

Ornamental Fishery Resources in India: Attractive option for livelihood improvement

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What is ornamental fish?

The varied forms and fascinating beauty of some fish have attracted the people from time immemorial and are named as 'Ornamental Fish'. These include both classified and non-classified type of aquarium fish.

Classified

The fishes that can be reared in aquaria throughout their life span

Ex. *Botia dario*, *Danio dangila*, *Badis badis*, *Pethia shalynius*, *Colisa lalia*



Non-classified

The food fishes that are used in aquaria during their juvenile stage.

Ex. *Chitala chitala*, *Labeo calbasu*, *Neolissochilus hexagonolepis*, *Labeo gonius*, *Channa marulius*



DIVERSIFIED ORNAMENTAL CHARACTERS

These living jewels need not always have bright colours; sometimes their peculiar characteristics such as body colour, morphology, mode of taking food etc. may also add to their attractiveness.

Ornamental characters	Examples
Beautiful colour	<i>P. sulcatus, T. cutcutia, C. lalia, B. berdmorei</i>
Stripes and banding pattern	<i>B. rostrata, S. reticulofasciatus, B. dario</i>
Chameleonic habit	<i>B. badis burmanicus, P. shalynius</i>
Jumping behaviour	<i>E. danricus, C. laubuca</i>
Charming predatory habit	<i>C. gachua, C. orientalis, G. giuris</i>
Calm behaviour	<i>C. nobilis, N. nandus</i>
Transparent body	<i>C. nama, P. baculis, P.ranga</i>
Small size	<i>B. rerio, D. dangila</i>
Hardiness	<i>A. testudineus</i>
Suckers	<i>G. gotyla gotyla, G. mcllendi</i>
Keeled abdomen	<i>Chela laubuca</i>

RESOURCES

A total of 1539 species of ornamental fishes are traded worldwide where India offers more than 374 fresh water ornamental fish species and near about 700 marine ornamental fish species. Besides, in ornamental fish sector about 288 freshwater exotic fish and 300 marine exotic fish are been used.



