

The Fisherwomen Ornamental Fish Cooperative Societies of West Bengal-A Survey of Howrah North 24 Parganas and Hooghly Districts

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ABSTRACT:

Ornamental fisheries in India become a high level weapon for the economic development of the country. This country now introduced a lot of schemes, programs and also some national level of fisheries programme such as FFDA which provide a lot of training to the women who encouraged to engaged with the ornamental fisheries for developing the socio-economic profile of the states. Different studies occurred related to the topic of ornamental fisheries which gave us a finding of the fisherwomen cooperative societies who involved in this section throughout the decades but never got a proper infrastructure or the supplies which can make it a foundation for the women who went through the properties.

Different studies and the research shows the development of this section throughout the years make this area one of the major economic strong resources for the country. During the interview carried out in this dissertation provide a lot of the socio-economic status of the fisherwomen of our State and also the problems, the contribution of the microfinance programs (such as NABARD, SHGs) in the field of resources for the fisheries. The State board of administration introduced a lot of training programme and also many of the scheme which helps the fisherwomen to improve their skills and also the production of the fishes which ultimately increase the resources of the States. The fisherwomen cooperative societies also introduced the women empowerment which was needed in the areas where the poverty stricken were the first enemy of the people and also it strengthen the section of the gender equality to provide the earnings for the women.

Also during the interview many problems came out front such as natural obstacles, impurities in the water, disease – DROPSY , FUNGUS INFECTION, RED GILL BACTERIAL DISEASE. Although the State try to resolve the problems of the cooperative but it also need time to work effectively on the problems when it related with the factories, proper infrastructure and also the nature.

AIMS:

Objective of this dissertation was to investigate the socio-economic development of the fisherwomen regarding the co-operative societies of different districts of the West Bengal. The observed three districts in the study were the effectively active with the ornamental fisheries, where the fisherwomen were the lead of this project. Within this research work the problems and prospects of the ornamental fish cooperatives were covered for the proper exploration of the cooperative societies. The production of the fishes were the need point which can be improved by the help of the appropriate training and infrastructure. Also the aims of this study were the comparison of the fish production, social status and the problems of

the fisherwomen within the three districts (respectively HOWRAH, NORTH 24 PORGONA, HOOGHLY) against the other districts of the West Bengal and also with the other states of the India.

KEYWORDS: Ornamental fisheries, Fisherwomen co-operative societies, Woman Empowerment, Socio-economic Profile and Dropsy.

Introduction:

Fishery sectors in India now has a achievable goal for commercial economical growth and is now assessed as a commercial enterprise on behalf of the social and economical development in a society of the country. In these modern stretch, the implications of cutting-edge technologies and implementation of enormous aquatic stockpiles, have been revolutionized the Indian Fisheries into a boundless commercial management . This tract now has secured a illustrious aspiration for the lucrative flourishing of the destitute of the rustic areas of the country. Fisheries, aquaculture and also ornamental fish culture conceivably contributed to the national income, nutritional securities, employment opportunities, social objectives and export earnings(Ayyappan, S., and Diwan, A.D., 2006). Fisheries diligence of Indian abstemiousness is an requisite tract as it assigns unswerving occupation and nourishment to round about 16 MM individuals and to substantially more who concomitantly rely on this belt. At present in India, this belt manifested a magnificent transfiguration from a orthodox sustenance venture to a skilfully bloomed diversified mercenary diversion with boundless inaugural prospects (Fifth Report of Standing Committee on Agriculture, 2019-20).

Commencing as a solely ceremonial recreation, Indian Fisheries have now revolutionized into a wide-reaching merchandising along with immense aptitude. At persistent cost (2011-12), the allocation of fisheries tract in the comprehensive Gross Value Addition(GVA) of India, proliferated from 04.90% in 2012-13 to 12.00% in 2018-19. Throughout the aeon , the belt accounts an expansion of 179%. In the course of accounting year 2018-19, fisheries tract provided Rs. 1,28,011 Crore to the National GVA at(2011-12) perpetual expenses(National Accounts Statistics, Ministry of Statistics and Programme Implementation, GOI, 2020). The ornamental fishes can be in aquariums, marine exhibit, plastic tank and grounded ponds for the diversion and amusement (Mukherjee et al. 2000). Inshore and thalassic waters in India possess a generous diversification of exotic fish, with over 195 autochthonous verities delineated from North-East Province and Western Ghats, and nearly 400 breeds from oceanic ecosphere. Conceptual ornate fish husbandry is a spring up trading for pastoral women of West Bengal, India. Dealing with 20 to 30k women antlers are pertained to this pursuit. It is guesstimated that the aggregated market price of domiciliary aquarium merchandising is around Rs. 300 Crore yearly and is precisely and concomitantly subsidizing about 50,000 of ménage predominantly in rustic India. In this day and age around 210 species of primeval ornamental fishes are being traded internationally to various countries. Kolkata exercises control over export proceedings, followed by Mumbai and Chennai. A continual aspiration of the fish rancher is to augment it's fabrication to advance the appositeness (Jakhar et al., 2011). To execute such desire, presentation of exotic fish as one of the implements has been performed world-wide. The intermediary year-long fabrication of enlightened exotic freshwater nephrops from 2000 to 2004 added up to 3.6 million tons or 16% of the comprehensive Mari culture creation (De Silva et al., 2009). National Bureau of Fish Genetic Resources, India had documented further than 300 exotic fish breeds incorporating 29 sustenance fishes shipped in purposely or by illegitimate in India afterward nineteenth centenary. In

West Bengal, origination of tropical fish species into the cisterns for traditions afterward 1970s (Sinha et al., 1973). Nonetheless woefully, promiscuous and imprudent inauguration of exotic fish in our native land has escorted a outspread line-up of obstacles including excision of indigenous fish species conducting to ecological loss (Nyman, 1991; Biju Kumar, 2000). The aquatic fisheries accumulation are expanded along the realm's boundless unspoilt and costal and 2.02 million square km Exclusive Economic Zone (EEZ), and 0.53 million sq.km epeiric area.

Review of Literature:

Explication and conceptualization of Fisherwoman Cooperatives :

A cooperative is an autonomous and freestanding consortium of individuals consolidated voluntarily to encounter their habitual economic, social and cultural needs and hankering through a cooperatively boasted and a democratically superintended endeavour (Anbumani, K, 2007). Just as the customarily advance from the inadequate segment of the community , the deprivation requisite pecuniary funds, proficiency of the technology evolution and bureaucratic capacity mandatory for finer fish fabrication, stockpile, processing and putting up for sale. As a consequence of low earnings, they customarily borrow the necessary finances from fish trader at high rate of interest. Accordingly, there is a ferocious encircle of liabilities fostering fleecing. Origination of fisherman cooperative society can puzzle out all these hurdles and fisherwomen in contrastive territories have embraced the cooperative structure of working to ameliorate their falconries comprehensive further more evolve their socio-economic circumstances.

A inquiry governed by the assembly for Communal Evolution in India approved the applicability of the fisherman cooperatives as a implement for encouraging attentiveness of fishermen. The analysis also foregrounded the exigency for organizing energetic fisherwomen into collectives and for bolstering and stimulating the fisherman cooperative societies for execution of versatile functions and communal inquisitiveness of their members. To set the seal on a well-knit construction of fishery cooperatives is generated in the nation, the research proposed that “ Multifunctional Foremost fishermen Co-operatives can be perpetuated.” (Mishra, B.K., 1997).

Chronical of fisherwoman and fisherman cooperative societies in India :

The contemporary co-operative society has its core in England, when it commenced in 1844. The fishery co-operative movement commenced in India in 1913 when the introductory fisherwomen society was assembled bound by the name of “Karla Machimar (Fishermen) Co-operative Society” in Maharashtra. The nation of West Bengal was the succeeding to put in order the co-operative societies in fishery section in 1918. During the identical year, Tamil Nadu also ordered one fisherman cooperative society. In India, accompanied by the National Federation of Fisherman Co-operatives (FISHCOOPFED), overhead of the cooperative configuration, there are 17 consortium at the nation level, 108 Central Communities at the district and zonal status and higher than 11,000 fundamental fisherwomen cooperative societies at village level. Associateship of foremost societies is round about 11.39 lakhs assuring round about 21% of functional fisherwomen in the province. At the present moment, the cooperative organization of fisherwomen co-operatives varies from state to state. While Kerala has received a two-degree formation (Primary and Vertex), Maharashtra has received 4 degree viz., Village, district, communal and vertex. Concurrence is unspectacularly emerging to evolve 3 degree composition to be specific Primary Fishermen Cooperative Society (PFCS) at village degree , Central Societies at district degree and State

alliance at the vertex degree.(Mishra, B.K., 1997). Within West Bengal, the fishermen co-operative societies are organized in three degree structure. A vertex alliance at Nation degree called Benfish. There are Chief Fisherman Co-operatives Societies respecting District degree and Primary Fisherman Co-operatives Societies (PFCS) respecting Village level. Presently, the West Bengal has 18 CFCS, 906 PFCS and 1, 12, 647 fishermen with fundamental membership of fishermen co-operatives (Statistical Hand Book of Fisheries, 2015-16, Govt. Of West Bengal).

