



Participatory Epidemiology Network for Animal and Public Health (PENAPH)

Participatory Epidemiology in Animal and Human Health

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Antwerp, November 5th 2010

ILRI

INTERNATIONAL
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BELGIUM

Presentation outline

- Introduction to Participatory Epidemiology (PE)
- PE in Animal & Human Health:
A Win-Win combination
- PENAPH: *a Network to promote PE and One Health concept*
- Conclusion



Participatory Epidemiology

The use of participatory rural appraisal techniques to collect epidemiological knowledge and intelligence



Participatory Rural Appraisal (PRA)

- Qualitative data gathering process
- Key informants
- Problem solving with community
 - Multiple methods
 - Multiple perspectives
 - Triangulation



Quantitative versus Qualitative Epidemiology

Quantitative

- Objective
- Numerical estimates
- Data intensive
- Expensive
- Logistically complex
- Long-time frames
- Difficult to sustain
- Information gaps

Qualitative

- Subjective
- Flexible
- Rapid
- Discovery
- Simple
- Sensitive
- Skilled field personnel
- Analytical challenges



Qualitative data checking

- Probing
 - Internal consistency
- Triangulation
 - Multiple methods and sources
 - Patterns and coherence
 - Understanding bias
- Understanding conflict of interest
- On the spot analysis
 - Evolving hypotheses and data collection
 - Weighing of evidence



Scoring of evidence

- First hand reports
 - Directly observed
 - Own family
- First hand reports
 - Directly observed
 - Community
- Reports obtained from inquiry
- Second hand reports
 - Hearsay
 - Intelligence but not evidence



Existing Medical & Veterinary Knowledge

Communities know a lot!

- Traditional terms and case definitions
- Clinical presentation
- Pathology
- Vectors
- Reservoirs
- Epidemiologic features



PE applications

Can be used for variety purposes:

- Needs Assessments
- Research
- Disease Reporting
- Disease Surveillance
- Impact Assessment
- It can inform Strategy and Policy Reform



PE tools

- Secondary sources
- Direct observations
- Semi-structured interviews
- Participatory mapping
- Ranking & Scoring techniques
- Diagnostics

