



## *A gendered perspective of aquaculture development in India*

### **SHAPING THE FUTURE:**

Gender Justice For Sustainable Aquaculture And Fisheries

## **Keynote address 21 November, 2022**

**Dr V Kripa**  
**Member Secretary,**  
**Coastal Aquaculture Authority**  
**Dept of Fisheries, MFAH&D, New Delhi**

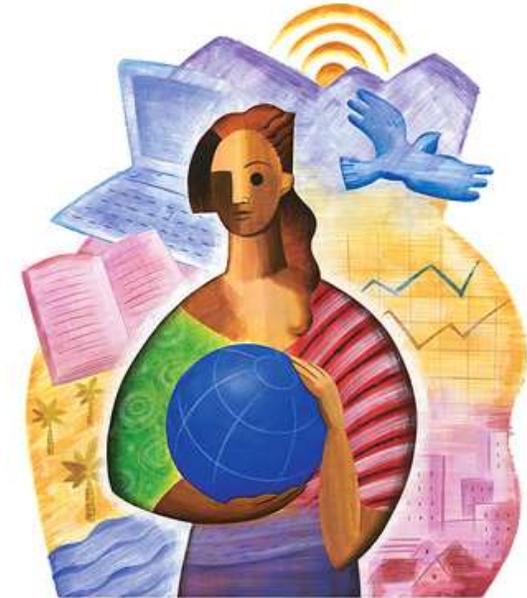
8th Global Conference on Gender in Aquaculture & Fisheries (GAF8)

21-23 November 2022  
in Kochi, Kerala, India.

# 1995 Global recognition to concept of gender equality

- The concept of bringing gender issues into the mainstream of society was clearly established as a global strategy for promoting gender equality in the Platform for Action adopted at the **United Nations Fourth World Conference on Women, held in Beijing (China) in 1995.**

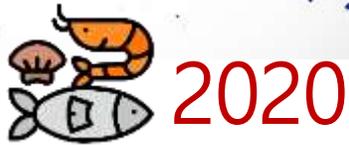
highlighted the **necessity to ensure** that **gender equality is a primary goal in all area(s) of social and economic development.**



The three previous World Conferences had been held in

- Mexico City (International Women's Year, 1975),
- Copenhagen (1980)
- Nairobi (1985).

# Global overview



2020

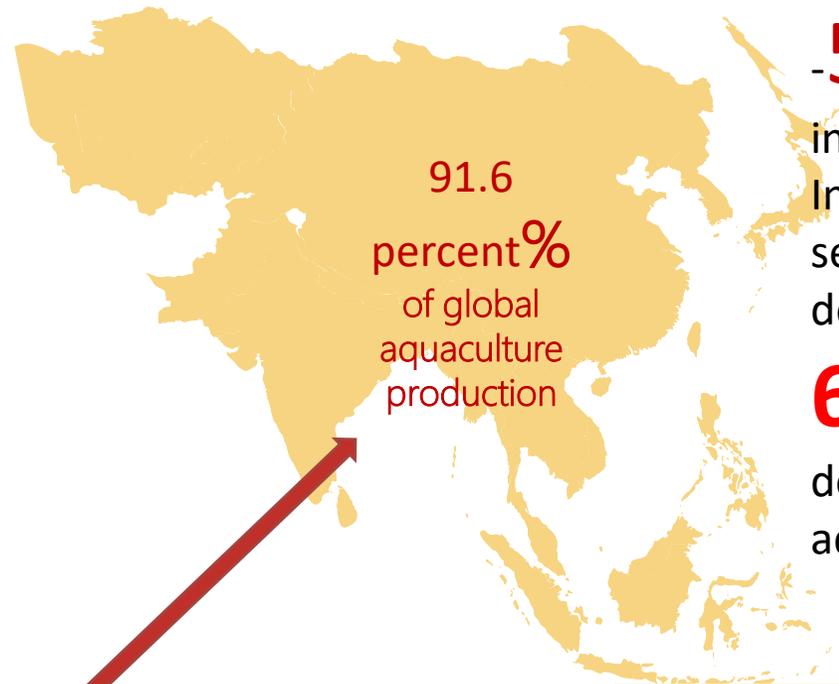
Global production  
214 million tonnes



Capture fisheries 90.3  
million tonnes, estimated  
value of USD 141 billion



Aquaculture  
122.6 million tonnes, total  
value of USD 281.5 billion



91.6  
percent%  
of global  
aquaculture  
production

- **58.5 million** people employed  
in the primary sector.

Including subsistence and  
secondary sector workers, and their  
dependents, it is estimated that about

**600 million livelihoods**

depend at least partially on fisheries and  
aquaculture

Overall, in **2020**, **women**

accounted for just over **21 percent** of all  
people directly engaged in the fisheries and  
aquaculture primary sector