Outcomes of Fisherwoman Co-operatives:

As contributed by constitutional act of India, co-operatives are concern matter of concurrent tabulation. The configurational alliance of cooperatives differs from state to state. Standardly, cooperatives are presented in four echelon configuration to wit , National federation of Fishermen co-operative limited, State consortium of Fishermen's cooperatives, Central Fishermen Co-operatives Societies. The major outcomes of fisherman cooperatives at divergent degrees of confederation are given further down (Sapovadia, V., 2004).

- Aims of National federation of Fisherwomen co-operative limited:
 - a. Spread out reservoir of fisheries stores and implements.
 - b. Conveyance technology to fishermen across the Co-operatives.
 - c. Assurance of financial protection to fishermen.
 - d. Acquire puddle/lake on farm out basis for maturing fish procreate and trading fishes at rational cost.
 - e. Furnish consultancy assistances to the members of fishery cooperatives.
 - f. Establishing training encamp substantiation units.
 - g. Merchandising of fish, fish seeds and hype up exports.
 - h. Experiments and consultancy in the field of fishery cooperatives.
 - i. Promulgation
 - j. Cooperation with administration and divisions, cooperative organizations, universal cooperative confederation and other representatives.

- Aims of State Consortium of Fisherwomen's Cooperatives:
 - a. Publicize and evolve fishery cooperatives over the state.
 - b. Upraise investment capital throughout allocate , down payment and borrowings.
 - c. Acquire and dispensation of recommended fishery inputs and apparatus.
 - d. Trading of fish at a rational rates.
 - e. Deal with refining action and transport of fish by-products.
 - f. Technological direction.
 - g. Cooperation with State government and other representatives.

- Aims of Central Fisherwomen's Cooperative Societies:
 - a. Correlate state federal union and fundamental cooperatives.
 - b. Hold up fundamental cooperatives through numerous agenda.

- Aims of Primary Fisherwomen Cooperative Societies (PFCS):
- Encourage fishermen to coordinate cooperatives.
 - Obtain fish from members and allocate a complete configuration for vending fishes.
 - Supply of fish seed, fishnet and supplementary inputs and apparatus.
 - Systematise technical instructions for members.

Research over ornamental fishes carried out in Foreign Countries:

The responsibility of women in aquaculture and ornamental fisheries in South East Asia, was becoming exceptionally dominant in the area of but the task part of women has frequently been skeptically affected. Felsing et. Al (2001)

In a study analysis denominated Fisherwomen within the Turkish Fishery, Southern Aegean Sea enrol in the bulletin of Applied Ichthyology, Goncuoglu H and Unal V (2011) checked out to inspect that there are not really functionary documents on the active participation of women in Turkish Fisheries not either execute governmental organisations acknowledge their association. The major objectives of the research analysis was to approve their implications and convey their socio-demographic ranking and social position in the occupation.

In a universal survey on Fisheries in Women, issued by, IRIS Consulting, Greenwich Maritime Institute, furnish a foundation for recognising how impartiality of possibility for woman can be attained within the bounds of industrial racket and inside affecting its destined regulation. The key components are the responsibilities of the women in enhancing the economic cost-effectiveness of business, their participation in the communal foundations and sustainability of the fisheries and the seaside associations as well as their cooperation with supervision officialdom or federation at the regional, federal and international degree.

Consequently the discussion on the experimentation ventured on in foreign land also denotes the mandatory responsibility take part by women in the fishing communities, to intensify their contribution in seaside associations and their involvement in administration and policy procedure. Evolution inventiveness attentive over advancing women's sustenance in small-scale fisheries fabrication, initiating and assisting entrepreneurship, encouraging women's capacity in aquaculture, establishing and reinforcing fish co-operatives, instructing women in enhanced fish processing strategy and so on.

Survey of ornamental fishes carried out in West Bengal:

Ninawe, A. S, Diwan, A.D, and Narendra (2005) inside their thesis termed Women Empowerment in Fisheries, issued by Pub. Co, Udaipur created an attempt towards recognition of fundamental elements influencing women in the Indian fisheries section.

Confines of the treatise identical to "Potential and difficulties of Composite Fish Farming in West Bengal" by S.M. Murshed, CIFRI Statement; "Purview for Empirical and Mercenary Fish Farming in West Bengal" by A.V. Natarajan, CIFRI Journal no. 9 and "Transport Likelihood of Fish and Fish By-products" (1986) by NCAER, New Delhi, a few of the issuances associating to the difficulties of trading of fish production such as have been handed out with.

Sib Ranjan Misra(1987), inside his treatise "Fisheries in India", publicized by postulation publishing firm divulges that catching acts as a utmost limitation leading to a disappointing performance of fish producing, especially in West Bengal tanks and ponds. Further difficulties emphasized by him were inconsistent and exiguous provide of quality fish seeds or fingerlings on schedule and at rational rate,

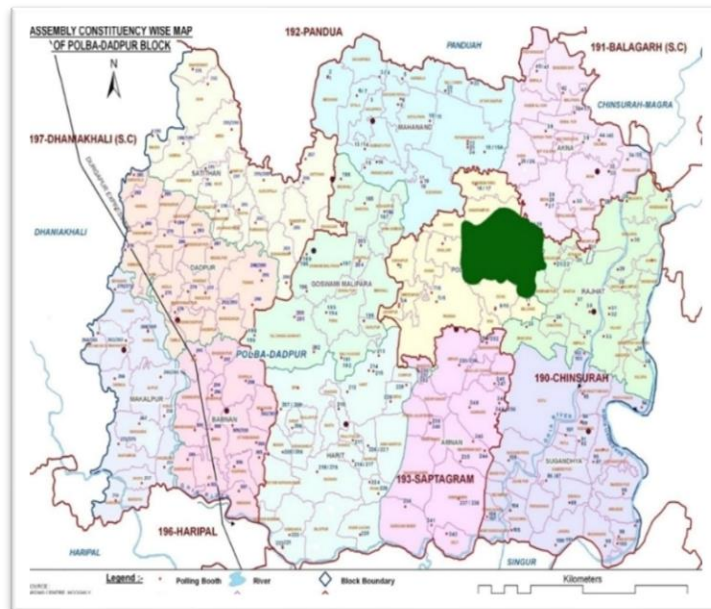
numerous ownership and adulterate inputs etc. In accordance with Misra, this displeasing performance can be ascribed principally to unavailability of logical management, sagacious implementation and significant exploitation of assets. Quantifies proposed by Misra are the utilization of watercourse irrigation (from which water can let go to the fish tanks and ponds in Winters) or rainwater fed farming on climacteric basis, desiltation of regarding to ponds, deep-rooted leasehold agreement, government legislative regulation to exterminate various ownership, evolution of relevant technologies (respecting the zonal, environmental and ecological distinctness) , co-ordinated marketing route, diversified farming etc.

K.S Chattopadhyay (1987) inside his “ Difficulties and Likelihood of Pisciculture” talked over numerous institutional, mechanical and financial elements, which are formed destructive to effortless performing and improvement of fish creation in a district such as Birbhum in West Bengal. The man grievously deprecated the contribution of the government while rendering diversification programmes at the elementary degree.

The paramount fish exported internationally from India are of indigenous species accumulated from the river and sometimes cultivated in the fisheries which put up about 85% to the total transport of every varieties of ornamental fish from all over the country. Amid the 195 delineated fish varieties from the North-East Region, 155 species are of Ornamental fishes. Conversely, from 40 delineated fish species of 37 varieties are endemic ornamental fishes.

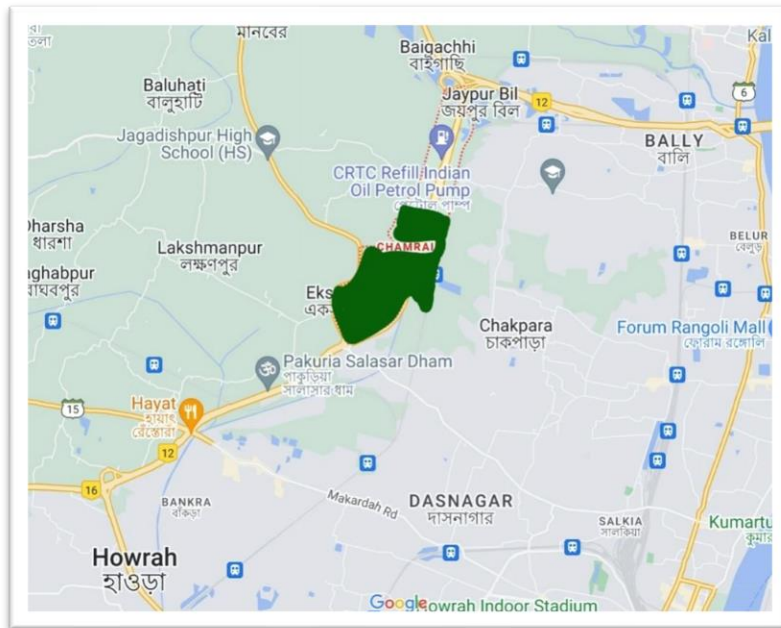
Predominance of the Ornamental fish breeders in Indian procreate exotic fishes and few of breed indigenous, aquatic and brackish water ornamental fishes. Within the fishes Goldfish has the excessive predilection amid hobbyist and as a consequence it’s procreation intimidate the Indian ornamental fisheries. Aside from the Live-bearer species, breeders choose to reproduce extensively specialized species such as Oscar, Flower Horn Tetras, Dinos, Molly and Cichlids.