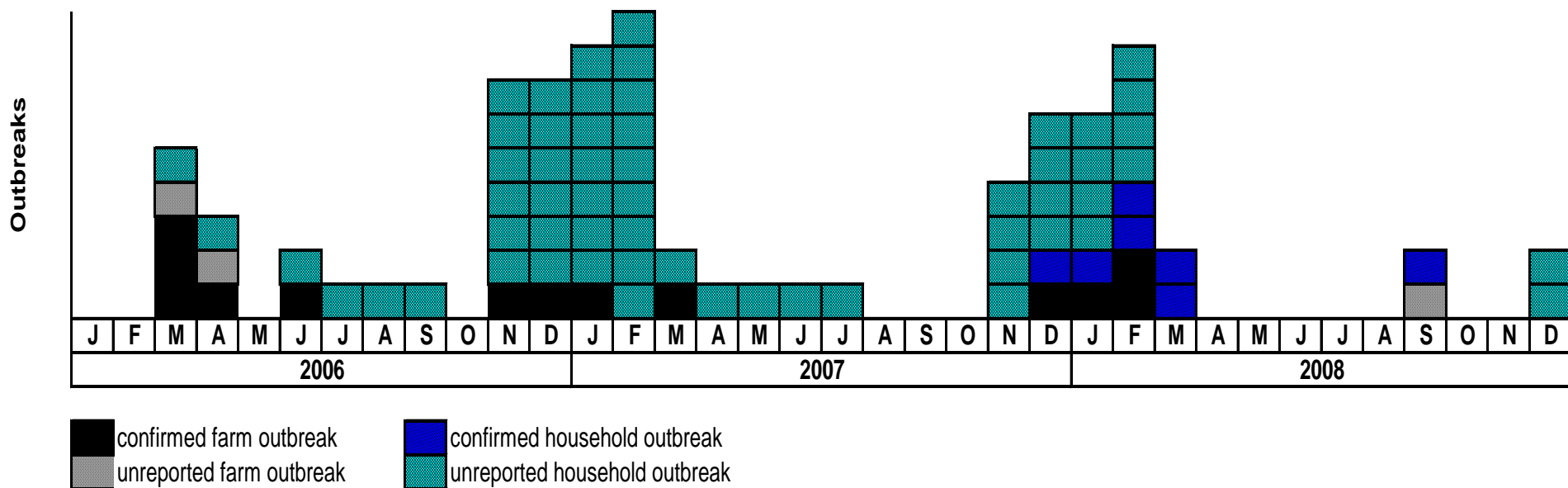


Added value of PE

- Better understanding of local terminologies, perceptions, local treatment and health seeking behavior
- Better understanding of the true epidemiological situation in certain areas since many diseases remain unreported.
- Better understanding of an outbreak situation thanks to the use of PE tools (mapping, timeline...)
- Quick way of understanding of important health issues within the community and coming up community sustainable solutions.



Example 1: Timeline of outbreaks constructed by PDS teams in Egypt



Example 2: RVF outbreak in 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 villages in NE province

Village	August			September			October			November			December			January			February			March		
	E	M	L	E	M	L	E	M	L	E	M	L	E	M	L	E	M	L	E	M	L	E	M	L
Sangailo							*				†			◻										
Ijara							*				†			★										
Kotile								*			†							★						
Fafi								*			†			◻										
Saka							*								★									
Alango-arba										*				†	◻									★

