

Global Trade Conference on Aquaculture.  
29 -31 May 2007 Qingdao, China



# Aquaculture Production, Certification and Trade: Challenges and Opportunities for the Small-Scale Farmer in Asia

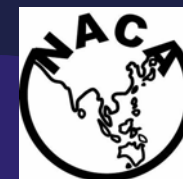
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Food and Agriculture Organization of United Nations (FAO)



A joint presentation from the experiences of NACA and FAO

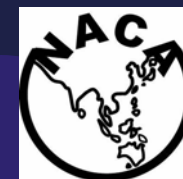
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## ● Outline of presentation

- Small-scale farmers in Asia
- Problems and constraints
- Ways forward
- Call for investment





- Who is a “small-scale” aquaculture farmer?

- Difficult to define!!
- Limited land or water area
- Family sized operations/businesses
- Often using family labor
- Often based on family land
- Maybe diffused through a local area
- Or highly concentrated around specific resource (e.g. water supply)
- Often with limited access to technical financial and market services



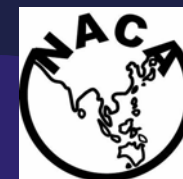


- Small-scale farming in Asia is very important!

- Largest group of aquaculture farmers in Asia
- Major contributor to production in many countries
  - over 80% in some countries (e.g. Viet Nam)
- Therefore major contributor to global fish supplies!
- Highly innovative sector
- Critical for rural development, employment and poverty reduction
- Large numbers of farmers, but difficult to regulate
- Individual farms not particularly impacting, when aggregated their impact may be significant



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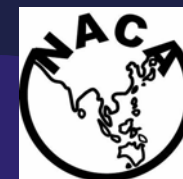


- Present trends in market and trade are working against the small-scale sector:

- Changes in costs and business structures of aquaculture
- Trends towards certification, trace-able and quality assurance
- Risk management strategies of larger traders and buyers are working against small-scale farmers
  - Easier for big buyers to deal with big farms with large product volumes!
  - Small quantities of product – inconvenient to larger buyers!
- No certification scheme as such targets the small-scale sector.



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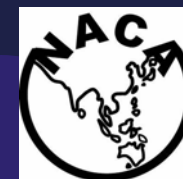


- Present trends in market and trade are working against the small-scale sector:

- No Fair Trade scheme
- Limited access to market, technical and business knowledge
- Limited or inequitable access to financial services to fund change
- Commercial/government servicing less oriented towards the small-scale farmer

- Clearly a problem is emerging with this critical sector!!

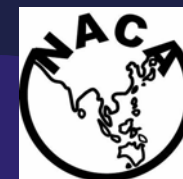




## ● Constraints to certification:

- Small size and large numbers
- May not even be formally registered
- Total value and volume of crop may not cover costs of certification?
- Low or no market incentives





## ● Constraints to certification:

- Complex marketing channels make traceability difficult
  - specific dedicated marketing channels through middlemen or direct to a local market
  - traders-credit relations
- May not be organized into producers groups
- May not be producing an export product, and therefore producing to least cost to sell within a less wealthy domestic market
- Small volumes of product from individual farms





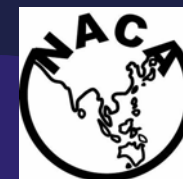


## ● Are there ways to assist small-scale farmer participation in modern market chains and trade?

- Yes, recent experiences show positive action can result in positive benefits.
- Organization of farmers into producer groups
  - Allows certification of groups as opposed to individuals
  - Allows economies of scale (e.g. bulk purchase and marketing)
  - Facilitates communication and extension
  - Facilitates “better management”
  - Facilitates organized marketing
- Small-scale farmer oriented policies and services
- Access to domestic and niche domestic markets