STUDY AREA

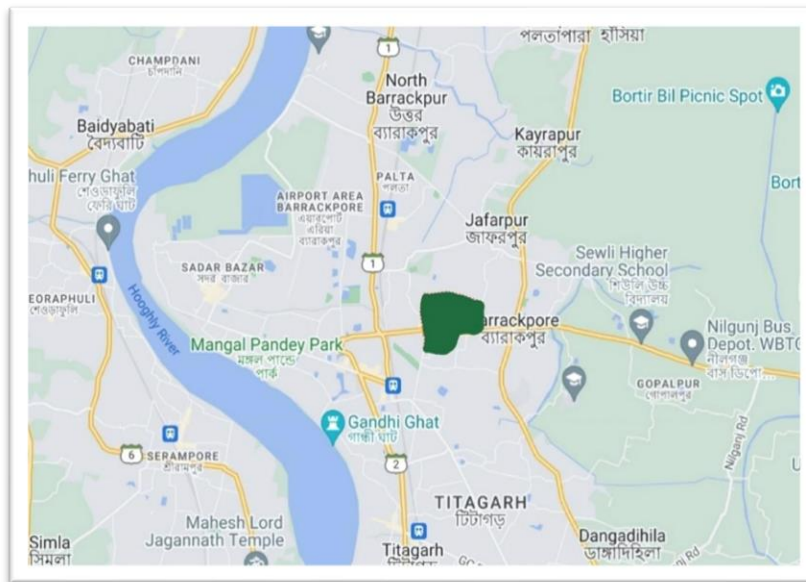


Map showing Study Area 1: Pragati Mahila Rangin Matsya Samabay Samiti Ltd., Sugandhya, Polba, Hooghly, West Bengal

Map showing Study Area 2: Ratandip RMCSS FCS Ltd., Village+ P.O. : Chamrail, Liluah, Howrah, West Bengal



Map showing Study Area 3: Matsya Kanya Rangin Mach Chas Samabay Samiti, Notunpara, Nona Chandanpukur, Barrack pore, North 24 Pargana, West Bengal.



Methodology:

Reasons for Site Selection:

The pre-eminent intent of this dissertation aspirations to point up the socio-economic of the fisherwoman Cooperatives and ornamental fisheries in the West Bengal. Ascribed to the constraint of time the experimenter meticulously picked out these three complementing districts of West Bengal conducive to have a extensive and modified perspectives.

Substantially the fisherwomen in Howrah, are precisely not participating in the fish catching in the sea or river or ponds rather they are cultivating the ornamental fishes, rearing and breeding the fish seeds

and fry. Helping the male members of the Co-operatives to sell the fishes at the market and also sometimes sell the fishes themselves physically going to the market.

On the other hand, fisherwomen in Hooghly, are involved into the fish farming, fish seeds rearing and also some of them also involved in the heliculture. The fisherwomen in these areas cultivate fish culture in two different ways viz. tank ornamental fisheries and pond fisheries. They directly involved in the marketing procedure along with their male members.

Study Period :

The time span of this dissertation paper period covers from 12/07/2022 to 20/11/2022.

Bibliographical data and procedure of documentation :

This dissertation paper of study is based on both subjective and quantitative procedure. The subjective method of material collection has been given beneath :

- Analysing the previous studies and research paper on Ornamental fisheries and fisherwomen in West Bengal and also in and out of India. This has been procured by paying a call on different athenaeums of fisheries department, West Bengal likewise CIFRI ; National Fish workers 'Forum office, Labour officers, Fisheries department of Polba, Kolkata trade union office and also other places deal with the identical interest.
- Re-examine of the existing liberal arts on Fisherwomen at cantonal, ethnological and global level has been done. Moreover evaluation of literature hinged on fishers' rights, grapple and movements in W B has been scraped together from the National Fish workers' Forum (NFF) offices in the form of bulletin, quarterly newsletter and report issued by them.
- Inspecting the Central and state assembly, regulation, order by-law etc. that have any relevance on fisheries Assets and righteous of conservative fishers' with significant focus on Women Fishworkers' Community.
- Social intercourse with Authorisation : The analyzer got an opportunity to accumulate information and documents by negotiating with the fishers', officeholder at the wheel of fisheries department, NGO dignitaries working for the prerogative and well-being of the fisher folk association in West Bengal by coping with workshops, apprenticeship organized by the NFF in cooperation with DISHA (NGO) and the federal and cosmopolitan organization in Kolkata and other districts of the West Bengal.

Commensurate Method:

The facts are collected by using three methods – (i) ground inquiry, (ii) engrossed mass discussion, (iii) Key canary interviews.

- Expedition to designated dissertation zone and intercourse with the fisherwomen communities was carried out during July – September , 2022. In Howrah districts, the field for the research was the Ratnadeep Rangin Matsya Chas Mahila Samabay Samiti ltd. (RRMCMSS) at the Chamrail. The interaction had been occupied with the fisherwomen in the seed rearing, fish cultivating, vendoring and other federated activities. As well as in the North 24 Pgs. and in Hooghly the field of dissertation were correspondingly Matsya Kanya Rangin Mach Chas at the Notunpara , Nonachandanpukur and Pragati Mahila Rangin Matsya Samabay Samiti ltd. at Sugandhya and also visiting Purushattombati for collecting the experimental data about Ornamental fish culture.

➤ In all the chosen districts, the engrossed mass discussion was used as this is most recurrently utilised co-operative rural approach. Fisherwomen correlated with co-operatives and Vendors’ Trade Unions were cross-examined informally in a gathering scheduled by the local fisherwomen’ union body in their zonal region. At the outset researcher encountered with the engrossed group reporting with the contributors by commencing the coordinator and supplying background information due to field visit and discourse.

Semi organized interaction with the key canaries was done in all three districts zonal Commune Women’s Union Members, coordinator of District Action Groups, Team of Fish Trade Unions, Leader of Vendors’ Women Union and the federal based Organisation, Chamrail administration, Polba national fish trade unions. The realisation of the fish trading, strive in the fishing market against the male fisheries, involvement in the movement for the assist on the fishery field by the government and so on. About 10 fisherwomen from every co-operative societies has been interacting with the researcher at Howrah, Hooghly, 24 Pgs. (North) by introducing the methods.

SOCIO-ECONOMIC PROFILE: THE COMPARATIVE STUDY OF THREE DISTRICTS :

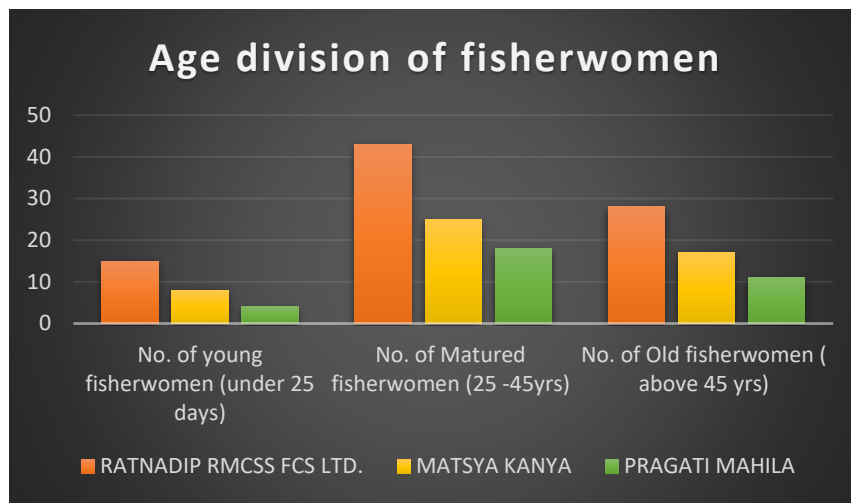
Comprehension with the livelihood process of the indigent is pivotal to effective poverty-stricken curtailment. The fact is undeniable that living subsistence of the indigent could never be commiserate with any one of the track logic which be economic, social, technological, ethnical or political. There is nothing like contradicting the fact such West Bengal has hyper vigilant natural foundation, stereotypical perspicuity and social expertise as regards escalated ornamental fish farming. Nevertheless negative socio-economic representatives accountable for the fisher folk coteries enlargement and upliftment. Supplementary, it has been also inquired into the circumstances of the poor, backwardly developed silent fisher women and experiencing hardship from lack of identity.

In such circumstances, essay has been made to scrutinize the socio-economic estimation of the fisher women co-operative societies of Chamrail of Howrah, Nona Chandanpukur of North 24 Pgs. and Polba, Purushattombati of Hooghly districts to recognise the factors that obstruct the development of the fisher women of these region. Additionally endeavour has been made to assess the role of the govt. and non-government corporation en route for the exhilarate of the fisher women co-operatives of these all districts. Safe keeping showing the age, gender, caste, educational programs, family proportions, Professional structures, pay level, gender based members and consciousness have been considered in this section.

