



MPEDA-NACA Village demonstration programme

**A step towards sustainable Aquaculture in
India.**

By MPEDA-NACA team



Background

As a part of the technical collaboration between MPEDA and NACA on shrimp disease control in India, 2 complementary projects were implemented.

1. Formulation of “Better Management Practices” (BMPs) in course of technical assistance programme during 2000-02.
2. Second program aimed at village demonstration between 2003-06.



Objectives

1. To reduce the risk of disease outbreaks and improve the production in shrimp farms.
2. To organize the farmers under “Self Help Groups” / “Aquaclubs” for sustainable production and to quickly meet the growing market demands.
3. To produce better quality shrimps in socially acceptable, environmentally sound and economically viable manner.



Implementing BMPs

- Awareness and capacity building of primary producers
- Awareness and capacity building of other stakeholders in the supply chain
- Changing the attitude of key players
- Demonstrating the benefits of BMP implementation



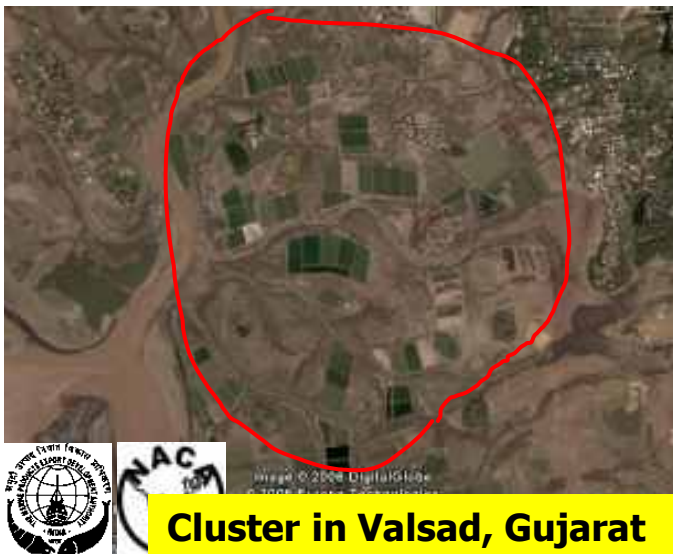
Approach followed

- Facilitation of collective approach (cluster farming)
- On-site programs to create awareness on BMPs
- Assisting aquaclubs to develop voluntary guidelines
- Facilitating participatory approach
- Providing regular technical assistance
- Linking to other stakeholders in the supply chain
- Monitoring compliance for adoption



Cluster

- A group of inter-dependent shrimp ponds situated in a specified geographical locality
- Usually all ponds dependent on the same water source



Cluster in Valsad, Gujarat



Cluster in Tanjavur, TN



Cluster in Kundapur, KA

Cluster Farming:

Collective planning, decision making and implementation of crop activities by a group of farmers in a cluster through participatory approach in order to accomplish their common goal (reduce risks and maximize returns)



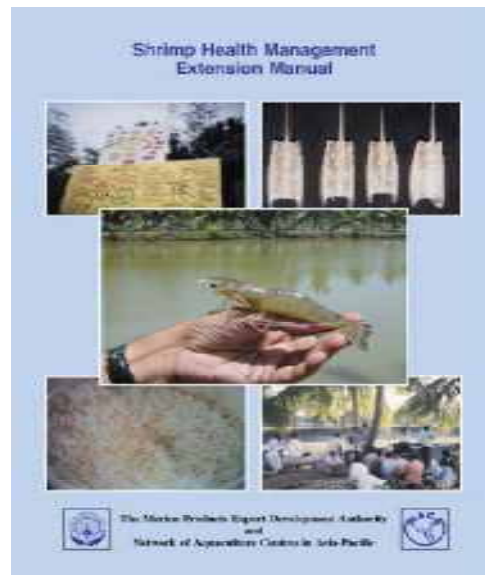
BMPs used

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



BMP Dissemination

- Farmers meetings
- Regular pond visits
- Extension material
 - 10 Brochures (15 steps)
 - Booklets



