EcoHealth in Action in Southeast Asia: Results and experiences from six transdisciplinary research teams and two EcoHealth Resource Centres

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Outline of talk

• Context of SE Asia
• EcoZD project and approach
• Challenges
• Solutions
• Research by country team
• EcoHealth Resource Centres: Need for sustainable local training resource
• Measuring impact
SE Asia Context: Emergence of Zoonoses

Jones et al. Nature 2008
Greatest Burden of Zoonoses Falls on One Billion Poor Livestock Keepers

An ILRI study shows that zoonotic diseases are major obstacles in pathways out of poverty for one billion poor livestock keepers. The diseases mapped cause 2.3 billion human illnesses and 1.7 million human deaths a year. In poor countries, the diseases also infect more than one in seven livestock every year.

Map by ILRI, from original published in an ILRI report to DFiD: Mapping of Poverty and Likely Zoonoses Hotspots, 2012.

http://cgspace.cgiar.org/handle/10568/21161
SE Asia Context: % growth in demand for livestock products: 2000 - 2030
Ecosystem Approaches to the Better Management of Zoonotic Emerging Infectious Diseases in SE Asia

- Increased risk of brucellosis and toxoplasmosis
- Prevalence of priority pig zoonoses
- Leptospirosis in community and abattoirs
- Rabies control and prevention
- Hygiene in small-scale poultry slaughterhouses (2 countries)
- Zoonotic causes of acute diarrhoea

EcoHealth Resource Centre at Gadjah Mada University
EcoHealth Resource Centre at Chiang Mai University
Step-by-Step

- Identifying individuals/institutions
- Choosing/conceptualise a research topic (priority zoonoses, EH approach, all team members could contribute)
- Training needs: EcoHealth training; proposal write-shop; data analysis; M&E; PRA (2D)
- Research contracts, work-plans & budgets
  - Field Work
  - Data analysis
  - Dissemination to communities
  - Policy Engagement
  - Peer-reviewed journals
Scoping Study

Info flows: DAH, VietNam

Info flows: CelAgrid, Cambodia

Info flows: NAHC, LaoPDR

Grace et al; EcoHealth journal 2010
Eco Health
Complexity focus
System thinking
Academic
Pioneered by IDRC & outside
Traditional ‘health’
‘Bottom Up’
Vets, Medics,
epidemiologists,
ecologists, social scientists,
philosophers, indigenous
perspectives, etc.

One Health
Schwabe’s One Medicine
Strategy/operational
UN/WB
‘Top down’

Integrated approach

Communicable Diseases
More quantitative

Veterinarians, medics, some
wildlife & social science

Adapted from Karen Morison, University of Guelph
The ‘Högertrafikomläggningen’ period

Högertrafikomläggningen, the day where traffic in Sweden switched from the left to the right side of the road 1967
## Challenges & Solutions

### Challenges

- Accepting novel ‘EcoHealth’ paradigm and fostering trans-disciplinary collaboration (some countries rigid mechanism including financial mechanisms)
- Limited capacity within disciplines eg proposal writing, epidemiology, dissemination (journal articles, policy, IEC)
- Competition with other projects/initiatives/paradigm (One Health)
- Sustainability of EcoHealth (One Health) approach

### Solutions

- 5 year project cycle assisted, *learning by doing* approach gives first-hand experience using country priorities not donor ones
- Plans for all countries to disseminate approach and findings to research community, policy makers and communities
- Mentoring by ILRI researchers & technical experts provided real-time support according to needs; EcoHealth(One Health) Resource Centres for regional training and advocacy
- Teams/members were encouraged to be part of other initiatives; some team members drafted & submitted multi-country proposal
- Ownership by teams: they chose the priority and conducted the research
- Further funding cycle(s) sought: 10+ years to institutionalise
Zoonotic diarrhoea in rural communities

- Coordination by NGO (CelAgrid)
- Use of participatory tools (MoH)
- Combined fieldwork
Brucellosis

- Emerging disease in southern China (versus highly endemic in North)
- Coordination by YAGAS
- Novel use of participatory tools
- Combined dissemination at national level

Toxoplasmosis
Rabies in Bali

- Ecological focus:
  - Behaviour
  - Demography
  - Fecundity
  - Socio-cultural

- Village Cadre training
- Education & awareness
Priority Pig Zoonoses

- 5 zoonoses: HEV JEV Erysipelas; Taenia/cysticercosis; trichinellosis
- 3 non-zoonoses: FMD PRRS CSF
- Development of existing MoH/MAF partnership
- Serum bank: Brucellosis; coxiella
Joint Thai-Vietnamese team

Small-scale Poultry slaughterhouse hygiene

- Engage community
- Discuss cost-benefits
- Policy engagement at central level (DLD)
Viet Nam

Leptospirosis – pigs and people

- First joint MoH/DAH activity with joint fieldwork
- Participatory tools applied
- Behaviour change in the researchers!
EcoHealth Resource Centres

Chiang Mai & Gadjah Mada Universities

- **Academic environment**
  - Aim: under- & post-grad
- **Multi-faculty training**
- **Trainers for external courses**
- **Multi-faculty research**
- **Needs capacity building /ToT approach**
- **EH manuals**
- **Future OH/EH resource for the SE Asia region**
Measuring Learning by Doing

Combine participatory self-assessment of Outcome Mapping & assessment of research project management for adoption of EcoHealth principles (EcoHealth Uptake)

**Outcome Mapping**
- Construct team’s intentional outreach & outcomes
- Spur organizational learning via reflection on team’s outreach experiences
- Record, analyze, & transform team’s learning for practice/policy engagement

**EcoHealth Uptake**
- Identify management factors for successful team adoption of EcoHealth
- Harness team’s adoption of management factors for EcoHealth capacity & institution building
- Observe & record adoption process
The Process of Measuring Outcomes

A Two-layer process following Outcome Mapping methodology

Layer 1 measures knowledge, attitude, practices (KAP) changes of country teams

Layer 2 measures KAP changes of targeted stakeholders

ILRI-EcoZD

Layer 1

Layer 2

CHI
CAM
IND
VTN
LAO
JTV
CMU
UGM

Para professional
Slaughterhouse owners
Students
Assessing Outcomes

Layer 1 & Layer 2 Progress Indicators

Key themes of Progress Indicators:

Layer 1: EcoZD – Teams

• Understanding and applying EcoHealth principles.
• Communicating research findings.
• Networking & policy engagement.

Layer 2: Teams – Boundary Partners

• BPs’ improved understanding/specific knowledge.
• BPs’ changes in practices.
• BPs’ communication of particular knowledge/practices to communities.
## Factors for Successful Uptake of EcoHealth by a Research Team

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<thead>
<tr>
<th>Factor</th>
<th>Description</th>
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<tbody>
<tr>
<td>Managing knowledge exchange</td>
<td>for transdisciplinary collaboration/learning &amp; participatory decision-making</td>
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<tr>
<td>Managing use of social science</td>
<td>for systems thinking via synthetic interpretation of research findings + team’s learning from outreach/engagement</td>
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<td>Managing research administration</td>
<td>time &amp; resource allocation for experimenting with EcoHealth innovations</td>
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<td>Managing organizational culture &amp; host institute norms</td>
<td>for institutionalizing integrative approach - re-tooling structures &amp; habits to integrate EcoHealth principles</td>
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<td>Managing expectations</td>
<td>for potential impacts - matching research project objectives with intentional outcomes to mitigate costs and capture benefits + added value of EcoHealth</td>
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Conférence internationale Africa 2013 sur l’Ecosanté