Area of Study	No. of Young members (under 25years)	No. of Mated members (25-45 years)	No. of Old members (Above 45 years)
RATANDIP RMCSS FCS LTD., CHAMRAIL	15	43	28
MATSYA KANYA RANGIN MACH CHAS, NONACHANDANPUKUR	8	25	17
PRAGATI MAHILA RMSS LTD. , POLBA and PURUSHATTOMBATI	4	18	11

Table 1: Age based allotment of the members of formerly mentioned Study Co-operatives Societies

Area of Study	S.C.	S.T.	OBCS.	GENERAL
RATNADIP RMCSS FCS LTD., CHAMRAIL	8	6	13	41
MATSYA KANYA RANGIN MACH CHAS , NONACHANDANPUKUR	10	4	9	35
PRAGATI MAHILA RMSS LTD., POLBA, PURUSHATTOMBATI	2	9	6	14



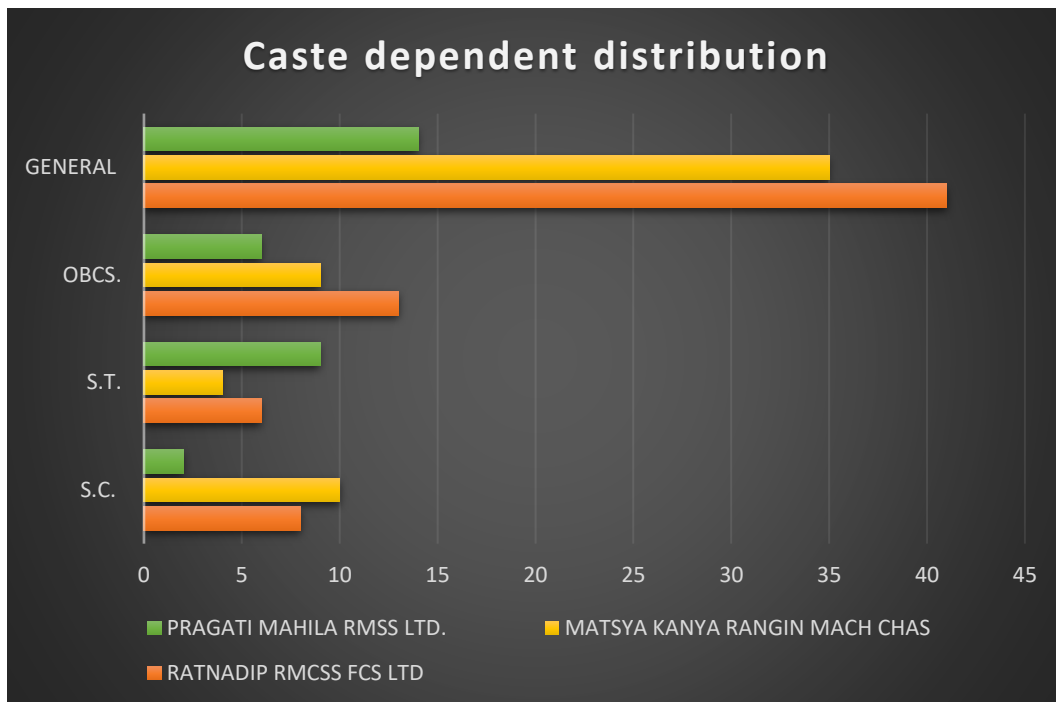
GRAPHIC EXPRESSION – 1 , THE DIVISION OF AGE OF members of co-operatives

This chart shows the graphical expression of the division of the fisherwomen regarding the co-operatives in accordance with the ages of them. At this chart the abscissas axis represent the continuous derivatives of the differentiation of age while the ordinates axis shows the number of members of the fisherwomen regarding the co-operatives observed in the study.

Table 2 : Caste dependent distribution of members of the directing in the referred co-operatives

The data from this table would be captured with the graphical representation regarding the bar diagram through which the distribution can be shown practically .

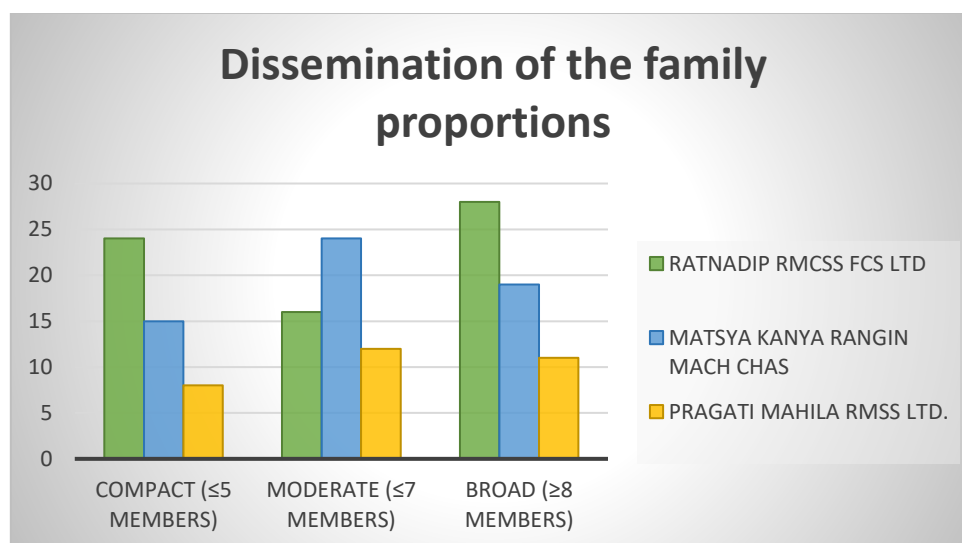
Area of study	Compact members) (≤5	Moderate members) (≤7	Broad members) (≥8
Ratandip Rmcsc Fcs Ltd., Chamrail	24	16	28
Matsya Kanya Rangin Mach Chas, Nonachandanpukur	15	24	19
Pragati Mahila Rmss Ltd., Polba, Purushattombati	8	12	11



The bar diagram express the graphical representation regarding the co-operatives fisherwomen distribution in accordance with the Caste region. Within this graphical expression the abscissas axis shows the number of members of the co-operative societies and the ordinates axis represent the different cast types in accordance with the research documents.

Table 3 : Dissemination of the family proportions of the members of the regarding the observed co-operatives

Data collection during the observation through the co-operatives fisherwomen’ would be represented in the graphical way by histogram according to the family proportions of them.



GRAPHIC EXPRESSION – 3, DISSEMINATION OF THE FAMILY PROPORTION

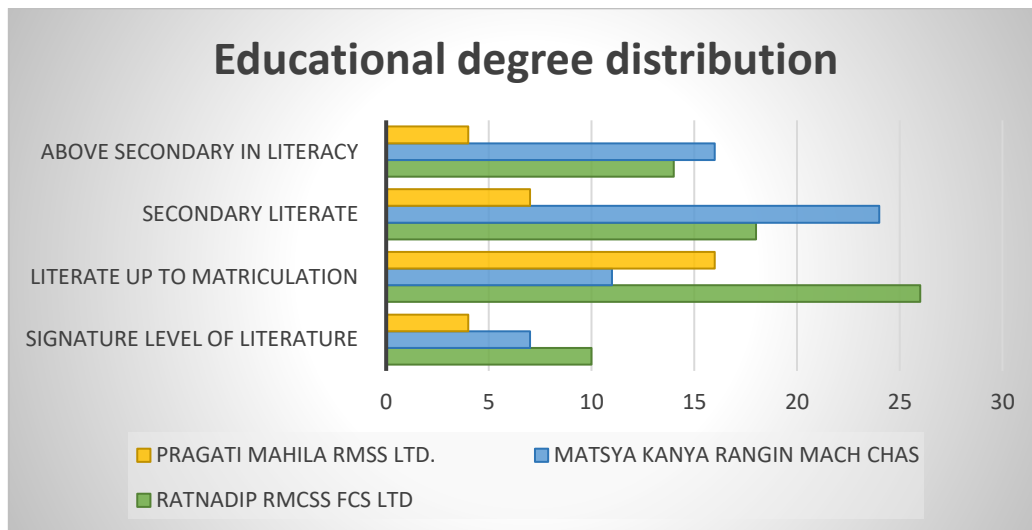
The Histogram shows the distribution of the family proportions of the fisherwomen regarding the observed co-operatives societies around those three districts . At this graphical expression the abscissas axis represent the family proportions while the ordinates axis represent the number of family members and also the three distinct bars proposed three different co-operative Societies.

Table 4 : The educational degree of members functioning in the observed co-operatives societies

Area of Study	Signature level of literature	Literate upto Matriculation	Secondary literate	Above Secondary literacy
RATNADIP RMCSS FCS LTD., CHAMRAIL	10	26	18	14
MATSYA KANYA RANGIN MACH CHAS, NONACHANDANPUKUR	7	11	24	16
PRAGATI MAHILA RMSS LTD., POLBA and PURUSHATTOMBATI	4	16	7	4

Accumulating the data from the above mentioned table to form a bar chart for representing graphically to express the educational degree of the fisherwomen regarding the co-operatives studied in the dissertation.

The bar diagram represent the distribution of the educational degree of the fisherwomen regarding the observed co-operatives studied in the dissertation. The abscissas axis shows the number of members of the co-operatives according to their education level while the ordinates axis represent the distribution of the educational levels.



