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## A producer company - An ideal value chain model for ornamental fish trade

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### Abstract

Despite high potential and significance in domestic as well as international market, the ornamental fish trade remains an unorganized sector in the country. Nevertheless, the coordinated effort of the stakeholders offers enough scope for new avenues for horizontal and vertical expansion of the ornamental fish sector in India. Henceforth, it is essential to have an in depth knowledge of the multidimensional roles of the different intermediaries' to bring them together on an organized platform. And one of such model that offers potential is establishing Producer Companies for ornamental fisheries. This model definitely offers maximum scope for cooperative involvement in the production and marketing process by the producer themselves led by a professional manager at the helm of affairs that will lead to overall development of the sector. Here an attempt has been made to highlight the existing scenario of ornamental fish sector and project a suitable institutional business model.

**Keywords:** Producer Company, ornamental fish, trade, stakeholders

### Introduction

What makes ornamental fish production distinct from other aquaculture practices and production system lies in the fact that there is an enormous difference in the scale of production, production systems, harvest, assembly, transportation, distribution along the market channels. Despite the fact that the ornamental fish trade is a seller's market, the degree of sophistication that has been brought in to develop and sustain the market especially in the metropolitan markets, lies in the after sales service. Furthermore, different levels of business operation required different types of institutional arrangement and organizational structure. The institutional arrangement and organizational structure for ornamental fish production and trade in India was studied by drawing on the framework of the institutional set up and organizational structure within each level of business operation of ornamental fish production and trade.

Ornamental fish culture is being recognized and projected as an affordable low investment – steady returns activity suitable for adoption by economically weaker sections of the population which would also create employment opportunities for the unskilled workforce <sup>[1]</sup>. The sector has provided substantial scope for the entrepreneurs of small scale units as it commands a seller's market and offers great scope in the domestic markets. By adopting appropriate scientific lines of marketing strategies the ornamental fish trade can work out to be highly lucrative in terms of its economics and opportunities <sup>[2]</sup>.

Despite its high potential and significance in domestic as well as international market, ornamental fish sector remains unorganized which could be possibly linked to establish contentions of improper marketing techniques and inadequate awareness among the different stakeholders of the country. Coordinated efforts towards production and marketing of ornamental fish may bring up new avenues for horizontal and vertical expansion of the ornamental fish sector. The study of the institutional arrangements and its structural framework of domestic ornamental fish trade would yield information that would help develop this segment of the aquaculture sector in the years to come. Developing a specific ideal ORNAFISBIZ model for a particular section of society will help in addressing the present lacunae in this sector. Henceforth, it is essential to understand the multidimensional performances and institutional arrangement existing and so an attempt has been made to highlight the existing scenario of ornamental fish sector and project a suitable institutional business model.

