



Customers Preference for Aquarium Keeping: Market survey, Special Emphasis on Indigenous Ornamental Fishes in four District of West Bengal, India

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Abstract

The majority of the ornamental fish culture is still confined to the hobbyist. Attractive body colour, shape movement within aquarium makes the fish more popular. In this direction, in order to develop market for indigenous ornamental fish, there is need to studying consumer preference and existing marketing strategies, adopted by aquarists. The objectives of the study are – i. identify consumer preference for indigenous ornamental fish ii. profile of aquarium keeping customers iii. the existing marketing strategies adopted by ornamental fish aquarium business service providers iv. major constraints for development of the industry.

Keywords: Consumer preference - marketing strategy - indigenous ornamental fish – West Bengal.

Introduction

Aquarium business service in India recorded a value of US\$ 1.3 million in the export trade in the year 2006 according to Food and Agriculture Organization¹. Internationally, Singapore ranks first with US\$ 49.5 million, and Zech Republic, Japan and Malaysia stood almost equally 7% in aquarium fish trade². The increasing popularity of ornamental fishes has a positive effect on the aquarium fish trade. Ornamental fish market linkage exists between buyers and sellers as well as domestic and international market³. In order to strengthen Indian position in international ornamental fish trade, MPEDA has implemented several strategies to adopt in terms of technology, infrastructure in order of to develop export demand based production for major importers in EU, USA and Japan. In the event of economic growth all over the world, stress has become evident among all people⁴. In order to get relived from stress, everyone has cultivated the habit of hobby as part and parcel of their way of life⁵.

There are different growing businesses related to hobby in maintaining aquarium in the institutional offices and also at the household⁶. Now it is well known that the hobby of mainly aquarium has been adopted both in developed and developing. In this context, it is imperative to see a problem in setting up business support as well as develop the market with suitable marketing strategies in India specific in West Bengal. The exporter (or) wholesaler plays on important role in promoting breeders and consumers. Wholesaler usually sells the fishes to local retailers and in turn, retailer's directly sales to local customers, hobbyists etc⁷.

Material and Methods

The primary data have been collected through survey among Household and business enterprises (including aquarium shops). The sales data have been extracted from aquarium seller's records on the basis of weekly sales. In order to collect data, filed survey was conducted from January 2011 to December 2012. The statistical tools is percentage analysis. The random sampling methods have been adopted to select sample respondents. The sample size is 97 individual respondents of household from Corporation, Municipality and Panchyath area. The study area are four district, namely- Burdwan, Birbhum, Hoogly, Kolkata and sample unit are Household and business enterprises (including aquarium shops).

Results and Discussion

Propositions: In order to evaluate for indigenous ornamental fish promotion and marketing strategies, two propositions have been formulated to test the association of overall marketing strategies and each dimensions with gender, age, weekly turnover, price range on the level of consumer preference and variation in marketing strategies adopted by sellers and hobbies also⁶.

P1: the level of consumer preference for aquarium hobby is associated with gender, Age, price range.

P2: Marketing strategies adopted by aquarium business service providers to promote Business varies with aquarist's experience and weekly turnover of the shop.

Table-1
Distribution of household keeping aquariums

| No. of Aquarium | Corporation | Municipality | Panchayath | total | percentage |
|-----------------|-------------|--------------|------------|-------|------------|
| 1 | 24 | 18 | 6 | 48 | 49.48 |
| 2 | 20 | 5 | 1 | 26 | 26.8 |
| 3 | 12 | 2 | 0 | 14 | 14.43 |
| >3 | 8 | 1 | 0 | 9 | 9.27 |
| Total | 64 | 26 | 7 | 97 | 100 |

Table-2
Distribution of households changed their number of aquarium

| No. of aquarium | Recent no. of aquarium kept by households | | | Total no. of households |
|-----------------|---|------------------|------------------|-------------------------|
| | Same as before | More than before | Less than before | |
| 1 | 42 | 0 | 6 | 48 |
| 2 | 10 | 13 | 3 | 26 |
| 3 | 2 | 12 | 0 | 14 |
| >3 | 2 | 7 | 0 | 9 |
| Total | 56 | 32 | 9 | 97 |
| Percentage | 57.73% | 32.98% | 9.27% | 100% |

Table-3
Purchase of tank during last one year (Jan'2011-Dec'2012)

| No. of aquarium | No. of households | Percentage |
|-----------------|-------------------|------------|
| No new aquarium | 66 | 68.04 |
| new single | 16 | 16.49 |
| new 2 | 5 | 5.15 |
| new 3 | 7 | 7.21 |
| more than 3 | 3 | 3.03 |
| total | 97 | 100 |

Table-4
Issue related to aquarium keeping

| Issue | Corporation | Municipality | Panchayath | No. of households |
|---------------|-------------|--------------|------------|-------------------|
| No problem | 18 | 4 | 1 | 23 |
| Cleaning tank | 27 | 5 | 3 | 35 |
| Disease | 15 | 4 | 2 | 21 |
| Feeding | 5 | 4 | 2 | 11 |
| Others | 2 | 2 | 3 | 7 |
| Total | 67 | 19 | 11 | 97 |

Table-5
Choice for introduction of new variety in aquarium

| Sl. no. | Different choices | No. of house holds |
|---------|---------------------------|--------------------|
| 1 | Consult with family | 5 |
| 2 | Consult with friends | 23 |
| 3 | Information from Internet | 9 |
| 4 | Information from book | 4 |
| 5 | Consult with shopkeeper | 43 |
| 6 | Consult with hobbyists | 13 |