**50** percent – in the entire value chain

# What is the actual contribution? Are we making right policies for gender equality in the sector?



**Comprehensive assessment**

**Women's contribution to Production**

**Trade**

**Food Security and**

**Livelihoods**

**Will help to evolve gender sensitive fisheries and aquaculture policies**

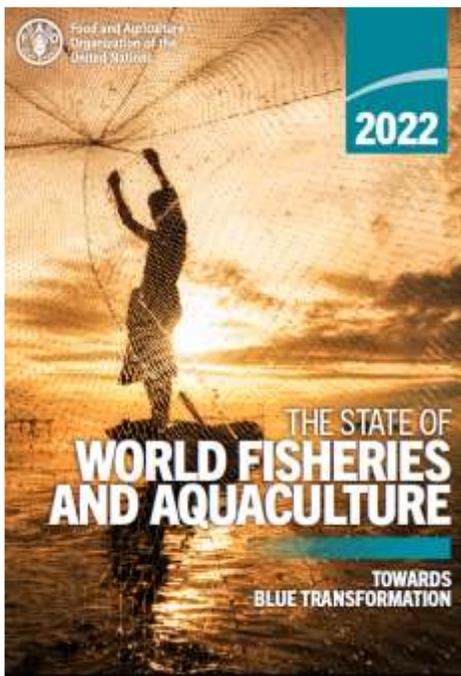
**And**

**Move towards gender equality in the sector**

**Just Male – Female data is not enough**

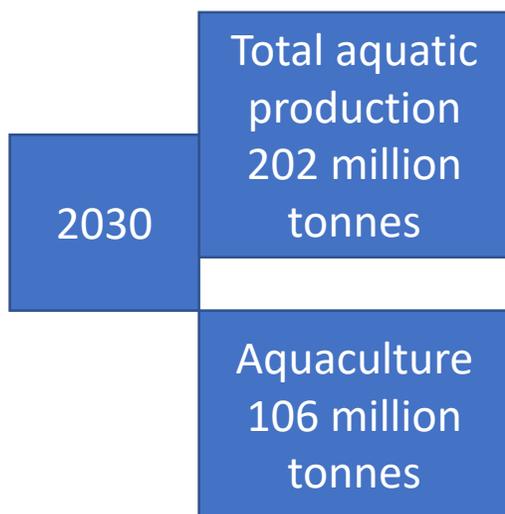
**Quality of data is imp. It should reflect role and responsibilities, access and control over resources, credits, information and in decision making**

- **It is essential to adopt a gender lens alongside the collection of DATA**



Despite their significant role in the sector, **women** are mostly engaged in the **informal, lowest paid, least stable and least skilled segments** of the workforce.

and often face gender-based constraints that prevent them from fully exploring and benefiting from their roles in the sector.



**FAO fisheries and aquaculture projections** to 2030 point to an increase in production, consumption and trade, albeit at slower growth rates.

Total production of aquatic animals is expected to reach 202 million tonnes in 2030, with the main increase coming from aquaculture, contributing 106 million tonnes in 2030.

# Unstable positions



Status unspecified

Part time

Full-time workers

Lack of quantitative knowledge on women mirrors the existing issues and affects achievement of gender equality

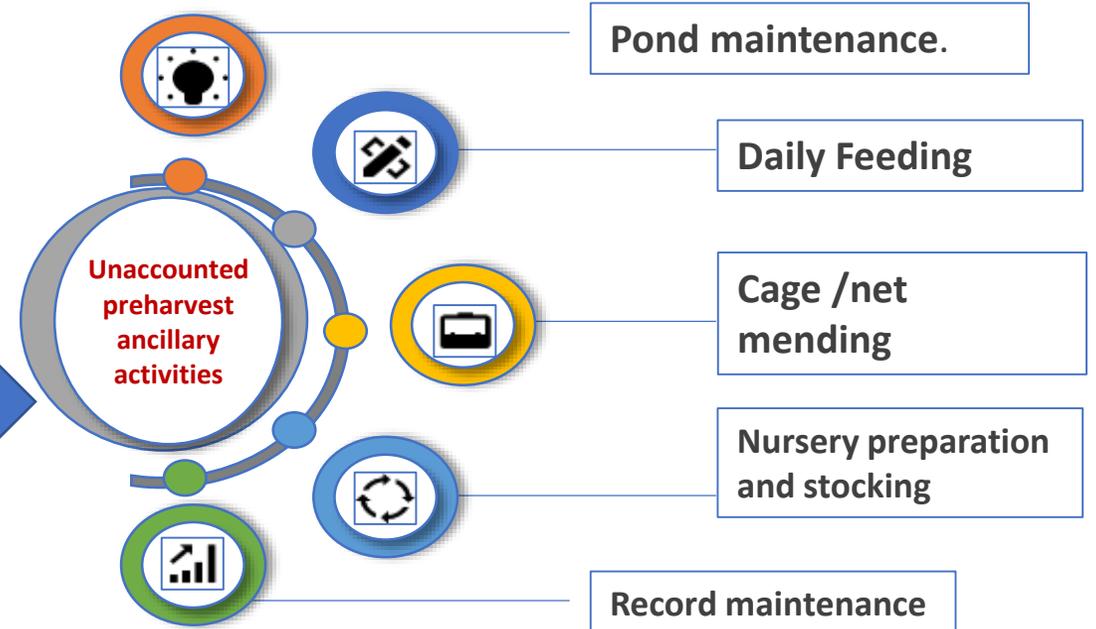
limits adoption of evidence-based policies targeting **unequal wages**, **health risks** and **gender-based discriminations** in the workplace



High female employment in processing - **poorly paid, unstable** and **low qualification positions** of women in the secondary sector, with little to no recognition provided at the policy level

## Unaccounted preharvest ancillary activities in aquaculture

To recognize the role of aquaculture informal sector and to ensure women's financial empowerment, these activities should be accounted for and the collection of sex-disaggregated data prioritized.





# WOMEN'S ECONOMIC EMPOWERMENT IN FISHERIES

IN THE BLUE ECONOMY OF THE INDIAN OCEAN RIM

A Baseline Report



This report urges States

- to recognize the **importance of the traditional and small-scale fisheries and aquaculture sector for sustainable and equitable development.....**

&

- to **formally recognize** the central role played by women.