**Indigenous
Freshwater
Ornamental
Fish
374**



**Indigenous
Marine
Ornamental
Fish
700**



**Freshwater
Exotic Live
Bearer Fish
27**

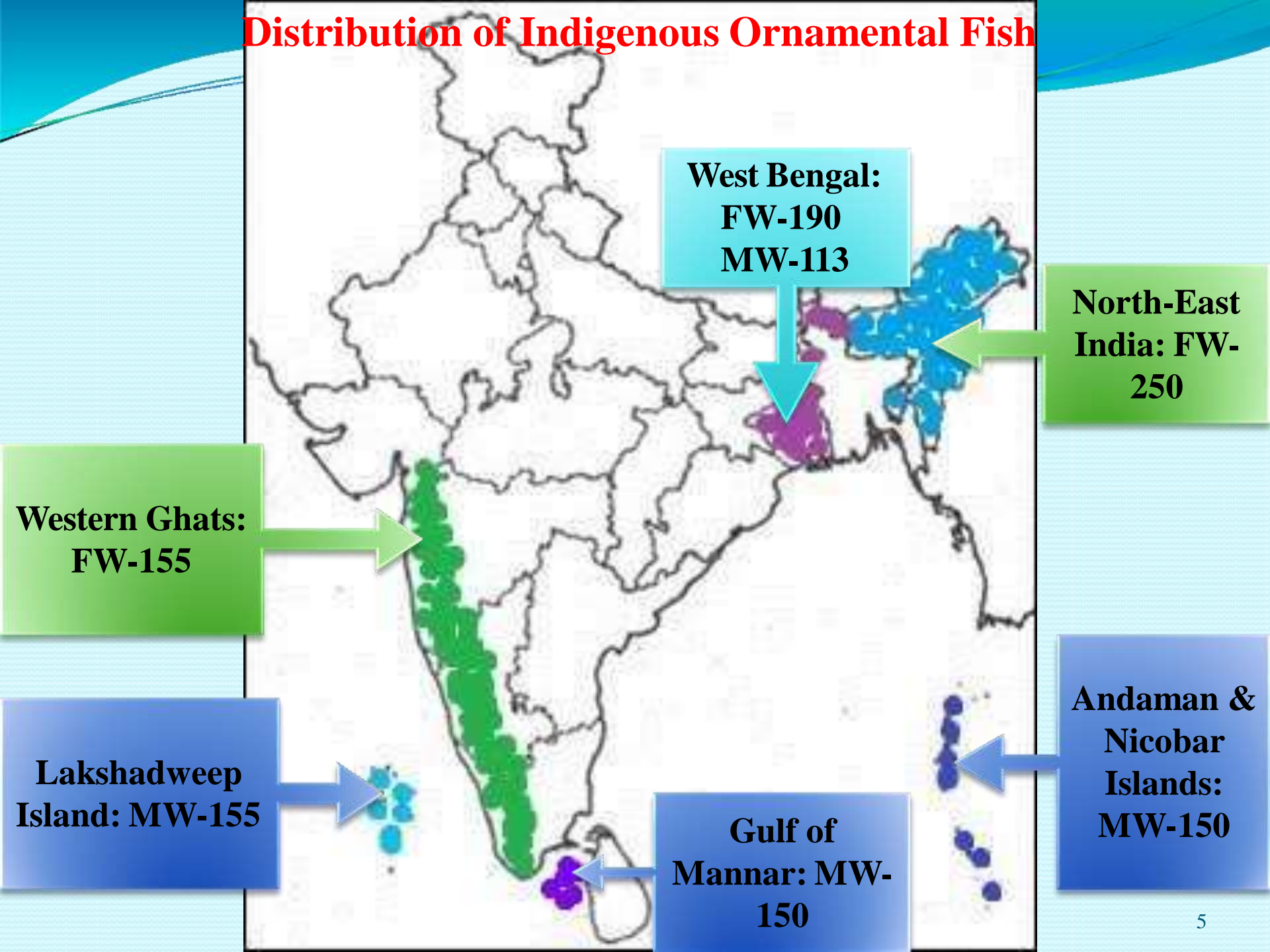


**Freshwater
Exotic Egg
Layerer Fish
261**



**Exotic
Marine
Ornamental
Fish
300**

Distribution of Indigenous Ornamental Fish





*Some Indigenous Fresh Water
Ornamental Fish*



Shalyni barb
Puntius shalynius



Rosy barb
Puntius conchonius



Ticto barb
Puntius ticto



Sophore barb
Puntius sophore

BARBS



Olive barb
Puntius sarana



Melon barb
Puntius fasciatus



Slender rasbora
Rasbora daniconius



Stoliczkae's Barb
Puntius stoliczkanus



Kerala queen
Puntius denisoni



Gangetic rasbora
Rasbora rasbora



Dangila
Danio dangila



Zebra danio
Danio rerio



Giant danio
Danio aequipinatus



Naga Danio
Danio naganensis



Flying barb
Esomus danricus



Bengal danio
Danio devario

DANIO



Pufferfish
Tetraodon cutcutia

PUFFER

FISH



Mottled loach
Acanthocobitis botia



Rani loach
Botia dario

L O A C H



Orange loach
Schistura sikmainsis



Gray stone loach
Balitora brucei

Dwarf gourami
Colisa lalia



Giant gourami
Colisa fasciatus

Gouramis

E **Leaf fish**
Nandus nandus



Chameleonfish
Badis badis

Nandidae



Orange-spotted snakehead
Channa aurantimaculata



Giant snakehead
Channa marulius



Assamese snakehead
Channa stewartii



Spotted snakehead
Channa punctatus

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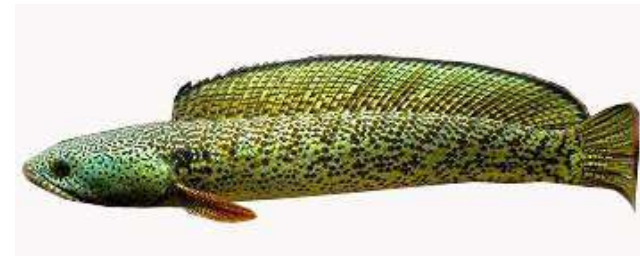
Dwarf Snakehead
Channa gachua