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- An example from India

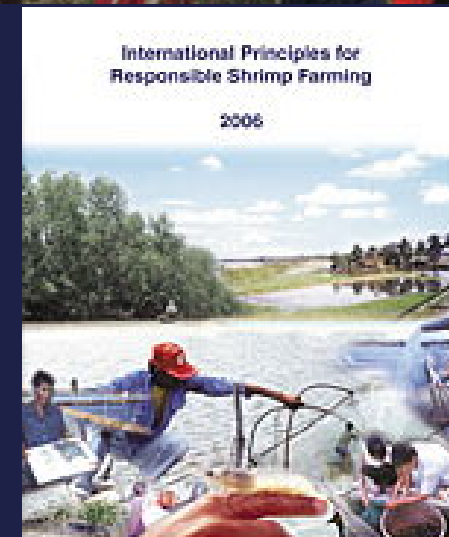
- MPEDA/NACA Technical collaboration on shrimp disease control in India, started in 2000

- Objectives

- To reduce the risk of disease outbreaks and improve shrimp farm production
- To organize the farmers under “Self Help Groups” / “Aquaclubs” for sustainable production
- To produce better quality shrimps in socially acceptable, environmentally sound and economically viable manner.

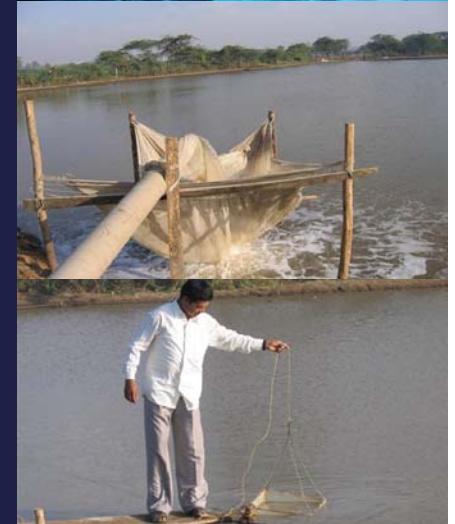
- Key elements of success

- BMPs formulated with farmers based on “international principles”
- Farmer club formation and cooperation



# “BMPs” used

1. Good pond preparation
2. Good quality seed selection
3. Water quality management
4. Feed management
5. Health monitoring/Biosecurity
6. Pond bottom monitoring
7. Disease management
8. Better Harvest and post-harvest Practices
9. Record maintenance/Traceability
10. Environmental awareness



# Cluster management

- Group of inter-dependent shrimp ponds, often situated in a specified geographical locality
  - Usually all ponds dependent on the same water source
  - Collective planning, decision making and implementation of crop activities by a group of farmers in a cluster through participatory approach



Cluster in Valsad, Gujarat



Cluster in Tanjavur, TN



Cluster in Kundapur, KA



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# Farmer clubs “Aquaclubs” greatly facilitated better management of aquaculture

1. Information sharing among farmers-reduced disease risks
2. Increased co-operation led to improved bargaining power and lower prices buying farm inputs
3. Cooperation in selecting/testing and buying seeds reduced cost and improved quality
4. Increased co-operation led to improvements in shared common facilities (e.g. deepening inlets, drains etc)
5. Cooperation reduced costs and improved profits for all the cluster farmers



