6.a. Overall Rating – What is your overall score for this trainee?							
6.b. Remarks:							
6.c. Date	6.d. Name			6.e. Position		6.f. Signature	

Submission:

1. One copy to Epidemiology Unit. 2. One copy to trainee. 3. One copy to trainee’s supervisor

Trainee reporting:

1. At the end of the field study, the trainee will submit a draft report on the field investigation for review by the trainer following the field study report format.
2. The trainee will submit copies of all interview and disease report forms.

The trainer will provide feedback on the draft report

Annex 6 – Mood meter results

Mood Meter Day 1 - 25 January 2010

Mood	Score	Comments
	9	Very good, good discussions. I'm happy; I have learned a lot, the message got through. Interesting because of the quality of the presentation and the facilitation styles of the trainers. Good understanding of the subject; clear presentations & good time management. Presentations are clear. Good facilitation and materials. I'm happy because of the trainers. Polite trainers and trainees. Happy: good understanding of the subject, well development and good interaction between trainer and trainees. Very happy: good available trainer, fluent translator, Saskia good & Cyrille is at ease with funny stories.
	2	Good introduction and well delivered. Flexible. Normal
		

Mood Meter Day 2 - 26 January 2010

Mood	Score	Comments
	4	Good day, subjects well explained. They know the subject well. Again a good day. Marathon day but successful. Message well received. I'm satisfied, I learned a lot.
	7	Good, Normal. Good on average, the morning session was too theoretic. Too much theory, not enough practice. Not bad. Use of English doesn't encourage participation & difficult to understand.
	1	A lot of theory

Mood Meter Day 3 - 27 January 2010

Mood	Score	Comments
	9	Good day, a lot of practice Good day Very good day, a lot of theory Good presentations and with the comments we will further improve Reasonable day Good full day, satisfied with trainers and trainees Good presentations Very practical Pleasant day
	3	Normal day The learning is not bad

		Good
		

Mood Meter Day 4 - 28 January 2010

Mood	Score	Comments
	5	
	2	
		

Annex 7 – TOT course evaluation

**PENAPH Training of Trainers in Participatory Epidemiology
Lomé, Togo 25-29 January 2010**

Evaluation form for the Training Workshop

Your co-operation in completing this questionnaire will be greatly appreciated. The information you provide will be useful in planning future events and will help resource persons to improve their materials and presentation.

A. General Assessment	In general, I would rate the workshop as: <input type="checkbox"/> Excellent → 17% <input type="checkbox"/> Very Good → 58% <input type="checkbox"/> Good → 25% <input type="checkbox"/> Poor <input type="checkbox"/> Very Poor
B. How would you rate this workshop in meeting your expectations? <input type="checkbox"/> Partially → 8% <input type="checkbox"/> Fully → 92% <input type="checkbox"/> Exceeded	
C1. Were the training objectives clear? <input type="checkbox"/> Fully 100% <input type="checkbox"/> Partially <input type="checkbox"/> No	
C2. Objectives	The objectives of this workshop are listed below. Please circle on a scale of 1 to 5 if, in your opinion, the objectives have been achieved. The scale ranges from 1 (the objective has not been achieved); to 5 (the objective has been achieved).
<ol style="list-style-type: none"> 1. Describe the basic principles of adult learning and apply them to training programs → 4.6 2. Describe the key elements that define Participatory Epidemiology (PE) and Participatory Disease Surveillance (PDS) → 4.6 3. Design, plan and implement PE training, including: developing PE hypothesis, PE checklist, PE tools, action plans and field monitoring for trainees → 4.2 4. Record and analyse information received and understand ways to use this information at different levels → 3.8 5. Understand the roles, benefits and limitations of PE/PDS in disease surveillance and research and be able to apply facilitation techniques with PDS trainers → 3.9 	
D1. Was there a good balance between theory and practical work? <input type="checkbox"/> Yes → 100% <input type="checkbox"/> No Please explain <ul style="list-style-type: none"> – no field practice but good practice in the lecture hall – enough practice that allowed the participants to master the subjects. – the presentations of the participants gave a good idea of the possible practice – the sessions on adult learning were very applicable the daily occupations of the participants. – theory should always be followed by practice – A lot of practicals – A lot of practical sessions during the course 	

D2. Did you think the overall timetable was good? (logical flow of subjects, duration of sessions etc)

Yes → 83% No → 17%

Please explain

- the facilitators respected the timetable and that helped the participants to be more active
- the time allocated for certain sessions was too short and didn't allow for the participants to deliver their sessions well
- It was according to the level of the participants. It was good.
- a lot of theory with not that much practice, mostly demonstration.
- we should have more time
- because we're able to be a good trainer

D3. Did you think the daily timetable was good? (logical flow of subjects, duration of sessions etc)

Yes → 75% No → 25%

Please explain

- it was hard to get started again after lunch
- Lunch break too short (3x)
- yes, topics were varied
- all topics covered at the end of the day

E. Strengths and Weaknesses

Please list what you consider to be three strengths of the workshop.

1.

- More experiences of trainers
- Knowledgeable facilitators 4X
- Flexibility
- Facilitators are willing to assist
- Relevant topics and excellent translations (2X)
- Logistics
- Practical
- Perfect organization
- Agenda
- Good understanding of PE

2.

- Knowledge, experiences of participants
- Good translation
- More practice than theory
- Facilitators
- Good useful topics
- Simple
- Facilitators are willing to assist (2X)
- Flow of the trainers
- Availability of training materials
- Level of participants

3.