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**Methodology**

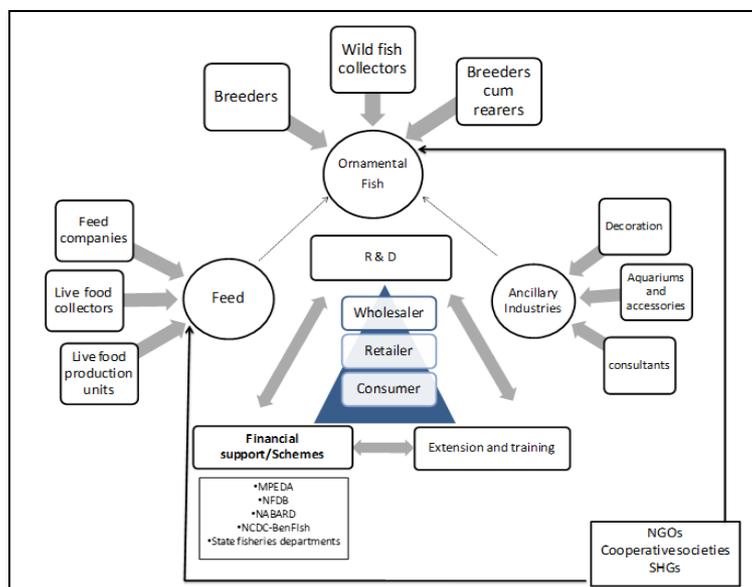
The present study was carried out in the year 2011-14 using exploratory survey method mainly focussed on different ornamental fish production centres and markets of three important locations Viz. Kolkata, Mumbai and Chennai which play important role in ornamental fisheries sector of India. To get better observation and understanding of the existing institutional arrangement a semi-structured questionnaire were prepared for personal interview with key informants and other stakeholders. A focus group discussion was also held among the various cooperative societies and women Self Help Group of the study area [3]. The institutional arrangement for the sector were derived from various reports of the respective state department of fisheries, including their marketing and development wings, the National Fisheries Development Board (NFDB), National Bank for Agricultural and Rural Development (NABARD), the Marine Product Export Development Authority (MPEDA), ICAR research institutions, and Non-Government agencies were used for deriving this information. The organizational structure of the ornamental fish business will vary with the level of business at which the units are operative. These units could be individual enterprises, units under SHGs, cooperative societies and Producer Company. Organizational structure also would vary if the business operations were that of private limited companies. Therefore, the organizational structure in the sector was studied on a case to case basis and the pros and cons of each of the structure were delineated.

**Institutional Arrangement and organizational Structure for Ornamental Fish Production and Trade in India**

Institutional arrangement is an integration of various forms of collective action such as producer groups, input and output marketing cooperatives, Self-help groups and production or marketing schemes which can be supported with government organizations and NGOs. In ornamental fisheries the purpose of institutional arrangement is to satisfy all the stakeholders inclusively. Here an account of organizational structure and its arrangement prevailing in the ornamental fisheries/business/trade in ornamental fisheries sector of India is presented in Figure 1. It is envisaged that the ornamental fish production and trade must be driven by a top-down approach as far as production and trade are concern. The

policy must totally integrate the need for increasing ornamental fish production but also should address itself to the need for insuring sustainability of the natural wild stock. This end of the policy will require the active corporation of Ministry of Agriculture and Cooperation, Department of Agriculture Research and Education (DARE) and Ministry of Environment and Forests, India. The other end of the policy which addresses itself to enhancing production should be taken care of by the Marine Products Exports Development Authority (MPEDA of Ministry of Commerce and also by the National Fisheries Development Board (NFDB) of Ministry of Agriculture (NFDB), India. In addition to this, central agencies and ministries the department of fisheries of the respective states, the department of environment and forest and other related departments must address itself to the issue of ensuring sustainable ornamental fish production and trade. It is necessary for both the central departments and ministries and state departments (DoF) to work in tandem to achieve this goal.

Since Self Help Groups has already proved to be a success in micro finance, they did not have any trouble of extending the scope of such groups, including new groups, to include ornamental fisheries as alternative fisheries related livelihoods. The training component of the transfer of technology should be handled by the respective state Department of Fisheries. Furthermore, support services from central research institutions, National Bank for Agriculture and Rural Development (NABARD) and private companies should be added to strengthen the institutional arrangements. An inclusive and self supportive institutional arrangement will emerge only when the market is available for SHG's produced ornamental fish. It is imperative that the implementing agency encourage the involvement of private companies from the initial stages on a contract agreement with cooperative societies and Self Help Groups to buy and sell the ornamental fish produce by them alike as in case of agriculture and horticulture sector. Instances of direct involvement of private companies as the lead player in the institutional arrangement have also been well documented. Institutional arrangements need to be broadened to encompass and define the scope of resource use rights in favour of the local stakeholders.



