

Integrated Aquageoponics and Fish Farming in Floating Cage System for Small Pond Holder Women Farmers

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Abstract—Pond holding farmers are utilising the dykes of pond for planting trees which provide them with timber for sale. Many a times these trees cast shadow on peripheral waters of pond. The center of the pond still has a sunlight exposed area, which can drive not only the fish production but also provide opportunity for vegetable production. Moreover during monsoon the ponds are often filled to its capacity or over flowing. This increases the drudgery of the fish harvesting activity, especially that of fisherwomen. Harvesting of fish requires special knowledge and skill of throwing a cast net. The perennial household pond surface can be used for growing vegetable using an integrated floating cage aquageoponics system, ensuring nutritional and economic fortification of the rural women and their families. As the fish are grown in a cage system harvesting them also becomes possible without use of cast net. The system consist of support frame, fish net cage, floating drums, canopy structure and vegetable boxes. The total cost of the fabrication of model is ₹ 8700; seasonal cost (4 months) is ₹ 383 after consideration of depreciation value. Different fish species can be grown simultaneously in the same pond without adverse interaction between them. For e.g. Indian major carps (IMCs) in main pond for commercial purpose and small indigenous fishes (SIFs) in cage. The SIFs can be harvested for regular household consumption without disturbing the IMCs. Vegetable crops such as ridge gourd, bitter gourds, chilly, cucumber, beans etc can be grown in the vegetable boxes installed in the system. After experimental study it was found that the production was enough for supplementing nutritional needs of a family and the excess could fetch additional income to the farm women. B:C ratio of 1.4:1 was observed for the season of experiment.