1. Pond preparation

2. Seed Quality

3. Water quality

4. Feed management

5. Pond bottom Management

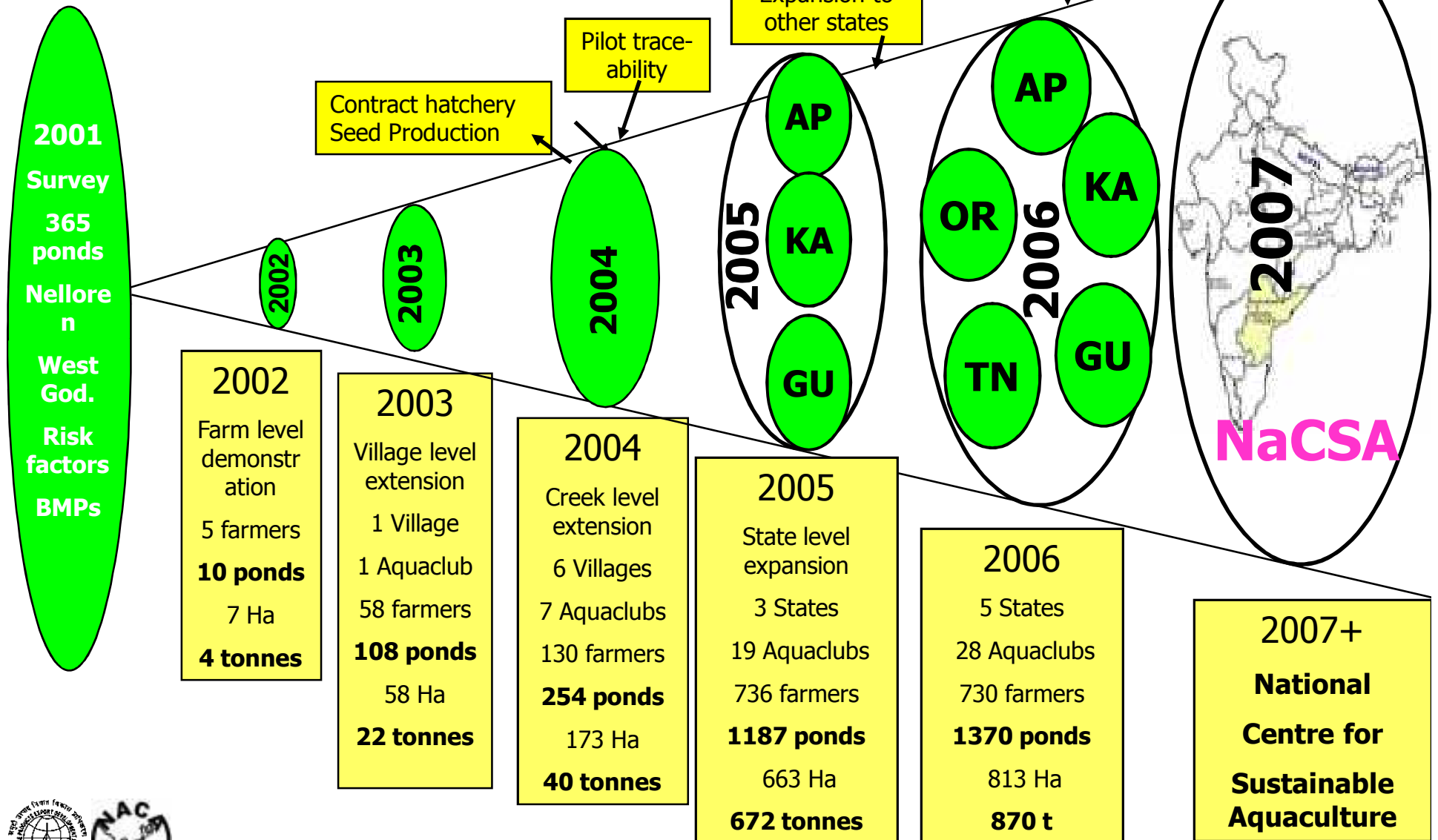
6. Shrimp_Health

9. Better harvesting

10. Mangrove conservation



Progress in last 6 years



Mogaltur, WG, AP



Matsyapuri, AP



Y.V. Lanka, WG, AP



Gondhi, AP



Society, WG, AP