**Fig 1:** Framework of organizational structure for ornamental fisheries in India

An intricate and complex relationship has been observed in the organizational structure of ornamental fish production and trade in Kolkata compared to that existing in Mumbai and Chennai which is the three major ornamental fish markets in India. Generally organizational structure in ornamental fisheries involves ornamental fish production units, input supply units (e.g. feed, seed), ancillary units (decoration, aquarium and accessories etc.), research and development organizations, extension and training institutions which are mainly supported by financial institutions (NABARD, Cooperative banks in the value chain). The process of fish breeding and rearing in Kolkata has been institutionalised in a very complex manner which supplies brooders being brought from various northeastern states to the breeding centres of various locations in Kolkata and in other neighbouring districts. The organisational structure is highly personalised and basically depends on the price paid by the breeders for fresh brood stock. Since it is a market driven model and there is no unity among the breeders and rearers, the price of the brooder is based on the bid placed by the buyer. The price is not only influenced by the bid but also depends on the staying power of the wild collectors. In contrast, there seems to be a little more structural development in the process of value chain as far as organisational structure and institutional relationship in ornamental fisheries of Mumbai and Chennai when compared to Kolkata<sup>[4]</sup>.

As far as institutional arrangement for promotion of ornamental fish production and trade is concerned they can be broadly be divided into 1. Extension and development agencies, 2. Research and training supports, 3. Development initiative of Department of Fisheries, 4. Funding agencies and 5. Private investments.

#### **Extension and development agencies**

The MPEDA is engaged in not only providing subsidies but also is engaged in providing technical support, input delivery and promoting horizontal growth of the subsector. Technical support is being made available by MPEDA through networking and coordination of the central and state research institution. Promotion programmes are undertaken by MPEDA by hosting various exhibition and shows where the scope for promotion of ornamental fisheries among youth are high.

The state DoFs and Krishi Vigyan Kendras (KVKs) or Agricultural Sciences Centres, are engaged in organisation and conduct of training programmes, demonstrations of modern technology in ornamental fisheries and promotional activities through outreach programmes. The DoFs as well as KVKs are much constrained by the lack of qualified technical staff in this area of ornamental fisheries. Much of the effort of these institutions again managed through guest faculty from College of Fisheries and Central and State research institutes. Responsible interventions of NGOs' are very important in the developmental of ornamental fisheries in the particular region. Responsible NGOs' like Kadamaba in Karnataka, Dhan foundation and M.S.Swaminathan Research Foundation (MSSRF) in Tamil Nadu, Sanjeevan in Mumbai Maharashtra are playing a lead role in the support and development of ornamental fisheries as a livelihood option as well as upscaling.

Rural Self Employment Training Institutes (RSETI) has been involved in the identification of the entrepreneurs and their capacity building in the field of ornamental fisheries. Since the RSETI is the initiative of State Bank of India and Union

Bank of India as far as ornamental fisheries is concerned they have been making provision of loans to the identified entrepreneurs of the subsector. They conduct programmes in areas of potential which promise to enhance the livelihood opportunities as well as income growth potential of selected agri-aqua enterprises.

#### **Research and training support**

The ICAR research institutes concerned with ornamental fisheries includes Central Institute of Freshwater Aquaculture (CIFA), Central Institute of Brackishwater Aquaculture (CIBA), Central Marine Fisheries Research Institute (CMFRI), Central Institute of Fisheries Education (CIFE) and National Bureau of Fish Genetics Resources (NBFGR). These institutes are working on ornamental species to develop a package of practices for the young entrepreneurs of the country. They are also concerned with identification of different species of ornamental species development for their breeding and rearing regimes as well as improving their genetic characteristics. By way of institutional support to the framework of agencies involved in ornamental fish production and trade, these institutions provide the technical backstopping whenever and wherever institutions in the ornamental fisheries network organised programmes for the promotion of this subsector. These research institutions are also centre of training and they are also engaged in outreach activities directly seeking the final beneficiaries. Besides, there are national and regional centres belonging to Ministry of Agriculture and Cooperation and the Ministry of Environment. The Colleges of Fisheries affiliated to their respective agricultural/veterinary or fisheries universities are also engaged in research on ornamental fishes. These colleges have made landmark contribution to the development of ornamental fisheries in their respective states. These colleges of fisheries also have that research centres and project sites were specific research agenda is being pursued for the development of the subsector. These colleges and universities are also well networked in the institutional framework for the development of the ornamental fisheries sector in the country.

