Assessment of Episystems

Jeffrey Mariner
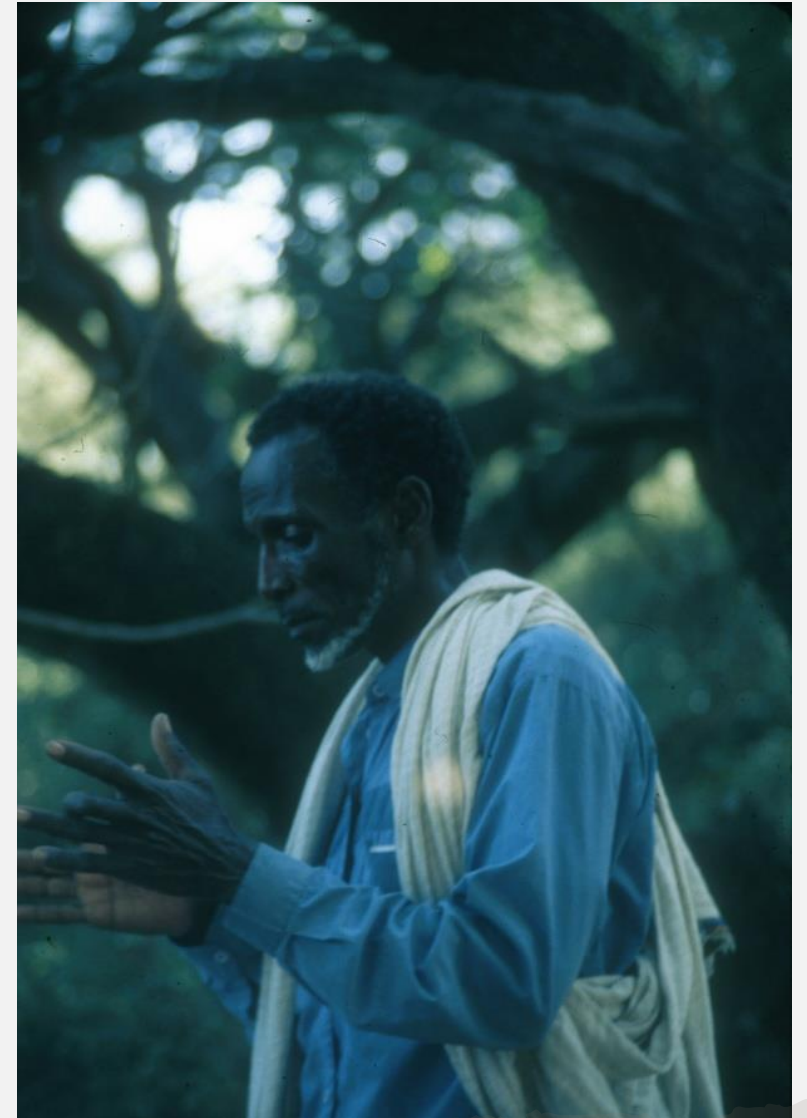
What is Disease Surveillance?

Information for action"

Centers for Disease Control, 1990

Participatory Disease Searching

- Targeted, risk-based surveillance to identify virus circulation and episystems
- Highly sensitive
  - Traditional information networks
  - Extended time frame
- Specificity
  - Triangulation
  - Probing
  - Rapid tests, diagnostics and genomics

Episystem Assessment Process: Major Steps

- Constitute regional assessment team with internal and external expertise
- Working meeting to:
  - Create the right capacity to undertake the assessment and utilize the results in management.
  - Inventory available systems and information before moving to the field to cross-check information and fill gaps.
  - All information is included but critically assessed for bias and accuracy.
  - Participatory mapping at the regional level as an interactive process to develop initial hypotheses.
  - Regional mapping process leads to an initial hypothesis.
- Questions are answered through participatory epidemiological assessments conducted in the communities.
- Community level assessments should be carried out by small teams that include members certified in participatory epidemiology.
- Result of participatory assessments, molecular epidemiology and all surveillance systems are integrated to provide the best-bet scenario describing the episystems.

Participatory Disease Search

- Initial risk-based discussion and review of available information to develop episystems hypotheses

- Participatory field assessments that follow the trail of evidence to active cases

- Sampling, diagnosis and molecular epidemiology

- Best bet episystem

Participation

- The empowerment of people to find solutions to their own development challenges
- Both an attitude and philosophy
  - Learning
  - Discovery
  - Flexibility
  - A response to past failures

Risk-based

Where are you going to go?

Existing Health Knowledge

- Traditional terms and case definitions
    - *Shifow, dugahabe*, *petu*
- Clinical presentation
- Pathology
- Vectors
- Reservoirs
- Epidemiologic features

Traditional Case Definitions and Confirmation

Sudden Death w/ 4hrs

Flock of Bangkok fighting chickens, presentation consistent with clinical case definition, Lampung Province September 2006.

Anigen Test

Positive Anigen test, same flock.

