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Session 23

BACKWATER FISHERIES

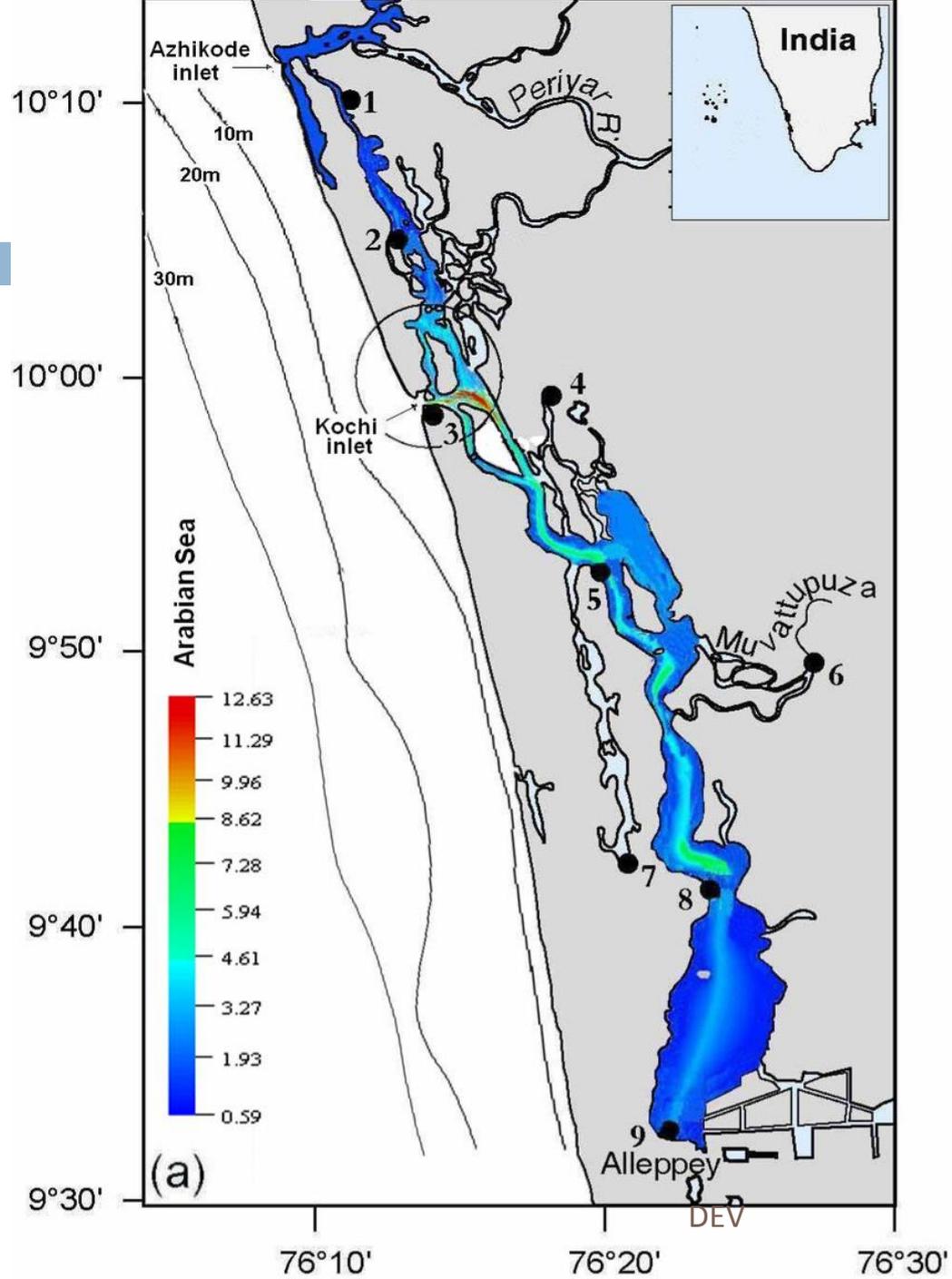
BACKWATER FISHERIES

The major backwaters that constitute sizable fishery include the followings:

1. **Cochin backwater**
2. **Vembanad backwater**
3. **Kakinada backwater**
4. **Killai backwater**

1. Cochin backwaters

- The total area of the Cochin backwaters is about 500 km². Of the 44 rivers in Kerala, 41 flow westward from the Western Ghats to the Arabian sea through backwaters. The rivers like Achenkovil, Manimala, Meenachil, Muvattupuzha, Pamba, Chalakudi and Periyar discharge their water into the Arabian sea through the Cochin backwaters.
- The tidal influence extends upto 11 km south of Cochin during the monsoon period. The northern portion of the Cochin backwater is called the Varapuzha lake and the southern portion of the Cochin backwater is known as the Vembanad lake.