It therefore recommends

- **coherence within government policy** to ensure that the fisheries sector and women's activities therein are **prioritized.**

It urges state agencies, the private sector and CSOs to

- ensure that **gender is mainstreamed into policies and programmes for the sector**, including technology development, research and data collection.

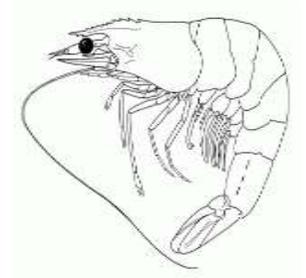
# COASTAL AQUACULTURE INDIA

*Global Rank of*

# 2021

Main resource is Shrimp  
843361 tonnes

# 1<sup>st</sup>



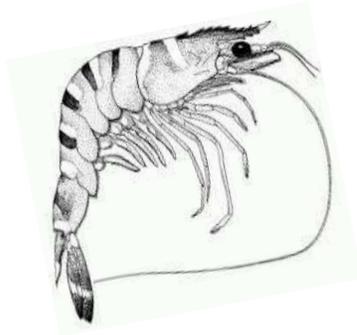
White-leg shrimp

*Letopenaeus vannamei*

# 96.7%

815745 tonnes

# 2<sup>nd</sup>



Tiger Shrimp

*Penaeus monodon*

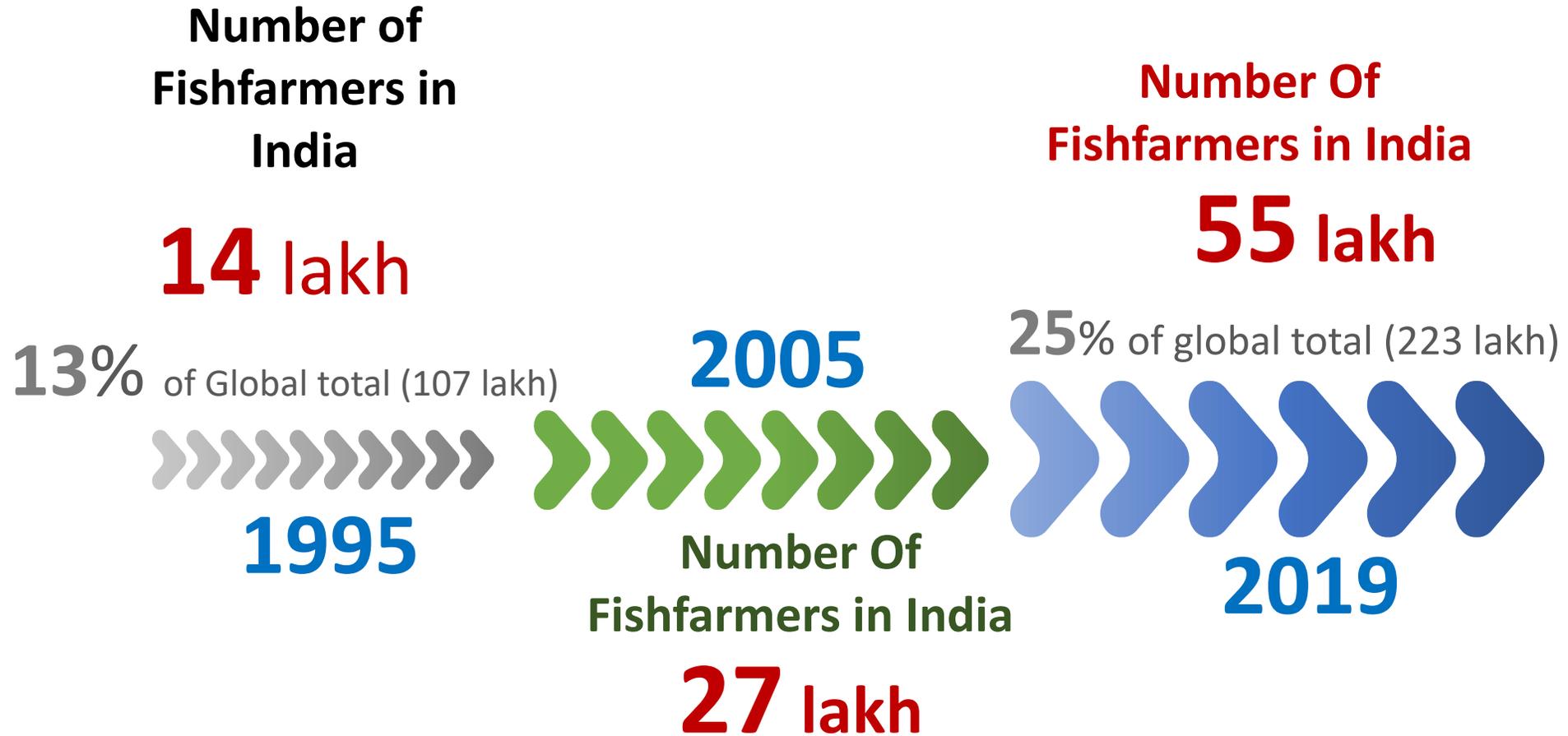
# 3%

27, 615 tonnes.

