Attachment 1a.

Cox's Bazaar Teleconference re Shrimp Hatcheries

1. At present approximately how many shrimp hatcheries are there in Cox's Bazar?

Currently 75 shrimp hatcheries in Bangladesh, 51 running and 24 are closed (23 in Cox's Bazar and 1 in Khulna region). 17 hatcheries in Khulna (all nauplii hatcheries) and the other 34 in Cox's Bazar (have Brood stock tank). Most not now operating was because of financial problems. Increasing operational input costs and transport costs particularly important.

2. How many hatcheries are closed that could be used as a mud crab hatchery?

Suggested that those closed not necessarily the best hatcheries to work in and those that are operating successfully would need a significant incentive to put crabs through.

3. Are there many hatcheries that have duplicate or triplicated production systems on site – i.e. more than one hatchery building per company?

5 companies have more that 1 hatchery, 3 companies have hatcheries in both Cox's Bazar and Khulna

4. What sort of operational problems have hatcheries had in recent years?

Shortage of shrimp broodstock and also the quality of broodstock.

5. What water treatment facilities do most shrimp hatcheries have in place / commonly use?

Most settle water, use sand and cartridge filters, carbon filters and UV treatment. Ozone not used in Bangladesh.

When asked why don't hatcheries use brine, the answer was that some technicians are concerned that the mineral / chemical nature of brines may be different from seawater and as such not produce such good results. Most Khulna hatcheries import seawater (shipped in) rather than brines.

6. Which are the main companies in Bangladesh that supply aquaculture equipment and feeds to the hatcheries?

Most use aquaculture products from Taiwan. In addition Inve, Argent, Ziegler, OSI, Epicore and Higashimaru have agents in country. 90% goods through agents, 10% buy direct from overseas.

7. What is the range of larval production capacity in the hatcheries? (tonnes of water)

30 tonnes of larval tanks average, the range is probably 10-50 tonnes

8. Do hatcheries have good broodstock holding facilities?

Attachment 1a.

All have separate maturation units.

9. What are production tanks made of - concrete, fibreglass or plastic?

Concrete, some fibreglass used for spawning.

10. Do many of hatcheries grow microalgae?

All use skeletonema. All hatcheries have algae production tanks

11. Where do they get microalgae cultures?

Taiwan

12. What disease problems have the hatcheries needed to manage in recent years?

Problems with maturation and few eggs per spawner.

13. Is pollution a problem in Cox's Bazar – if so what sort of pollution

Perceived to be minimal pollution, although it was mentioned that it was thought that there had been an increase in blue-green microalgae in area.

14. Are hatcheries used year round or is there a closed season – if so when is it?

Most hatcheries closed Sept – November, as farmers don't want PLs when temperatures lowest during winter, i.e. low demand for PLs. A few of the smaller hatcheries continue during this period. Most use this time to disinfect hatcheries, do preparatory work for next season.

15. What freshwater source is used in hatcheries – city, river or bore?

In Khulna use river water, in Cox's Bazar ground water.

16. What is power supply like? How much time on generators v grid power?

30% generators v 70% grid, but variable.

17. What is the freight cost for sending PLs to Jessore?

1 polystyrene box contains 2 poly bags. A polystyrene box costs 110 BDT. Cargo plane from Cox's Bazar to Jessore can take 800 boxes. Price is 900 BDT per box. 5-6000 PL per poly, so 10-12,000 in one box. Probably 10 BDT for packing. Some PCR tested. Freight Jessore to farm in Khulna region 20-25 BDT per box.

80-90 Lakh PL transported per plane. To reduce cost hatchery owners has increased 3 of PL/bag

18. Are all staff local or are there some expatriates / foreigners still involved in running hatcheries?

10% have expatriate staff, and these are accountable for 20% of production.

19. Are there many mud crab farming operations in Cox's Bazar and if so what techniques are they using?

Small amount of fattening and soft shell.

20. What is the production costs per 1000 PL and their selling price?

Production cost 0.365 BDT, Sale Price 0.405 BDT, 0.04 BDT per PL, or 40 BDT per 1000. This is just based on operational costs, excludes capital costs.

21. What does a senior technician get paid?

Most on commission deal, getting 1.5 to 2.0 Pisa per PL

22. How many hatchery cycles per year?

5 – 7

23. What is the productive capacity of the industry?

145, 894 tonnes of tanks, produced 29.18 billion PL per year. 40% survival of larvae to final PL stage mentioned.

24. Why no broodstock, full larval rearing hatcheries in Khulna?

No local broodstock available (Khulna), areas for broodstock fishing are controlled. Expensive and risky sending broodstock to Khulna from Cox's Bazar. Need good quality deep sea water for early stage larval rearing.

25. Would hatchery operators be interested in crab larval culture?

Would need to negotiate with hatchery, provide incentives for initial investigation, trial runs. Operational costs and technicians pay (commission based) would need to covered as too high a risk for early trials. Local technicians would be interested in learning new skills for new species.