Fish and Fisheries

- In general, the fish and fisheries of the Cochin backwaters are similar to the Vembnad backwaters. *T. ilisha*, Mackerel (*Rastrelliger kanagurta*), Oil sardine (*Sardinella longiceps*) and penaeid prawns especially *F. indicus* form good fishery. In addition to these species, juveniles of *Anchovella*, *Ambassis*, *Sciaena*, *Thrissocles* and *Leiognathus* spp. also occur.
- In the seasonal fields, paddy is grown during the monsoon months (June – Sep) when the backwaters become freshwater dominated. Soon after the monsoon, paddy is harvested and when the water becomes brackish, post larvae and juveniles of prawns, which are commercially important, migrate into these fields in large numbers. They are allowed to grow on natural food and are harvested from time to time through the suitably located sluice gates.

- The season ends in April/May. The perennial fields, where prawns are harvested throughout the year, are deeper than the seasonal fields. Maximum production (362 kg/ha) is obtained in February and minimum (40 kg/ha) in December. In the perennial fields of the same area, production goes on intermittently from January to April (60 to 125 kg/ha).
- Among the commercially important prawns, three species, namely *F. indicus*, *Metapeanaeus dobsoni* and *M. monoceros* are the most important. The seeds of these three species are collected in large numbers from the backwaters for aquaculture. The seeds of *F. indicus* are most abundant during the pre-monsoon months, (April – May). Their numbers decrease during the monsoon months but increase again from September and October (post monsoon) and continue to do so in subsequent months.

2. Vembanad Backwaters

- Vembanad Lake is the India's longest lake, and is the largest lake in the state of Kerala. It is also one of the largest lakes in India. The total area of the water body is 256 km². The Vembanad wetland system covers an area of over 1512 km². The lake is bordered by Alappuzha, Kottayam, and **Ernakulam** districts, extending from Cranganore in the north to Alleppy in the south.
- It lies at sea level, and is separated from the Arabian Sea by a narrow barrier island. Canals link the lake to other coastal lakes to the north and south. Several rivers flow into the lake, including the Achenkovil, Manimala, Meenachil, Muvattupuzha, Pamba and Periyar. The lake surrounds the islands of Pathiramanal, Perumbalam and Pallippuram. The Vembanad Lake is approximately 14 km wide at its widest point.

Kochi



Kochi

Vembanad
Lake

○ Kottayam

Alappuzha



Kumarakom



○ Changanassery

KERALA

Thotapally



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- A unique characteristic of the lake is the location of the Thannermukkom salt water barrier constructed to prevent tidal action and intrusion of salt water into the Kuttanad low-lands. It is the largest mud regulator in India. This barrier essentially divides the lake into two parts - one with brackish water perennially and the other half with freshwater fed by the rivers draining in to the lake.
- This barrier has helped the farmers in Kuttanad - where farming is done below sea level. It has however also created ecological problems, primarily, the rampant propagation of the Water Hyacinth in freshwater.

Fish and Fisheries

- The exploited fishes, prawns, etc., include 110 species of fishes, six species of penaeid prawns, three species of palaemonids, three species of crabs and large quantities of black clam *Villorita cyprinoids*.
- The major fisheries of the Kerala backwaters are mullets like *Mugil cephalus*, *L. macrolepis*, *M. cunnesius*, *L. parsia*, *Tinca tinca*; pearl spots like *Etroplus suratensis* and *E. maculatus*; catfishes and *Tenualosa ilisha*. Two species, namely *Dayella malabaricus* and *Ehirava fluviatilis* (Family: Clupeidae, Subfamily: Pellonulinae) form minor fishery.

- Among the prawns, *Metapenaeus dobsoni*, *M. monoceros*, *M. affinis*, *Penaeus indicus* and the freshwater prawn *Macrobrachium idella* form good fishery.
- Of the several species of crabs, the mudcrab, *Scylla serrata* constitute the fishery.
- Molluscan fishery of the backwaters including the Vembanad Lake is largely sustained by the black clam. Clam beds are found extensively in the backwaters and the fishing methods employed are handpicking and storing them in collection baskets, combing and heaping at low tides with toothed-iron rakes and rakes fitted with bagnets.

□ **Conservation and management**

In the recent years, there has been a marked decline in prawn catches, both from impoundments and open waters. Human intervention, mainly pollution and over fishing are the important factors to be reckoned with.

