

Codes of practice and better management: a solution for shrimp health management?

Flavio Corsin, C.V. Mohan, Arun Padiyar, Koji Yamamoto Pornlerd Chanratchakool

From DAA5 to DAA6





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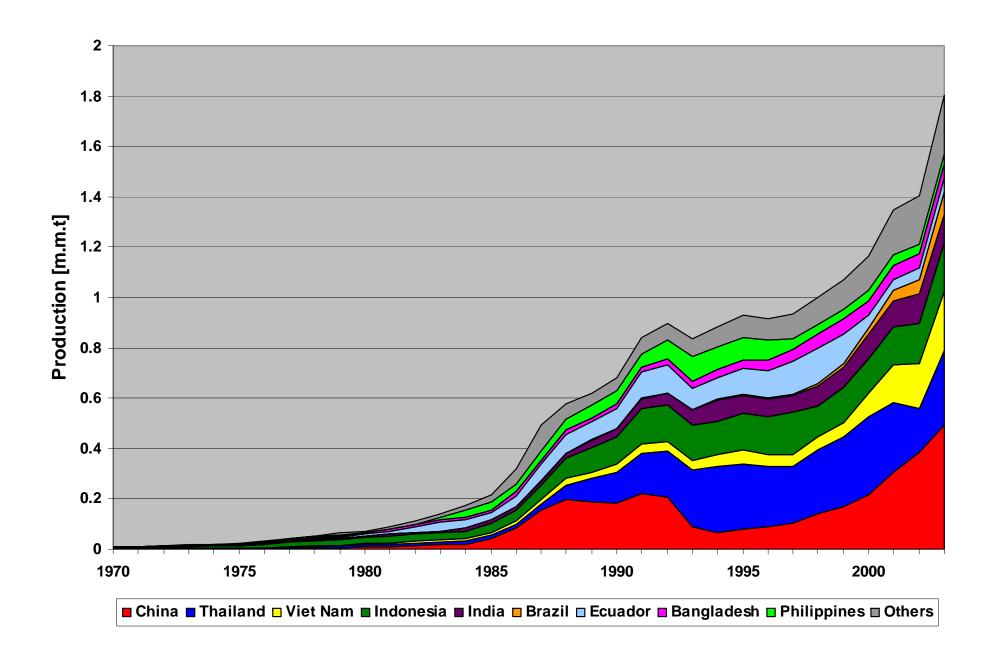


A rapidly growing sector

- Global shrimp production (in 2003)
 - □ 1.8 million metric tons
 - □ Valued USD 9.3 billion
- Asia produced (in 2003)
 - □ 1.5 m.m.t. (83% of the global production)
 - □ Valued USD 7.8 billion
- Rapidly growing in recent years
 - □ China 3.4-fold increase (1998→2003)
 - □ Vietnam 4.5-fold increase (1998→2003)









Major challenges

- New diseases with old impacts
 - ☐ YHD, WSD, TS...
- Environmental degradation
- Increasing demand for healthier products (residues, pathogens)
- Allegations for poor socio-economical sustainability
 - Declining global prices





Need for better = more sustainable ways to do shrimp farming!









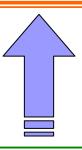
Responsible shrimp farming

- FAO CoC for Responsible Fisheries (whole fisheries sector)
- Principles for responsible shrimp farming
 - □ Consortium program(WB, NACA, WWF, FAO, UNEP, ...)
- Efforts from the private sector & governments
 - □ Develop & implement better practices (BMP/GAP…)



