

Impact of training programmes on adoption of ornamental fish culture practices among the trainees

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ABSTRACT

Ornamental fish keeping is becoming popular as an easy and stress relieving hobby. About 7.2 million houses in the USA and 3.2 million in the European Union have an aquarium and the number is increasing day by day throughout the world. Ornamental fish farming is also growing to meet this demand. It is encouraging news for developing countries that more than 60% of the total world trade goes to their economies. Although India is still in a marginal position its trade is developing rapidly. The present study was carried out to find out impact of training programmes on adoption of ornamental fish culture practices and the rate of adoption among the trainees of Thoothukudi district. A total of 120 trainees were selected by using proportionately random sampling technique. The study revealed that, very few respondents adopted the ornamental fish culture. The percentages of the adoption and non – adoption were 10% and 90%, respectively. The data were collected from three blocks by using structured interview schedule and the data were analyzed with statistical tools.

Key words: Impact, Training programmes, ornamental fish culture practices, Adoption

INTRODUCTION

Ornamental fishes support a global export trade worth US\$ 250 million, with the Asian share of US\$120 million. Singapore exports ornamental fishes worth US\$ 50 million just from 70 farms covering 156 ha. Considering the farm facilities and species richness of the country India can easily become the leader in this sector. However, the key to success lies in the packaging technology. Quick and mortality-free transportation is the main factor that determines the success. They include repacking starvation, lowering of temperature of packing water and use of chemical additives, etc. These packing practices can reduce the effective mortality up to 2-3% against the accepted industry standard of 5%. While India has made inroads into ornamental fish trade during the last decade, the present levels are a fraction of the potentials. It is also concern that fish species are often exploited from the natural environments, that might lead to erosion of the diversity. With development of infrastructure supported by suitable government policies, India can successfully adopt the Singapore model of importing ornamental fishes for re-export. [1]

Facilities for the production of aquarium fish are often small compared to major food-fish production operations [2]. In traditional subsistence fisheries, fishermen use primitive and inefficient gear to capture most aquarium fish. However, supply of aquarium fish is not inexhaustible and signs of over-fishing are becoming apparent in localized areas. With the high demand and pricing of many beautiful species, ornamental fishes are being harvested at greater volumes and higher rates, threatening the viability or sustainability of the fishery [3], [4], [5]. To avoid these risks and to increase the empowerment status of the farmers as well as fishermen the fisheries departments should conduct awareness programmes as well as training programmes on ornamental fish culture and handling.

By considering the above statements, it is worthwhile to call the fish farmers, SHG women and unemployed people as a mass movement on a national scale for the development and empowerment of the poor and downtrodden in the country. The state department of fisheries, MPEDA, Fisheries College and Research Institutes are presently providing various kinds of training programmes in fisheries, for upliftment of the socio- economic position.

Therefore, the present study on the impact of training programmes on adoption of ornamental fish culture practices and the rate of adoption was undertaken. The study would reflect the impact of fisheries training programmes on adoption of ornamental fish culture practices and the adoption. The findings would help to analyze the economic status and adoption levels of ornamental fish culture aspects besides the impact of training programmes. This investigation would highlight the problems encountered in ornamental fish farming and suggest measures to overcome such problems for effective adoption of ornamental fish culture practices.

MATERIALS AND METHODS

Thoothukudi district is situated in the southern part of Tamilnadu and it covers an area of 4,175 square km. it has a coast length of 163.50 kilometres accounting for 15.20 per cent of the total coastal length of the state. This district is surrounded by Virudhunagar and Ramanathapur districts on the north, the Gulf of Mannar on the east and Tirunelveli district on the west. According to 2011 census, the total population of the district was 15,72,273; comprising male population of 7,66,823 and female population of 8,05,450 [6].

Among 12 blocks of this district, four blocks were selected. One block was selected for the pilot survey to know the accuracy of the interview schedule; three blocks were selected for the study based on the maximum number of trainees who had attended the ornamental fish culture training programmes. The trainees who had attended the ornamental fish culture training programmes offered by the Fisheries College and Research Institute, Thoothukudi, during the period 2002-10. Approximately the total number of the population for the study 1,560 trainees were trained in this institute during the said period and among these a sample of 120 trainees were selected as the respondents for this study.

From the selected blocks, 20 respondents were selected from the Ottapidaram block for the pilot study, 50 respondents were selected from Thoothukudi block, 35 from Srivaikuntam and 35 from Alwarthirunagari for the main survey. These sample sizes were taken based on proportionate random sampling.

RESULTS AND DISCUSSION

It could be concluded that regarding culture of live bearers and egg layers very few farmers had adopted the culture practices. Among the 12 respondents, who were in the field, 10 as farmers and two were technicians in farms. Among 120 respondents 6.67% respondents cultured the Guppy followed by Molly (5%) and equal number of respondents (0.83%) cultured Platy and Sword tail. Regarding culture of egg layers, 5% of the respondents cultured Goldfish as well as other fishes, mostly cichlids, Arowana. The trainees cultured Sucker cat fish (4.17%), Gourami (3.33%) and Fighter fish (2.5%). The trainees also cultured Koicarp, Tetras, Angel, and Discus with 1.67% each, followed by Oscar and Freshwater sharks with 0.83% each. On the other hand nobody is culturing the Barbs.