Table-6
Reasons for keeping ornamental fishes

| Sl. no. | Issue for rearing ornamental fish | No. of households |
|---------|-----------------------------------|-------------------|
| 1 | Reduction of tension | 10 |
| 2 | Reveille economic status | 9 |
| 3 | Easy to maintenance | 2 |
| 4 | Overcome loneliness | 12 |
| 5 | Spending time | 17 |
| 6 | Like watching fishes | 47 |
| 7 | Other causes | 3 |

Table-7
Influence of socio-economic status of sample households on demand for ornamental fishes

| Sl. no. | Attributes: | House holds | Percentage |
|----------|-----------------------------|-------------|------------|
| A | Age: | | |
| 1 | Up to 14 | 9 | 9.27 |
| 2 | 15-30 | 48 | 49.48 |
| 3 | 31-45 | 23 | 23.71 |
| 4 | 46-61 | 11 | 11.34 |
| 5 | 61 & above | 6 | 6.18 |
| B | Gender: | | |
| 1 | Male | 84 | 86.59 |
| 2 | Female | 13 | 13.4 |
| C | Education: | | |
| 1 | Up to primary | 9 | 9.27 |
| 2 | Secondary school level | 12 | 12.37 |
| 3 | Madhyamik pass (X) | 18 | 18.55 |
| 4 | Degree | 43 | 44.32 |
| 5 | Post Graduate | 15 | 15.46 |
| D | Occupation: | | |
| 1 | Students | 42 | 43.29 |
| 2 | Pvt. Employees | 18 | 18.55 |
| 3 | Govt. service | 9 | 9.27 |
| 4 | Unemployed | 8 | 8.24 |
| 5 | Own business | 16 | 16.49 |
| 6 | Retired persons | 4 | 4.12 |
| E | Experiences: | | |
| 1 | Less than 5 years | 57 | 58.76 |
| 2 | 5-10 years | 27 | 27.83 |
| 3 | 10-20 years | 9 | 9.27 |
| 4 | > 20 years | 4 | 4.12 |
| F | Expenditure: | | |
| 1 | Up to 50 | 41 | 42.26 |
| 2 | 51-100 | 23 | 23.71 |
| 3 | 101-150 | 15 | 15.46 |
| 4 | 151-200 | 13 | 13.4 |
| 5 | 2001& above | 5 | 5.15 |
| G | Income: | | |
| 1 | Up to Rs. 3000 | 7 | 7.21 |
| 2 | 3001-6000 | 19 | 19.58 |
| 3 | 6001-9000 | 18 | 18.55 |
| 4 | 9001-12000 | 27 | 27.83 |
| 5 | 12001-15000 | 15 | 15.46 |
| 6 | 15001 & above | 9 | 9.27 |
| H | Frequency of buying: | | |
| 1 | Fortnight | 5 | 5.15 |
| 2 | Once in a month | 42 | 43.29 |
| 3 | 2-4 months | 36 | 37.11 |
| 4 | 4-6 months | 11 | 11.34 |
| 5 | Others | 2 | 2.06 |

Table-8
Market demand of exotic and indigenous ornamental fish species and their growth rate in the year of 2011-2012

| Area of living | Ornamental fish type | No. of species (Jan'2011) | No. of Species (Dec'2012) | Growth (%) |
|----------------|----------------------------|---------------------------|---------------------------|------------|
| Corporation | Exotic ornamental fish | 32 | 31 | -4 |
| | Indigenous ornamental fish | 19 | 28 | 13.23 |
| Municipality | Exotic ornamental fish | 21 | 20 | -2 |
| | Indigenous ornamental fish | 9 | 19 | 15.8 |
| Panchyath | Exotic ornamental fish | 14 | 17 | 7.69 |
| | Indigenous ornamental fish | 5 | 9 | 10.25 |

Table-9
The factor s influencing purchase of ornamental fish

| Features | Leaving area | | | | | |
|-------------------|--------------|-----------------|--------------|-----------------|-------------|-----------------|
| | Corporation | | Municipality | | Panchyath | |
| | Exotic fish | Indigenous fish | Exotic fish | Indigenous fish | Exotic fish | Indigenous fish |
| Colour | 85 | 15 | 82 | 18 | 92 | 8 |
| Price | 45 | 55 | 35 | 65 | 42 | 58 |
| Variation | 51 | 59 | 57 | 43 | 38 | 62 |
| Income | 71 | 29 | 73 | 27 | 87 | 13 |
| Fish size | 58 | 42 | 67 | 33 | 72 | 28 |
| Compatibilty | 46 | 54 | 48 | 52 | 41 | 59 |
| Fin attributes | 67 | 33 | 74 | 26 | 69 | 31 |
| Hardiness/ Health | 43 | 57 | 41 | 59 | 44 | 56 |
| Shape | 59 | 41 | 62 | 38 | 74 | 26 |
| Movement | 38 | 62 | 42 | 58 | 51 | 49 |