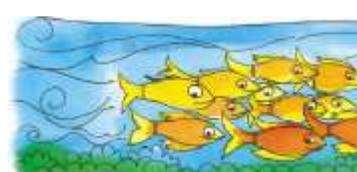
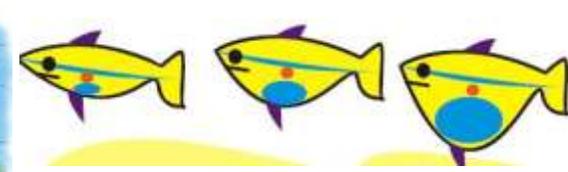
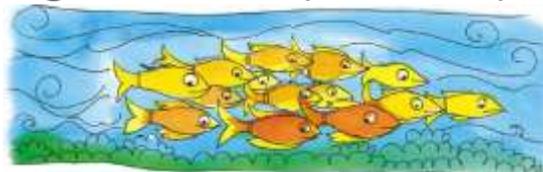
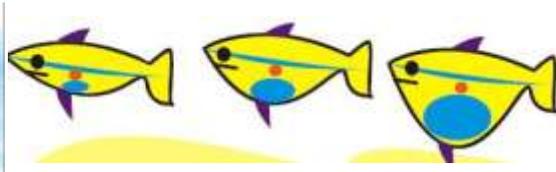
# India



# The increase in manpower in Aquaculture sector -INDIA - Global



**17%** of global total (158 lakh)



Blue Revolution through **sustainable and responsible development** by **addressing** critical infrastructure **gap** in fisheries sector.

- **Rs. 20,050 crores, the highest ever investment in the Fishery sector.**

- **5 years from FY 2020-2021 to FY 2024-2025 in all States/Union Territories.**

- **Generate about 55 lakhs direct and indirect employment opportunities**



The PMMSY encompasses inclusive development by **providing higher financial assistance to Women**

governmental financial assistance shall not exceed

**40%** of the project cost for General category

**60%** of project cost Women as envisaged in the Funding Pattern of the PMMSY.

**Pradhan Mantri Matsya  
Sampada Yojana (Pmmsy)**

**1** **Harnessing of fisheries potential** in a sustainable, responsible, inclusive and equitable manner

**7** **Robust fisheries management** and regulatory framework

**6** **Social, physical and economic security** for fishers and fish farmers

**Enhancing of fish production and productivity** through expansion, intensification, diversification and productive utilization of land and water



**2** 137.58 lakh mt (2018-19) to 220 lakh mt by 2024-25.

**3** **Modernizing and strengthening** of value chain - post-harvest management and quality improvement

**4** **Doubling fishers and fish farmers incomes** and generation of employment

**5** **Enhancing contribution** to Agriculture GVA and exports

# Seaweed farming



seaweed cultivation in the Gulf of Mannar, Tamil Nadu (Photo: Alamy)

Promoted in a mission mode and supported under PMMSY through **financial, marketing and logistical support** to ensure income and welfare gains fisher population especially women and fisherwomen headed households.

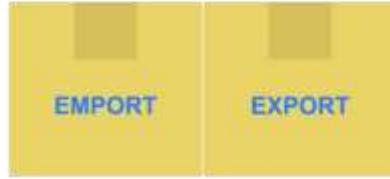
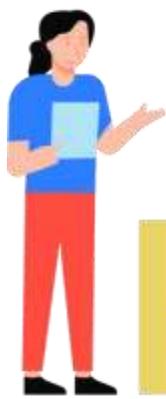
Seaweed seed banks, nurseries, tissue culture units, processing and marketing units, etc. would be supported.



Beneficiaries -Fisherwomen Cooperatives Societies, Women Self Help Groups, the Governmental financial assistance will be restricted of **15 rafts per member with a ceiling of 500 rafts per Group**/Society at suitable sites/locations.

India's target is to produce 112,0000 tonnes of seaweed by 2025.

Opportunities for women empowerment through in seaweed farming and post harvest industries



### Women in domestic marketing and as exporters

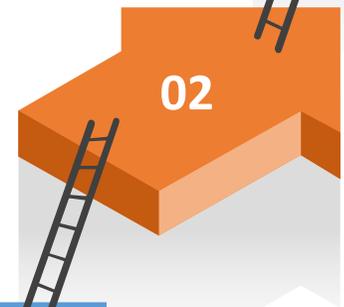
Women in directly involved in marketing including exporting is still a dream. With high literacy rate and business skills women should come forward to start export. Govt must

### More processing units headed by women

Women are employed in processing units...but business units run by women should also be given importance.

