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Prospects and Constraints of Crab Culture in Wetlands of Bihar, India

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Wetlands are natural ecosystem having repository of much richer biodiversity, they are also known as sources of lucrative fishery and have many other usage. In wetlands heavy weed infestation, eutrophication and accumulation of bottom muck continue to be the major problems. Generally, wetlands are surrounded by human habitation, social forestry and agricultural lands and plays life line role in the economy of North Bihar. Local inhabitants practices fishing, navigation,

irrigation, grazing and agricultural practices in the area of wetlands.

In wetlands of North Bihar especially Kawar lake and Gogabeel (Kumar and Singh, 2001) area freshwater crabs including *Paratelphusa spinigera* are most common crabs play an important role in wetland ecosystem as bases of many food chain and scavenger. Management of crab fishery in wetlands of North Bihar is suitable for sustainable development of fisheries and economic upliftment of

fisherman. But uptill now comprehensive account on the crab fishery and on their allied fields is lacking. In present communication an attempt has been made to enumerate the nutritive and medical value of crabs their culture methods and management, harvesting and socio-economic conditions of fisherman of North Bihar.

Studies on physico-chemical and biological parameters were carried out according to the methods described in APHA (1989) and field observations were made to know the prospects and need of crab culture in North Bihar.

Organic matter and minerals are found in considerable amount in water and sediment of wetlands. Zooplankton, macrozoobenthos, macrophytes, etc. are also found in abundance.

The crab meat provides an excellent source of nutrition because of its high protein content. In general it contains 15-20% proteins 1-2% minerals, 5-12% fats, 1-5% carbohydrates and 70-79% moisture content. It is believed to cure asthma and chronic fevers. Many species of freshwater crabs including *Paratelphusa spinigera* are edible and a number of others are commercially important for the fish meal industry. It is also used as bait in fishing of carnivorous fishes.

The abundance and distribution of crabs directly depends on the availability of macrophytes, detritus and detritus feeders comprising crustaceans and molluscs on which they feed. In the wetlands of North Bihar crabs form the major food bases for the swimming and wading birds, many of the carnivorous teleost fishes. Jackals, rhesus monkey and also crabs in addition to man. It also constitute one the dominant aqua-terrestrial fauna in the wetland besides

other carnivorous plankton feeding fishes which compete with crabs for plankton food.

Culture method

Wetlands of North Bihar offer immense scope and ample opportunity for the production of crabs through capture and culture practices. Crab culture methods are generally of two types:

1. Rearing of Juveniles (80-100g weight) crabs at the stocking range of 1-5/sq. meter for a period of 3-4 months in earthen rectangular ponds of size 0.1 to 0.4 ha. Provided with proper fencing of bamboo split netting, plastic coated galvanized iron wire mesh, nylon netting and asbestos sheets to a height of 1 meter positioned at 45° angle towards the inner side of pond to prevent the escape of reared crabs (CIBA, 2000).
2. Rearing of 'Water crabs'/adult (\pm 200g in weight) at the stocking range of 1-3 crabs per square meter in the ponds of 50-500 m² or in pens of 100-500 m² or cages of 4-10 m² with or without equally divided compartments for a period of 3-4 weeks. Pens can be fixed in shallow corner while cages can be kept submerged in shallow areas. This method is also called as Fattening (CIBA, 2000).

Feeding

The reared crabs should be fed once in a day, preferably the late evening, either with trash fish or molluscan (Gastropods /Bivalves) meat and the wastes from butchery shops at the rate of 5-10% of stocked biomass, depending upon the observed feeding intensity and size of the crab recorded during regular and periodical

sampling of reared crabs. The “water crabs” of 150-500 gm can attain a final weight of 250-650 gm during 3-4 weeks (CIBA, 2000).

Maintenance of water quality

For the maintenance of water quality suitable for crab culture temperature should be maintained in between 28-32°C, dissolved O₂ 5-7 ppm, pH 7.5-8.5 and depth 0.5-1.0 m of water bodies. Cleaning of screen and maintenance of regular water supply flow are also taken as the measures of water management.

Harvesting

Table sized (mature) crabs can be caught with the help of a scoop net. The crabs can also be harvested by baited lift net and bamboo cages/traps.

Socio-economic condition of Fisherman

The plight of the fisher folk of North Bihar are most backward in respect of social, economic as well as educational background and regarded as the marginal farmers. Their

life is a woeful tale of continuous struggle for survival against various socio-economic odds and handicaps. They are poorest of the poor population of this area and are exploited by the middleman and money lenders. They do fishing with simple, indigenous and age-old implements.

Aquaculture, as an economic activity, is gaining gradual popularity in the rural areas of North Bihar. Still it is taken up mainly as a subsidiary occupation by different socio-economic groups. The potentiality of the crab production, propagation, conservation and management offers employment and jobs to a considerable population of this agro-aquacultural area of Bihar.

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Soil-borne Fungi of Cultivated Lands of Biratnagar, Morang District, Nepal

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Several microorganisms may associate in the different layers of soil. The disease caused by microorganisms that live in the

soil is referred to as soil borne disease and pathogen as soil borne pathogen. The fungi (pathogenic and non pathogenic) that are