

# Suitability of bigeye trevally for cage aquaculture in coastal waters of Karnataka

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Capture Based Aquaculture (CBA) in small estuarine cages, an intervention initiated to beneficially use juveniles of commercially important fishes which are otherwise generally discarded, has transformed the concept of family based fish farming ventures in coastal Karnataka. Even though many species of fish are generally suitable for cage culture, selecting the locally available fish species that will do well in cages in the particular location is very important. Currently the small scale estuarine finfish cage farming in Karnataka is mainly

restricted to the seabass (barramundi) and red snappers. Most of the barramundi farming relies on hatchery-reared seeds while red snapper production relies on the collection of the seeds from the wild. The difficulty in transportation of seabass seeds from the hatcheries situated along the east coast to Karnataka is the major bottleneck for the expansion of its culture. On the other hand availability of wild red snapper seeds is insufficient for sustainable large scale cage culture. Hence, continuous efforts to identify other suitable fishes

for cage culture were made. In the present study, the suitability of bigeye trevally for aquaculture in estuaries was evaluated.

Fish seed surveys conducted revealed abundant availability of bigeye trevally (*Caranx sexfasciatus*) seeds during post monsoon season (September-January) in the estuaries of Karnataka. They form a by-catch in the small inshore gears as well as the shore-seines operated by local fishermen. These seeds are live when landed. Due to their small size they do not have a market value and are discarded on the beach by the fishers. As a positive impact of the awareness created by the Mangalore Research Centre, the fishermen practising cage farming of fishes started collecting these juveniles for stocking in the cages. The small sized (50 to 85 g) live seeds of bigeye trevally collected by fishermen at Uppunda were stocked @ 300 numbers per cage in two cages of 4×2×2m dimension made of netlon lined with nylon net, during December-January. The fishes were fed with low value fishes @ 6-8% of their body

weight. Cages were cleaned fortnightly to remove biofouling organisms that reduce the water flow and also increase the weight of the net. After a culture period of 150-180 days, the big eye trevally reached an average size of 300-450 g. At the end of six months about 125 to 150 kg of fish were harvested from two cages with a survival rate of 80-90%. The growth rate observed for the period of six months was very encouraging. Further, there is good market demand for this species and it fetches ₹ 350-400/kg.

This study has clearly indicated that the culture of bigeye trevally in cages is successful and remunerative. The availability of seeds in good numbers in the wild, fast growth and the good market price makes the bigeye trevally a suitable species to be considered for mariculture in cages in inshore areas in Karnataka. In addition, it also results in diversification of species that can be cultured and reduces the pressure that now exists to procure seeds of seabass and snappers from hatcheries as well as from the wild.