Valid regardless of the species or system

Principles for sustainable shrimp farming



Specific to the system

Better Management Practices
Good Aquaculture Practices

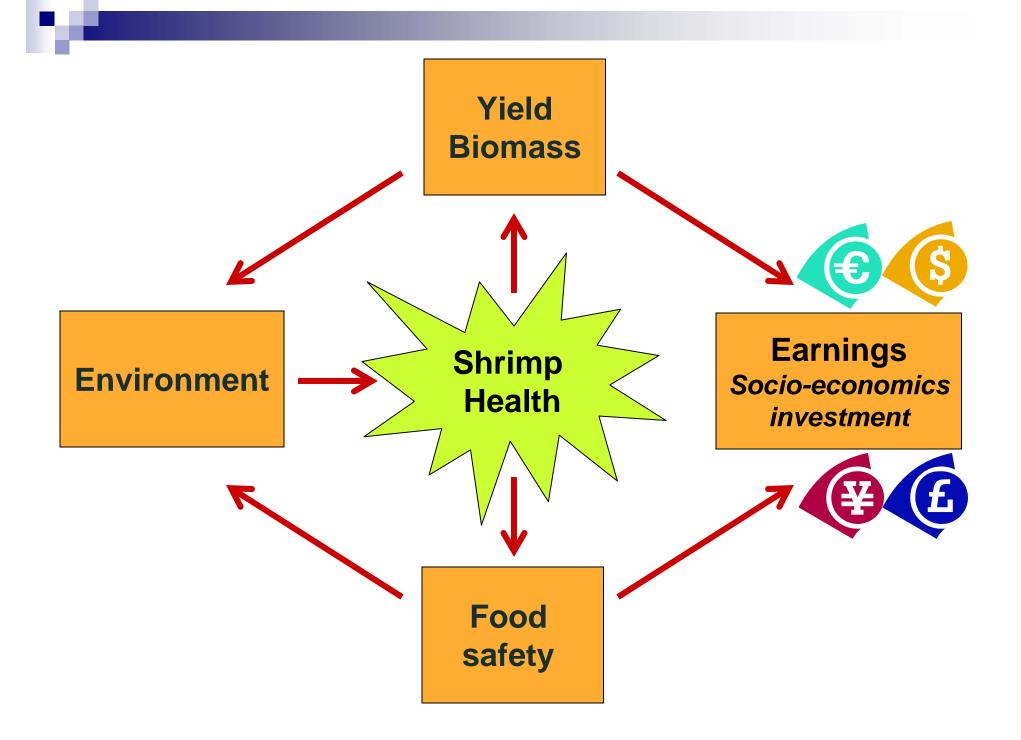


Better Management Practices

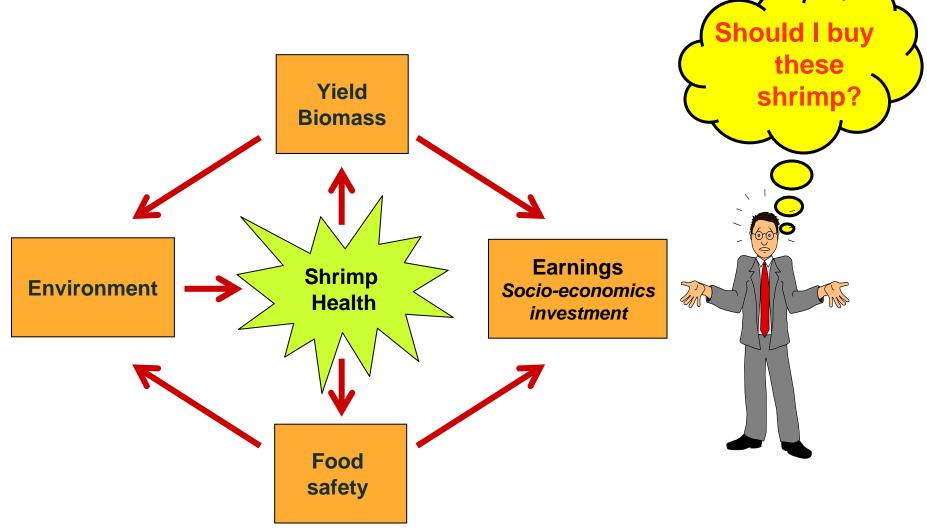
- BMP are practices that target:
 - Environment protection
 - Improved shrimp health
 - □ Improved food safety
 - □ Socio-economic sustainability



Need to looking at shrimp health in a broader sense (all is inter-connected)

