Wecome to
Navsari-Gujarat Research Centre of
ICAR-CIBA

Navsari Gujarat Research Centre (NGRC) is the regional station of ICAR-CIBA on the Indian West coast, strategically located in the South Gujarat region, which has developed as one of the most intensive shrimp farming hubs in the country. The centre is located in the Navsari district of Gujarat, 30 km south of Surat city, within the Navsari Agricultural University campus at Eru Char Rastha. The centre also has an experimental station with a 10 ha brackishwater research farm, situated on the Dandi heritage road, in Matwad village, 4 km west of the historical Dandi village that played a key role in the Indian freedom struggle. The centre was established in 2018 to carry out cutting-edge research on frontier areas of brackishwater aquaculture. The centre mainly focuses on developing location-specific farming and breeding technologies for the Gujarat coast, field testing of CIBA technologies before disseminating to the farming community, capacity building, and livelihood enhancement activities for aqua farmers, coastal, tribal, and economically weaker communities.

The centre has a water quality testing laboratory to analyze water samples from the research farm and other farmers. A microbiology lab for analyzing microbial load in the water, soil, and shrimp samples and a cryoscopic osmometer is also available at the centre. The office has facilities to carry out minor training programs and online programs for farmers and other stakeholders.

The centre has succeeded in captive spawning and larval rearing of hilsa, *Tenualosa ilisha* from the Narmada estuary. Cage-based community spawning of pearlspot, Etroplus suratensis, and a simple and cost-effective recirculatory system for large-scale seed production have been developed at the centre. The technology is found suitable for small homestead ponds and women SHGs where 20,000 fries can be easily produced in a month. The technology overcomes several key constraints in broodstock maintenance and spawning of the species.

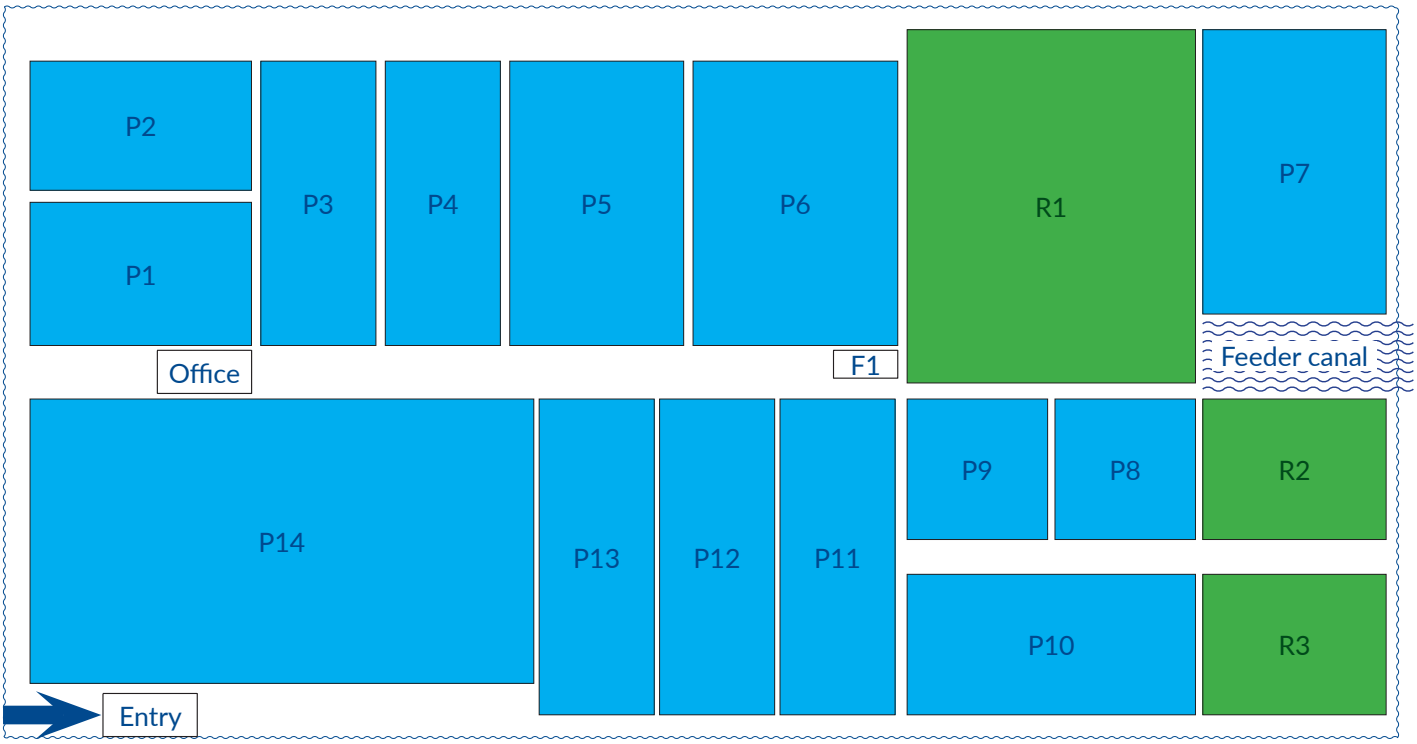
The centre operates two large cage-culture-based livelihood projects to refine low-volume brackishwater cage culture in creeks, estuaries, and mangrove regions of Maharashtra and Gujarat. Cage culture of candidate brackishwater fish viz., Asian seabass *(Lates calcarifer)*, mangrove red snapper *(Lutjanus argentimaculatus)*, and pearlspot *(Etroplus suratensis)* have been demonstrated at these sites to reveal feasibility and profitability of the technology. On the social front, the centre plays a pivotal role in implementing several schemes for Scheduled Tribe Component (STC) and Scheduled Caste Sub Plan (SCSP) which have transformed the lives of deprived communities. The development of pond-based cage culture in a community pond and an integrated aqua-agri-poultry cum goat rearing model were demonstrated in the tribal villages of Singod, Navsari, and Palghar, Maharashtra. The success of the programs has made a significant positive impact on the livelihood of the tribal community. Hapa-based nursery rearing of candidate brackishwater finfish in earthen ponds is also being carried out at the centre to supply seeds to farmers as a livelihood activity for women SHGs.