Key



Duration of exceptionally high rains

* Time when mosquito population increased



Time when clinical cases of RVF were observed in livestock



Time when human cases were observed



Time of intervention by the MoH



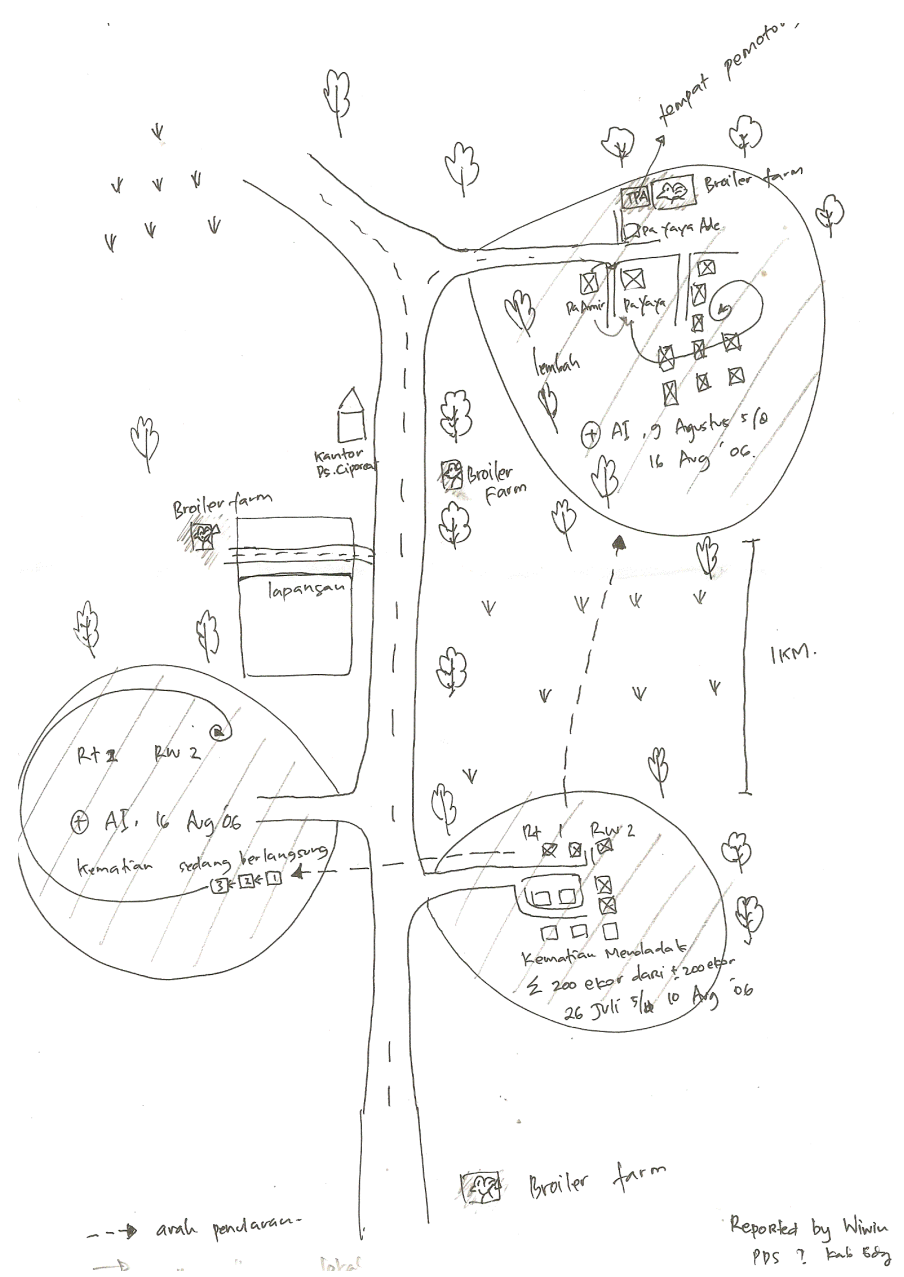
Time of intervention by DVS



Time of intervention by the NGOs



Example 3: HPAI outbreak in Indonesian village



PE, animal & human health

→ *Joint Animal and Human Health Services for Remote Rural/Pastoral Communities*

Combine programs, combine means, common strategy for mobile populations. Example: childhood vaccination was linked to Rinderpest vaccination in Sudan

Currently with resurgence of polio in some areas → combine polio vaccination & PPR or FMD vaccination

Other examples: VSF work in: Sudan, Liberia, Chad



PE and One health...

→ Ongoing study in Western Kenya with the following objectives:

- Determine the *perceived* causes of childhood diarrhea and the *perceived* relative contribution of enteric zoonoses in childhood morbidity and mortality using participatory epidemiology
- Compare and contrast the results of the participatory epidemiological study with those of the ongoing CDC/KEMRI case-control studies (GEMS & GEMS ZED)

Last phase of the work planned for December 2010



Participatory Epidemiology Network for Animal and Public Health (PENAPH)

9 core partner institutions:

- AFENET: African Field Epidemiology Network
- AU-IBAR: African Union – Inter African Bureau for Animal Resources
- FAO: UN Food and Agriculture Organization,
- ILRI: International Livestock Research Institute
- OIE: World Organization for Animal Health
- Royal Veterinary College / United Kingdom
- US-CDC: United States Centres for Disease Prevention & Control
- 2 VSF (Belgium & Canada)

In addition: Universities & individual members



Participatory Epidemiology Network for Animal and Public Health (PENAPH)

- The PENAPH was set up to facilitate capacity building, research and information sharing among professionals interested in participatory approaches to epidemiology.
- Aims to promote minimum training guidelines, good practice and continued advancement of methods.
- Advocates for inclusion of PE modules into medical & veterinary schools
 - Already included in Chiang Mai University (Thailand) Veterinary Public Health MSc
 - In progress: inclusion in AFENET's FELTP program



Conclusion

- PE is an approach to epidemiology that is sensitive to and benefits local communities
 - Conducted by professionals
 - Incorporates diagnostic testing
- It's flexible, semi-structured and adaptable to changing situations. Data from multiple sources is rapidly analysed for quick feedback and response.
 - Research and active surveillance applications
- PENAPH is a growing network designed to build communication between those working on PE across the world in all health related fields.



Thank you!

For more information:

www.penaph.net