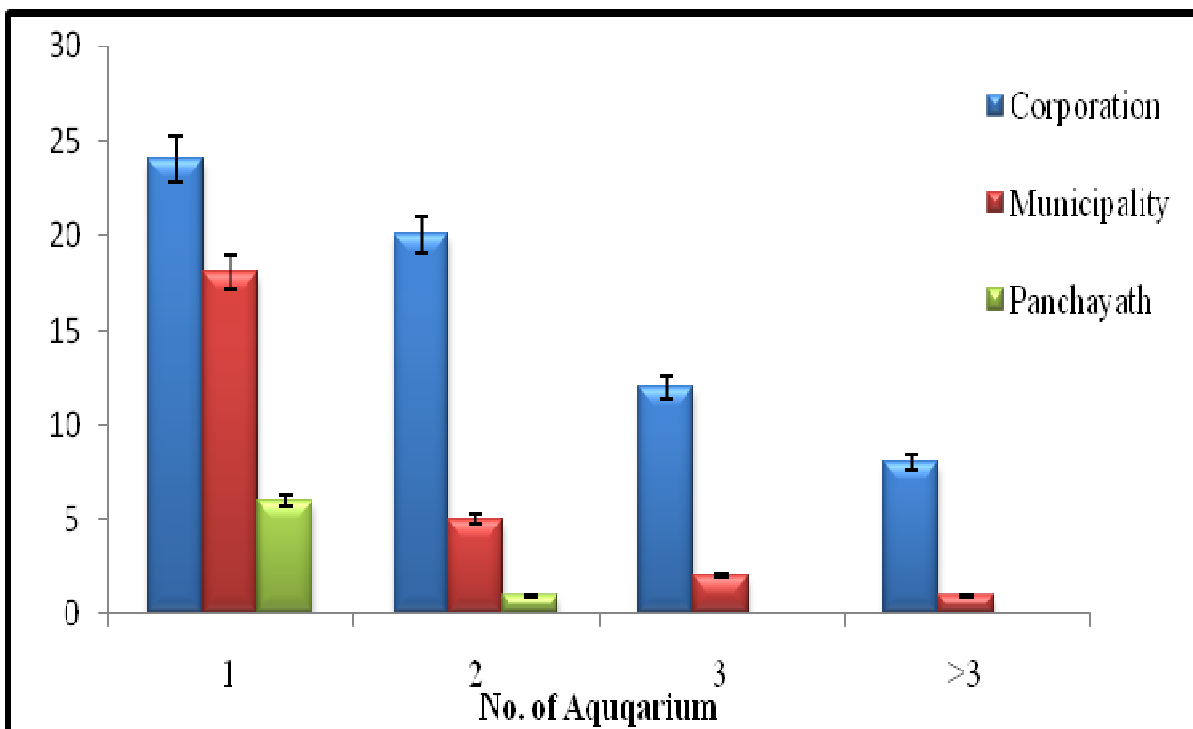


Figure-1
Graphical representation of Distribution of household keeping aquariums

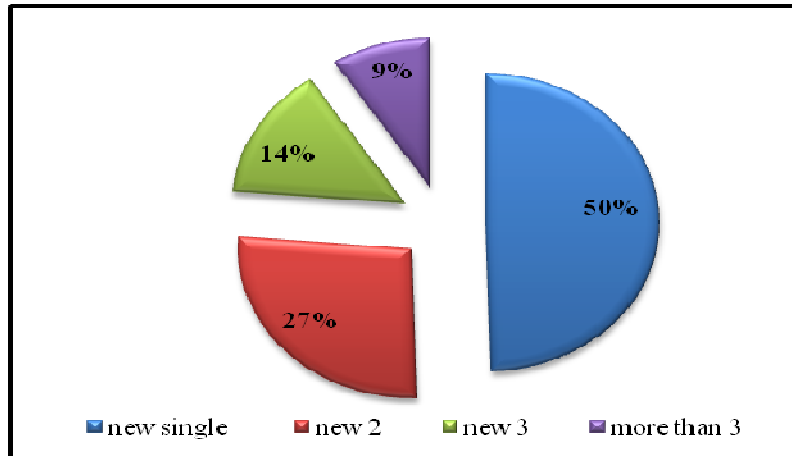


Figure-2
 Percentage distribution of household keeping aquariums

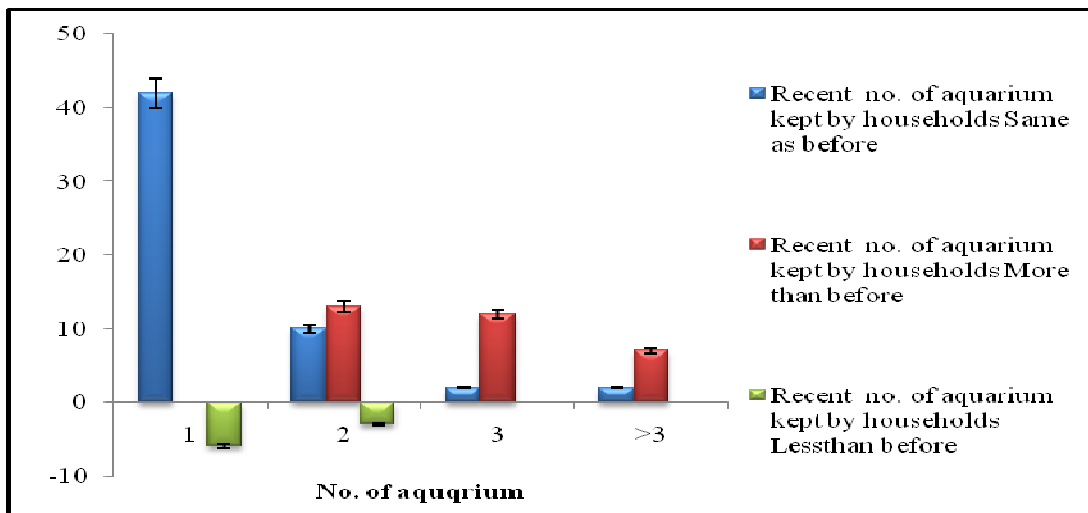


Figure-3
 Graphical representation of distribution of households who changed their number of aquarium

