FS PO 18

GIS mapping of Malampuzha reservoir for fisheries development

V. RADHAKRISHNAN NAIR[1]*, P. PRAVIN[2], N.H. RAO[3]

[1]ICAR-Central Institute of Fisheries Technology, Kochi, Kerala, India; [2]ICAR-Division of Fisheries Science, Krishi Anusandhan Bhawan-II, New Delhi, India; [3]ICAR-National Academy of Agricultural Research Management, Hyderabad, Telengana, India; **vrnair08@gmail.com*

Reservoir is a prominent feature of the hydrology of river system to impound and store water for public water supply, flood control, irrigation, recreation, hydropower, wildlife habitat and fisheries. Erosion in the catchment area leads to silt deposition in various parts of reservoir which gradually reduces both dead as well as live storage. This poses threat to the aquatic environment in general and fisheries in particular. Sustainable management of fisheries requires information on the waterline and the geomorphological characteristics of its benthic area. Malampuzha reservoir is located on the Malampuzha river, a tributary of Bharatappuzha reservoir in Kerala and commissioned in 1955. The water storage area of the reservoir is 22.2 sq.km, with its maximum storage of 226 Mm^3 and dead storage 2.4 Mm^3, as per the reservoir profile. The present study develops a 2-D map of Malampuzha reservoir in a GIS platform and estimates the water spread area of the reservoir, a physical characteristic relevant for fisheries development in the reservoir eco-system. The data collected through an exhaustive hydrographic survey conducted in the Malampuzha reservoir is used to calculate the maximum depth of water column, a yard stick for selection of appropriate fishing craft and gear to be deployed in the reservoir for development of sustainable fishery.

FS PO 19

Evaluation of two fish trap designs operated in the vicinity of sea cages at Veraval, Gujarat

K.K. PRAJITH[1]*, M.P. REMESAN[2], D. DIVU[3]

[1]Research Centre of ICAR-Central Institute of Fisheries Technology, Veraval, Gujarat, India; [2]ICAR-Central Institute of Fisheries Technology, Kochi, Kerala, India; [3]Regional Centre of ICAR-Central Marine Fisheries Research Institute, Veraval, Gujarat, India; **prajithkk@gmail.com*

Fish trap is a selective, low energy and eco-friendly gear used for the exploitation of demersal reef fishes. Besides, it requires less attention of the operator, but at the same time catch can be retained in live condition for long time. Sea cages deployed for culture of aquatic organisms also serve as a typical Fish Aggregating Devices (FAD) as they attract wild fish by providing shelter, and the availability of unused feed that falls through the cages. FADs reduce the scouting time for fishing and ensure energy efficient fishing. Hence, operation of traps in the vicinity of sea cages fetches additional income to the farmer. Two trap designs *viz.,* modified Gargoor trap (GT) and rectangular Collapsible fish trap (CT) were tested for the catching efficiency at the marine sea cage site at Veraval. Twenty trials were made using five traps each, of the two designs in 6-10 m depth. Eighteen fish species belonging to 13 families constituted the catch. Experimental data were subjected to ANOVA using SPSS 17 version. Results show that GT traps are more selective to crustaceans, whereas, in the CT trap, finfish catch was more. The average catch rate per trap was 1-3 and 1-5 number /24 hours in GT and CT respectively. Fishes weighing up to 500 g were caught in CT, which included food fishes and ornamental fishes. The study indicates that modified GT is suitable for