Integration of quantitative and qualitative research: observations from a multi-country EcoHealth study

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PRESENTATION OUTLINE

- The EcoZD project
- Mixed methods research
- Case study from EcoZD project
- Lessons learnt
THE EcoZD PROJECT

- **ECOSYSTEM APPROACHES TO THE STUDY OF ZOONOTIC DISEASES**
  - Multi-country project in Southeast Asia
  - Research question at *animal-human interface* (zoonoses)
  - **MULTIDISCIPLINARY** research teams
  - Integration of social and natural sciences research
  - Working using principles of *EcoHealth research*
  - Capacity building
“... intentionally integrate or combine quantitative and qualitative data to maximize the strengths of each, to answer questions that are inadequately answered by one approach.” (Ozawa and Pongpirul, 2013)

“... it allows researchers to view problems from multiple perspectives, contextualize information, develop a more complete understanding of a problem, triangulate results, quantify hard-to-measure constructs, provide illustrations of context for trends, examine processes/experiences along with outcomes and capture a macro picture of a system.”

(Ozawa and Pongpirul, 2013)

Increasing literature - mixed methods as a distinct research approach
... with a lot of controversy too!!

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Mixed Methods Research

• MERGING THEORIES AND PRACTICES qualitative and quantitative research methods

• Different approaches to integration (complementarity, development, initiation, expansion, triangulation)

• Field under development – need to build up the case log to demonstrate which approaches are more suitable to answer different types of research questions

• Best practice guidelines published in 2010\(^1\) to guide MM research best practices in health sciences

• RISK TO “FORCE” MM RESEARCH WITHOUT REAL NEED - The rational for a research question to require MM approach needs to be clearly identified \textit{a priori}

Mixed methods research in EcoZD studies

EcoZD – what happens in practice...

**Qualitative research:**
- Participatory rural appraisals (PRA)
- Focus group discussions (FGD)

**Quantitative research:**
- Observational studies
- Biological sampling

Summary report → Statistical analysis
LIVESTOCK KEEPING AND DIARRHOEA IN CAMBODIA

2 Provinces
4 Districts
8 villages

Quantitative methods (questionnaire and biological sampling)
investigate risk factors for zoonotic transmission

Qualitative methods (PRA and FGD)
capture socio-economic aspects linked to disease occurrence and spread

Quantitative analysis

No correlation animal/human pathogens
Animal farming / pig-cattle consumption
NOT risk factors.
Duck/fish consumption potential RF.
Eating sick animals, vegetables, use surface/lake water - RF

Summary of observations

Sickness attributed to food other than from animals and un-boiled water
Participants do not consumed meat from their animals
Wealth as risk factor
Animal raising practices change with season
Chemicals
IS THERE AN ADDED VALUE?

- Helps make sense of “hard to explain” quantitative findings
- Captures complexity
- Help design the research question
  - Identifying the problem
  - Get acquainted with the context
- Inform participants about study
- Guide design of intervention/control strategies
- Good complement of small quantitative studies

- Allows testing of hypothesis
- Allows in depth analysis of specific aspects
- Provides accepted scientific evidence to support advocacy
A LOOK “A POSTERIORI”

TRULY INTER-INSTITUTIONAL WORK

Added value of FGD and PRAs (broader understanding of context; facilitates interaction with stakeholders)

APPROACH:

“Convergent design” - both methods used “independently” and results can be combined/integrated after analysis.

It could also have been a study for theory development (i.e. qualitative) followed by testing/extension studies (quantitative).

DATA INTEGRATION WAS LIMITED (needs explicit analysis plan)

GREAT CHALLENGE IN TERMS OF EXPERTISE NEEDED (capacity development)

TIME COMMITMENT FROM RESEARCH TEAM