Key Informants

- Intelligence vs. random sampling
  - Respected community members
  - Traditional healers
  - Elders and chiefs
  - Health personnel
  - International experts

Tools

- Secondary sources
- Direct observation
- Semi-structured interviews
  - Checklists vs. questionnaires
  - Open-ended questions
    - Discovery
    - Non-leading
  - Probing
- Visualization - mapping
- Scoring - piling
- Key diagnostics
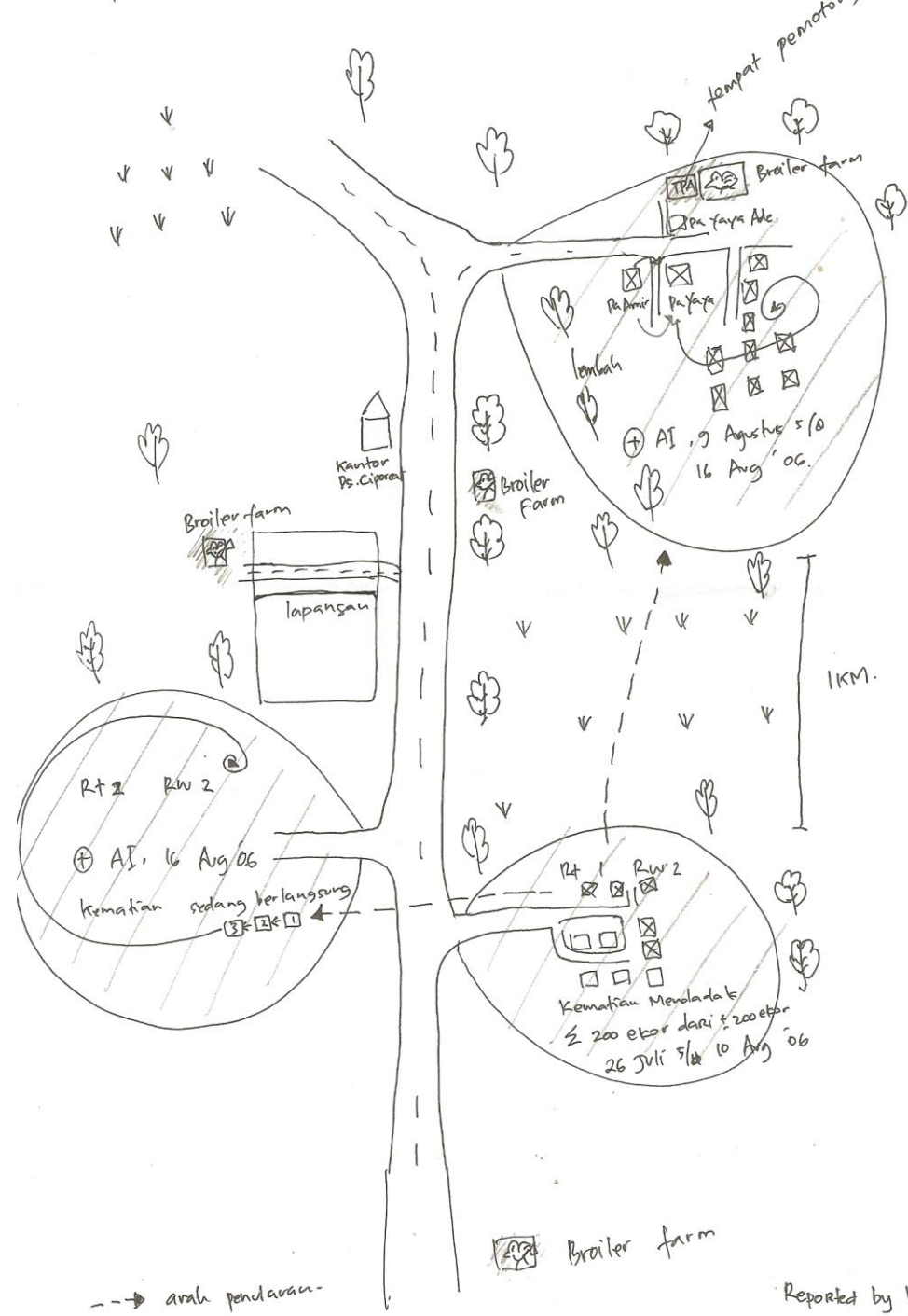
PDS Checklist

- Introduction and ice breakers
- General disease problem
  - lexicon
  - probing
- Fully explore suspicious events
- Inquire directly about suspicious events
- Ask if they have any questions.

Semi-Structured Interviews

- Who's present?

- Who's talking?

- Who's not talking?

- Body language?
  - Dress
  - Posture
  - Expression
  - Wealth, social status, sex and age

tempat pemoto...

TPA Broiler farm

Pa Yaya Ade

Pa Amir Pa Yaya

lembah

⊕ AI , 9 Agustus 5/8
16 Aug '06.

Kantor
Ds.Ciporeat

Broiler farm

Broiler
Farm

lapangan

1KM.

Rt 1   Rw 2

⊕ AI, 16 Aug 06

kematian sedang berlangsung
3 ← 1 ← 1

Rt   Rw 2

Kematian Mendadak
≤ 200 ekor dari ± 200 ekor
26 Juli 5/8 10 Ag '06

Broiler farm

---→ arah penularan.