Geraladibba, Krishna, AP



Badava Aqua club, WG, Andhra Pradesh



Navarasapuram, AP



Chinchinada, AP



Aquaclubs in other states

Kundapur, Karnataka



Valsad, Gujarat



Thalaignayar, Tamilnadu



Astarang, Orissa





Positive Impacts of the Project

01/01

1. Reduced Disease prevalence

Andhra Pradesh

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

Karnataka

Year	Demo	Non-Demo
2003	100%	-
2004	71%	-
2005	33%	46%
2006	0%	55%



Year	2006
Demo	4%
Non Demo	67%

Tamilnadu



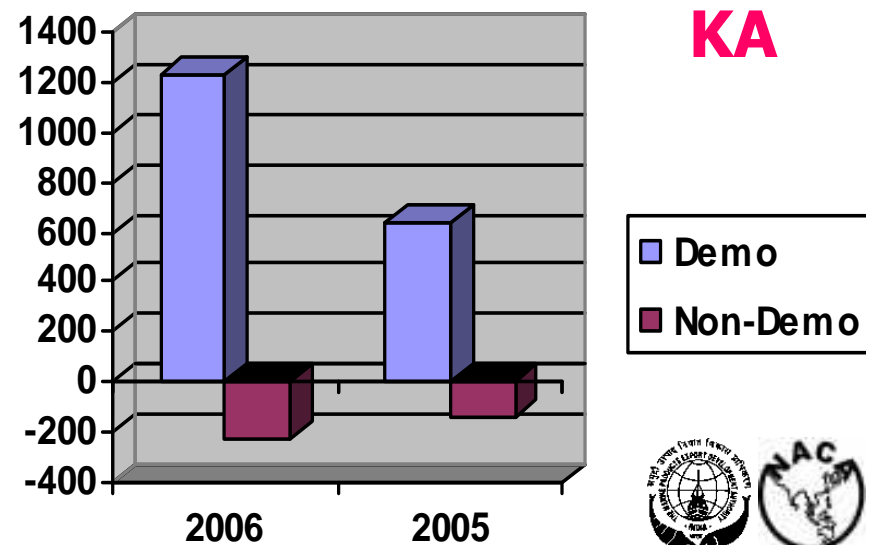
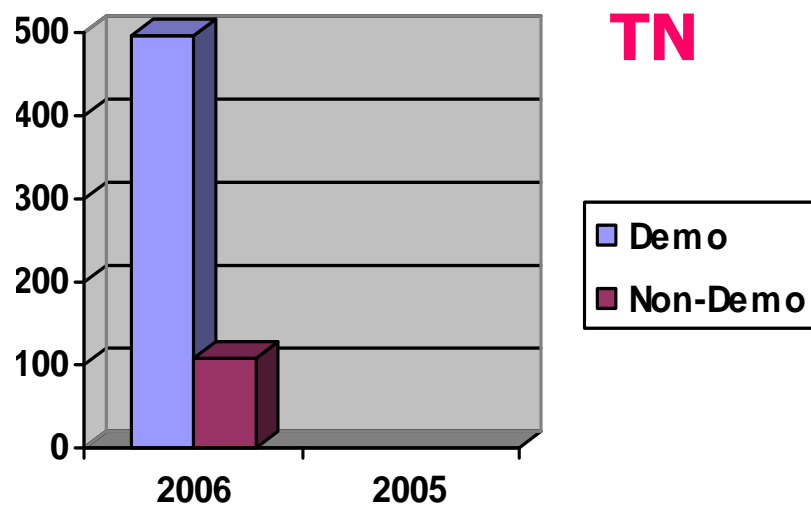
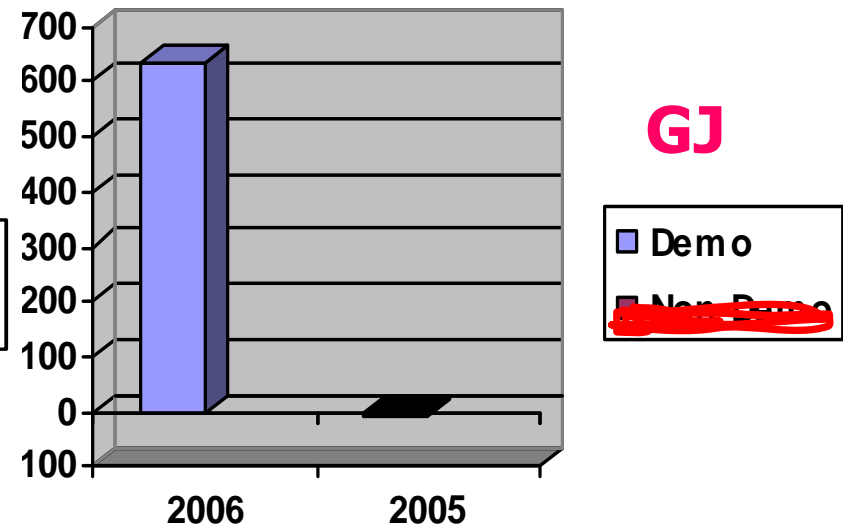
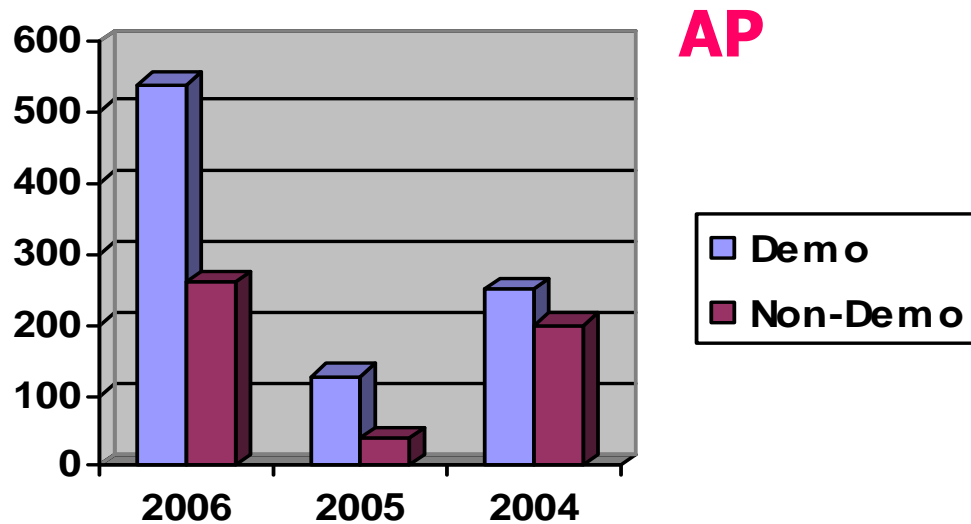
Year	2006
Demo	17%