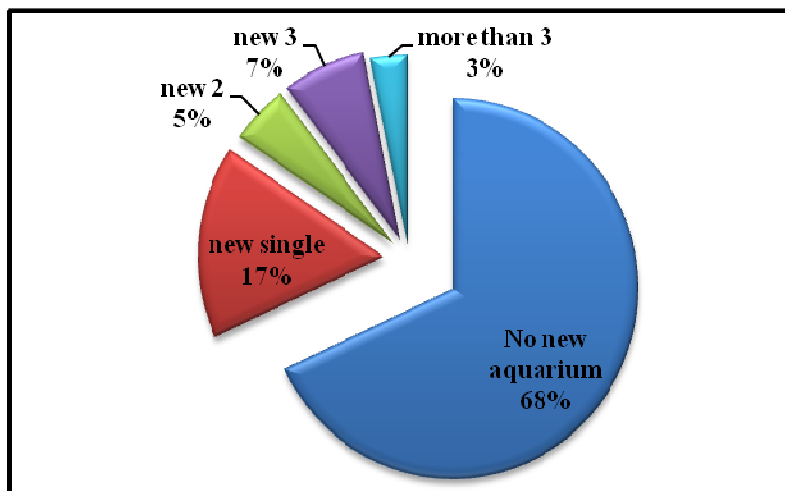


Figure-4
 Pie chart showing Purchase of tank in last one year (Jan'2011-Dec'2012)