A total of 5% of the respondents adopted brood stock selection, spawning and spawn collection for the production for ornamental fishes. As far the disease management practice is concerned only 6.67 % of the trainees adopted, 5% of the trainees adopted stocking pattern of brood stock, a total of 5.83% of the trainees adopted breeding and spawn collection and 5% of the trainees adopted the natural and artificial egg hatching methods. Larval rearing and nutrition is a vital practice in ornamental fish culture technology. As far this practice is concerned, 5% of the trainees adopted larval rearing and nutrition. Live feed culture one of the most important practices in ornamental fish culture was adopted by only 5% of the respondents of farmers adopted microscopic live feed organism's culture. Only 2.5% of the respondents adopted formulation of artificial feed for feeding fishes.

Few of the respondents (5.83%) adopted water quality management practice. As far as health aspects and disease prevention is concerned, only 7.5 per cent of respondents adopted and 7.5 per cent of the respondents adopted Packing and transportation methods. Nobody was using the anaesthetics, 6.67% of the respondents adopted marketing strategies. On an average total of only 3.76 per cent of the farmers adopted the selected ornamental fish culture practice and majority of the respondents (96.24%) among them did not adopt ornamental fish culture practices (Table.1).

Table. 1. Adoption of the ornamental fish culture practices among the respondents

Sl. No.	Culture practices	Adopted		Non adopted	
		No	%	No	%
(n=120)					
1.	Fish varieties cultured*				
	I. Live bearers				
	a. Guppy	8	6.67	112	93.33
	b. Molly	6	5	114	95
	c. Platy	1	0.83	119	99.17
	d. Sword tail	1	0.83	119	99.17
	II. Egg layers				
	a. Gold fish	6	5	114	95
	b. Fighter fish	3	2.5	117	97.5
	c. Koi carp	2	1.67	118	98.33
	d. Oscar	1	0.83	119	99.17
	e. Gourami	4	3.33	116	96.67
	f. Barbs	0	0	120	100
	g. Freshwater sharks	1	0.83	119	99.17
	h. Sucker cat fish	5	4.17	115	95.83
	i. Tetras	2	1.67	118	98.33
	j. Angel	2	1.67	118	98.33
	k. Discus	2	1.67	118	98.33
	l. others	6	5	114	95
2.	Brood stock selection, spawning and nursing system	6	5	114	95
3.	Nutrition and disease management	8	6.67	112	93.33
4.	Stocking pattern of brood stock	6	5	114	95
5.	Breeding and spawn collection	7	5.83	113	94.17
6.	Natural and artificial egg hatching methods	6	5	114	95
7.	Larval rearing and nutrition aspects	6	5	114	95
8.	Microscopic live food organisms collection / culture aspects	6	5	114	95
9.	Formulation of artificial feed (crumble, pellet, noodle)	3	2.5	117	97.5
10.	Water quality management (brood stock/nursery/rearing)	7	5.83	113	94.17
11.	Health aspects and disease prevention	9	7.5	111	92.5
12.	Packing and transportation methods	9	7.5	111	92.5
13.	Usage of anaesthetics	0	0	120	100
14.	Marketing strategies	8	6.67	112	93.33
	Average adoption of all practices put together		3.76		96.24

*Includes many species/varieties in each category

As far the adoption is concerned, very few respondents adopted the ornamental fish culture. The percentages of the adoption and non – adoption were 10% and 90%, respectively which was shown in Fig.1.

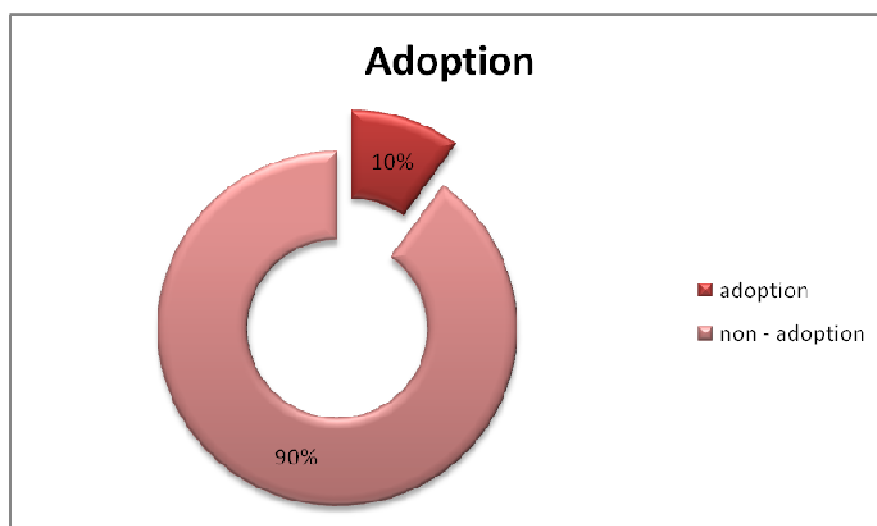


Fig. 1. Adoption of the ornamental fish culture among the trainees

CONCLUSION

The results revealed that the rate of adoption among the trainees is very less. New enterprises comprising larval and nursery rearing, grow-out farms and packaging transport need to be encouraged. Documentation of ongoing efforts at breeding, culture and trade (as for example, Kolathur area in Chennai and markets in Kolkata), establishment of

ornamental fish hubs with brood stock and certification facilities, connectivity to overseas markets are strongly emphasized in this approach (Government of India, planning commission, 2006). By conducting practicals to the trainees rather than merely giving theoretical knowledge and conducting result demonstration will elicit enthusiasm among the trainees. The government institutes should conduct awareness programmes on ornamental fish culture practices with advanced techniques and by showing the evidence of marketing strategies and by conducting field visits to the trainees, they can interact directly with the successful farmers who have almost equal mindset.

Acknowledgement

Research work is part of my master's degree, registered in Fisheries College and Research Institute, Thoothukudi. I would like to thank my guide Dr. R. Santhakumar for his immense support during my research.

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