#### **Development initiatives of Department of Fisheries (DoFs)**

Each state department which addresses as an autonomous body the issues related to the development aspects on a particular subsector of fisheries. The programmes such as Fish Farmer Development Agencies (FFDA), Brackishwater Fish Farmer Development Agencies (BFDA) also have taken initiatives in the direction of establishing physical capacities like building of infrastructure for ornamental fisheries development. State departments such as the West Bengal State Fishermen's Co-operative Federation Ltd. (BENFISH), the Kerala Aqua Venture International Ltd. in Kerala (KAVIL), the Tamil Nadu Fisheries Development Corporation in Tamil Nadu (TNFDC) besides other state corporations have taken upon themselves to create infrastructure such as aqua-estates and retail outlets to enable the end-to-end supply chain in the ornamental fisheries to be established.

#### **Funding Agencies**

The NABARD is the premier financial institution for funding agriculture development in India. It primarily refines agriculture development through commercial banks. With the thrust of government of India on agriculture development in the XI and XII plan the importance of NABARD has grown

very much in stature. The NABARD has come out with specific schemes for financing fisheries and ornamental fisheries sector has been identified as a subsector of immense potential. The NABARD has drawn up bankable projects schemes for ornamental fisheries subsector at very attractive interest rates. Thus NABARD plays the pivotal role for financing ornamental fisheries in the network of institutional agencies involved in the promotion of the sector.

**Marine Product Export Development Authority (MPEDA)**

Though MPEDA started as export promotion agency of the Ministry of Commerce, this institution has given itself a major role in the development of aquaculture in the country. The role of MPEDA in aquaculture is well known to all concerned. In addition to aquaculture development the MPEDA has turned its attention to the development of freshwater and marine ornamental fisheries in the country. MPEDA subsidizes start-ups in ornamental fisheries and also provides technical guidance and inputs to institutionalise the ornamental fisheries sub sector in a particular region.

**National Fisheries Development Board (NFDB)**

The NFDB was established with the sole objective of promotion of fisheries as a growth engine for agriculture development. The NFDB practically functions as a financial institution that supports all initiatives for the development of the fisheries sector including ornamental fisheries.

**National Cooperative Development Corporation (NCDC)**

National Cooperative Development Corporation (NCDC) is also involved in the development of ornamental fisheries in the country. The NCDC has been financing ornamental fisheries through BENFISH. The sponsored schemes for ornamental fish culture supports 360 units. The scheme is operated on following basis fifty percent of the total project cost is given out as loan, 20 percent as subsidy and 20 percent as share capital and the society pays the rest of the 10 percent.

The funding is disbursed in three phases; the first phase is during the development of the infrastructure, the second, for purchase of equipment and third for meeting the cost of culture. The repayment period is stretched over a period of 7 years. The NCDC is active in the states of Kolkata, Sikkim and Andaman and Nicobar Island as far as ornamental fisheries is concerned.

**Commercial Banks**

Commercial banks have a major role in promotion of agriculture especially in the light of the importance given to the sector in the XI and XII Five Year Plan. Commercial banks finance agriculture including fisheries through refinancing. Commercial banks actively considered the project proposals in ornamental fisheries submitted by entrepreneurs who meet the necessary requirements with respect to training and the strength of the proposals. Commercial banks are very important component in the framework of institution that supports the development of ornamental fisheries in the country.