Rainbow snakehead
Channa bleheri



Striped snakehead
Channa striata



Barca snakehead
Channa barca



Elongate glass fish
Chanda nama



Indian glass fish
Chanda ranga



Himalayan glass fish
Chanda baculis

G L A S S F I S H



Pengba
Ostreobrama belangeri



Black shark
Labeo calbasu



Mini Scale Carp
Labeo gonius

C A R P S



Bronze featherback
Notopterus notopterus



Feather back
Notopterus chitala

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Sucker throat catfish
Pseudecheneis sulcatus



Sucker head
Garra gotyla gotyla



Barred spiny eel
Macrognathus pancalus



Lesser spiny eel
Macrognathus aculeatus



Spiny eel
Macrognathus armatus

Needlefish



Freshwater Needlefish
Xenentodon cancila



White catfish
Rita rita



Himalayan olya
Olyra longicaudata



Butterfly Catfish
Hara hara

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Blind catfish
Amblyceps arunachalensis



Devil catfish
Chaca chaca



Asian Stone Catfish
Hara jerdoni

Killifish



Blue panchax
Aplocheilus panchax



Some Indigenous Marine Ornamental Fish



Orange-socket surgeonfish
Acanthurus auranticavus



Black spot surgeonfish
Acanthurus bariene



Brown surgeonfish
Acanthurus nigrofuscus

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Lined surgeonfish
Acanthurus lineatus



Convict Surgeonfish
Acanthurus triostegus



Powderblue surgeonfish
Acanthurus leucosternon



Dory snapper
Lutjanus fulviflamma

SNAPPER



John's snapper
Lutjanus johnii



Skunk clownfish
Amphiprion akallopisos



Tomato clownfish
Amphiprion frenatus



Yellowtail clownfish
Amphiprion clarkii



Ocellaris clownfish
Amphiprion ocellaris

CLOWNFISH



Yellowtail clownfish
Amphiprion clarkii



Dusky tail grouper
Epinephelus bleekeri



Giant grouper
Epinephelus lanceolatus



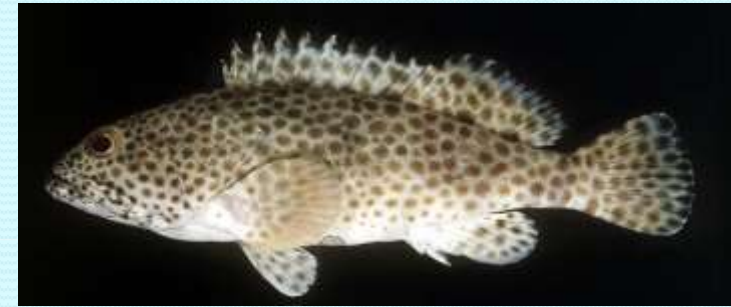
Striped grouper
Epinephelus latifasciatus

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Longspine grouper
Epinephelus longispinis



Barred-chest grouper
Epinephelus faveatus



Six-bar grouper
Epinephelus sexfasciatus



Cross-stripe Butterflyfish
Chaetodon auriga



Red-tail Butterfly fish
Chaetodon collare



Indian vagabond butterfly fish
Chaetodon decussatus

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Spotted green goby
Acentrogobius viridipunctatus