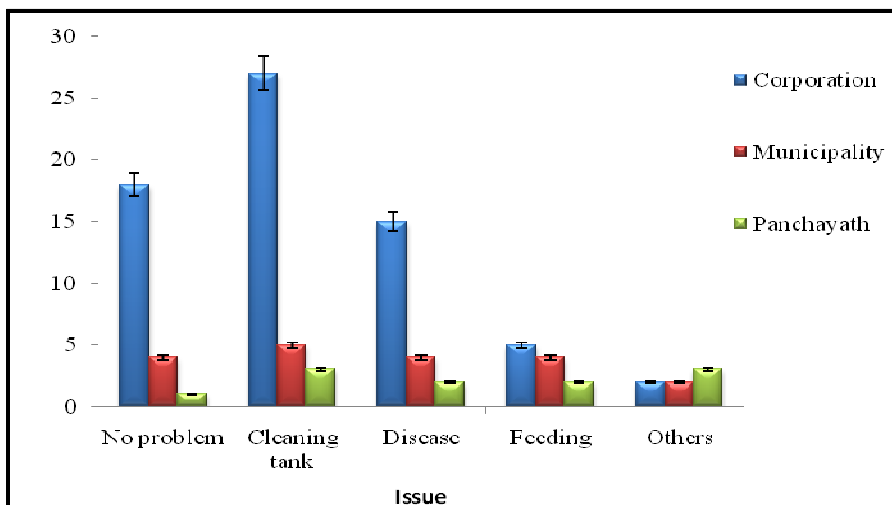


Figure-5
 Graphical representation of Issue related to aquarium keeping

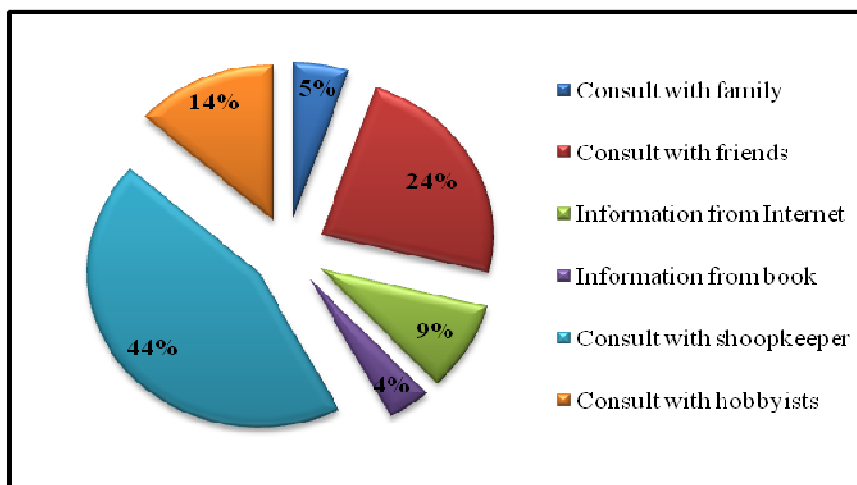


Figure-6
 Pie chart showing Choice for introduction of new variety in aquarium

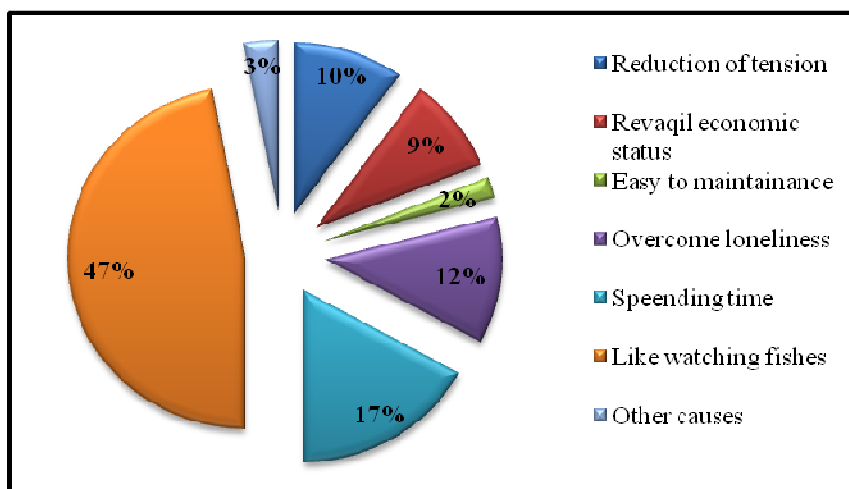


Figure-7
 Pie chart showing Reasons for keeping ornamental fishes

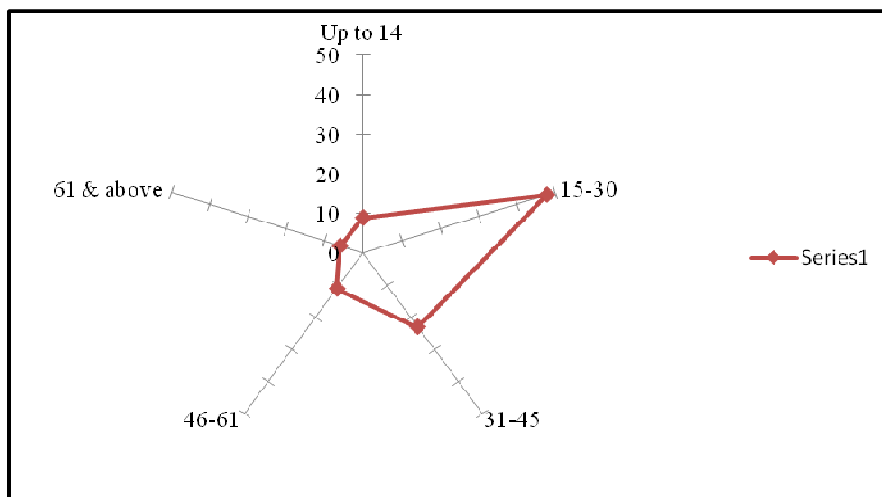


Figure-8
 Relation between age and aquarium keeping (in %)

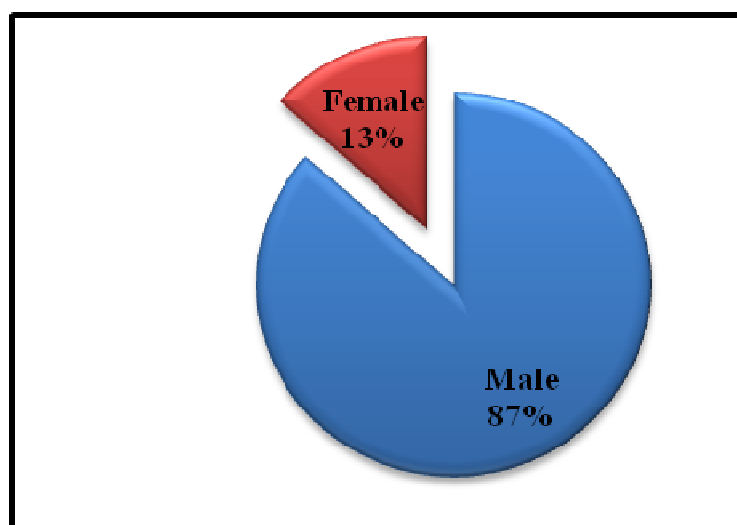


Figure-9
 Percentage of male and female customer engaged in aquarium keeping

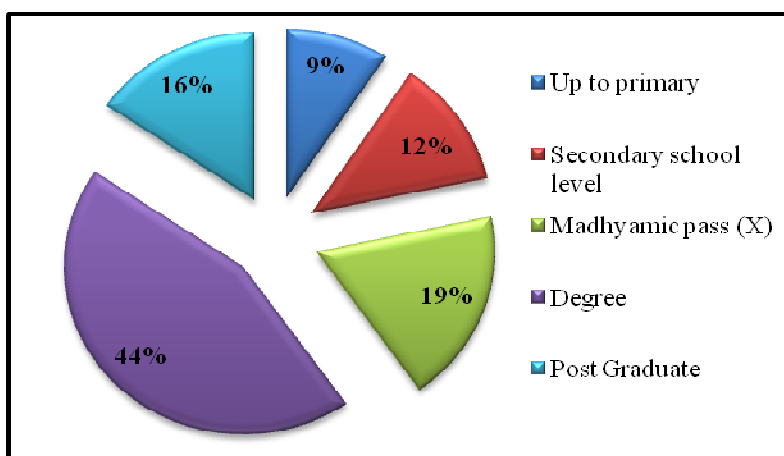


Figure-10
 Educational qualification of the ornamental fish hobbyist (in %)

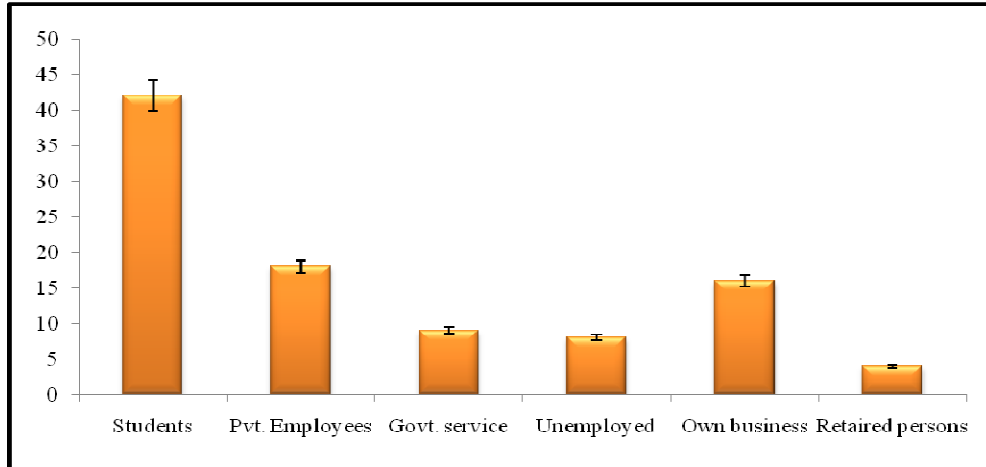


Figure-11
 Occupation of the hobbyist (in %)

