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**Large-scale sandfish production for pond  
culture in Vietnam**

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# Introduction

- High demand in China
- Overfishing in the Asia-Pacific
- Hatchery and juvenile production techniques have been developed and documented (Battaglione, 1999; Pitt and Duy, 2004; Duy et al, 2005; Agudo, 2006; Duy, 2010)
- RIA3 – ACIAR – The worldFish Center projects Hatchery. restocking, sea ranching and pond culture since 2000

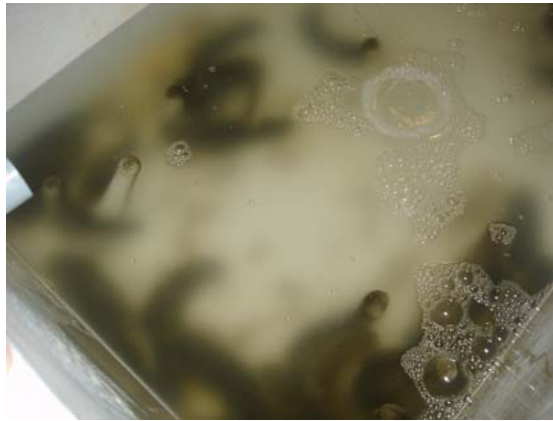


Since 2000





# Simplified techniques on seed production of sandfish in Vietnam





## Sandfish broodstock management

- Collected BS from the wild/pond
- Conditioning BS in tanks
- Control temperature below 30 °C
- Feeding with shrimp starter feed
- Co-culture with Babylon snail





# Larval rearing

- Optimum density:  
200-300larvae/l
- Suitable algae:  
*Chaetoceros muelleri*
- Control predators







# Juvenile production

- Simplified hatchery methods applied
- 50,000 competent juveniles produced from batches of 2 million eggs.



# Large- scale sandfish production for pond culture





# Design of model ponds

- Provinces: Phu Yen, Khanh Hoa, NinhThuan
- Pond sizes: 0.45-0.95 ha
- Number of model ponds: 6
- Located near the intertidal zone, close bay
- Substrates: coral sandy and muddy sand





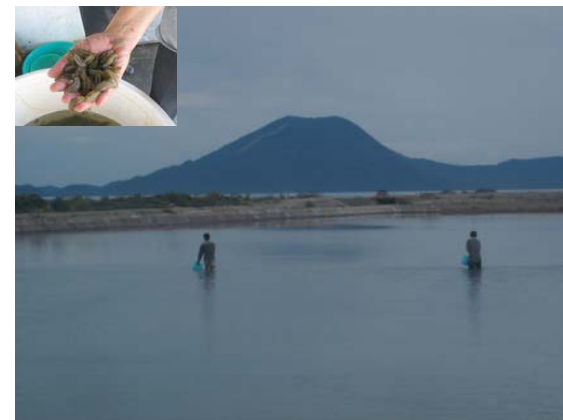
# Pond preparation

- Dry the pond by draining through sluice –gates and pumping
- Remove predators and unwanted seaweed.
- Till the sediment to disturb and wash the mud layer, keep the substrate a burrying layer of about 5 cm.
- Build a net pen at the sluice-gates to prevent the entry of predators and escape or massing of sandfish in this.
- Apply lime (agriculture or hydrated) at 0.5-1.0 ton/ha.
- Fill up water 1 week prior to stocking juveniles.



## Transportation of juveniles

- Used open transportation for high survival rate
- Defecated juveniles in about 1-2 days prior to transportation





# Water quality management

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- Temperatures, salinities were monitored daily
- Water exchange
- Stratification of pond water





## Results of sandfish pond-culture models in three provinces in 2008-2009

Province	Total Area (m <sup>2</sup> )	Average size of juvenile stocked (g)	Density (juvenile/m <sup>2</sup> )	Harvested Average weight (g)	Average Survival rate (%)	Duration (day)	Yeild (ton/ha)
Khanh Hoa	14,000	2	1	350	80	420	2.8
Phu Yen	10,000	10	1	310	85	305	2.63
NinhThuan	10,000	20	1	300	87	274	2.61



# Harvest

- Duration: 9-14 months
- Commercial sizes is more than 300g each
- Harvest partly or fully
- Harvest by hands or trawl net
- Yield at 2.61-2.8 tonnes/ha





# processed by new methods



# and traditional methods







# Trained sandfish farmers







Thank you very much!!!

Happy New Year 2012