Boddart's goggle-eyed goby
Boleophthalmus boddarti



Red eel goby
Odontamblyopus rubicundus



Burrowing goby
Trypauchen vagina



Blue-spotted wrasse

Anampses caeruleopunctatus



Cigar wrasse

Cheilio inermis



Sixline wrasse

Pseudocheilinus hexataenia



Moon wrasse

Thalassoma lunare

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Broad-barred fire fish

Pterois antennata



Red lionfish

Pterois volitans



Frillfin turkeyfish

Pterois mombasae



Plaintail turkey fish

Pterois russelii



Radial firefish

Pterois radiata



Devil fire fish

Pterois miles



***SOME EXOTIC FRESHWATER
ORNAMENTAL FISH
(LIVE BEARER)***



Platy fish
Xiphophorus maculatus



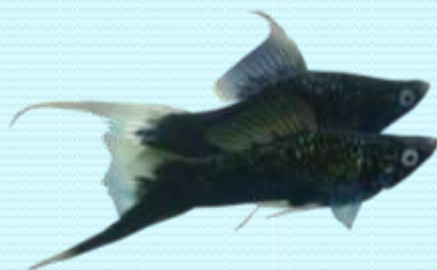
Guppy fish
Poecilia reticulata



Molly
Poecilia latipinna



Albino swordtail



**Black wagtail
swordtail**



**Red wagtail
swordtail**

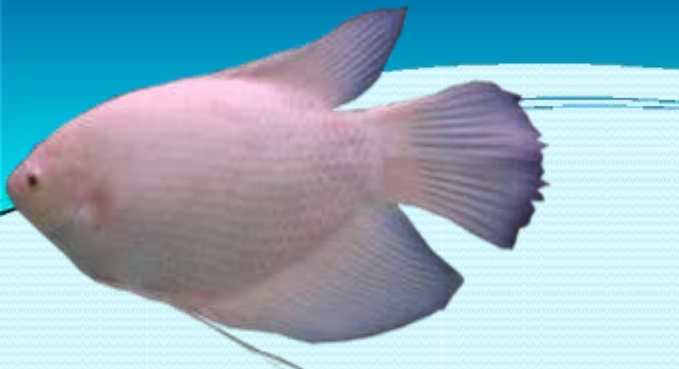


**Neon wagtail
swordtail**

Xiphophorus hellerii



***SOME EXOTIC FRESHWATER
ORNAMENTAL FISH
(EGG LAYERER)***



Gaint Gourami
Osphronemus goramy



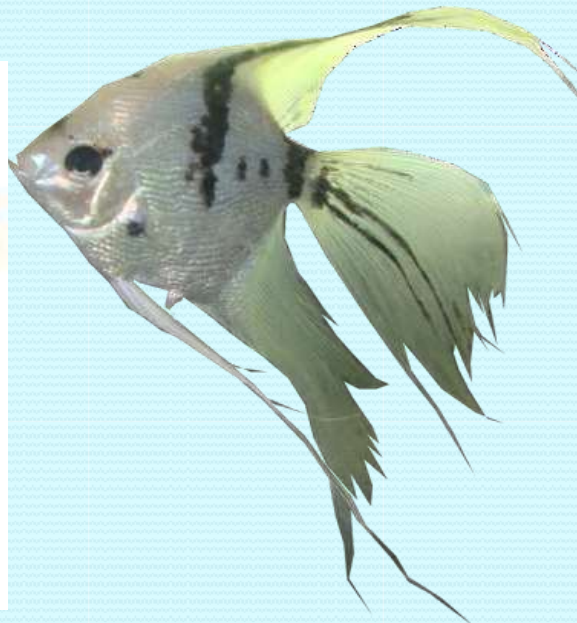
Three spot gourami
Trichopodus trichopterus



Pearl gourami
Trichopodus leerii



Gold fish
Carassius auratus



Angel fish
Pterophyllum scalare



Discus fish
Symphysodon discus



Red Blood Parrot (Hybrid cichlid)



Oscar
Astronotus ocellatus



Albino shark
Pangasius sutchi



Silver arowana
Osteoglossum bicirrhosum



Flowerhorn cichlid (Hybrid cichlid)



Koi carp
Cyprinus carpio var. koi



SOME EXOTIC MARINE ORNAMENTAL FISH



Chrysiptera taupou
Fiji Blue Devil Damselfish



Liopropoma carmabi
Candy Basslet



Balistoides conspicillum
Clown triggerfish



Paracanthurus hepatus
Palette surgeonfish



Heniochus diphreutes
Schooling bannerfish



Cephalopholis igarashiensis
Neptune Grouper

Indigenous Ornamental fishes bred in captivity

Freshwater ornamental fish

- *Rasbora daniconius*- Slender Rasbora
- *Colisa lalia*- Dwarf Gourami
- *Puntius denisonii*- Kerala Queen
- *Macrogathus aculeatus*- Peacock Eel
- *Danio devario*- Bengal Danio
- *Puntius conchoni*- Rosy Barb
- *Puntius sophore*- Pool Barb
- *Nandus nandus*- Nados
- *Danio rerio*- Zebra fish
- *Etroplus suratensis*- Green Chromide
- *Mystus gulio*- Long whiskers catfish
- *Labeo gonius*- Mini scale shark
- *Mastacembelus pancalus*- Striped spiny eel