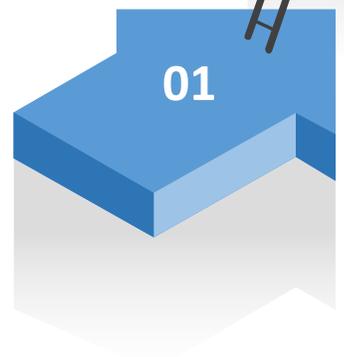


### Seed material Seaweed seed material production units



### More seaweed production units

Horizontal spread of technology , increase in production –primary



Horizontal expansion and empowering women as aqua-business managers

## 2 Bivalve (Oyster and mussel farming)



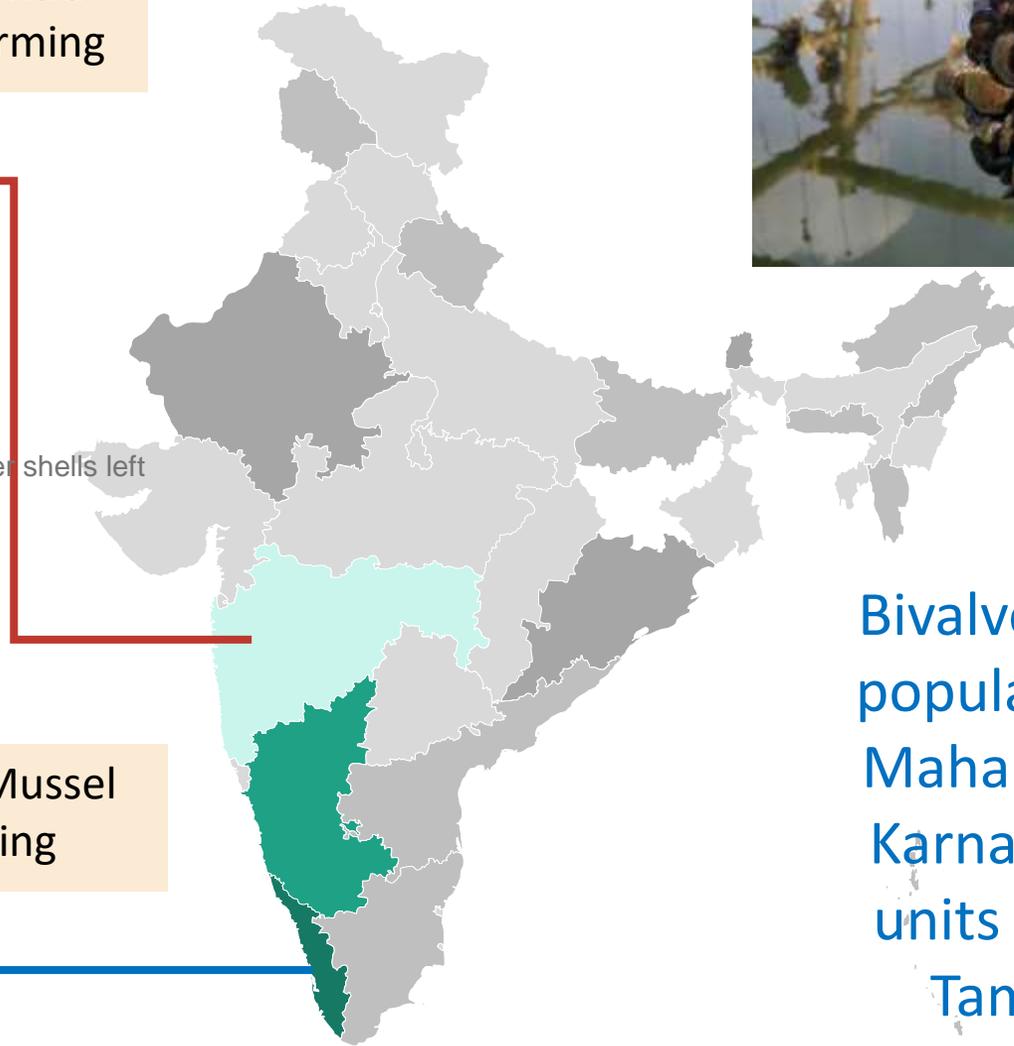
Maharashtra  
Oyster farming



Photo credit: The IE June 30, 2015 Kasturi Dhoke looks at oyster spats forming under shells left on bamboo frames. (Photo: Prashanth Vishwanathan/ UNDP India)



Kerala Mussel  
farming



Bivalve farming is popular in Kerala, Maharashtra and Karnataka. Small units in Goa and Tamil Nadu.

# Way forward for developing bivalve mariculture

Practical Problems are different and have to be addressed

Huge potential for more job opportunities, increase in highly nutritional seafood and value added product development (women, youth, elderly can become beneficiaries)



**1 HATCHERY**  
Bivalve hatchery should be set up.

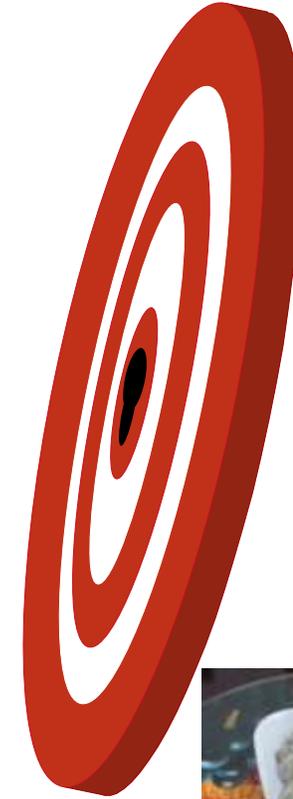
Fund can be used through PMMSY  
Year round production of selective bred seed must be possible

**2 POST HARVEST**

Develop depuration facilities & hygienic value added production units

**3 MARKET PROMOTION**

Build consumer confidence  
Wide publicity needed on the high nutritional value of bivalves



These facilities can be used to  
Enhancing wild stock through sea ranching  
Used for improving the quality of wild harvested bivalves



# Mud crab fattening / farming



Mud crab instar produced at RGCA



Farmed crab, Sindhudurg, Maharashtra; Photo credit Ankita Sengupta, Aug 16, 2017 Hindustan Times

- Technology for seed production developed and seed is sold by RGCA
- Several crab farmers in most states.
- Vast scope to increase production and export of mud crabs.
- Can be an additional source of income to women since the technology is simple and good quality crab fetches very high price in the market