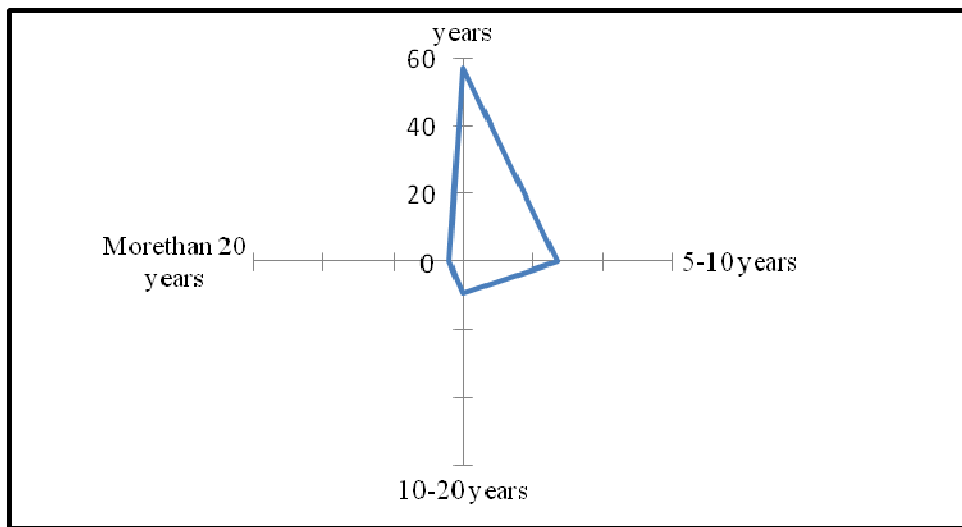


Figure-12
 Ornamental fish business experience and aquarium keeping (in %)

