

Book of **ABSTRACTS**



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Significance of nature synchronised cage aquaculture pattern in Kerala: A case study

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Aquaculture is the one of the fastest growing food production systems in the world. Among the various cage farming systems brackish water cage farming is expanding rapidly in Kerala, due to its technical easiness, suitability for farming and marketability of premium fishes such as Pearl spot, Seabass and Pompano. The farmers, SHGs, R&D organizations in Kerala, are starting cage farming with the permission of local self-governments or on a voluntary basis since 2005. Occasionally farmers face mass fish mortality issues and massive financial lose in cage farming sector which paved way to abandonment of many cage farm units across Kerala. In this context, KVK initiated steps to find the major reasons for the mass mortality observed among the cage farmers. The study was conducted in Cage culture sites of Kadamakkudy, Nayarambalam and Ezhikkara located in Kerala, during 2012-2016. Pearl spot, Mullet, Tilapia and Seabass were the major species cultured. Seed required for the farming is being collected from the wild and also purchased from hatcheries. Massive fish

mortality was observed in cages from 2013 to 2015 in the months of March and April. The water sample collected from the mass mortality sites showed the presence of Heptachlor (0.47 µg/l) and Aluminium (0.10 mg/l). Though the pesticide and heavy metal residues are within the internationally permissible limit values, the increase in water temperature ($33\pm 1^{\circ}\text{C}$) and reduction in water flow from upstream would have created anoxic and toxic environment in and around the cage locations. Considering the outcomes of the study a nature synchronized farming pattern suitable for brackish water creeks of Ernakulam was proposed and ten farmer groups adopted the pattern. Seeing the success of these units many farmers have come forward to follow this pattern. Policy level interventions to ensure supply of healthy and sufficient quantities of fingerlings of Pearl spot, Mullet and Asian Seabass and protection from polluting agents and wastes are required for successful operations. Linkages with government and farmer consortiums for establishing seed banks also may be considered for the improvement of this system.