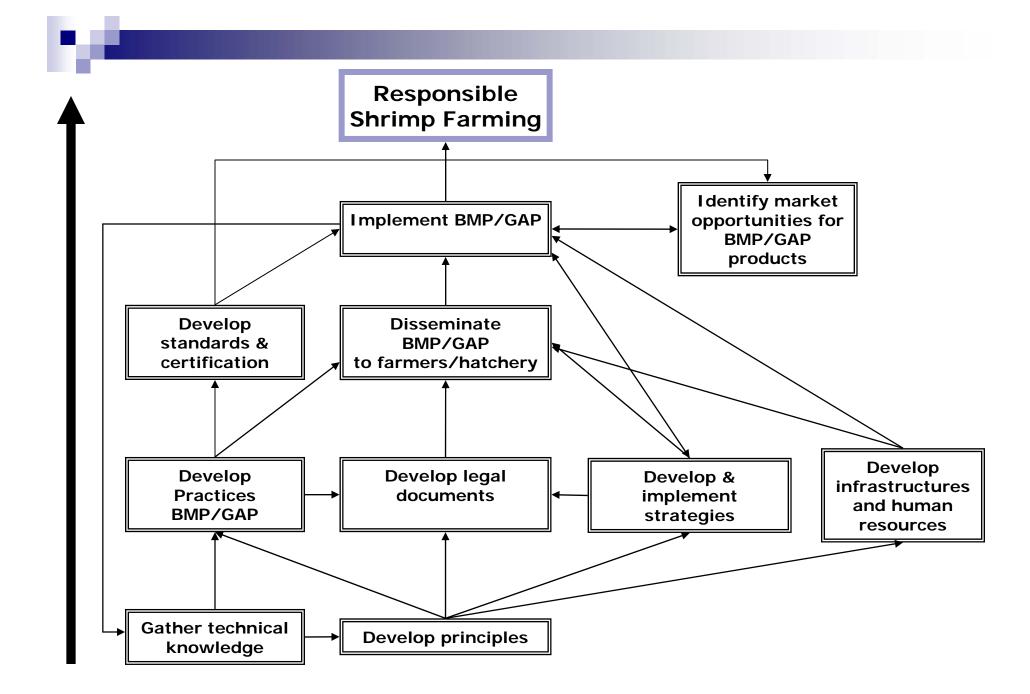


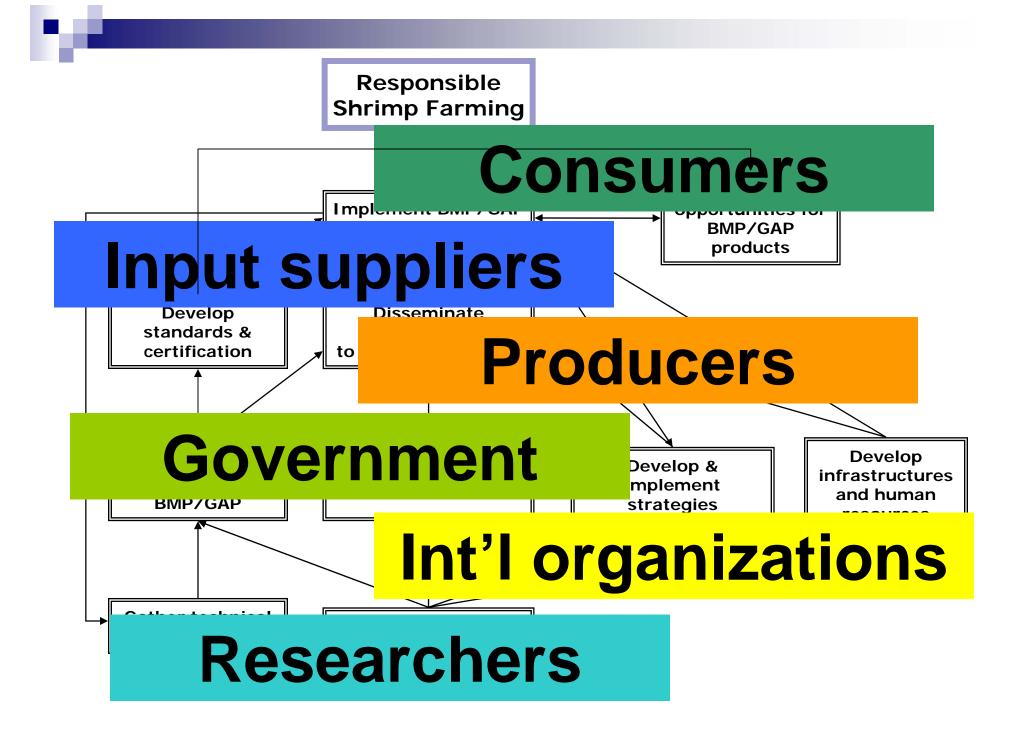


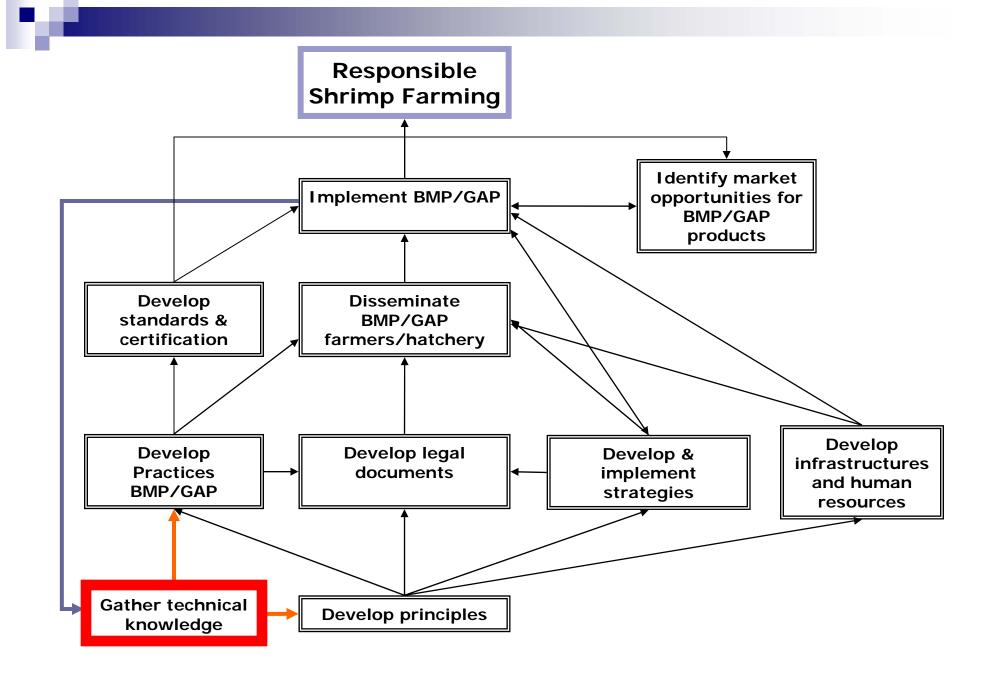




How can we achieve all this?