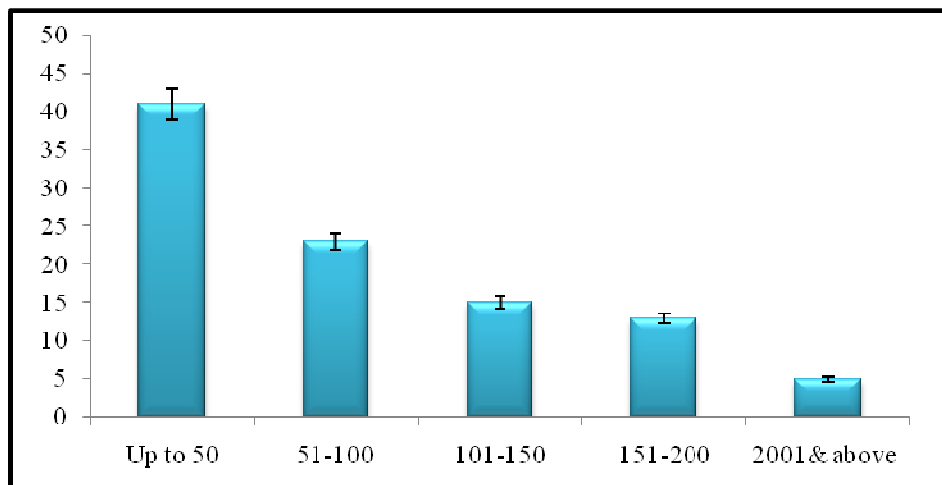


Figure-13
 Number of customer and their monthly expenditure in aquarium keeping

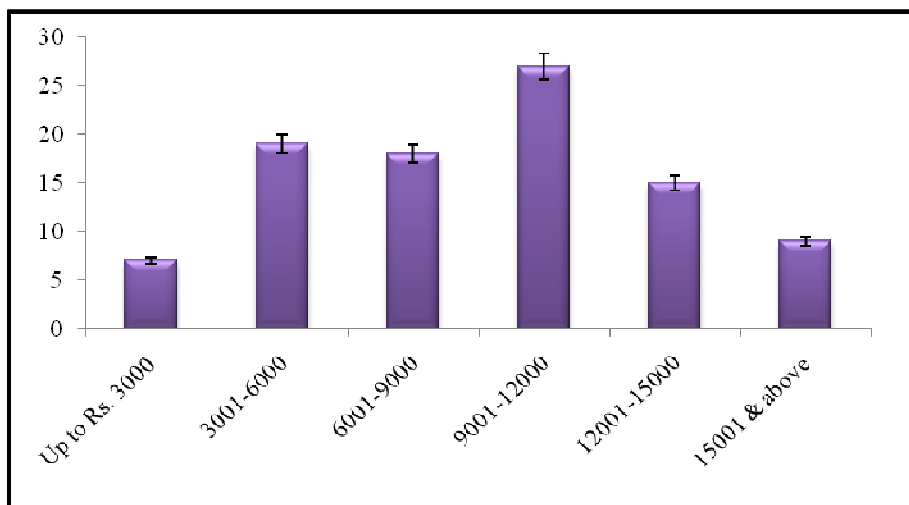


Figure-14
 Relation between monthly income and aquarium keeping

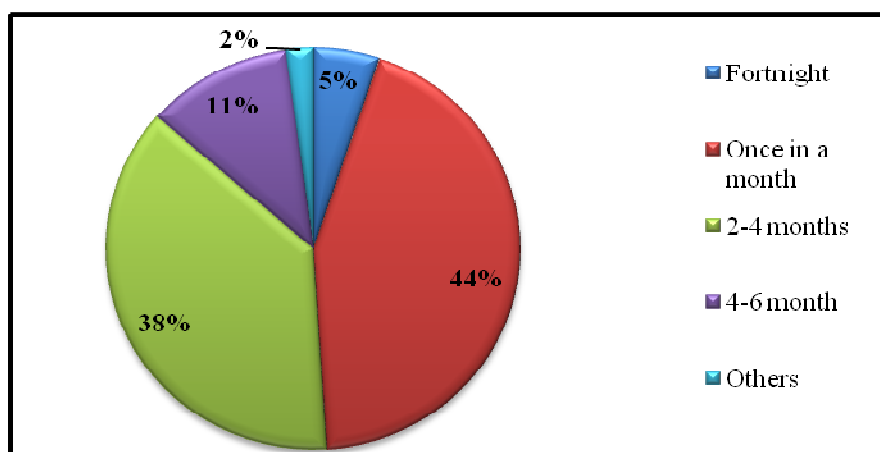


Figure-15
 Frequency of buying fish among hobbyist (in %)

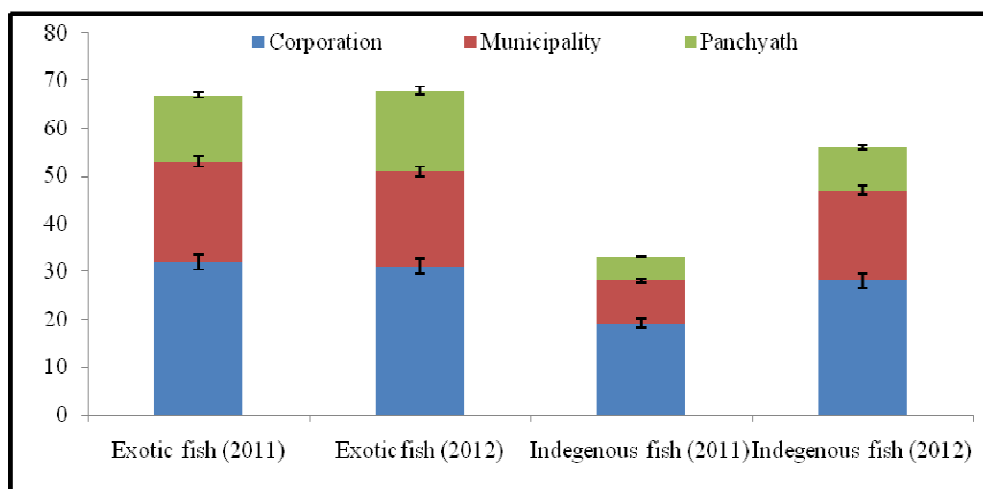


Figure-16

Graphical representation of exotic and indigenous ornamental fish demand among different area of West Bengal in the year of 2011-2012

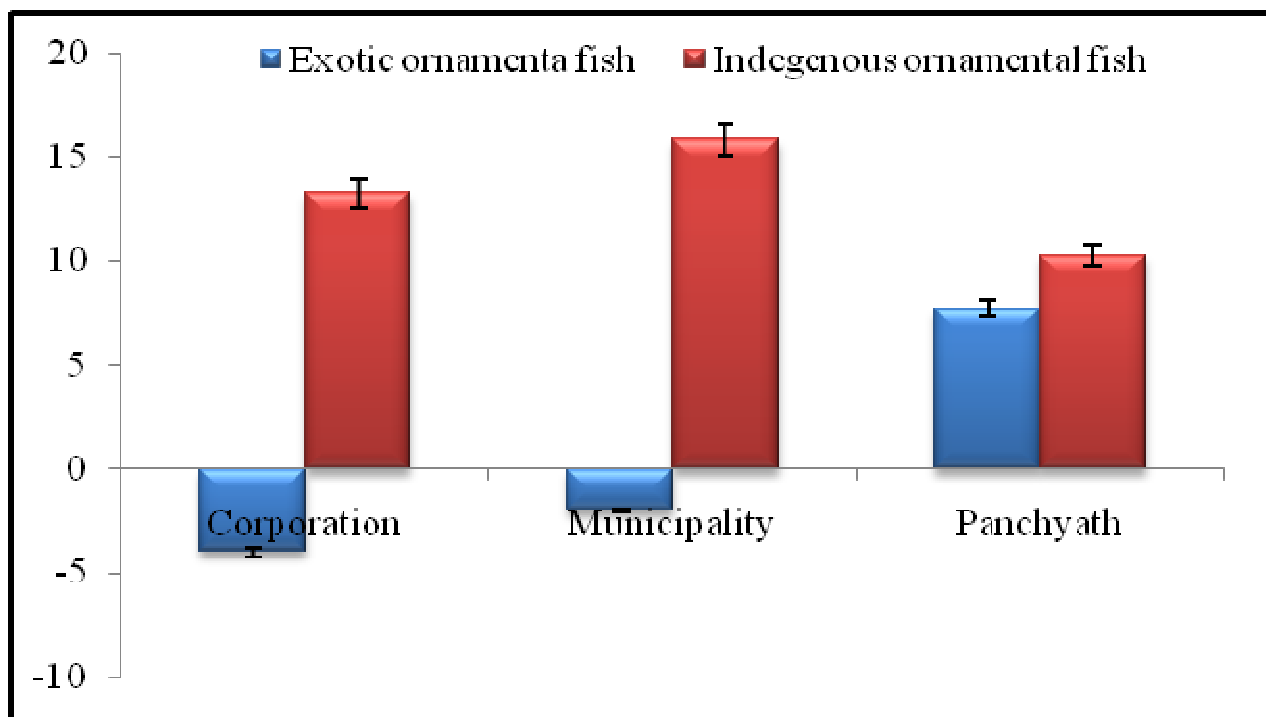


Figure-17

Graphical representation of exotic and indigenous ornamental fish species and their market growth rate among different area of West Bengal in the year of 2011-2012

