The impact of aquatic animal health strategies on the livelihoods of poor people in Asia

DFID Funded

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Components of project

- Social literature review
- Flow of information
- Situation appraisals
- Systematic (Cochran) literature review
- Impact assessment
- Epidemiology training / expertise
- Epidemiology data analysis
Demand

Nature of problem

Level of expertise required

Control

Dissemination
There is widespread demand for AAH expertise, especially diagnosis and control strategies. The poor:
- are involved in aquaculture
- are affected by aquatic animal diseases
- can benefit from AAH expertise
Nature of problem

- New problems
  - locally or globally
- Emerging problems or more complex problems
  - changing pattern / uncommon
- Existing problems
  - simple / static / common

Demand

Level of expertise required

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Demand

Nature of problem

• New problems
• Emerging problems
• Existing problems

Level of expertise required

• No info - requires research
• National / international expertise
• Diagnostic expert / lab
• Farm or local
• Strategic and legislative
  • Surveillance
• Advanced systems control
  • Nutrition/life cycle / genetics
• Therapy
  • Immuno / Chemo
• Basic hygiene and biosecurity
Demand

Nature of problem

Level of expertise

Flow of information
- Situation appraisals
- Social literature review

Control

Dissemination

• Direct
• Media
• Extension
• Commercial
The system has worked and is working but there are some problems

Developing and retaining diagnostic/control/epidemic human capacity

Lack of access to information = duplication of effort

Demand

Nature of problem

Level of expertise required

Control

Control strategies not tested biologically or in livelihoods context

Dissemination
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Role of epidemiology

- Demand
- Nature of problem
- Level of expertise required
- Research into new or emerging problems
- Control
- Surveillance
- Dissemination
- Testing control strategies
Developing and retaining diagnostic/control/epidem human capacity

- **Diagnosis**
  - Human and vet medicine
  - Use houseman or interns
  - We don't have the capacity in AAH
  - Need alternative
    - Repository of diagnostic cases in self study format

- **Epidemiology**
  - Benefits widely recognised
  - Large demand for training
  - Hardly any training available
Information on disease control not being made available (peer review or other)

Systematic (Cochran) review
- Tries to remove bias from process

67% (763/1141) of the papers were unique to one database
- WoS /ASFA /CAB/ BIOSIS
Control strategies not tested biologically or in livelihoods context

- Double blind trials accepted standard
- Not yet successfully applied in Asian aquaculture - very few elsewhere
- WHY? - need to find out
- Current control strategies may not have biological effect far less positive livelihoods impact
Systematic (Cochran) review

◆ Over 2000 studies considered,
  ● Electronic databases (913), conferences (140 proceedings), theses (300), grey literature (367), others inc reports
◆ For inclusion:
  ● Studies in India, Thailand or Vietnam - previous 10 years
  ● Method described, with control group and statistical analysis
  ● Demonstrable effect on growth/survival/production/quality/disease occurrence
◆ Only 24 papers (24/2000+) evaluated disease control strategies
Researchable? constraints

- Control strategies
  - Need methods to test them
    - Double blind methodology already exists
    - Why has it not been applied in aquaculture
      - Partly funding partly nature of systems

- Human capacity - training and application
  - Need to develop & retain diagnostic expertise
    - Not just pathogen ID tests - not diagnostic!!!
  - Need epidemiology expertise
  - Need sustainable investment