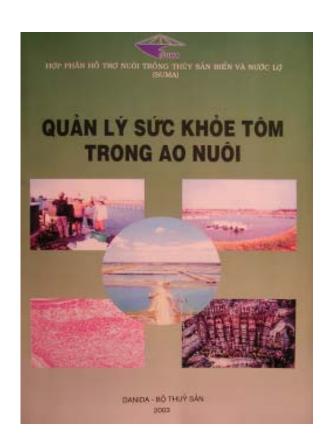


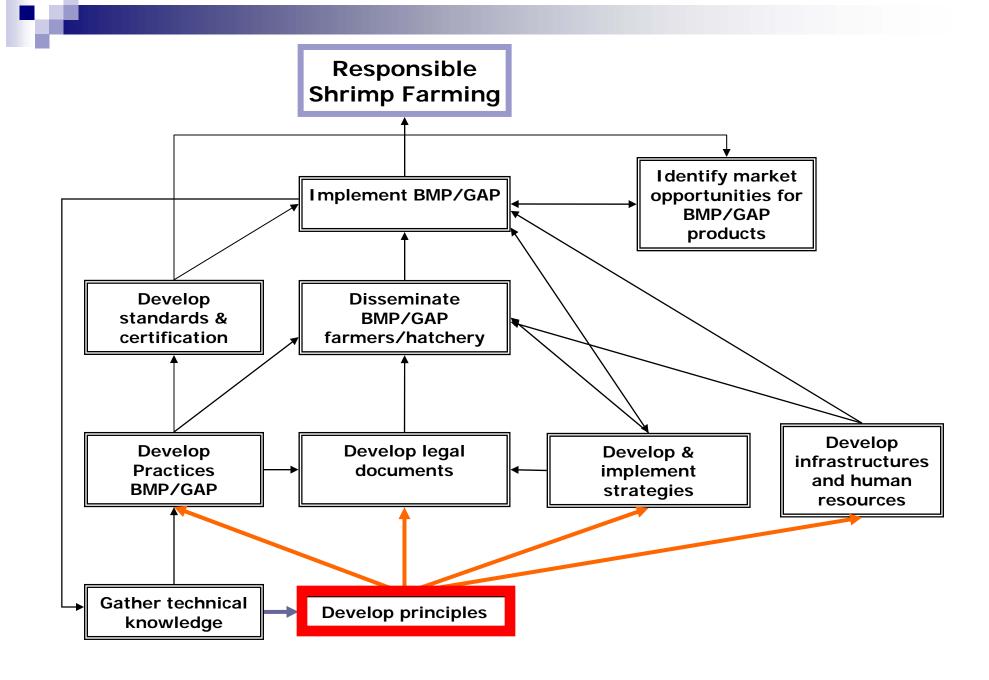




Gather technical knowledge

- Manuals
- Expert opinion
 - □ International
 - National
 - □ Local (farmers)
- Research
 - □ Learn from experiences
 - Monitor & evaluate







International Principles

- Consortium program ('99)
 - ☐ World Bank
 - □ NACA
 - □ WWF
 - □ FAO
 - □ UNEP (new)
- Several stakeholder consultations
 - □ Workshops, meetings,...
- Now on the web for comments
- To be submitted to COFI-Aqua (Sept 2006)











International Principles for Responsible Shrimp Farming

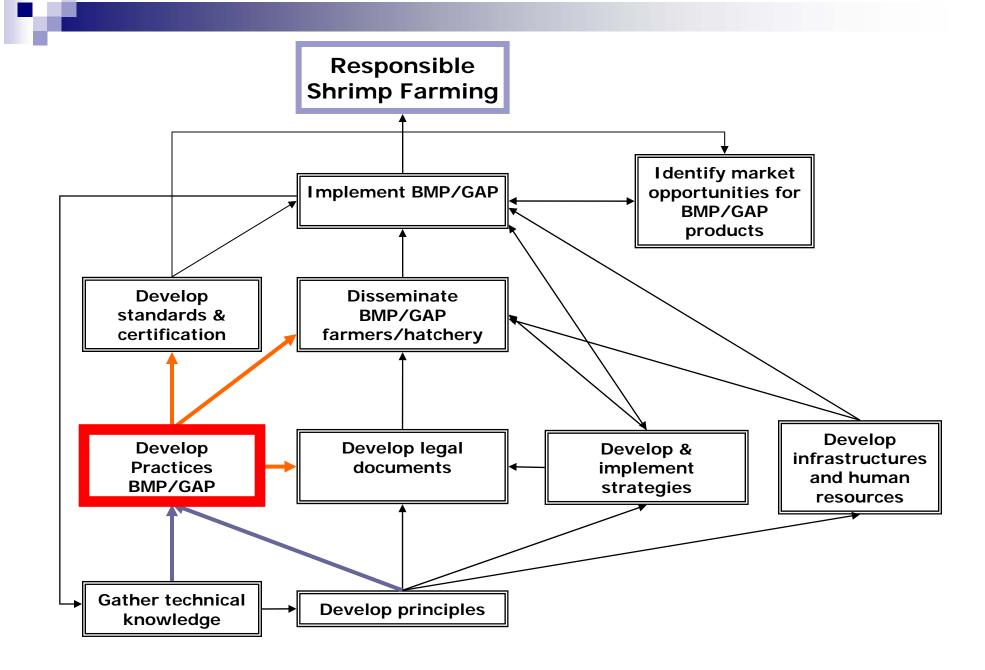
Section I: Background and Purpose

Introduction

Aquaculture production as well as trade in aquaculture products has grown significantly in recent years, responding to increased domand for aquatic products. Aquaculture production neached 55 million toness in 2003, with a farm gate value of \$57 billion. Developing countries dominate aquaculture production and trade, contributing over 80% of production and 50% to the value internationally brade aquatic products. Aquaculture now contributes significantly to the global seafood trade as well as to domestic consumption, and is expected to increase significantly due to stagnating upplies from wild capture finderies.

With increasing volume of production, task and consumption there is a concurrent and increasing domand for improved sustainability, social acceptability, and human health safety from the sector. This is not only affecting the international trading environment and presentizing the producers to focus on their production methods in order to address those concerns, but it is also requiring the producing countries to develop and implement adequate and appropriate policies that provide a conducive environment for responsible production and trade. To achieve those objectives, the Food and the Agriculture Organization of Ultried Nations (FAO) took a leading not by developing the Code of Conduction (CoC) for responsible finderies.