GRAPHIC EXPRESSION – 4, DISTRIBUTION DEPENDS ON THE EDUCATIONAL DEGREE

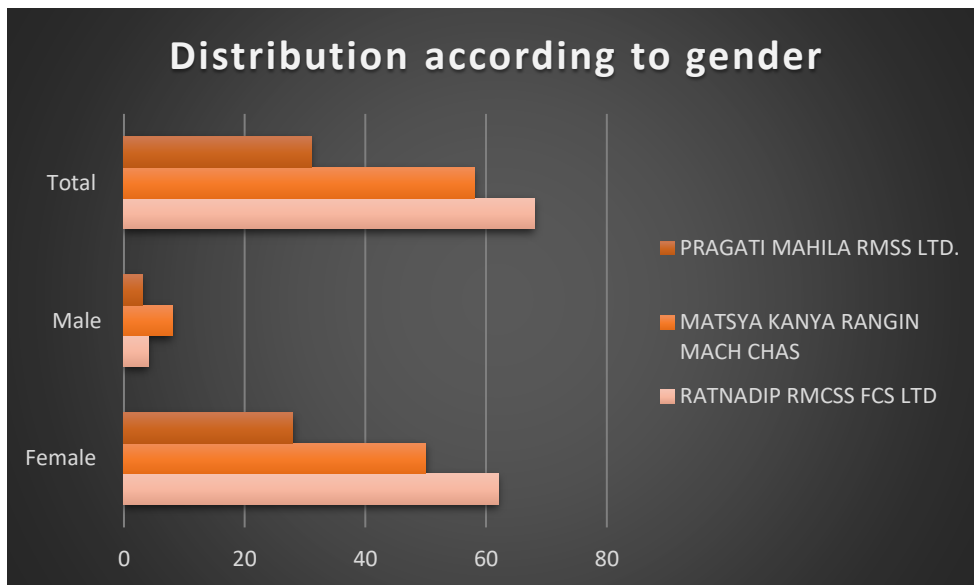
Area of Study	FEMALE	MALE	TOTAL
RATNADIP RMCSS FCS LTD., CHAMRAIL	62	6	68
MATSYA KANYA RANGIN MACH CHAS, NONACHANDANPUKUR	50	8	58

PRAGATI RANGIN RMSS LTD., POLBA AND PURUSHATTOMBATI	28	3	31
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Table 5 : The distribution of the fisher workers according to their gender

The data from the pre-mentioned table would be captured by using the graphical representation in the form of histogram regarding the information collected from the observed co-operative societies in the dissertation

The bar diagram represent the distribution of the fisher workers regarding the observed co-operatives in accordance with the gender of the members . Within this bar chart the abscissas axis represent the number of the members in the societies while the ordinates axis shows the differentiation of the gender of the members.

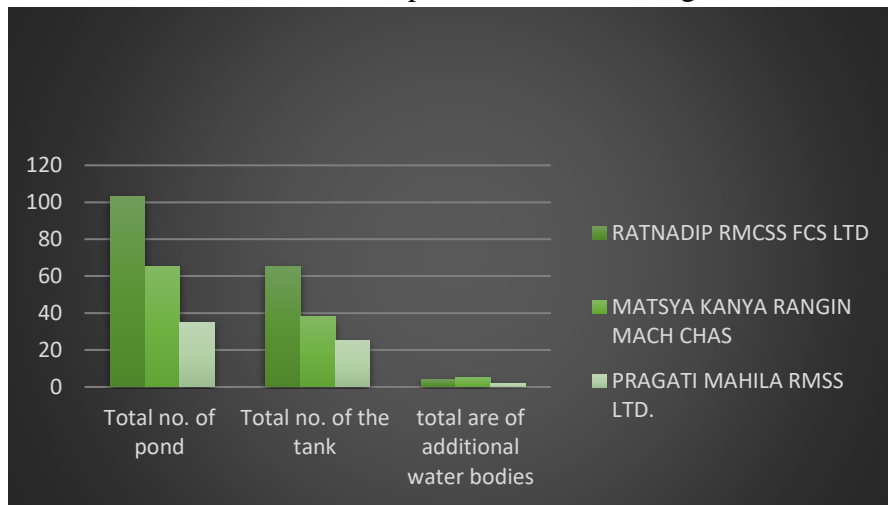


GRAPHIC EXPRESSION – 5, DISTRIBUTION REGARDING ON THE GENDER

Area of the Study	TOTAL NO. OF POND	TOTAL NO. OF THE TANK	TOTAL ARE OF ADDITIONAL WATER BODIES
RATNADIP RMCSS FCS LTD., CHAMRAIL	103	65	4 Katha
MATSYA KANYA RANGIN MACH CHAS, NONACHANDANPUKUR	65	38	5 Katha
PRAGATI MAHILA RMSS LTD., POLBA AND PURUSHATTOMBATI	35	25	2 Katha

Table 6 : Distribution of the pond, tank, total are of the additional water bodies regarding the observed co-operatives

Accumulating the data taken away by the previously mentioned table regarding the observed co-operatives studied in the dissertation would be represented in the histogram.



GRAPHIC EXPRESSION – 6, TOTAL NO. AND AREAS OF THE WATER BODIES

The histogram represent the distribution of the number of pond, tank and the total are of the additional water bodies regarding the co-operatives observed in the dissertation. The abscissas axis represent different water bodies and their area while the ordinates axis shows the number and area of the regarding points.

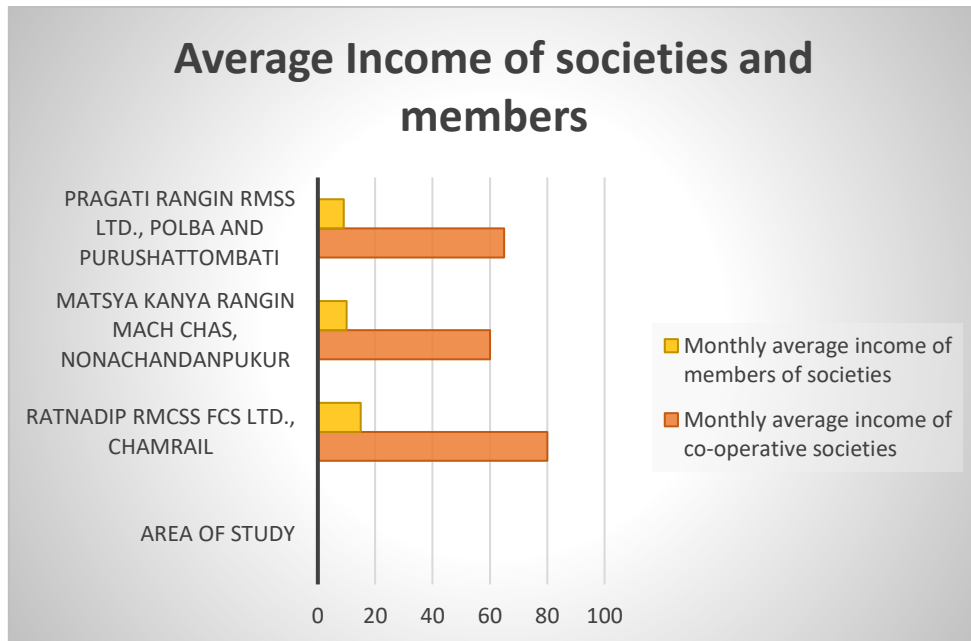
Area of Study	No. of Fisherwomen’s family having immovable properties			No. of fisherwomen having Domestic animals				No. of fisherwomen in cultivation	
	Home	Farm Land	Pond/ Tank	Cow	Goat	Duck	Hen	Rice	Veg
RATANDIP RMCSS FCS LTD., CHAMRAIL	54	32	63	46	12	15	36	24	41
MATSYA KANYA RANGIN MACH CHAS, NONACHANDANPUKUR	49	27	55	38	9	11	25	11	32
PRAGATI RANGIN RMSS LTD., POLBA AND PURUSHATTOMBATI	31	14	31	12	2	5	14	4	18

Table 7 : Economic status of the fisherwomen in the observed co-operatives societies

Table 8 : Distribution of the monthly income of the observed co-operative societies and their member’s

Area of Study	Monthly average income of co-operative societies	Monthly average income of members of societies
RATNADIP RMCSS FCS LTD., CHAMRAIL	60K - 80K	10K – 15 K
MATSYA KANYA RANGIN MACH CHAS, NONACHANDANPUKUR	50K – 60K	8K – 10K
PRAGATI RANGIN RMSS LTD., POLBA AND PURUSHATTOMBATI	40K – 65K	7K – 9K

Collecting the experimental data from the table according the information taken away from the observed co-operative societies.



