Status of hatchery and farm production of cobia *Rachycentron canadum* in Vietnam, potential and constraints for development

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Marine fish farming target in Vietnam

- Ambitious 200,000 tons by 2010
- Cobia is the major volume target species
- However cobia farming started only in 1999 and still some constraints to be solved
Production sites

- Hai phong and Quang ninh
  - Cat ba Island, Ha long Bay and Bai tu long Bay
- Nghe an
  - Quynh luu and Cua lo Districts
- Khanh hoa
  - Van phong Bay
- Vung tau

Production volume 2004

- Haiphong and Quang ninh 130 tons
- Nghe an 25 tons
- Khanh hoa 50 tons
- Vung tau 1,000 tons
- TOTAL about 1,200 tons
Abiotic conditions

- **North of Da nang**
  - Water temperature: 14-31 °C
  - Four seasons – spring/summer/autumn/winter

- **South of Da nang**
  - Water temperature: 27-31 °C
  - Two seasons – dry/wet (monsoon)

Hai phong and Quang binh

- Protected localities
- About 7 – 9 m deep
- Some turbidity, river impact and risk of low winter temperatures
- Traditional raft cage structures
- Thousand of small-scale farms targeting many fish species
- Especially some medium large corporate structures target cobia – based on local and imported fingerlings
- Market domestic and export – live
Nghe an
- Exposed open sea
- About 10 – 20 m deep
- Risk of low winter temperatures
- Norwegian style offshore cages
- Four medium sized corporate farms using local produced fingerlings
- Market domestic – live

Khanh hoa
- Semi-protected open sea
- About 20-30 m deep
- Tropical
- Norwegian style offshore cages
- One larger corporate farm using imported fingerlings
- Market export – fresh on ice
Khanh hoa

- Spiny lobster farming is the main sea based farming activity
- 35,000 cage units with 1,500 tons production in region

- Nha trang Pearl Oyster Company and sites taken over by Taiwanese investor now farming cobia
- Marine Farms ASA, Norway have license
- Natfisco, Russian processing company have license in Binh tuan

Vung tau

- Protected but restricted area
- About 7m deep, brackish, turbid and tropical
- About 30 farms producing cobia based on imported fingerlings
- Some large foreign/JV companies
- Market export fresh on ice and processed
Fingerling production

- Marine hatcheries belong mainly to government institutes
- Cobia production only at RIA-1 facilities
- Started in 1999
- Using enrichment strategy – rotifer and artemia
- Large broodstock – but natural spawning season only
- Producing large number of fry – but fingerling production constrained

Cua hoi hatchery
Cua hoi hatchery

Hatchery constraints

- Fingerling production not predictable due to facility constraint and lack of experience in hatchery procedures
- Limited spawning period (i.e. breeders kept in cages)
- Possible genetic drift due to few breeders in use
- Handling mortality of breeders

Hatchery potential

- Satellite nurseries
- Breeder facility land based
- Breeding program
Broodstock handling

Grow out - constraints
- Fingerling supply
- Risk of winter mortality north of Da nang
- Feed and operational management
- Diseases
- Market
- Regulatory framework – enforcement

Grow out - potential
- Cold tolerance improved through breeding program
- Cobia product quality development through farming process
- Feed development
- Generic market development
Feed

THANK YOU FOR YOUR ATTENTION