**Private companies**

Numbers of private limited companies have come up in various parts of the country in the ornamental fisheries sector. Private limited companies started in the ornamental fisheries sector in the export business. Companies like Prayag in Kolkata, Fab Ornamental Fish Farming private limited in Cochin, Nila Aqua private Limited in Kolkata, Marine Aquatics – Kerala are some of the companies that are engaged in ornamental fish production and trade on a commercial basis. Private companies in ornamental fisheries have limited opportunities for scaling up unless they work on a contract farming basis with a network of well-established small scale ornamental fish producers to keep their supply chain moving. Private limited companies are also a very important segment of the institutional framework to organised ornamental fisheries sector in the country.

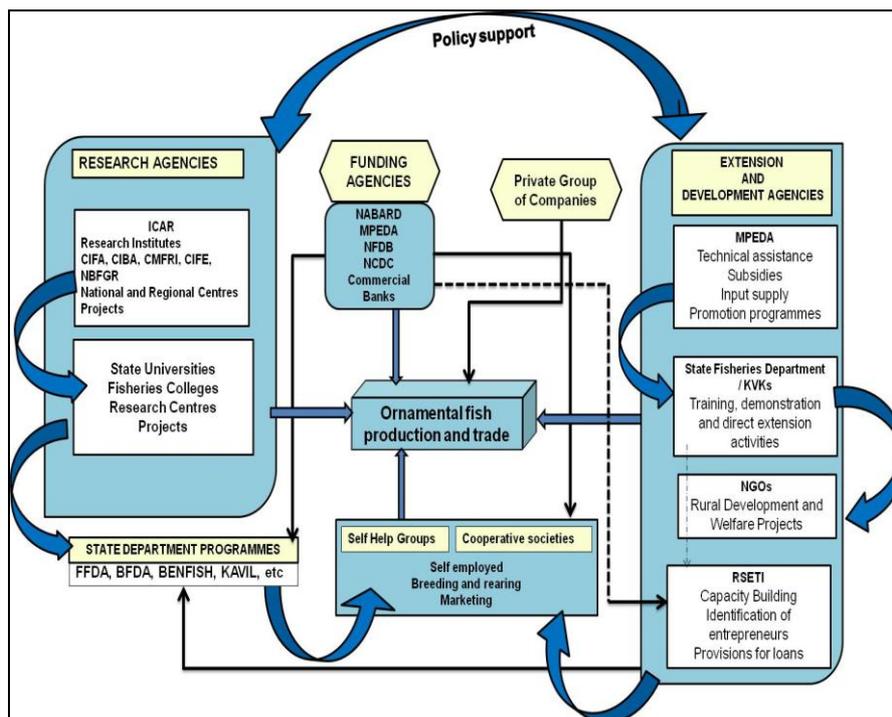


Fig 2: A framework of Institutional arrangement for ornamental fish production and trade in India.

It can be observed from the Figure 2 that the private sector also has a very important role in development of ornamental fish production and trade. Though investment by the private sector would lead to growth in the ornamental fish sector it is important that the private sector investment should be directed towards ensuring an all round development of the subsectors of the fisheries. It should be borne in mind that this sunrise sector which has all the potentiality to serve as a medium of livelihoods for several thousand families in India should not fall prey to the short term profit making objectives of the private sector. The steps in this direction has been taken by states like Kerala and Tamil Nadu which have promoted the up-scaling of ornamental fish production and trade through the concept of Self Help Groups (SHG) a well organised and institutionalised approach like KAVIL model in Kerala to a large extent addresses this issue of sustainable ornamental fish production and trade. Tamil Nadu has also promoted the concept of SHGs in ornamental fish production specific areas where ornamental fish production is likely to be most cost effective have been identified by the government of Tamil Nadu for the development of this subsector of fisheries.

The states of Maharashtra also of late, under the leadership of MPEDA have set about organizing producer companies in various ornamental fish production locations like Sindhudurg and Ratnagiri. This model of institutionalizing the present unorganized lucrative subsector of ornamental fisheries can ensure a maximum proportion of consumer rupee to the producers. Therefore the organisational structure and institutional arrangements is recommended to have a top down approach to ensure maximum returns to investment by the breeders/ rearers of the ornamental fishes.