Weekly meetings



Stocking at same time



Co-operation In creating common facilities



# Progress in last 6 years

2001 Survey  
365 ponds  
Nellore  
West God.  
Risk factors  
BMPs

2002

2003

2004

2005

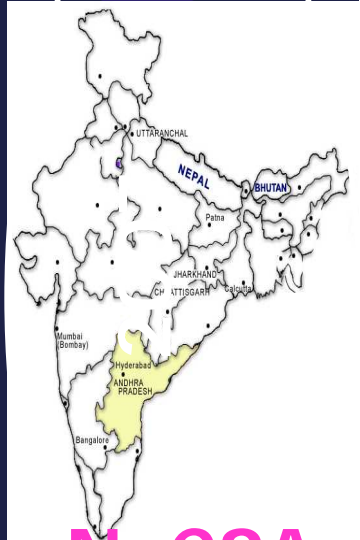
2006

Contract hatchery Seed Production

Pilot traceability

Expansion to other states

Expansion to 5 states



NaCSA

**2002**  
Farm level demonstration  
5 farmers  
**10 ponds**  
7 Ha  
**4 tonnes**

**2003**  
Village level extension  
1 Village  
1 Aquaclub  
58 farmers  
**108 ponds**  
58 Ha  
**22 tonnes**

**2004**  
Creek level extension  
6 Villages  
7 Aquaclubs  
130 farmers  
**254 ponds**  
173 Ha  
**40 tonnes**

**2005**  
State level expansion  
3 States  
19 Aquaclubs  
736 farmers  
**1187 ponds**  
663 Ha  
**672 tonnes**

**2006**  
5 States  
28 Aquaclubs  
730 farmers  
**1370 ponds**  
813 Ha  
**870 t**

**2007+**  
**National Centre for Sustainable Aquaculture**  
**Policy and Bank support**





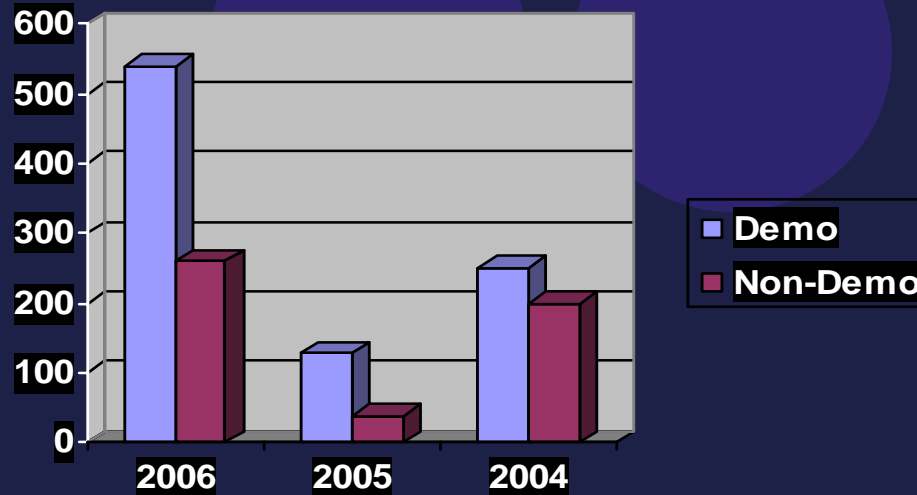
## Outcomes

- ❖ Reduced risk
- ❖ Increased profit
- ❖ Quality product
- ❖ Reduced environmental impact



Successful crop =  
increased profit

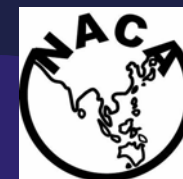
Reduced Disease prevalence



Year	Demo ponds	Non demo	+
2003	82%	89%	+ 7%
2004	37%	52%	+20%
2005	15%	42%	+27%
2006	17%	44%	+27%

Profit made on every thousand rupees (1 US\$ = Rs. 41)

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## ● Next steps

- Connecting farmer groups to markets
- Group certification, traceability and quality assistance schemes
- Improving connections between farmer groups and financial and technical services
- Building further policy support
- Building and sustaining small-farmer oriented servicing systems
- Expansion of concept to new commodities and countries

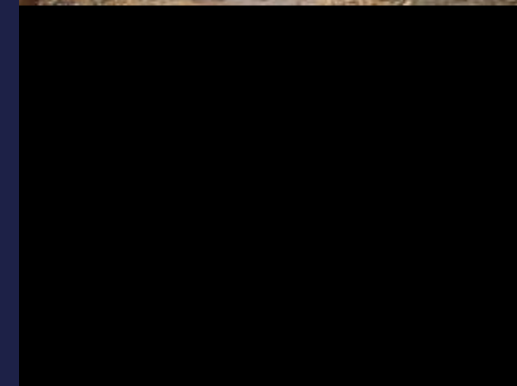


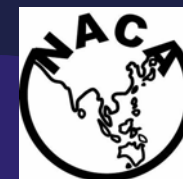




## ● Preliminary lessons

- Facilitating organization of the small-scale farming sector can achieve positive change
- Change takes time.
- But, it is a social investment that also makes sound business sense
- Government and private investment is needed is needed the small-scale sector.