Shrimj farming has been one of the fastest growing aspacedhre sectors. This rapid growth has come at a cut. Sensitive vardand habitus such as maggrower area were destroyed to loave space to the rapidly expanding farming areas. This rapid growth also impacted other land suers. Most notable was the impact on the agriculture sector, which was affected by sufficient of the land. Environmental pollution, often caused by overcrowding of pends and poor management, severally affected not only the surmonding curronnent but also initiated as delipolation process that led to the abundonment of large farming areas. As a consequence, degradation of the pound overironment caused an increase in health problem, which riggered oreop losses and increased use of chemicals. A large number of treatments have been used by farmers worldwide, and some of these substances have been brauned by insperting contributions for the proquent of the substances have been brauned by insperting countries for the prospect of food safety. In





The aim is to convert the principles into practices that farmers can follow

- System/time specific
- Simple
- Practical
- Cost-effective
- Applicable by all (small-scale)
- Not only for grow-out
 - □ Hatcheries
 - Middlemen







What are those practices?

- Pond location and construction
- Pond preparation
- Seed selection & stocking
- Improve pond management
- Monitor pond bottom, water quality & shrimp health







- Improve biosecurity during production
- Keep records
- Better management of health problems
- Be a good neighbor/employer







- Focus on farmer groups
 - ☐ Share costs (e.g. seed testing)
 - □ Improve water management
 - □ Reduce disease risk
 - □ Voluntary extension workers



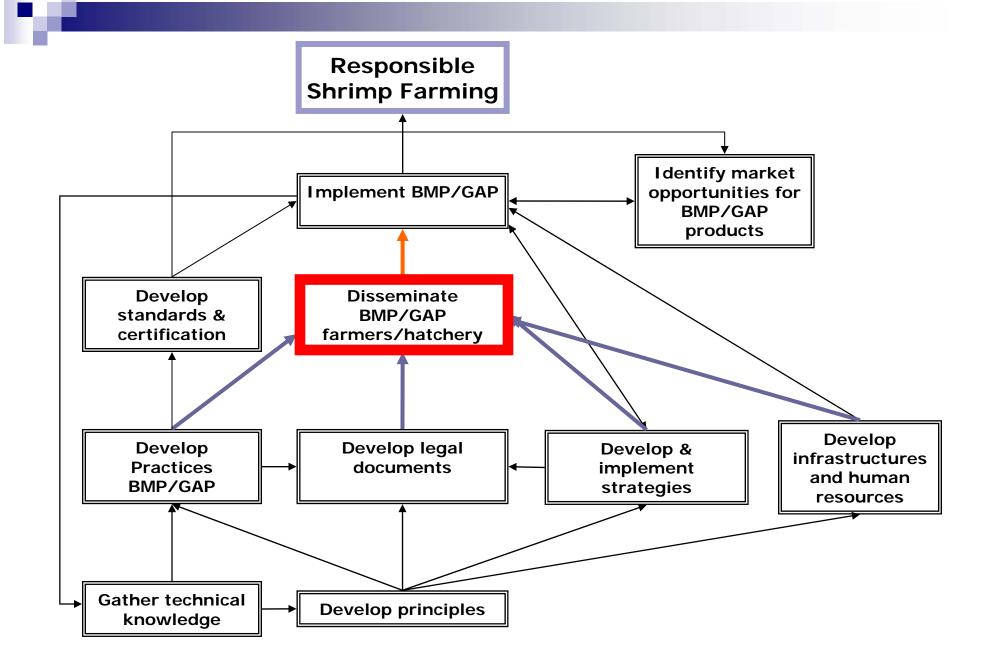




- BMP/GAP (Viet Nam)
- BMP (India)
- GAP/CoC (Thailand)
- BMP Thailand
- BMP Indonesia
- BMP Iran
- BAP (GAA/ACC)
- others









Dissemination

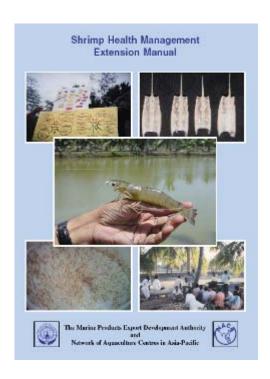
- Extension system plays important role
- Input suppliers (seed, feed)
- Farmer to farmer (voluntary EW)