- Level and quality of the participants and the skilled translator
- Good and friendly atmosphere (2X)
- Good organization and well balanced training course
- Short
- Good organization of work
- Our own commitment
- Availability of training materials

Please list what you consider to be three weaknesses of the workshop.

<p>1.</p> <ul style="list-style-type: none"> - Lunch breaks too short 4X - Sometimes pressed to finish the topics of the day. - Venue (electricity problems) 3X - Not enough time - Sometimes it was not clear who the target audience was, farmers or trainers... - The trainers don't speak French and therefore translation is needed which makes the sessions longer. 						
<p>2.</p> <ul style="list-style-type: none"> - No practice outside the room - 10 day training course would have been good - No outing, everything was done at the hotel 						
<p>3.</p> <ul style="list-style-type: none"> - No time to discuss with participants - Not enough practical exercises 						
<p>F. Features 4= very good 1= poor</p>		Very good	Good	Fair	Poor	
	Accommodation → 2.8	?	?	?	?	
	Meals → 3.3	?	?	?	?	
	Lectures/presentations → 3.4	?	?	?	?	
	Discussions → 3.3	?	?	?	?	
	Papers/Handouts → 3.3	?	?	?	?	
	Organization and Management → 3.3	?	?	?	?	
	Quantity of visual aids → 3.3	?	?	?	?	
<p>G. Additional Topics</p>	<p>What additional topics would you have liked included in this training?</p> <ul style="list-style-type: none"> - More examples & application of PE tools for other diseases - Real examples with new practitioners - Statistical analysis of PDS data - How to convince donors for funding 					
	<p>H. Topics to be eliminated</p>	<p>In your opinion what topics/seminars should be considered for eliminations?</p> <p>Nothing</p>				
		<p>I. How useful is this training for your day to day work? On a scale of one to five (1=not useful; 5=very useful) Please rate the usefulness. → 4.1</p>				
	<p>J. will you be able to train others in what you learnt.</p> <p><input type="checkbox"/> Yes → 92% <input type="checkbox"/> No <input type="checkbox"/> I am not sure → 8%</p>					
	<p>K. How would you rate your knowledge and skills on this subject before and after the training? (Use a scale of 1-5, One being very low to Five being very high).</p> <p><input type="checkbox"/> Before Training → 3.1</p> <p><input type="checkbox"/> After Training → 4.6</p>					

L. Would you recommend this workshop to your colleagues?

Yes → 100% No

Please explain

- we need more practitioners in our countries
- to improve our surveillance system
- the sessions on adult learning are very important
- because PE allows to capture a lot of information
- very effective methodology
- because it's another way of data gathering
- many professionals should be aware of PE
- Before the training course the venue should be checked out to avoid situations as we have experienced

M. Any Additional Comments

Please use the space below to write down any additional comments you may have.

- We need project support in our countries to enhance our PE knowledge
- Network support
- Funding & letter to supervisors to inform them about training course and funding possibilities for future activities.
- Funding for future activities in country (2X)
- to practice what we have just learned

Thank You very much for your valuable input.

Annex 8 – Further reading

Adult learning

- [Participatory Practices in Adult Education](#) by Barbara Burnaby, Pat Campbell.
- [Adult Learning and Development: Perspectives from Educational Psychology](#) by M. Cecil Smith, Thomas Pourchot.
- [Enhancing Creativity in Adult and Continuing Education: Innovative Approaches, Methods, and Ideas](#) by Paul Jay Edelson, Patricia L. Malone.
- [Learning to Teach Adults: An Introduction](#) by Nicholas Corder.

Participatory epidemiology

- Barasa, M., Catley, A., Machuchu, D., Laqua, H., Puot, E., Tap Kot, D. and Ikiror, D. (2008). Foot-and-mouth disease vaccination in South Sudan: benefit-cost analysis and livelihoods impact. *Transboundary and Emerging Diseases* 55, 339-351.
- Bett, B., Jost C., Allport R., Mariner J. (2009). Using participatory epidemiological techniques to estimate the relative incidence and impact on livelihoods of livestock diseases amongst nomadic pastoralists in Turkana South District, Kenya Volume 90, Issues 3-4, 1 August 2009, Pages 194-203
- Catley, A. (2006). The use of participatory epidemiology to compare the clinical and veterinary knowledge of pastoralists and veterinarians in East Africa. *Tropical Animal Health and Production*, 38, 171-184.
- Catley, A., Chibunda, R.T., Ranga, E., Makungu, S., Magayane, F.T., Magoma, G., Madege, M.J. and Vosloo, W. (2004). Participatory diagnosis of a heat-intolerance syndrome in cattle in Tanzania and association with foot-and-mouth disease. *Preventive Veterinary Medicine*, 65/1-2, 17-30.
- Jost, C.C., Mariner, J.C., Roeder, P.L., Sawitri, E. and Macgregor-Skinner, G.J. (2007). Participatory epidemiology in disease surveillance and research. *Office international des epizooties revue scientifique et technique*, 26(3), 537-549.
- Mariner, J., McDermott, J., Heesterbeek, J.A.P., Thomson, G., Roeder, P. and Martin, S.W. (2005). A heterogeneous population model for contagious bovine pleuropneumonia transmission and control in pastoral communities in East Africa. *Preventive Veterinary Medicine*. Volume 73, Issue 1, 75-91.
- Mekuria, S., Zerihun, A., Gebre-Egziabher, B. and Tibbo, M. (2008). Participatory investigation of Contagious Caprine Pleuropneumonia (CCPP) in goats in the Hammer and Benna-Tsemay districts of southern Ethiopia. *Tropical Animal Health and Production*. Volume 40, 571-582.