

Cage culture for the sustainability of rural Bangladesh

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Cage culture could be the future for the rural people of Bangladesh. After the successful tenure of CARE-CAGES project in some districts of Bangladesh, It was evident that many farmers took off their cages from the water bodies and left their commitment. Many cages after abundant were either damaged or lost. First it seemed to be a disaster like others and some bureaucrats commented that there was no prospect in cage culture in the country. However, they forgot the reality of the farming system technology transfer. Where, any new technology could survive for some years or even for the tenure of the project. Some major reasons are as follows. In a simple sense after finishing the project there was no body to support or follow up the previous program from the government or in NGOs level. The first problem these institutions encounter is a lack of personnel with similar expertise. There is a complex process to provide job to the trained personnel (from the project) in the country. In cage culture, the farmers may face new problem in his cage that he may not encounter before. And practically, there is no one to support or advice to any extent after the project

is over. Besides, there was no update or modification of the technology needed to match different environment. Another reason is that most of the project were poverty focused, and the beneficiaries are poor. As the support from the project left, they lost their morality and mental strength and abundant the idea that was originally focused to them by the project.

For me most of the cases I visited it was a disaster, however some good news was there. That is the thing I like to focus here today.



Recently, I visited a village called “Cages village” where more than 115 cages are evident, supported by a NGO called Peoples Organization for Sustainable Development (POSD). POSD is also worked with CARE-CAGES project as a partner for three years.

They are supporting the farmers with technology as well as small-scale credit called micro credit. In my visit, I found great interests of the farmers and their involvement in the cage culture. Majority of the farmers own only one cage and technically culturing Tilapia for two or three cycle. On the other side POSD was lucky to provide job of some former CARE-CAGES staff and they are willingly support the technical help to the poor farmer.

Prospects:

The most interesting thing in the cage revolution in the village is this involvement of conservative women. They came to the meeting to get more information from me. They are feeding and managing cage during their bath time. They like to know more on some biology of the fish and to know how to grow fish quickly.



Among them Alekajaan (28) has already harvested 5 kg of fish (bigger ones) for family food purpose. Others are hoping to get little more than Taka two thousand (1 US\$= 58 Taka) by the end of their culture cycle. They told me that there is more money return in cage culture than their husband use to get from the paddy field. They like to use the money for family expenses. Thus there is no problem from family side.

Those who have second year in the cage culture project, they are happy to see the expansion of their last year effort. However, some problem prevails.

Problems:

The problems could be classified under two aspects like cultural and socioeconomic. The **cultural aspects** are as follows;

- Lack of seed of Tilapia: For 100 cages, in each cycle they need 20,000 of 1.5 cm sized Tilapia fry. They have a brood fishpond for natural breeding and nursery of fry. However, this is not enough to supply the huge

amount of fry in time for the locality. The fish culturist is suffering in severe fish seed shortage.

- Lack of feed for fish: At present the farmers do not use pellet food. They had some experience in preparing hand made pellet food last year. However, the attempt failed due to the lack of knowledge of fish nutrition as well as feasible feed composition.
- Lack of alternative natural resources for feeding fish: At present the cage farmers are using different natural resources as feed. For example, they are feeding vegetables, spinach, potato, squash, weeds, kitchen left over etc. However, the availability any item is not as much as to sustain the feeding for total culture period. Even some case of edible vegetables and spinach, question may arise to what extent those could use for human consumption rather than feeding fish.
- Plankton bloom in culture ponds: The ponds were found to be nutrient loaded from various sources. The fish farmers are adding feed and fertilizer to support their pond fish. Besides, cage farmers also putting feed into cages. This extra nutrient resulting plankton bloom in most of the ponds. In some cases, fish mortality was evident. However, the fish farmers from both parties were not aware of the nutrient dynamics of the pond.
- Fish mortality due to disease: The question of alternate fish species in cages became keen, as most of the other fish encounter diseases. Another good candidate, silver barb showed epizootic ulcerative syndrome (EUS) last year, resulting less interest among farmers to culture this fish in cage.
- Water level and temperature variations: The region lacks of excess water due to its geographical nature. In summer as well as winter the water level become very shallow. In summer the water become very hot and the fish suffers low oxygen in water. In winter, contrary, the pond support more oxygen but due to cold water fish stops feeding. Thus these could be limiting factors in cage culture in ponds.

- Variation of productivity among ponds: Good variation in fish production in cages observed by the farmers. According to them, pond with green color would produce better fish than transparent pond.



Social aspects of the problems are

- Majority of the farmer's donot own pond. They have to keep their cages on the mercy of the others. At this moment there a good will between both parties is evident and there is no problem. In future they have to face the reality because I suspect when the pond owner will know the profit he may cause some trouble.
- Some of the tilapia started to breed in the cages, there fry comes out of the cages resulting a conflicts between the pond owner and poor cage farmer. Most of the pond owner cultures carp in the pond. And they get annoyed to see tilapia in their culture pond. This may further instigate conflicts in future.

Recently a project called **TROPECA** from Nautilus and Stirling University of UK are trying to investigate the major issues on cage culture in Bangladesh to provide some rightful answers for the future benefit of the poor fish culturist of the country.