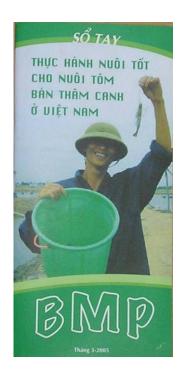




Dissemination

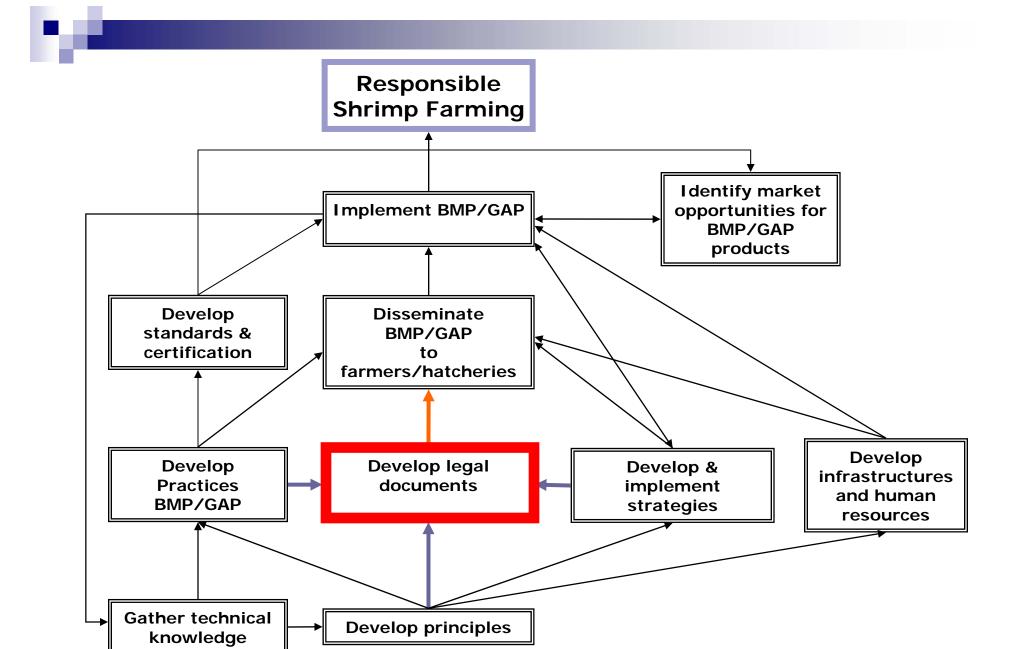
- Extension material
- Farmers meetings
- Regular pond visits









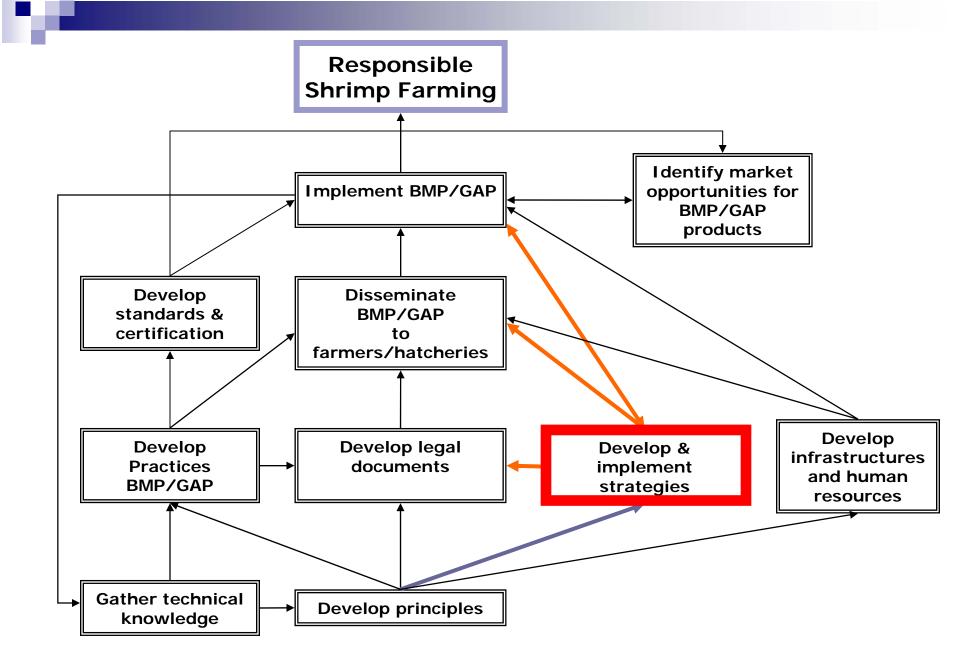




Develop legal documents

- Government responsibility
- Regional / Int'l assistance
- Several countries in the region
 - □ Thailand
 - □ India
 - □ Viet Nam...
- Have to be based on better practices! (practical, affordable, cost effective...)