Dr V Kripa, Member Secretary, CAA



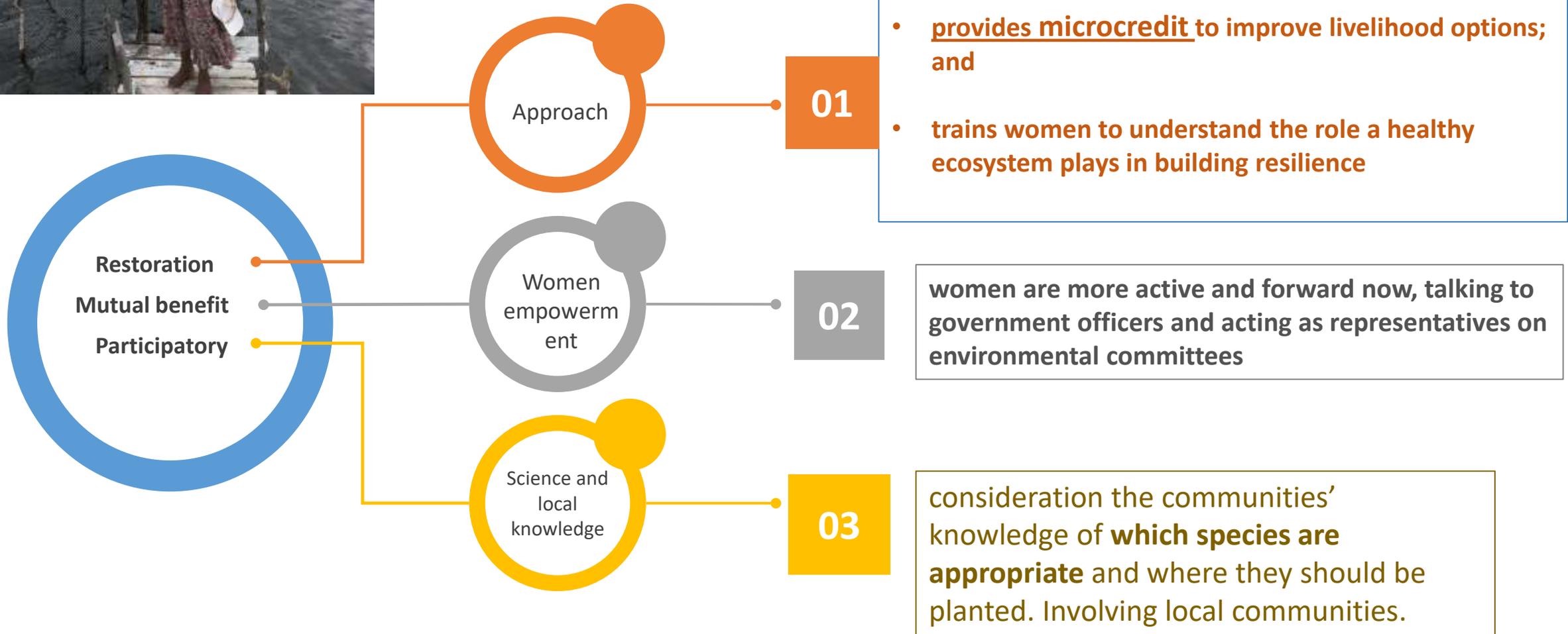
Crab fishery in Pitchavaram TN

Crabs are fished from the mangrove forests by several coastal community using simple gear/traps.

Motivating wild crab harvesting families to take up crab farming would give them more income since mangrove habitat biota are reducing due to anthropogenic activities especial

# ASIA

The goal -to create a green belt of mangroves around Sri Lanka.





# ASIA



- In Vietnam, Indonesia, Malaysia, India, Sri Lanka and other Asian countries large scale projects on mangrove restoration through **gender integrated management**
- Women receive hands on training
- Women receive training on mangrove based livelihood



- increased food and water security,
- gained leadership and voice,
- improved health, security,
- education and skills development as well as
- improved livelihoods and income
- **the resulting increases in fish stocks have provided an additional income opportunity.**
- their newly acquired financial skills have ensured **higher business success**

# 4

## Finfish culture

High potential for direct employment & through ancillary industries in the country

Cage based /pond based finfish culture is becoming popular in almost all states.

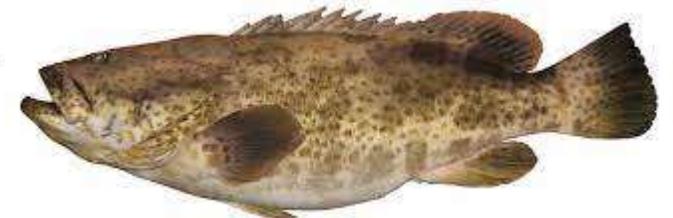
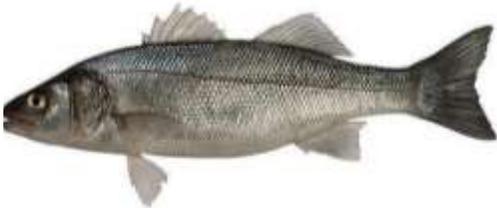
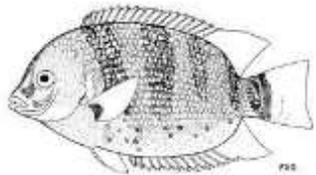
Seed available from multiple sources (RGCA/ICAR institutes/private farmers)



*Nursery rearing Hapas and floating PVC cages*



Photo credit : Jayakumar et al 2022  
Aquaculture Spectrum



# Finfish farming –way forward

Potential in diverse activities of finfish culture and the financial support for women



Farm (land based pond/open sea cages)

## Strength & opportunities

*Extensive brackish water / coastal area available for farming in all states*

## Government support under PMMSY especially for women

*Under PMMSY **60% assistance** is given for women for construction of new farm,*

Seed (Hatchery and nursery)

*Brood stock available and technology for breeding, seed production and nursery standardized*

*Under PMMSY for small (Rs 50 L), large (250 L) and for nurseries (15L) is the unit price, 60% Govt assistance for women*

Auqa inputs

*Material available locally*

*Financial assistance upto 60% of unit cost for inputs including plythene lining provided for women*