Gujarat



2. Successful crop = increased profit

Profit made on every thousand rupees (1 US\$ = Rs. 45)

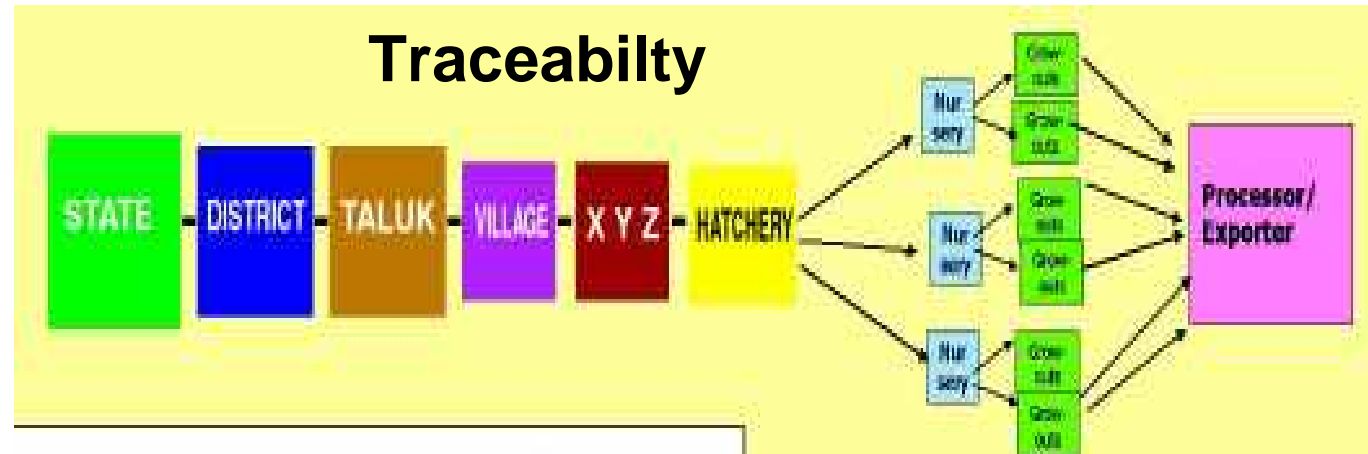


3. No Antibiotic use

- 32 samples (from Aquaculture ponds) in AP, 9 samples in KA, 2 samples in TN and 2 samples in Gujarat were negative when tested for presence of banned antibiotics in summer crop of 2006.
- Use of other chemicals (sanitizers, health products, feed additives etc) reduced substantially in aquaculture farms.
- Reduced expense on chemicals (increased profits).



4. BMP + "Cluster approach" = improves Food Safety



If Pond No. is – 12345678 then details:

- 1-State code
- 2- District code
- 3- Mandal code
- 45- Village code/cluster code
- 678- Pond code

Cluster Map is used for this numbering purpose



5. Increased co-operation among farmers

1. Regular information sharing among farmers during weekly meetings
2. Cooperation in selecting/testing and buying seeds by Contract hatchery seed production system
3. All farmers in a cluster stocking at same period thus avoiding continuous stocking and harvest due to disease
4. Reduced contamination when there is disease out break due to information sharing
5. Increased co-operation in sharing common facilities-deepening inlets, drains etc



Weekly meetings



Stocking at same time



6. Increased Co-operation between farmers and hatchery operators



Farmers and hatchery



Single spawner

1. **Single spawner system**
2. **No mixing of nauplii from diff. brooders**
3. **No use of banned antibiotics.**
4. **Access to farmers at any time to see the tanks**
5. **PCR tested disease free seeds**



No mixing of nauplii from different brooders in PL rearing tanks

Hatchery record



Access to farmer representatives



Disease free seed



7. Increased awareness about the environment

- Farmers are being educated about environmental aspects of shrimp farming
- Farmers are being motivated to plant/conserved mangroves near shrimp pond



8. Increased interaction between farmers and all the stakeholders



Farmers and Hatchery



Farmers and Processors



Farmers and International buyers



**Farmers and Scientists/
Research Inst.**



Farmers and Govt. org



Farmers and Banks.

FUTURE PROSPECTS

Interaction between farmers and Exporters

- Better understanding of problems and issues through information sharing
- Cooperation in traceability/record maintenance
- Cooperation in harvesting to facilitate better harvest and post harvest practices



Motivation of farmers through Better price for BMP/Organic shrimp

- Organic Certification of traditional shrimp/scampi farms
- Better quality and increased quantity of traceable, antibiotic free shrimp from more Society farms
- Prospect of developing brands for niche markets
- Opportunity to invite overseas buyers to see themselves and convince to pay premium price for shrimp produced from farmers societies.



Summary of Impacts

Social	Environment
<ul style="list-style-type: none">• Reduced costs and improved profits• Reduced risk to small-scale farmers• Increased co-operation and harmony among farmers• Better organized farmer groups	<ul style="list-style-type: none">• Reduced disease incidence• Reduced FCR and increased efficiency of resource use (feed, seed, energy, finance in particular)• Reduced pollution• Reduced chemical and antibiotic use



Helping small farmers sustain their livelihood through Responsible shrimp farming



Sustaining the Process

Aquaclub concept provides a mechanism for sustainable Aquaculture by bringing farmers and stakeholders together.

Establishment of NaCSA provides an opportunity for Sustainable Aquaculture in INDIA through concept of Co-operation and Co-ordination among all the stakeholders.



MPEDA-NACA TEAM

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- **Director General, Dr. Mike Phillip, Dr. C.V. Mohan and Staff of NACA**
- **ICAR and ACIAR**
- **All India Shrimp Hatcheries Association**
- **Seafood Export Association of India**
- **All Aquaclub farmers**





Thank you

