Habitat Rehabilitation with the Participation of Community Fishers in Cambodia

Sopha Lieng
Fisheries Administration, Sangkat Tonle Bassac
Phnom Penh, Cambodia
email: liengsopha@gmail.com

Abstract

Natural fishery resources are very important for food security and income generation of Cambodian rural fishers. The high dependence on the fisheries has led to the decline of the resources due to high fishing pressure. This leads to fishing competition and causes conflicts in fishing and the application of modern fishing techniques. As a result, the fish habitats are gradually degraded. Specifically, the shallow and warm water in the dry season causes loss of fish refuges and results in fish kills, while the potentials of fish reproduction are reduced. Confronted with such problems, the Fisheries Administration (FiA) of Cambodian has set criteria separating the fishing grounds from the conservation areas. The Community Fisheries domain is responsibly managed by community fishers. Up to the present, 364 conservation areas of the Community Fisheries (CFi) had been established, protected and rehabilitated by community fishers in cooperation with development partners and governmental institutions. Fish habitats have been improved by deepening the water bodies, installing artificial reefs and replanting the flooded forests and mangrove areas. Thus, fish stocks have been maintained and enhanced with high density of fish stocks aggregating at the installed reefs. Moreover, fish reproduction has also been improved and broodstocks could be kept and survive in the dry season. Finding that habitat rehabilitation activity is useful, the community fishers expressed willingness to participate in the activity to protect and improve the fish stocks and enhance fish reproduction in the 364 fish conservation areas of the community fishing grounds and in the state-own conservation areas. This strategy should be recommended and promoted to maintain fish stocks and enhance multi-species fish production.

Keywords: freshwater fisheries, climate change, habitat rehabilitation, community participation

Activities

After 158 fishing lots equivalent to 953,861 ha of fishing grounds had been abolished by FiA, about 856,358 ha or about 90% was allotted for the use and conservation by CFi with the remaining 97,503 ha (10%) declared as conservation area by the national government. For the area allotted to CFis, the community fishers implemented various activities to rehabilitate the habitats. These include installation of 5633 demarcation poles and 426 sign boards in the CFi areas; installation of 32 concrete poles in the conservation areas outside the CFi areas; deployment of 500 concrete boxes to serve as ARs; replanting about 2200 ha of flooded forests and mangroves; and deepening of about 106,650 m of water canals. Moreover, 45 pcs of concrete poles were installed to protect the blood cockle conservation area in Koh Kchang Community Fisheries in Koh Kong Province, and another 200 pcs of cement poles are installed to protect the blood cockle *refugia* at Thmor Sar Community Fisheries also in Koh Kong Province. Moreover, 40 pcs of concrete boxes used as ARs (**Fig. 1**) were deployed to protect the marine biodiversity at Koh Rong Sanloeum Community Fisheries in Preah Sihanouk Province.

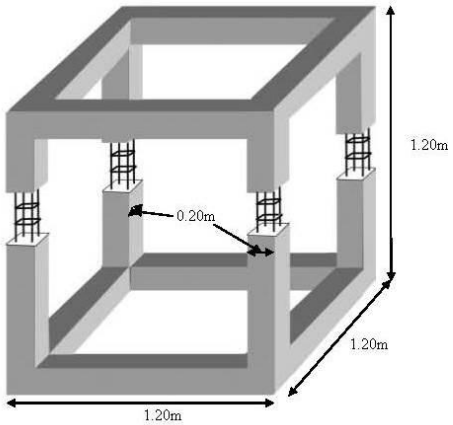

Fig. 1. Concrete box used as ARs in Preah Sihanouk Province, Cambodia

Issues and Concerns

Two years after the installation of concrete boxes as ARs, these were found buried in the mud, necessitating the conduct of a study on the stability of the bottom of habitats before installing ARs. Furthermore, fishes were not aggregating in the concrete boxes while the replanted trees were found dying. At any rate, the activity could not be pursued any further due to budgetary constraints.

Lessons Learnt and Conclusion

Although no study had been conducted to assess whether the habitat improvement has been successful or was a failure, community fishers observed an increase in fish species and other aquatic animals such as mud crab and shrimps especially in the marine conservation areas, as well as increase in fish abundance and broodstock. Near the ARs, fishes were found searching for food, taking refuge, breeding and spawning, especially after tree trunks were placed in the concrete boxes to serve as shelter. Moreover, appropriate techniques of replanting trees should be promoted in the flooded forests and mangrove areas to improve the fish habitats.

In the future, concrete boxes should be installed only in areas with stable bottom sediments, and that a study should be conducted by FiA on the effectiveness of installing ARs in inland and marine waters of Cambodia. Since the tree trunks put in the concrete boxes had served the purpose of providing shelters to the fish, this should be continued. However, for the flooded forests and mangrove areas, a study should be conducted on the appropriate species of trees that would suit the conditions of the areas. Above all, it is important that funds for habitat rehabilitation and stock enhancement be made available to ensure that habitat rehabilitation activities are sustained.