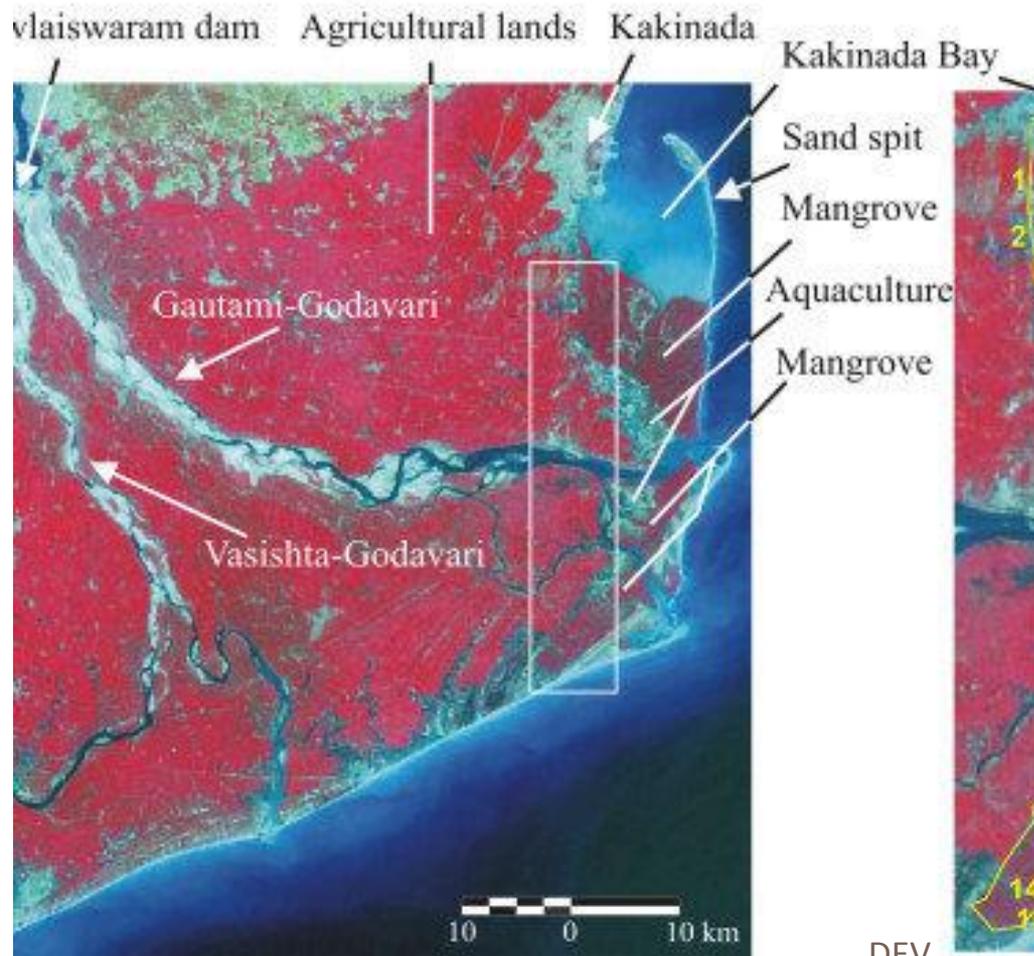
3. Kakinada Backwaters

- It extends from Kakinada in the north to the Gautami Godavari in the south. They border the Kakinada Bay on the east and cover an area of about 330 km². The two rivers viz. the Congga and the Gaderu rivers discharge their water in the Kakinada bay. The entire backwater area is traversed by a network of tidal creeks which are directly or indirectly connected to the Kakinada bay.

Fish and Fisheries

- Prawn fishery dominates the Kakinada backwaters. The important prawn species include *Metapenaeus dobsoni*, *M. monoceros*, *M. affinis*, *M. brevicornis*, *F. indicus* and *P. monodon*.

(b)



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4. Killai Backwaters

- It is a shallow body of brackishwater situated in Tamil Nadu state between the Vellar and Coleroon (Kollidam) estuaries and extends to about 16 km in the north-south and 5 km in the east-west. It has a permanent connection with the Bay of Bengal. About 100 tonnes of prawns are landed annually.
- The prawn species in the order of abundance include *F. indicus*, *Penaeus monodon* and *Metapenaeus dobsoni*. *Macrobrachium rosenbergi* is found from October to December indicating that they migrate to estuary for breeding. Prawns are caught by stake nets, cast nets and drag nets.