#### **Scope, Scale and Operational efficiency for ornamental fish production and trade**

Scale of operation and scope for up scaling has been examined by various concepts of organization of livelihoods among the economically deprived sections of the population. One of the best concepts that were transplanted in India as a legacy of the British rule was the cooperative societies movement. The very structure, organization and the conduct of the cooperative societies left much to be desired and were essentially a tool for individual prosperity at the expense of the society. From the debris of the failure of cooperatives emerged an organisational unit that was found to be based on mutual trust for mutual prosperity based on self-interest. The Self Help Groups as a unit of efficient organization emerged from the concept of microfinance. The success of the SHGs was essentially based on the networking support they received from institution that promoted them <sup>[5]</sup>. Depending upon the kind of economic activity as well as the inputs that are required for generating the necessary volume of output that will keep a sector going, the SHGs will attain its success. Examples of successful women SHGs are available in the

field of microfinance, cottage industries and minor agriculture produce such as seaweeds. For taking advantage of a market led sellers product for which price is inelastic at level of supplies that is currently feeding the market, the producer company model which is a hybrid combination of cooperative – SHG -Corporate entities, provides probably the best solution for taking advantage of a seller's market that is prevalent in ornamental fisheries sector.

#### **Ideal "ORNAFISBIZ" Model**

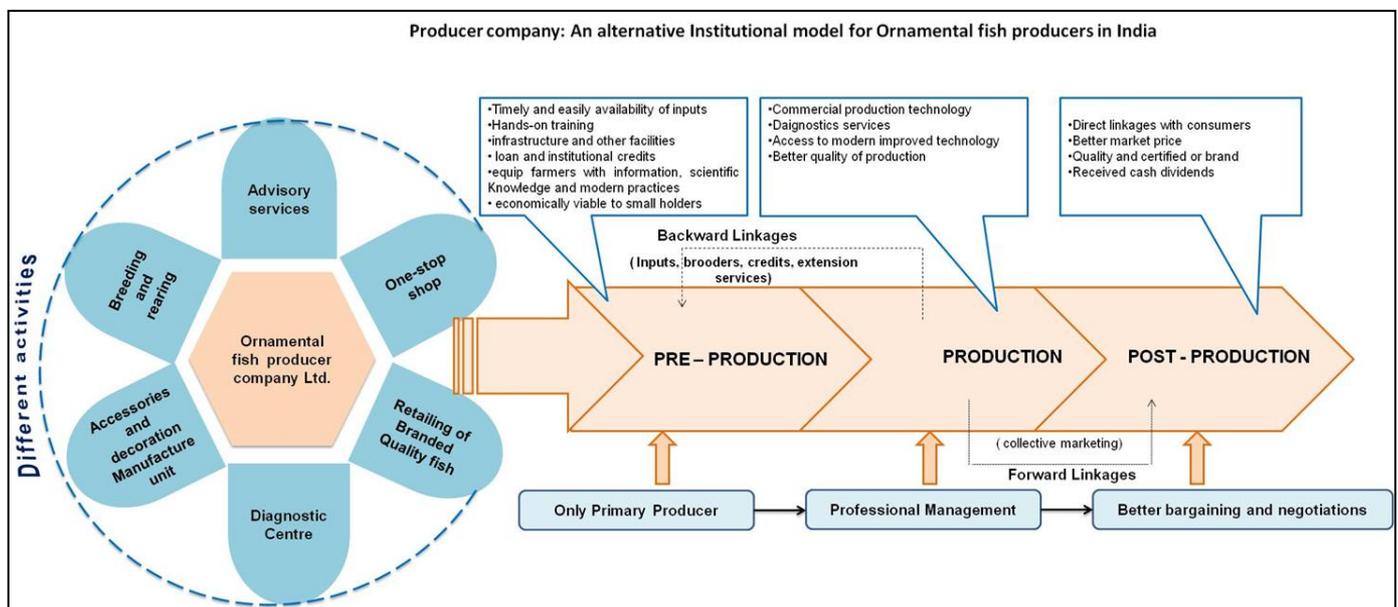
Table 1 described the different models and their enabling and disabling features. The moot question now is which is the best model for promotion and development of ornamental fish business. The ideal "ORNAFISBIZ" model is a multi-dimensional, location specific, target group specific, scale oriented model. The ORNAFISBIZ model for a community of economically deprived marginal fishers would be the SHG model which is supported by institutional agencies with specialized capacities in production, marketing, finance, extension and training. The ORNAFISBIZ model for horizontally integrated communities of similar socio-economic-cultural profile could be the cooperative which has the capacity to handle organizational hierarchy and also the administrative and financial capacity to direct and integrate units across locations, regions and even states. Also, the ORNAFISBIZ model which is state sponsored for the infrastructure like the KAVIL model where the stakeholders participation and success is a function of their skills and business acumen, with the role of the government limited to infrastructural support. Finally, the Producers Company (PC) model that is currently being adopted by ornamental fish business in Maharashtra under the leadership of the MPEDA. The PC model (Figure 3) is a higher end model most suitable for stakeholders whose levels of awareness in respect of operations of joint stock public limited companies are high. The PC model also inherently assumes inherent stakeholder cohesiveness and initiator perseverance. It also assumes availability of technical management manpower who would work independently, yet in tandem with the producer stakeholders who are their employers.

