Mariculture Species and Systems

Working Group 3

Major issues

1. Seedstock supply
   - Availability / price
   - Quality
2. Feed
   - Cost
   - Farmer adoption of pellet diets
   - Availability of pellet diets to farmer
3. Environmental Impacts
   - Need for zoning / site selection
   - Lack of knowledge of environmental impacts

Major issues (2)

4. Disease
   - Lack of diagnostic support
   - Treatment based on farmers knowledge
5. Chemicals
   - Use of unregistered / inappropriate chemicals to treat disease
6. Production Technologies
   - Technology restricts ability to farm further offshore
   - Much farming in typhoon-prone areas

Major issues (3)

- Opportunities
  - Increasing affluence in Asia = expanding market for aquatic products
  - Ecosystems approach
  - Development of information service and networking
  - Shift production inland for better market access
  - Transportation technology development
  - Reduce reliance on capture fisheries
- Constraints
  - Intense competition in global market
  - Aquaculture less attractive to young people as affluence increases
  - Poorly developed market chains
  - Environmental degradation
  - Reliance on ‘trash’ fish as feed
- Both
  - Certification and traceability
  - Diversification of products

Better Management Requirements

1. Seedstock supply
   - Research, technical support and training for hatchery and nursery development
   - Certification schemes
2. Feed
   - Availability of pellet feeds for specific aquaculture commodities
   - Incentives for adoption of pellet feeds
3. Environmental Impacts
   - Technologies (e.g. GIS) / databases to support zoning / site selection
   - Implementation of monitoring programs
   - Transfer of models / systems from temperate aquaculture
   - Integrated mariculture to alleviate nutrient impacts

Better Management Requirements (2)

4. Disease
   - Improved diagnostic support
   - Improved information for farmers
   - Legislation and enforcement
5. Chemicals
   - Responsible use of chemicals and therapeutics
6. Production Technologies
   - Engineering for offshore mariculture
   - Research, technical support and training
   - Recirculation technology (hatchery, nursery)
   - Strategic planning for aquaculture production including market demands and forecasting

Future cooperation

- Model: Asia-Pacific Marine Finfish Aquaculture Network
  - Web site (www.enaca.org/marinefish)
  - Electronic publications (e-mail)
    - ~900 subscribers
  - Publications
  - Training courses
  - Regional technical workshops
  - Technical advice – development of BMPs

Cooperation objectives

- Support and develop sustainable growth of the mariculture industry in the Asia Pacific region
- Promote the production of quality products to consumers addressing human health issues
- Increase further regional cooperation and promote knowledge transfer
- Ensure mariculture development contributes to sustainable livelihoods in coastal communities

Work packages

- Development of low-cost cages
- Low technology hatchery systems for bivalves
- Live feeds
  - Microalgae, rotifers, copepods
- Fish health
  - ‘Para-Vets’
- Longline culture – bivalves

Work packages (2)

- Recirculation technology
- Seaweed diseases
- Vaccine development
- Ecosystem approach to aquaculture – EAMAR
- Genetic improvement – cobia?
- Triploid molluscs
- Integrated mariculture