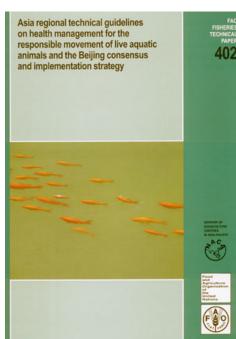


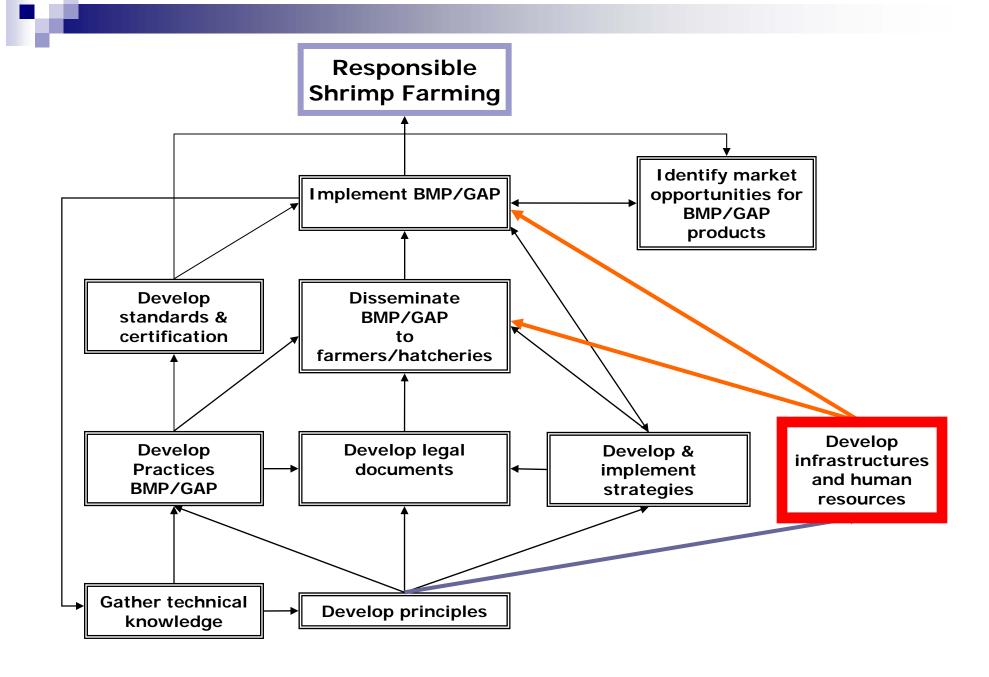


Develop/implement strategies

Task for many stakeholders (govt, regional/int'l organizations...)
Asia regional

- National strategy for AAH
- Surveillance system
- Contingency planning
- Traceability
- Extension strategy







Infrastructures & human resources

- Many stakeholders involved
- Infrastructures
 - □ Disease diagnostic labs
 - Water quality labs
 - Monitoring stations
 - □ Data analysis centers





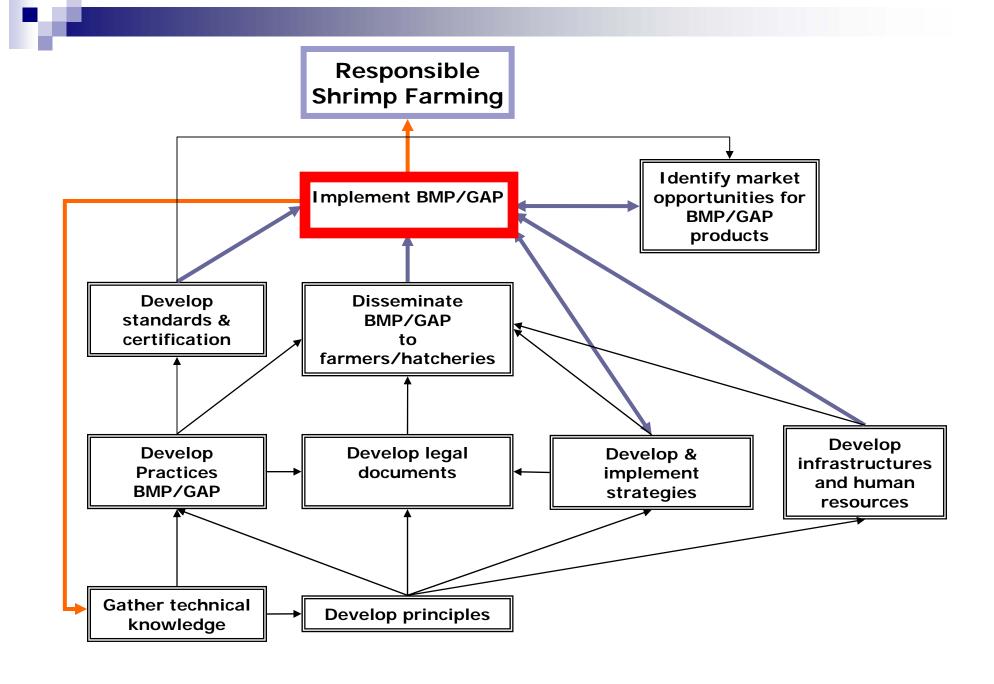


Infrastructures & human resources

- Training
 - □ Level 1-3 diagnostics
 - □ BMP/GAP (for extension workers…)
- Awareness building
 - □ Policy makers
 - □ Researchers









Implementation of better practices

- Key to responsible shrimp farming and health management!
- Starting with pilot/demonstration farms
- Need incentives!
 - □ Produce more and better quality
 - □ Better market price?
 - □ Free diagnostic services?
 - ☐ Free pond books & extension services?

Do they work?



Implementation in Viet Nam



- In 2004 start of pilots in several provinces
 - □ NAFIQAVED of the Ministry of Fisheries
 - □ NACA/SUMA (Danish govt.)



- In total 8 pilot provinces: hundreds of farms
- Farmers accept BMP/GAP
- Higher yield
- Improved probability of making a profit
- Good quality product (within standards)
- Lower occurrence of shrimp health problems





Implementation in India

- Started in 2001
- Now >1000 ponds (650ha)
- Government promoted
- Aquaclubs
- Contract hatcheries
- Over the years
 - □ Better yield (by 30%)
 - □ Reduced diseases (by 60%)













Implementation in Thailand

- 2 areas; 70 ponds
- Higher chances to make profit
- Increasing benefits over the years
- Increasing participation
- Farmer groups lead to better success
- Now linking with government program









Implementation in Iran

- Started in 2005 (major WSD outbreak)
- 2 major shrimp farming provinces
- Focus on shrimp health (etc.)
- Farmers/hatchery/Govt partnership
- Sets of practices developed
 - Shrimp farming
 - □ Broodstock/seed
- Will start next year

