GENDER ROLES AND LIVELIHOOD STATUS OF ORNAMENTAL FISH PRODUCERS IN MAHARASHTRA STATE, INDIA

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Current Situation in Ornamental fish business

- Ornamental fish sector is a lucrative and emerging business in aquaculture industry.
- Popular hobby in the world.
- The entire industry, including accessories and fish feed is estimated to be worth **US $ 16 billion.** (MPEDA, 2014)
- The largest importer of ornamental fish is the USA followed by Europe and Japan.
- More than 60% of exports come from Asia.
Overview of Ornamental fish market scenario

WORLD ORNAMENTAL FISH TRADE

- Singapore, (18.8%)
- Malaysia, (8.6%)
- Czech Republic, (7.4%)
- Spain, (6.4%)
- Indonesia, (6.1%)
- Japan, (5.6%)
- China, (3.9%)
- USA, (3.9%)
- Thailand, (3.4%)
- Sri Lanka, (2.9%)
Overview of Ornamental fish market scenario

WORLD ORNAMENTAL FISH TRADE – Asian countries

- Singapore, 33.40%
- Malaysia, 15.30%
- Indonesia, 10.80%
- Japan, 10.00%
- China-Hong Kong, 6.90%
- Thailand, 6.00%
- Philippines, 5.50%
- Sri Lanka, 5.20%
- India, 2.00%
- Others, 2.50%
- Malaysia, 15.30%
- Singapore, 33.40%
- Indonesia, 10.80%
- Japan, 10.00%
- China-Hong Kong, 6.90%
- Thailand, 6.00%
- Philippines, 5.50%
- Sri Lanka, 5.20%
- India, 2.00%
- Others, 2.50%
In India;

- Ornamental fish sector, 60% fishes are caught from wild sources
- Export of ornamental fish is 55 million (MPEDA, 2014)
- Domestic trade grows 20% annually
- In India, Household aquarium keeping is 0.04%; in USA and Europe it is 15-20% (MPEDA, 2014).
- In Maharashtra, 8% of ornamental fish export is from Mumbai and rank second in trade from India
- Fish supply - West Bengal, Tamilnadu and imports from South East Asian countries
- 450 breeding and rearing units mainly in Konkan and Western Maharashtra regions.
<table>
<thead>
<tr>
<th>Specification</th>
<th>Group targeted</th>
<th>Maximum Subsidy (Rs.)</th>
<th>Capital investment (Rs.)</th>
<th>Annual production ( approx no of fish)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade-I</td>
<td>Small scale (cluster with min. 5 individual beneficiaries)</td>
<td>75,000/- per beneficiary</td>
<td>1,50,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Grade-II</td>
<td>Medium scale (Individuals)</td>
<td>2 lakh/- per unit</td>
<td>4,00,000</td>
<td>2,00,000</td>
</tr>
<tr>
<td>Grade-III</td>
<td>Large scale (Individuals)</td>
<td>7.5 lakh/- per unit</td>
<td>15,00,000</td>
<td>5,00,000</td>
</tr>
</tbody>
</table>
GENDER IN FISHERIES:

- **45% of the world’s population** depends on agriculture, forestry, and fishing for their livelihoods.

- **Women constitute 43 per cent** of the agricultural labor force, producing a large portion of the world’s food crops (FAO, 2011).

- **China and India**, women represented a share of **21 percent and 24 percent**, respectively, of all fishers and fish farmers.

- In India, approximately **1.8 million people** are employed in net mending, trading, preservation, peeling, curing, marketing, fish, purchasing, handling, drying, filleting, displaying, and fish-selling activities, with **women forming 48 % of this total labor force** (Nag et al. 2012).
Women's invaluable contribution is often overlooked and undocumented.

Access to key productive resources like land and services like credit and extension is minimum.

Wage discrimination in rural labour markets, Part-time, seasonal, low-paying jobs when engaged in rural wage employment.

Women work without remuneration on family farms.
Objectives

1. To study the profile of ornamental fish producers in Maharashtra.

2. To study the livelihood status, gender roles and needs of the ornamental fish producers.
Methodology:

Sample size:
- 30 ornamental fish producers

Data collection:
- Primary data
  • Key informants interviews
  • Sample respondents interview
  • In-depth interviews
- Secondary data

Data Analysis:
Descriptive analysis and ranking method
WESTERN GHATS – UNESCO World Heritage Site
Results: Social profile of the respondents

Personal Information:

AGE STRUCTURE OF ORNAMENTAL FISH PRODUCERS

- 20-30: 33%
- 30-40: 47%
- 40-50: 20%

Religion

- Hindu: 73%
- Muslim: 7%
- Christian: 20%
Personal Information:

Educational status:
- Post-graduate: 27
- Fisheries graduate: 8
- Graduate: 17
- Higher secondary: 5
- Secondary: 0

Family type:
- Joint family: 73
- Nuclear family: 27

Primary occupation:
- Agriculture: 17
- Or. fish farming: 8
- Business: 5
Personal Information:

Motivation factors:
- Hobby: 6
- Educational background in biology: 6
- Or. Fish farming gives stable income: 3
- Provides more income than agro-businesses: 13
- Or. Fish farming more income than fish farming: 2