# Marine Ornamental fish



- marine ornamental fish trade mostly using wild collected fishes, (harmful to wild resource)
- and the contribution from hatchery production is less than 10%
- Women can start small and large units and because of good connectivity, export of hatchery produced ornamentals can be started
- Under PMMSY financial support given for
  - backyards ornamental fish rearing unit (3 L)
  - Medium scale ornamental fish rearing unit (8L) and
  - integrated ornamental fish breeding and rearing unit (30l)



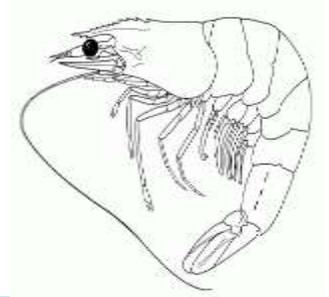
Can be taken up as a community program. With involvement of family members or as SHG units

But availability of good water resource and connectivity should be ensured.

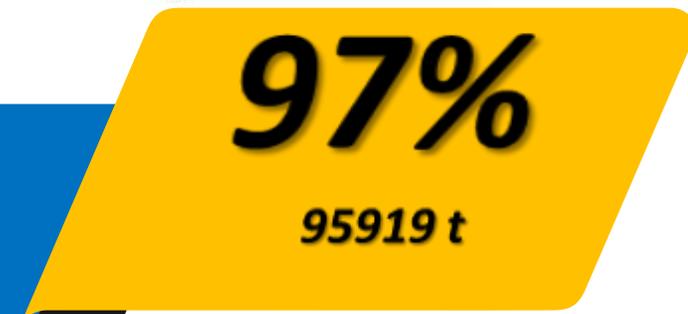
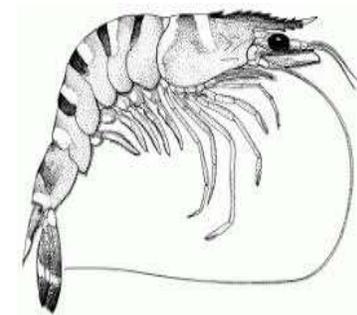
# Other technologies / Avenues for women empowerment through aquaculture

- **Marine pearl culture** : Will need a different plan of action-since the resources are low and no skilled implanters. But technologies are available and international implanters can be hired -short term contract
- **RAS** – Popular now in many states
- **Investment in production and supply of Aquaculture inputs** : Feed (adult and larval), Probiotics, and so on
- **Production of SPF Polychaete or other live feed**
- Export

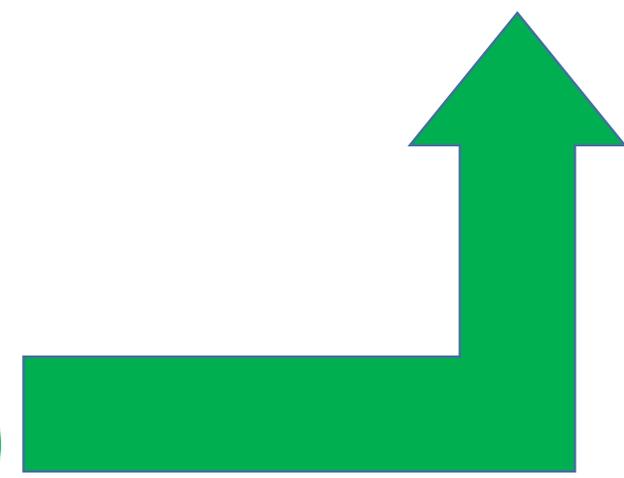
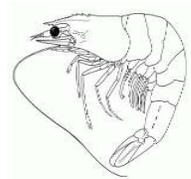
# How the decision to permit *L. vannamei* farming by Government of India increased production and revived the industry



