

**1. Title: Farmed pearl spot (*Etroplus suratensis*) Production as an alternative livelihood to promote brackish water aquaculture entrepreneurship for fishers of Pulicat lake**

**2. Category:** Fisheries science.

**3. Challenge:**

It is commonly believed that the long term sustainability of fisheries and aquaculture of a brackish water fish species can be accomplished only through the development of captive seed production technologies. Standardisation of breeding protocol for large scale seed production of brackish water fish species is critical in this expansion. Pearl spot is one of the developing candidate species in brackish water aquaculture, due to their unique and prolonged parental care and biparental substrate breeding habit, an effort for inducing them to spawn in captivity has not been successful. In this perspective, with a view to restore the population of *E. suratensis* in the Pulicat lake and to develop brood fishes for stock enhancement and management programme, induced breeding on mass scale was addressed through this project.

**4. Initiative:**

The brooders were collected from the Pulicat Lake (13°25' 41.18" N latitude and 80°18' 31.79" E longitude), Southeast coast of India and transported to ARFF, Madhavaram, by packing separately in polythene bags, with a packing density of 2 - 3 fishes per bag containing 5 litres of brackish water in aerated condition. At the farm site, the Pearl spot (*E. suratensis*) brooders were disinfected using  $\text{KMnO}_4$  and stocked at 25ppt water in 1000L FRP tanks. Slowly, By adding 0ppt water into the tank the fishes were acclimatized to freshwater for 3-4hr. Later the fishes were transferred to freshwater lined ponds after acclimatization. As the fish is omnivorous, the fishes were reared by raising the natural plankton production and also by providing supplementary feeds. The brooders were fed with pelleted feed of crude protein 32% @ 3% of body weight. They were conditioned in 4000 L FRP tank for a month to get matured brood. The broods raised in FRP tanks were collected for induced breeding in polythene lined ponds.

The matured healthy brooders of Avg. length;16.2 cm and weight; 115.1g were selected and induced with WOVA FH hormone @ 0.5 ml kg<sup>-1</sup> of fish in the intra peritoneal region. The induced brood fishes were immediately released into the polythene lined pond @1No./m<sup>3</sup>. The Dimension of the polythene lined pond was 10.5x11.3x1.5 m. The pond was provided with pipes for the hiding and tiles for adhesion of eggs. The sex ratio of 1:1 was maintained throughout the study.

### **5. Key result/insight/interesting fact:**

The major constraint in the aquaculture of pearl spot is the lack of induced breeding techniques due to its inherent low fecundity, complex breeding behaviour and parental care. The present experiment was aimed to determine the effectiveness of WOVA FH hormone in induced breeding of *E. suratensis* in polythene lined pond. The physico-chemical parameters of water were well within the optimum level for breeding of the species. The water temperature, dissolved oxygen (DO), total alkalinity and pH recorded were 26 – 30 °C, 6 -7 ppm, 90 - 110 ppm respectively.

In the present study, complete spawning was observed after 3-4days of the administration of hormones. The present trial had shown a highest number of eggs (>1500 nos.) from a pair of brooders, compared to natural breeding and youngones of 2000 numbers were collected once in 15days interval.

### **6. Impact:**

The Earning of Pulicat fishermen from capture fisheries was poor due to depletion of wild stocks, in order to uplift their socioeconomic condition 125 numbers of fishermen from eight villages were trained exclusively on mass production of pearl spot. Further the seeds were stocked in HDPE cages and in RAS system and the grow out of pearl spot was demonstrated to the fisherfolk of the Pulicat region. At present the trained fishermen have started culturing of pearl spot which have uplifted their socioeconomic conditions.

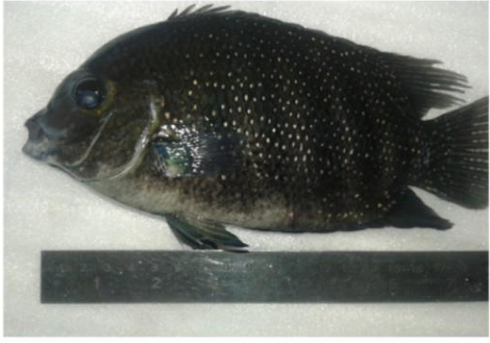
## 7. Lessons Learned:

Mass production of pearl spot by induced breeding method, done with strong scientific background reveal a positive impact not only with respect to knowledge gaining, but at the same time, also enabled the lab to land technology transfer ,which can improve the living standard of the fishing community.

## 8. Supporting Quotes and Images:

Breeding and seed production of pearl spot and technology transfer.





## 9. Checklist:

Sl.No.	Question to consider	Yes	No
1.	Is the story interesting to the target audience of the project/activity report?	Yes	
2.	Does the story explain what new insights the project brings? What is the main lesson learned from this story? Does the story describe a key insight on what works and what doesn't and something that future projects could build on	Yes	
3.	Does the story describe the outcomes the project produced and the people who are benefitting? What changes-in skills, knowledge, attitude, practice, or policy-has the project brought about and who is benefitting from these changes?	Yes.	
4.	Does the story make a compelling point that people will remember? Does the story show how the project makes a difference to improving livelihoods and lessening poverty?	Yes	
5.	Does the story provide an interesting fact that people will remember? For example, how yields increased, how many hectares of land could become more productive from this innovation or technology?	Yes	
6.	Does the story explain what kind of impact this innovation or technology could have if scaled up?	Yes	
7.	Does the story show which partners contributed and how?	Yes	-

<b>Sl.No.</b>	<b>Question to consider</b>	<b>Yes</b>	<b>No</b>
8.	Does the story include quotes from stakeholders or beneficiaries?		No
9.	Have I provided links to other media (journal articles, website news, newsletter, blogs, annual reports of other programme/project) that also feature this story?		No
10.	Have I provided the contact details of people who can provide more information?		No