EXPERIENCE IN OF FARMING:
- Upto 5 years: 20
- 5 - 10 years: 15
- 10 - 15 years: 5
Social Participation:

![Social Participation Graph]

- **Social participation (GP/ZP/PS)**
- **Member of the Cooperative society**
- **Member of the producer company**
- **Member of NGO/SHG/other**
- **Level of participation (Active/Passive)**

The graph illustrates the number of farmers categorized under different social participation levels. Each category shows a peak indicating the number of farmers associated with that specific level of participation.
Economic status of the respondents

Natural Capital:

- Land
- Water resource
- Live food availability
- Climatic conditions
- Indigenous Traditional Knowledge (ITK)
- Access to natural ponds / rivers etc.
Farm Information:

Ownership:
- Owned: 60
- Leased: 27
- Both: 13

Type of firm:
- Sole trader: 67
- Partnership: 27
- PVT Ltd: 6
Primary occupation

- Agriculture: 8
- Or. fish farming: 5
- Business: 17

Source of finance

- Own fund: 12
- Friends and relatives: 4
- Money lenders: 2
- Credit co-operative societies: 8
- Banks: 4

Source of finance
Physical capital:

- Electricity
- Drinking water
- Market facility
- Health facility - Primary health...
- Educational facility - like school
- Infrastructure like electricity and...
- Market availability for fish selling
- Presence input suppliers
- Transportation facility
- Water supply

GENERAL

ORNAMENTAL FISHERIES RELATED
Source for information and training providers:

1. Faculty of Fisheries (Dr. B.S. Konkan Agricultural University), Ratnagiri
2. Central Institute of Fisheries Education (ICAR-CIFE)
3. Krishi Vigyan Kendra (KVK)
4. Taraporewala Marine Biological Research Stations
5. Marine Biological Research Stations
6. Fisheries Units in Agri, Res. Stations
7. NGOs and others
A) Activity profile:
   a) Single time activity
b) Daily Activities:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Activity</th>
<th>Participation (Nos.)</th>
<th>Hours spend /d (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>W</td>
</tr>
<tr>
<td>1</td>
<td>Feeding</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>Cleaning of tanks and siphoning</td>
<td>26</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>Observation of health check</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>Water parameter check</td>
<td>30</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Feed preparation</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td>6</td>
<td>Live feed culture and maintenance</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Recording of parameters</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Setting of fish for breeding</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Removal of offspring’s</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>10</td>
<td>Preparation of tanks for rearing or breeding</td>
<td>28</td>
<td>8</td>
</tr>
</tbody>
</table>
b) Daily Activities (Contd...):

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Activity</th>
<th>Participation (Nos)</th>
<th>Hours spend /d (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>W</td>
</tr>
<tr>
<td>11</td>
<td>Recording of activity</td>
<td>28</td>
<td>9</td>
</tr>
<tr>
<td>12</td>
<td>Preparation for marketing</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>13</td>
<td>Packing of marketable fish</td>
<td>30</td>
<td>16</td>
</tr>
<tr>
<td>14</td>
<td>Marketing</td>
<td>30</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>Preparation and maintenance of filter system</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>16</td>
<td>Household work</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>17</td>
<td>Collecting firewood</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td>18</td>
<td>Collecting water</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>19</td>
<td>Agriculture and dairy</td>
<td>23</td>
<td>25</td>
</tr>
</tbody>
</table>
### B) Access and control of resources:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Access</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HOUSEHOLD RESOURCES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Land</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>2 Farm</td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>3 Machines and equipments</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>4 Agricultural resources</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>5 Other assets</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>FISHERY RELATED RESOURCES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Ornamental fish unit</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>2 Breeding and rearing unit</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>3 Management of unit</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>4 Production</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>5 Marketing</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>6 Income</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td><strong>FINANCIAL RESOURCES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Income</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>2 Expenditure</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>3 Savings</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>4 Loan</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>
Influencing factors:

- Community norms
- Social hierarchy
- Institutional structures were the possible influencing factors.
Needs of the Ornamental fish producers:

PRACTICAL BASIC NEEDS
- Education
- Health
- Income earning
- Shelter needs
- Transport
- Market facility
- Security

PRACTICAL FISHERY NEEDS
- Seed availability
- Feed availability
- Equipments
- Market facility
- Ornamental fish unit infrastructure
- Breeding and rearing unit infrastructure
Needs of the Ornamental fish producers:

STRATEGIC BASIC NEEDS
- Control of resources
- Access to credit
- House ownership
- Status in society
- Status in Household
- Leadership

STRATEGIC FISHERY NEEDS
- Lack of training
- Lack of expert advice
- Business expansion
- Market expansion
- Information of domestic and export market
- Meetings, Farmer-scientist meet
CONCLUSION:

✓ Right to take decision
  ✓ Income, saving and expenditure
  ✓ Fishery related decisions on production and marketing
  ✓ Control over resources

✓ Need to develop Self Help Groups (SHG) in ornamental fisheries

✓ Gender specific training programmes in the specific field of Ornamental fisheries
  ✓ Seed technology
  ✓ Feed preparation
  ✓ Live food preparation
  ✓ Marketing of ornamental fish

✓ Market places of woman producers in metro cities
Acknowledgements

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