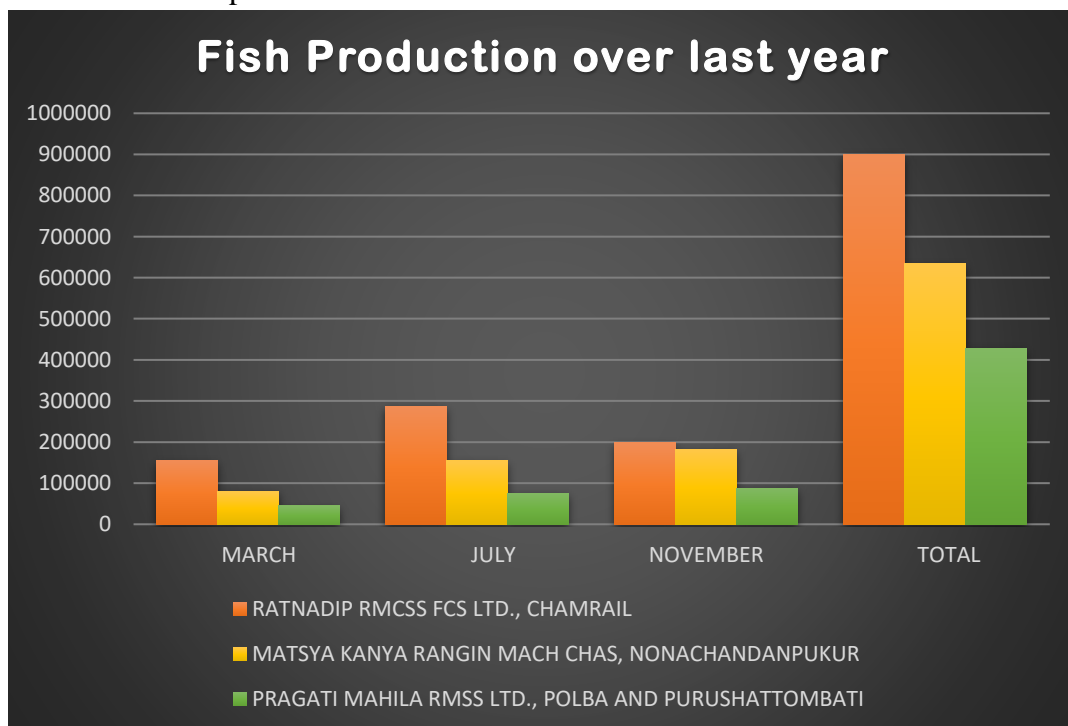
GRAPHIC EXPRESSION – 8, AVERAGE INCOME OF SOCIETIES AND MEMBERS

The bar diagram represent the monthly average income of the co-operative societies and also the members of the societies. Within this graphical expression the abscissas axis represent the amount of payment and ordinates axis shows the co-operative societies.

Table 9 : The number of seasonal and total fish production during last year of the observed co-operative societies

AREA OF STUDY	MARCH	JULY	NOVEMBER	TOTAL
RATNADIP RMCSS FCS LTD., CHAMRAIL	1,55,000	2,87,000	1,98,000	9,00,000
MATSYA KANYA RANGIN MACH CHAS, NONACHANDANPUKUR	80,000	1,54,000	1,83,000	6,34,000
PRAGATI MAHILA RMSS LTD., POLBA AND PURUSHATTOMBATI	45,000	76,000	88,000	4,28,000

Accumulation of the data from the pre-mentioned table would be represented by a graphical expression regarding the observed co-operative societies¹⁶.



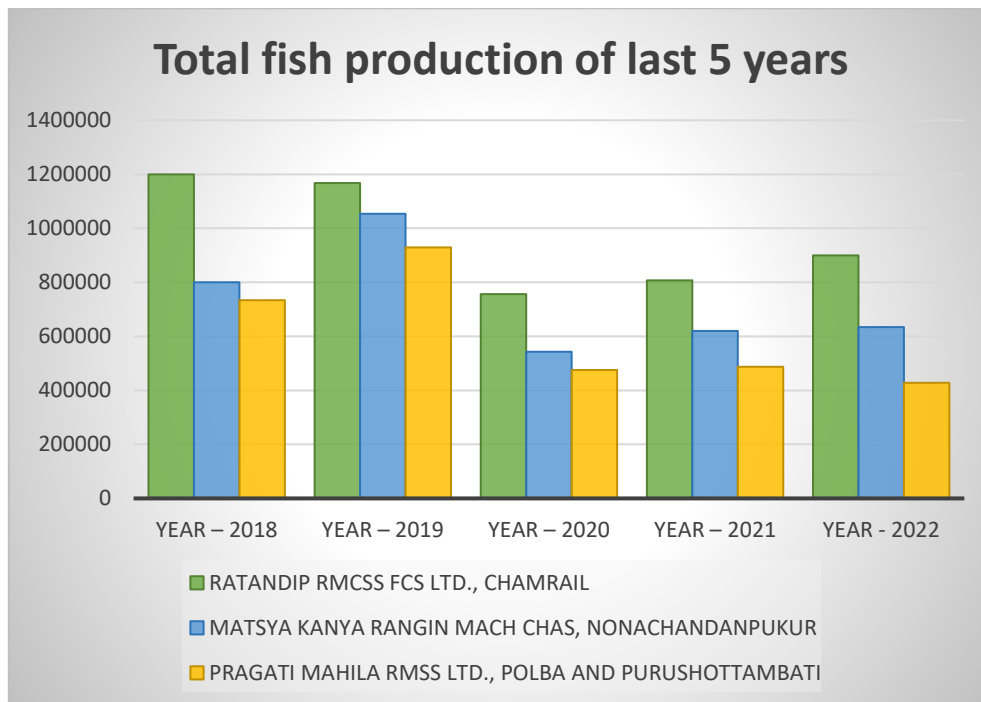
GRAPHIC EXPRESSION – 9, FISH PRODUCTION DURING THE LAST YEAR

The columnar diagram showing the average seasonal and total fish production during the last year of the observed co-operative societies . Within the graphical representation the abscissas axis shows the seasonal month and the total year’s property while the ordinates axis represent the number of fish production.

Table 10 : The total fish production during the last 5 Years of the observed co-operative societies

AREA OF STUDY	YEAR – 2018	YEAR – 2019	YEAR – 2020	YEAR – 2021	YEAR – 2022
RATANDIP RMCSS FCS LTD., CHAMRAIL	12,00,000	11,67,000	7,56,000	8,07,000	9,00,000
MATSYA KANYA RANGIN MACH CHAS, NONACHANDANPUKUR	8,00,000	10,54,000	5,43,000	6,20,000	6,34,000
PRAGATI MAHILA RMSS LTD., POLBA AND PURUSHOTTAMBATI	7,34,000	9,29,000	4,76,000	4,87,000	4,28,000

Accumulating the data from the pre-formed table regarding the information taken away by the observed co-operative societies.


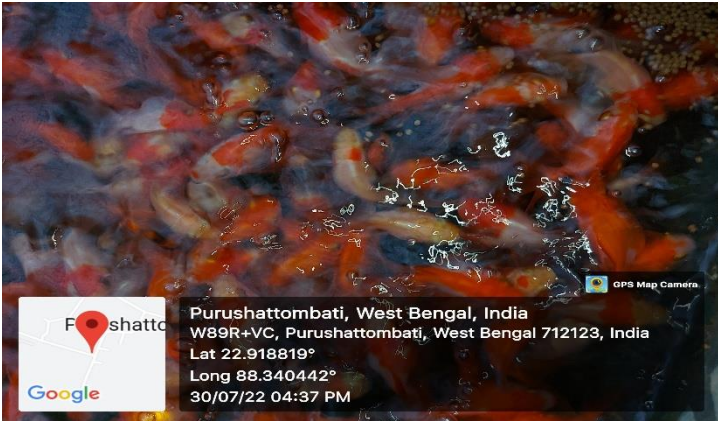


GRAPHIC EXPRESSION – 10, GROSS FISH PRODUCTION OVER THE LAST 5 YEARS

The abscissas axis shows the year during which the data collected while the ordinates axis represent the total fish production of the co-operative societies.

TYPE OF FIRMED ORNAMENTAL FISHES REGARDING OBSERVED CO-OPERATIVE SOCIETIES

During the process of interviewing for the dissertation of the members of the following three co-operative societies – RATANDIP RMCSS FCS LTD. , MATSYA KANYA MACH CHAS and PRAGATI MAHILA RMSS LTD. from three different districts such as HOWRAH, NORTH 24 PARGANA and HOOGHLY , there few different type of ornamental fishes founded which were firmied for their fishing firm or ornamental fishing co-operative societies. During winter season the firming of these ornamental fishes become a peak time seasonal profit. There are more than 20 type of fishes and also snail were firmied at these co-operative societies which was observed during the dissertation. Under the table the type of fishes would be listed with their photography filmed at the present.

NAME OF FISHES	PICTURE OF THE FISHES
<p>PHALACRONOTUS</p>	 <p style="text-align: center;">FIGURE – 1</p>
<p>GOLDFISH</p>	 <p style="text-align: center;">FIGURE – 2</p>