Marine ornamental fish

- Clown fishes viz. *Amphiprion percula*, *Amphiprion sandaracinos*, *A. ocellaris*, *A. sebae*, *Premnas biaculeatus*.
- Damsels viz. *Dascyllus trimaculatus*, *D. aruanus*, *Pomacentrus caeruleus*, *P. pavo*, *Neopomacentrus nemurus*, *N. filamentosus*, *Chromis viridis*, *Chrysiptera unimaculata*.
- Dotty back, *Pseudochromis dilectus*

Status of Breeding of Freshwater ornamental fish

- About 13 indigenous freshwater ornamental fish species successfully bred in captivity.
- Mainly the Kerala queen, *Puntius denisonii* used for mass scale seed production and trading.
- Rosy barb, *Puntius conchoni* is being utilised for varietal development and **Shining barb variety** has been developed.



Livelihood opportunities through ornamental fisheries



- The hobby of ornamental fish keeping is gaining popularity in the country and it is estimated that about 1.25% of the urban house-holds are keeping and aquarium.
- Through out India near about 1,50,000 families are involving in fish rearing and culture industry.
- It is estimated that about 20,000 families involved in this ornamental fish business in West Bengal including breeding, rearing, feed preparation, decorative material preparation, aquarium making and marketing and their average monthly income per family is Rs. 6000-12000/-.

Collection & trading indigenous spp.



Chanda



Pankal



Pankal



Chital



Kankle



Kholse



Pholui



Payrachanda



Zebra

Breeding & rearing live bearers

Guppy



Swordtail



Molly



Platy

Agribusiness Opportunity

Due to lack of steady supply of common ornamental fishes; many **new species** (e.g., *Olyra longicaudata*, *Pseudechenies sulcatus*, *Psilorhynchus balitora*, *Somileptes gongota*, etc) are emerging as ornamental fishes and the trade opportunities of these species **are increasing** which is an added advantage to sustaining the **agribusiness opportunity** of this industry.

The ornamental fisheries can be given a serious thought from all concerned stake holders like **fisher folk, exporters, importers, village headmen, panchayat members, teachers, students, scientists and top level planners** in order to sustain the growth of this new sector of fisheries as well as for better employment and foreign exchange earnings from this trade.

❖ With the initiatives by the Govt. such as providing incentive to establish ornamental fish production unit, considerable **private investment** can be attracted to this industry, which would create **additional employment** opportunities.

❖ With the **concerted efforts by the Govt. as well as key institutions** the ornamental fisheries can be developed **substantially** in the state, which in turn can gradually gain a **larger share in the world market**.

❖ **Public-private partnership** can be encouraged through establishment of ornamental fish production units in various parts of the state to make the **ornamental fishery sector more vibrant and remunerative**.

❖ Around **38 million people** worldwide are employed in fisheries and aquaculture, 95% of them in developing countries and approximately 50 million people are involving in the related industry.

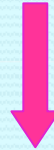
Trading of Ornamental Fish

- India has been exporting some unique varieties of wild caught ornamental fish to many developed countries of the world **since 1969**. But, our contribution to global export of ornamental fish remains **only 0.32% of a total of US \$362 million** (FAO,2012).
- The major part of the export trade is based on wild collection from NEH and Western Ghat region. The only captive bred native fish i.e. *Sahyadria denisonii*, contributed significantly.
- Indian domestic trade in this area is **growing @ 20% annually** and demand at domestic level is higher than supply.
- The total value of domestic aquarium trade has reached **about Rs.300 crore with a potential to grow to Rs.1200 crore**.

Marketing Channels

COLLECTORS

(Get negligible Price)



UNREGISTERED SMALL TRADER

(Get Rs.2-5 /-per piece)



WHOLESALER

(Get Rs.3-10 /- per piece)



EXPORTERS

(Get Rs.5-100/- per piece)