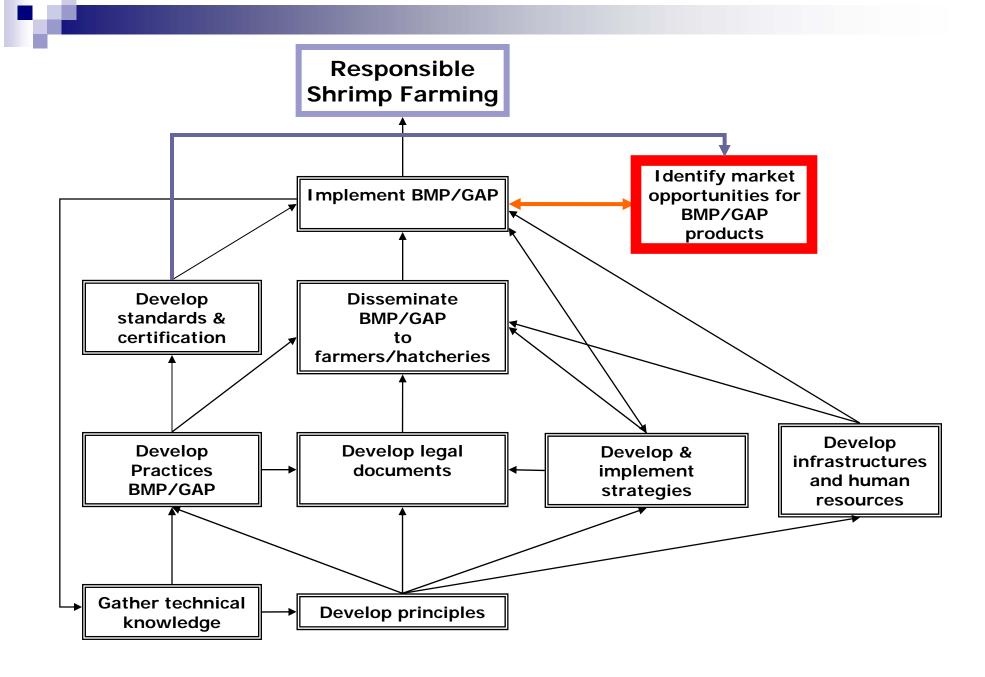






Implementation of better practices

- What is the price of implementation?
 - Reduced through farmer group operations
 - □ Sometimes cheaper (e.g. better feeding)
- Is implementation sustainable?
 - ☐ Yes, if incentives are present
 - □ Better market price would help



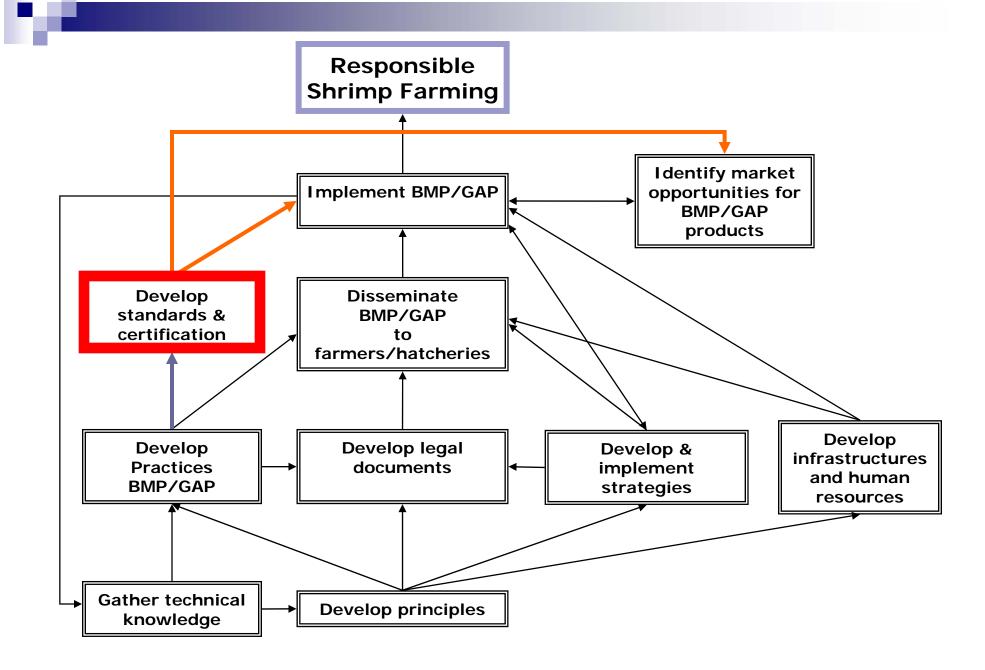


Identify market opportunities

- Try to get a better price
 - □ Difficult (India)
 - □ In Viet Nam now 18-20% higher price
 - □ In Thailand. Maybe possible
- Link farmers to markets (COOP Italy)
- Create consumer awareness









Develop standards/certification

- There are several examples
 - □ GAA/ACC
 - □ SQF
 - □ Thai quality shrimp
 - □ Governmental programs
 - Viet Nam (NAFIQAVED)
 - India (MPEDA)
 - Indonesia
 - □ Retailers/Consumer associations







Develop standards/certification

- Often expensive (farmer group/association can help)
- Have to be credible internationally
 - □ Government certification
 - □ Need for 3rd party certification (SGS…)?
- Harmonization required. Need to look at international principles
- Monitoring implementation to keep consumer confidence
- Sometimes only for processors



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Yes! ... one solution



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Codes of practice and better management: a solution for aquatic animal health management?

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FAO CoC Responsible Fisheries

Shrimp Marine fish FW fish **Bivalve Principles Principles Principles Principles BMP BMP BMP BMP** China intensive catfish cages **BMP BMP BMP BMP** tilapia Viet Nam extensive ponds etc... etc... etc... etc...