DANIOS

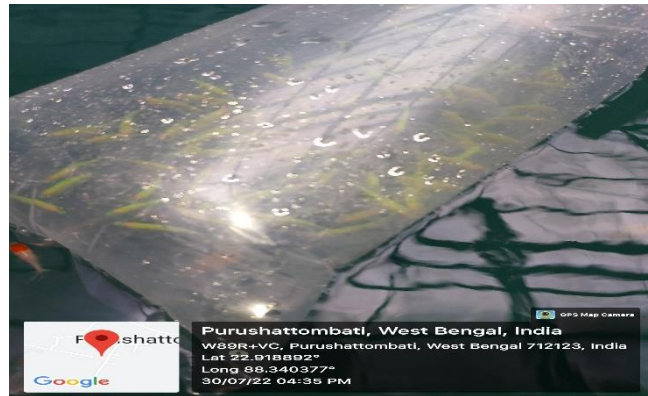


FIGURE – 3

TETRA SEEDS



FIGURE – 4

BLACK MOSCOW GUPPIES

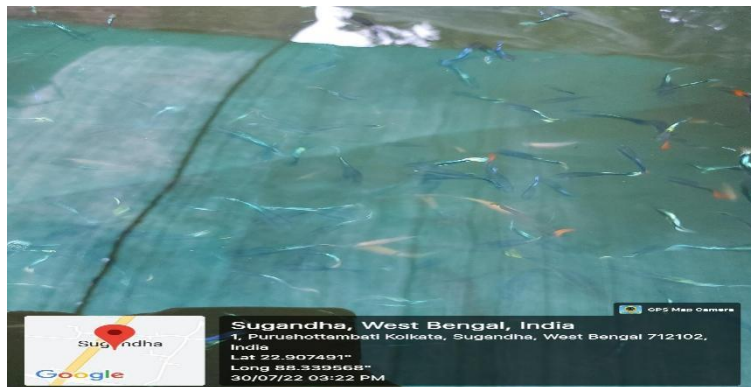


FIGURE – 5

AURELIUS

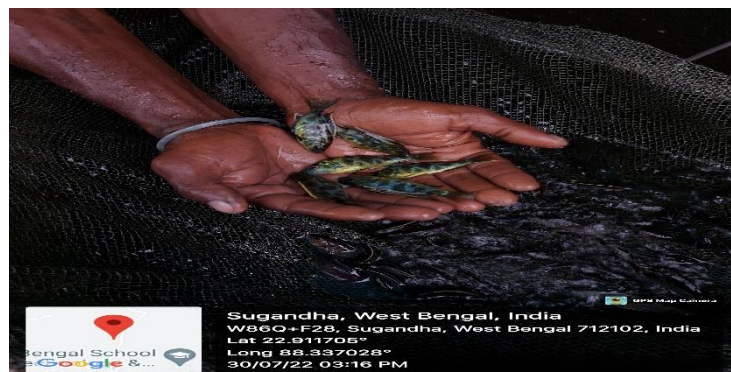


FIGURE – 6

STRIPPED BARB



FIGURE – 7

NEON TETRA

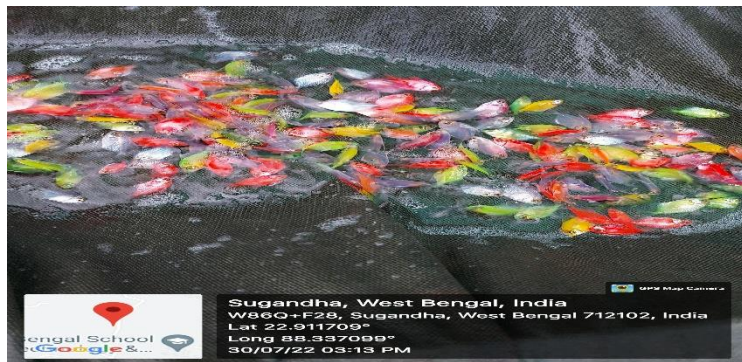


FIGURE – 8

WALKING CATFISH



FIGURE – 9

JACK DEMPSEY



FIGURE – 10

GOURAMI FISH



FIGURE – 11

ANGEL FISH



FIGURE – 12

DEMASONI CICHLID

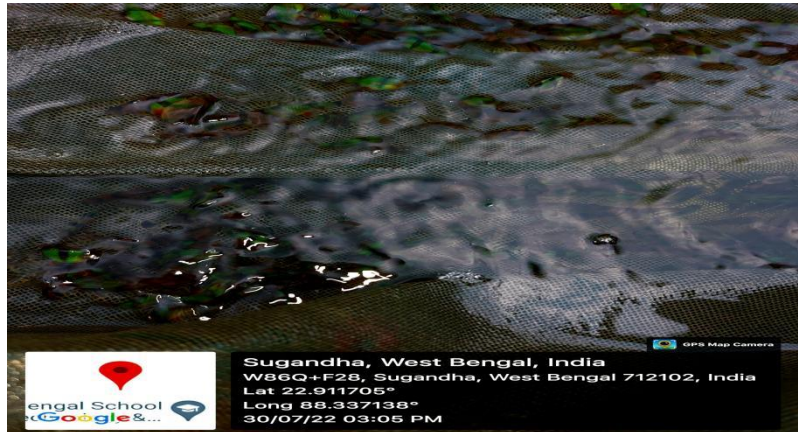


FIGURE – 13

LION HEAD GOLD FISH

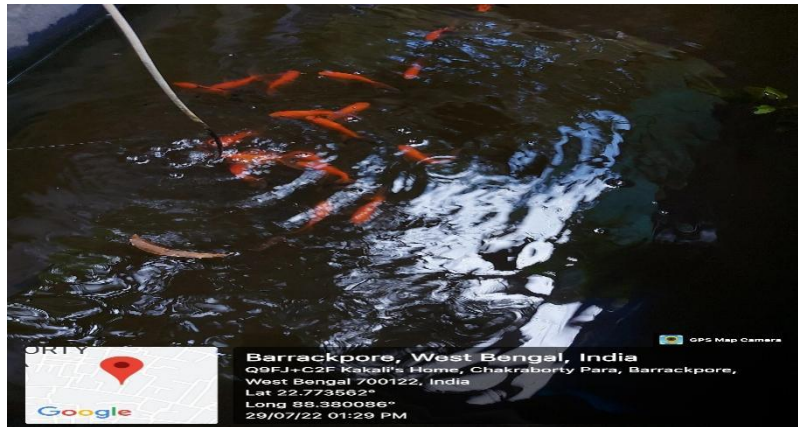


FIGURE – 14

GERMAN RED GUPPY

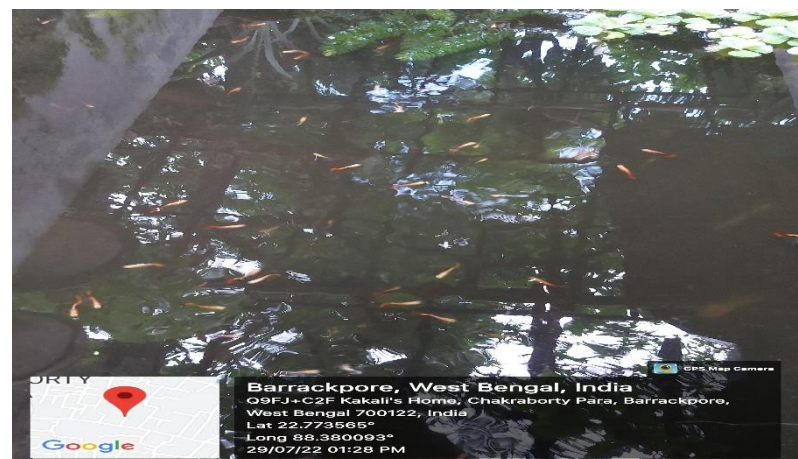


FIGURE – 15

COMMON MOLLY FISH

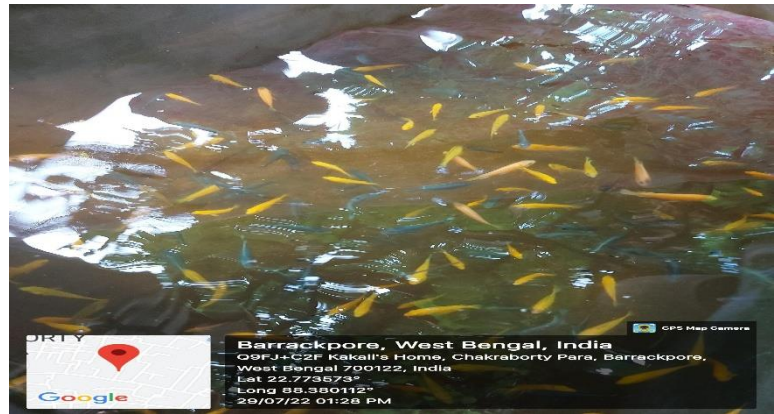


FIGURE – 16

BLACK MOLLY FISH



FIGURE – 17

KOI FISH



FIGURE – 18

APPLE SNAIL

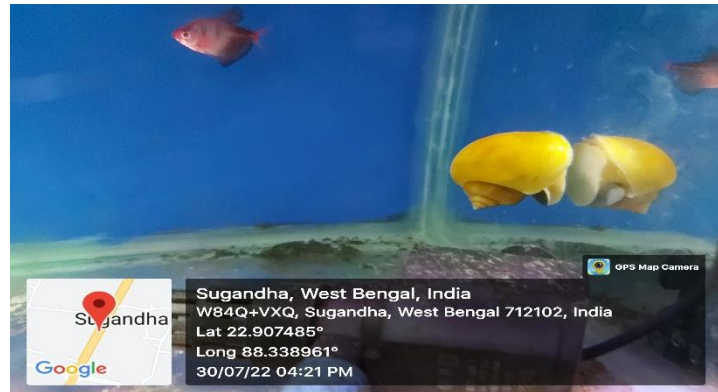


FIGURE – 19

***ORNAMENTAL
FISHERWOMEN
CO-OPERATIVES***

CONTRIBUTION OF THE MICROFINANCE GROUP:

An outstanding evolution in neoteric years has been the mushrooming of the section based institutions and initiatives at the regional degree for women. Studies designate that self help group and the microfinance programs often in the formation of savings and credits Co-operatives or the micro credit projects, have succeeded in commuting the lives of poverty stricken women, increasing the pay levels and creating positive exteriorities such as strengthening the self-esteem.