On the industry front, the centre has successfully demonstrated the commercial farming of Indian white shrimp *(Penaeus indicus)*, whiteleg shrimp *(P. vannamei)*, and the giant tiger prawn *(P. monodon)*. The centre has developed the technology and BMPs for commercial farming of whiteleg shrimp during the winter season and created awareness among farming communities about the feasibility of shrimp farming even during the winter season in south Gujarat, where most farms remain idle during winter. The centre has also successfully demonstrated the recently introduced SPF tiger shrimp culture, where animals attained an ABW of 30g in 95 DOC.

The centre has carried out research in broodstock development of grey mullet *(Mugil cephalus)*, polyculture of milkfish *(Chanos chanos)* with shrimp, and inland saline aquaculture. Most notably, the centre has been rendering services to the farming community through technical know-how, laboratory support, farmer interactions, and field visits.

NGRC-Brackishwater Aquaculture Research and Demonstration farm

The NGRC-Brackishwater Aquaculture Research and Demonstration (BARD) farm with 10 ha area is situated 5 km west of Dandi beach, adjacent to the Poorna river estuary, which brings in nutrient-rich brackishwater for aquaculture. The experimental farm comprises 17 earthen ponds of sizes varying from 0.2 ha to 1.0 ha. The farm is utilized for research trials, commercial farming demonstrations, and livelihood enhancement programs for coastal communities. A small-scale pearlspot hatchery capable of producing 20,000 fries has been developed at the farm. The hatchery houses a RAS-based larval rearing unit wherein substrate attached fertilized eggs are introduced from the spawning cages. The farm also possesses a biofloc unit for research on emerging farming technologies. The office of the experimental farm is located within a portable container placed at the farm, which also houses a mini-laboratory, security cum surveillance systems, and accommodation for farm staff. The farm also has a dedicated shrimp farming section comprising three grow-out ponds (0.2 ha to 0.6 ha), one reservoir cum settlement pond (0.7 ha), a feed storage unit, power transmission cum backup unit, etc. The experimental farm's shrimp section also possesses a wet lab to carry out indoor experiments.



Legend:

P1 & P2: Finfish nursery rearing ponds (2,000 m^2 each)
P3: IMTA pond (2,000 m^2)
P4: Experimental shrimp pond (2,000 m^2)
P5: Shrimp Growout pond (4,500 m^2)
P6: Shrimp Growout pond (6,000 m^2)
R1: Shrimp reservoir pond (7,000 m^2)
P7: pond based finfish cage culture pond (4,000 m^2)
R2: Finfish reservoir pond (3,000 m^2)
R3: Finfish reservoir pond (3,000 m^2)
P8: Finfish broodstock pond (1,500 m^2)
P9: Pearlspot broodstock pond (1,500 m^2)
P10: Seabass growout pond (3,500 m^2)
P11: Mullet broodstock pond (3,000 m^2)
P12: Crab polyculture pond (3,000 m^2)
P13: Pearlspot growout pond (3,000 m^2)
P14: Proposed nursery pond (10,500 m^2)
F1: Feed storage room

"Brackishwater aquaculture for food, employment and prosperity"

Officer In-Charge

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