Reported by Wiwin
PDS ? kab 5dg

Data Checking and Analysis

- Probing
    - Internal consistency
    - Scoring criteria
- Triangulation
    - Multiple methods and sources
    - Patterns and coherence
- Conflict of interest
- On the spot analysis
    - Evolving hypotheses and data collection
    - Weighing of evidence

Lineage II Rinderpest in the Somali Ecosystem
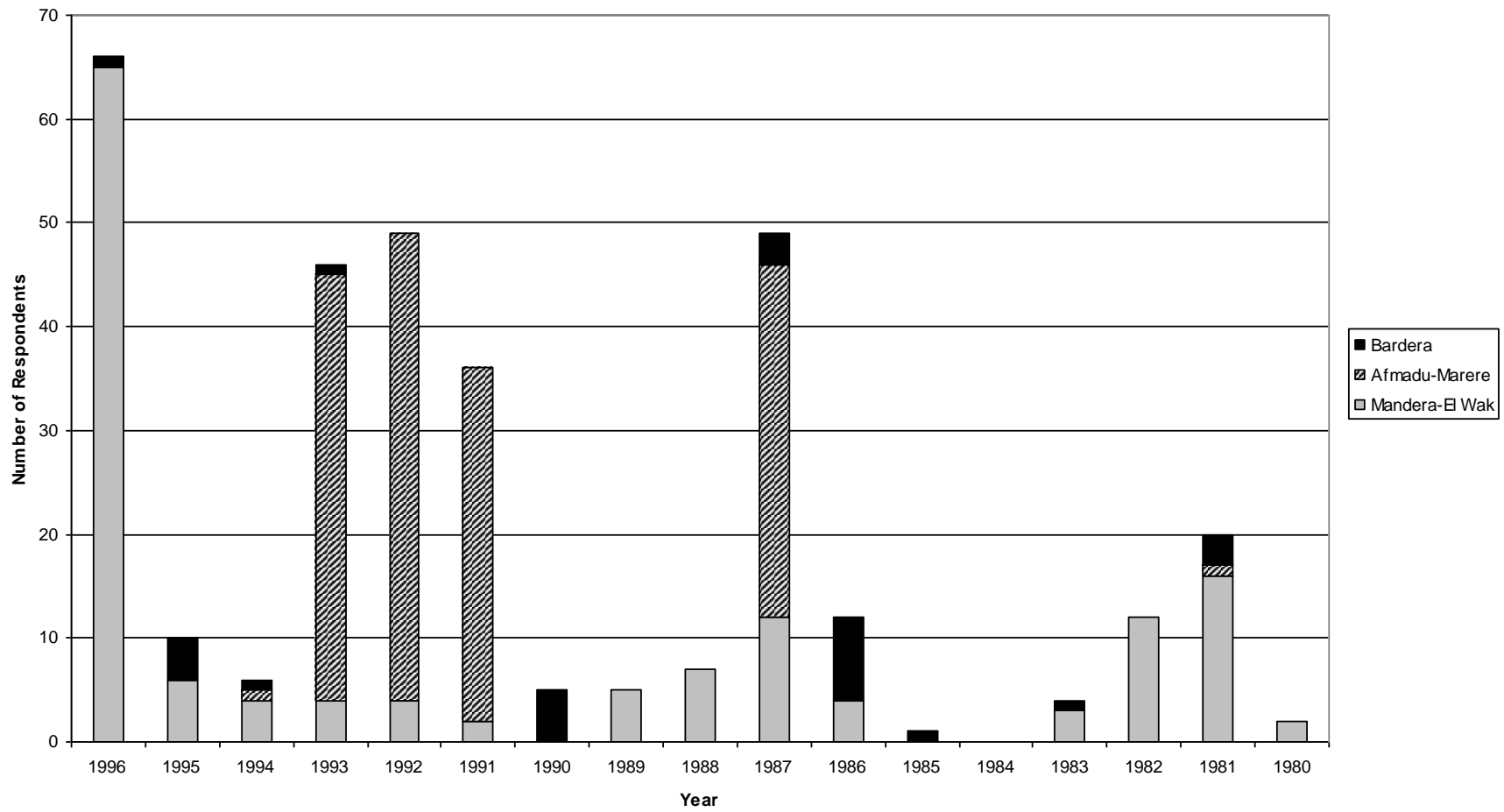
Scoring Reports

- First-hand volunteered reports
  - Directly observed
  - Own family

- First-hand volunteered reports
  - Directly observed
  - Community

- Reports obtained from direct inquiry

- Second hand reports
  - Hearsay
  - Intelligence but not evidence

Some of us believe we have rinderpest, but we are not really sure. The disease looks like rinderpest, but it doesn't kill the animals. It is rinderpest-like or mild rinderpest."

Somali Elder

Analysis

- Evolving hypothesis – triangulation of stakeholder perceptions
- Integration of molecular evidence
- Best-bet scenario – the proposed episystem for management planning
- Sharing and response to comments
- Follow-up field assessment missions suggested by results
- The best-bet episystem for management planning
- Negative results – absence of disease – tool in establishing disease freedom