- Public investments are needed

- Policy development favorable to the small-scale sector

- Supporting farmer group formation
- Technical and marketing services for small-scale aquaculture producers
- Market access for small-scale producers
- Information services for rural farmers
- Access to financial services
- Encouraging private investment in small-scale aquaculture production and services

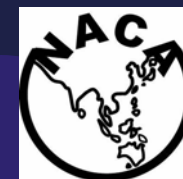
- Social "safety nets" for most vulnerable

- Educational and technical institutions oriented to the small-scale aquaculture sector

- Trade rules and guidelines that consider the needs and realities of the small-scale sector

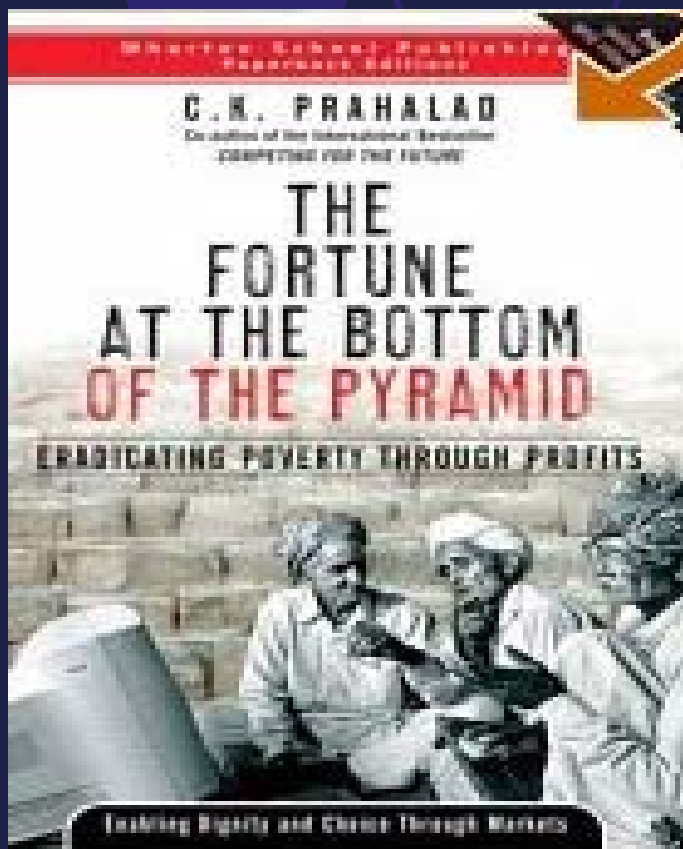


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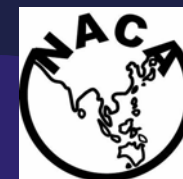


- Private sector investments
- Many opportunities for private investment to support millions of small-scale farmers!
- Investment opportunities in:
  - Technical and marketing services for small-scale aquaculture producers
  - Information services
  - Micro-finance and financial services
  - Input packaging and delivery for small-scale farmers
- There is a business case for investment
  - In India, an investment of \$80,000 in technical servicing led to crop improvements worth \$2 million

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*Bottom of the Pyramid markets must become an integral part of the work and of the core business of the private sector. Bottom of the Pyramid markets can not merely be left to the realm of Corporate Social Responsibility (CSR) initiatives!*

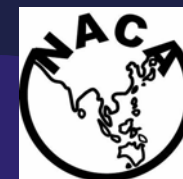


## ● Private sector investments

- “Corporate social responsibility” also has a role to play, particularly larger retailers and trading businesses should be encouraged to adopt more CSR initiatives in the aquaculture sector, such as
  - Facilitating market access for small-scale aquaculture producers
  - Provision of technical and financial assistance to small-scale producers to comply with market requirements
  - Brand development and marketing favorable to aquaculture products from smaller producers
- Certification and quality assurance schemes are needed that are relevant for small-scale aquaculture producers



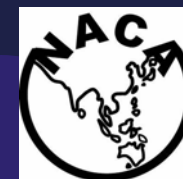
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- Whilst many challenges remain, it is time to recognize the crucial role of small-scale aquaculture farmers in Asian aquaculture production and trade
  - The small-scale sector is the largest producer and the “mainstay” of Asian aquaculture
  - It is an innovative sector, but faced with many problems and constraints in the modern trade and market environment
  - The sector is socially and economically important and cannot be ignored!
  - It needs investment from public and private sector to compete and thrive in the modern aquaculture scene
- There are many opportunities for assistance and investment



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- Your ideas and partnership are welcome!



**Thank you for your attention!**

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