The analyses and discussions hereto lend credence to the fact that the ideal ORNAFISBIZ model is one that is based on a sound organizational framework well supported by institutional models and the choice of the base model like SHG/Cooperative or Producer Companies will be based on location, scale, operational efficiencies envisaged by the project.

This proves with conclusive evidence that this form of organizational structure of a producer company offers the maximum scope for cooperative involvement in the production and marketing process by the farmers themselves with the help of professional management.

**Table 1:** Pros and Cons of governance and supply chain arrangements in ornamental fisheries

Self Help Groups		Cooperatives		Producer Companies	
PROS	CONS	PROS	CONS	PROS	CONS
Institutional networking	Break up of SHGs (weak internal bondage)	Registered Association of members by Registrar of Coops	Local political influences	Registered by the registrar of Companies	A high level of consciousness of responsibility among company shareholders/stakeholders required
Private Sector Association - Contract Arrangements (input SS & Output buy back)	Out of contract sales	Internal management – working for common end	Internal management - stage managed	Role of the initiator	Technically qualified management personnel for professional management of company may not be available
Payment made via bank transfers	Withdrawal of Pvt. Sector company involved (Weak external linkages)	Annual meetings and declaration of dividends	Weak members have poor standing	Strong stakeholder participation	Overheads could be higher
Incentive schemes announced by the private sector company involved	Price manipulation by company staff	Benefits extended to large no. of units – horizontal integration	No contract farming arrangement	Professional management of company affairs	Problems of dissolution of company if declared insolvent – Asset management issues
Regular employment and income	-	Regular income	Assured income is questionable	Strong networking – Assured income and employment	-
Family / Social welfare	-	Family/ Social welfare		Family/ Social Welfare	-



**Fig 3:** Ornamental Fish Producer Company model

**Conclusions**

The key stakeholders have to play a pivotal role in the whole system along with the government occupying a central role and joining hands with other institutes and private sector to develop public private model like producer companies and contract farming as in the case of agriculture and allied activities where one has to work individually as well in collaboration with different beneficiaries to make the system efficient, quality conscious and cost competitive. The opportunity for scaling up this enterprise is directly related to the strength of the organizational structure and the institutional arrangement that enables this up scaling. It has been concluded that innovative production and marketing arrangement with the right doses of government regulations will enable this ornamental fisheries sector or to attain formidable heights.

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