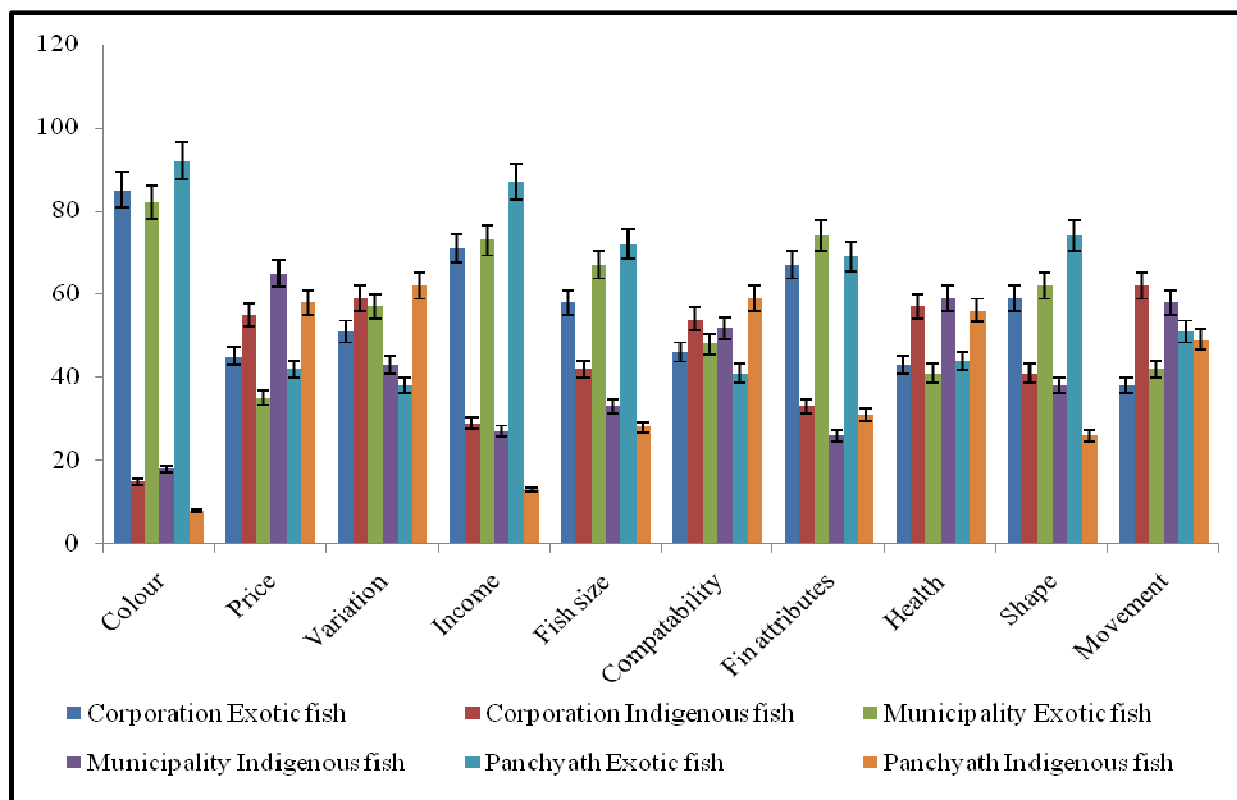


Figure-18

Graphical representation of influencing factors, purchase of ornamental fish

Table-10
List of Top 11 indigenous ornamental fish species according to customer preference⁸

| Order | Family | Sl. No. | Scientific name | IUCN status | Price (pair) |
|-------------------|----------------|---------|-----------------------|-------------|--------------|
| Perciformes | Osphronemidae | 1. | Colisa fasciata | LC | 25-49 |
| | | 2. | Colisa lalia | NE | 20-41 |
| | | 3. | Colisa chuna | NE | 18-25 |
| Tetraodontiformes | Tetraodontidae | 4. | Tetraodon fluviatilis | NE | 50-200 |
| | | 5. | Tetraodon cutcutia | NT | 40-280 |
| Perciformes | Ambassidae | 6. | Chanda ranga | NE | 15-20 |
| | | 7. | Chanda nama | LC | 10-18 |
| | Channidae | 8. | Channa punctata | LC | 12-18 |
| | | 9. | Channa striata | LC | 20-25 |
| Cyprinidontiforms | Cyprinidae | 10. | Puntius conchoniuis | VU | 10-15 |
| | | 11. | Puntius sarana sarana | VU | 08-25 |

Conclusion

The ornamental fish is an emerging pet in West Bengal. The target market for ornamental fish is household persons, hobbyists, business enterprises and institution. The demand for indigenous ornamental fish variety is increasing rapidly. All the dimensions of indigenous ornamental fish like Value, Quality, Features, Movement and hardiness, have its significant importance depending on the category of customer⁹. The huge variety and potentiality of indigenous ornamental fish make the trade stronger. The objective of indigenous ornamental fish culture is to prevent the loss of fish species from nature. It is our duty to save the ornamental fish species for the sake of balance of natural sustainable environment¹⁰.

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