- Within this segment the highlighted part is the most important role that micro finance has engaged in authorising different sections of Women community , although the chapter will be especially entering on the way microfinance programs and formation of observed Co-operatives can be a tool in empowerment and enhancement of the fisherwomen community of the studied three districts respectively – Howrah , North 24 Pargana and Hooghly.

- Microfinance programs such as SHGs or the foundation of the co-operative societies in West Bengal have been expanding promotion for the favourable economic impression and their contribution in the empowerment. Acknowledging the significance of the microfinance in fisheries expansion, FAO in coordination with the NABARD as the major organization arranged National Workshop.
- Precisely credit formation which typify banks, cooperatives , district or zonal rural banks and other commercial institutes such as NABARD , SIDBI. Unofficial credit from money lenders, SHGs and cooperative bank loaned

STATE SUPPORT AND TRAINING FOR ORNAMENTAL FISHERIES : 25

The Governmental perspective to give peak prime concern to the fisheries section and in the ornamental fisheries cause –

1. The fisheries section allocates employment and earning to numerous people either directly or unintended way.
2. It provides substantial profits, specifically in foreign transaction.

The government nowadays has stages a lot of programs, projects and schemes for enhancing the production of the fishes especially for the foundation of the Ornamental fishes which was underrated and misguided for decades but continuously enlarging the barrier of the species and production of the fishes to increase the economic level regarding the fisheries. The training programs arranged by the State administrator such as FFDA to increase the experience level and for expanding the ornamental fisheries among the self help group and also the house workers for their financial upliftment and also empowering the fisherwomen community through a different type of fishes. During the studied in the respective three district’s ornamental co-operative fishery societies the fact come up that all those cooperative societies handled and founded by the board of Administrator (such as FFDA) .

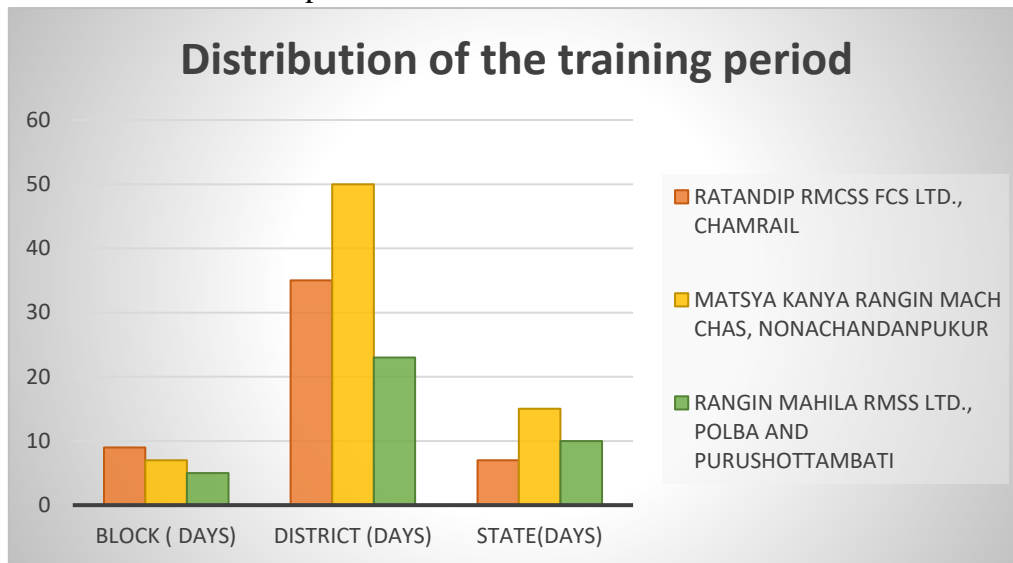
Indian Government also introduced foundation as several fisheries research centre controlled by the Indian Council of Agriculture Research (ICAR) to continue the experimentation for the evolution of a blended fish culture. They also founded a national programme, known as Fish Farmer Development Agency (FFDA) in the year of 1976 with the primordial assist from the World Bank to advancing the fishery kingdom through out the state and also the country.

Table 11 : The Training period of the three observed different co-operative societies distribution

AREA OF STUDY	BLOCK (DAYS)	DISTRICT (DAYS)	STATE(DAYS)
RATANDIP RMCSS FCS LTD., CHAMRAIL	9	35	7
MATSYA KANYA RANGIN MACH CHAS, NONACHANDANPUKUR	7	50	15

RANGIN MAHILA RMSS LTD., POLBA AND PURUSHOTTAMBATI	5	23	10
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Collecting the data from the pre-formed table regarding the information taken away from the observed co-operative societies in the study shown in the columnar diagram representing the training period of different perspective of the members of Co-operative societies.



GRAPHIC EXPRESSION 11 – THE DISTRIBUTION OF THE TRAINING PERIOD BASED ON DIFFERENT PERSPECTIVE

The columnar diagram representing the training period of the members of the three distinct co-operative societies based on the three different perspectives. The abscissas axis shows the three perspective of the training and the ordinates axis represent the number of days for this training period.

PROBLEMS INTIMIDATED THE ORNAMENTAL FISHERIES :

During the survey of the three distinct co-operative societies regarding the different districts some problems coming up which trigger the ornamental fisheries throughout the year. Formal fisheries development are swiftly becoming outmoded because of some natural disaster and some of the polluted situation also with the diseases causes in the ornamental fishes.

Regarding the information accumulated over the studied within the three pre-selected district’s co-operative societies, there are a lot of problems with which the fisherwomen faced along the decades. The problems could be listed –

- Exiguity of the framework such as completed roads , sufficient or genuine fish cultural tools and training, professional transportation trading, market for ornamental fisheries selling process and also in some area the proper medication for the fisherwomen.
- Insufficient precautions for the natural disaster also mentioned majority of the problems the fisherwomen faced during their society works. The extensive problems they faced when the West Bengal hit by the “Amphan” , a cyclone which made a huge disaster causing the disconnection of the power supply , the water of the tanks and pond became impure due to the heavy blow of the wind

along with some pollutants. Regarding the cyclone many of the houses of the cooperative society's members destroyed and also the production and the marketing of the fishes decrease in these hard time.

- Another aspect related to the problem came out during study that the water impurities which causes a huge difference in the production of the ornamental fishes. The water impurities causes more often with the weather changes and also with the excessive pollutants mixed with the water supplies which released from the factories located around the cities especially Howrah district study area shows the major amount of impure water supply.
- Another most popular problem mentioned during interview was the disease of the ornamental fishes which often killed the fishes of the culture and lower the graph of the fish production.
 - a. The disease encountered most with the ornamental fishes was **DROPSY** – a situation happened in the fishes causes them to build of extra fluid inside the cavity or the body tissues. With this disease actually became dangerous for the goldfish and their types , It also causes many of the underlying disease such as many bacterial, parasitic infection but sometimes also shows liver dysfunction.
 - b. Because of the impurities in the water, drop in the water temperature and also weak water chemistry can causes the fungus infection of the ornamental fishes. Mainly the ornamental fishes or brackish fresh water fishes of the cooperative society's shows the fungus infection.
 - c. Another disease caused all kind of freshwater adult ornamental fishes was bacterial gill disease. It actually causes the reduction of the life span of the fishes which effect the fish production.

All these problems caused a huge effect on the fishery and the fish production of the observed cooperative societies which was mentioned by the interviewers during the study period of these society's members.

ACKNOWLEDGEMENT

I have taken attempt in this dissertation. However this project would never have been executed without the generous support and the supplies of many individuals. I will relish to bestow my gratitude to all of them.

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I would like to express my thankfulness towards the NSOU study centre Chandannagar Government College & the coordinator of the concerned college for providing me this opportunity.

Finally I must say that apotheosis of anything can't be achieved without few renouncement at some point and it is here where I should enunciate my appreciation towards my parents. At the end it is a gratitude from me to the members of the observed fisherwomen cooperative societies, giving me their precious time for the interview to fulfil my research work for the completion of this dissertations .

CONCLUSION

Fishery sectors in India now has a achievable goal for commercial economical growth and is now assessed as a commercial enterprise on behalf of the social and economical development in a society of the country. This tract now has secured a illustrious aspiration for the lucrative flourishing of the destitute of the rustic areas of the country. Fisheries, aquaculture and also ornamental fish culture conceivably contributed to the national income, nutritional securities, employment opportunities, social objectives and export

earnings. Throughout the studies it is proven that the ornamental fisheries have been taken a lead in the commercial fishery market over the India.

However in this dissertation , interviewing the fisherwomen from these three districts of West Bengal the fact came front that ornamental fisheries in the West Bengal were neglected through last few years. Many problems such as natural obstacles, water impurities which causes a lot of diseases known as fungal infection, red gill bacterial disease and mostly DROPSY which the members of co-operatives faced during the time of fish culture. Although the facts were mentioned in the course of interview that the training programs arranged by the State administrator such as FFDA to increase the experience level and for expanding the ornamental fisheries among the self help group and also the house workers for their financial upliftment and also empowering the fisherwomen community through a different type of fishes. Also with the contribution of the microfinance (such as NABARD) and SHGs made the process of fish culture regarding the co-operatives much easier.

Regardless of how the State support, the reduction of the wastage of factories surrounding the cooperative and the proper treatment of the ornamental fishes, proper infrastructure production made the enormous progress in the propitious way.

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