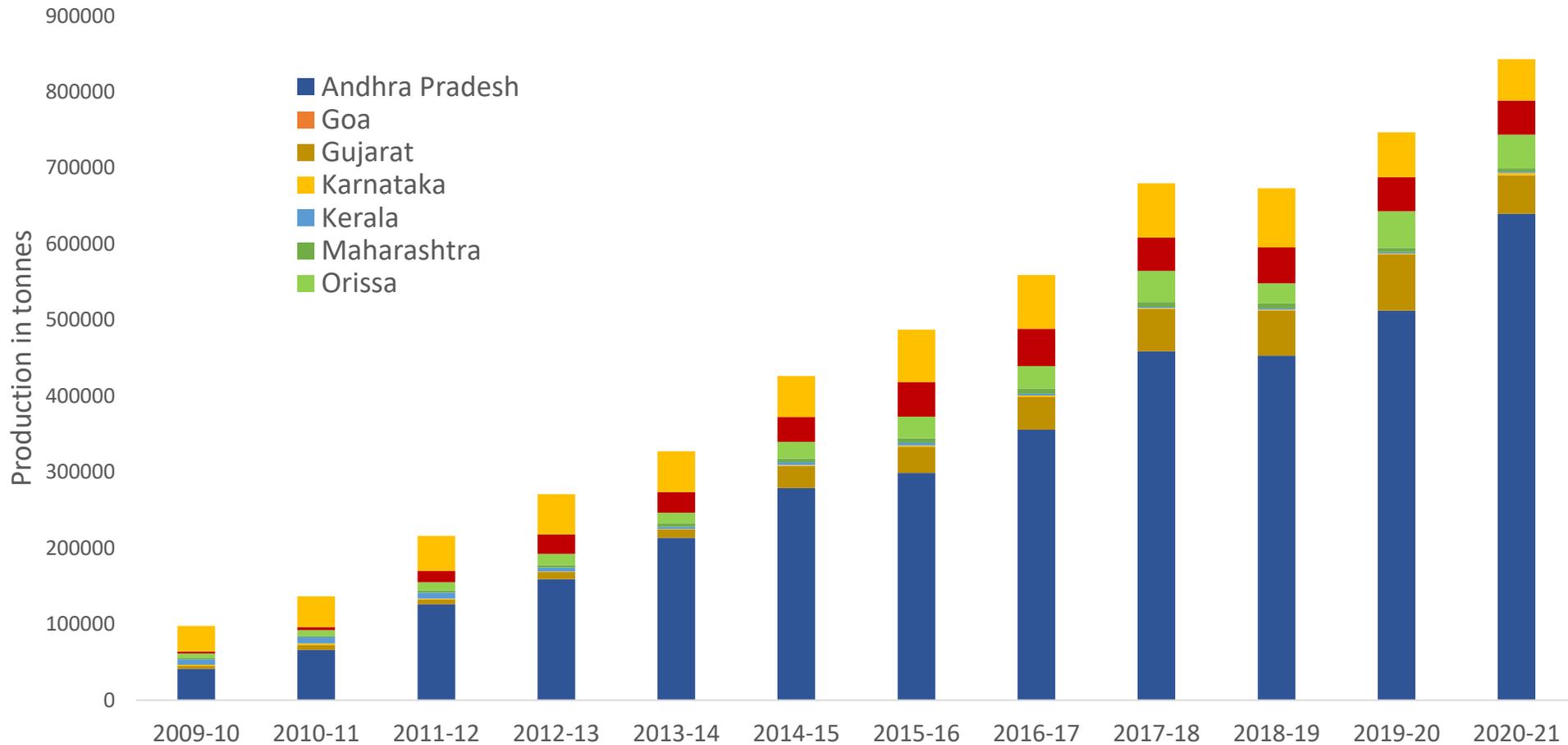
**2020-21**



**2009-10**



# Growth of shrimp aquaculture –Production in tonnes (t)



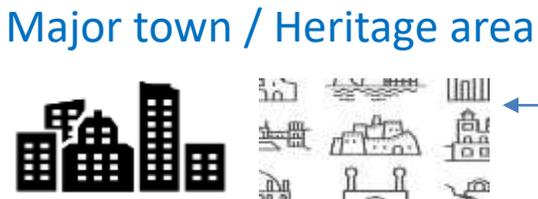
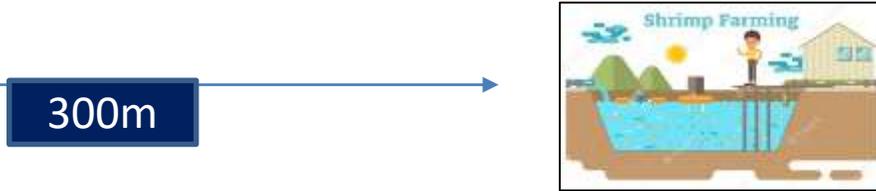
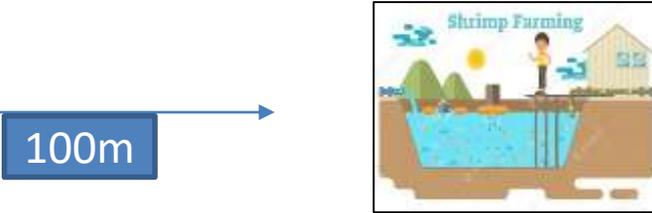
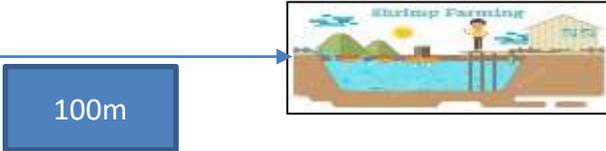
Shrimp farming is a male-dominated industry.  
Women mostly in secondary /ancillary sectors

Job opportunities increased....very good indeed

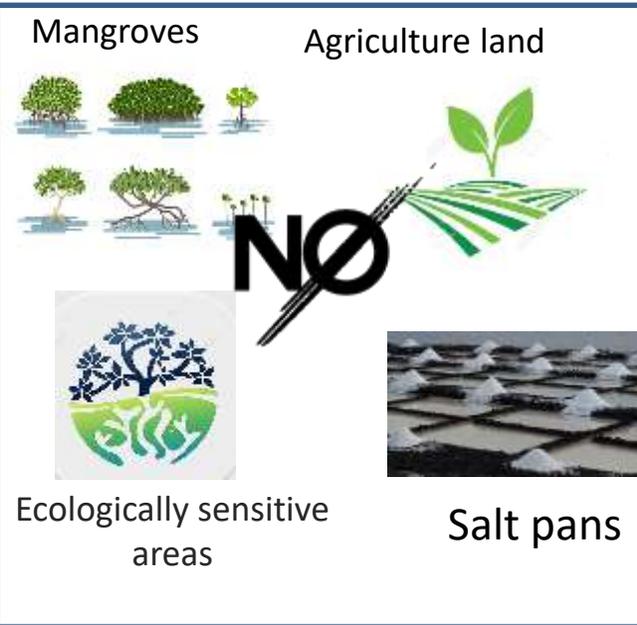
Still..Can we have more women owned farms, hatcheries, Input manufacturing unit owners?

The overall growth is evident from **97,650 t** in 2009 -10 to **8,43,361 t** in 2020-21. Among the nine maritime states (+one UT), the spectacular growth in AP and the progress in GJ,TN and OD is also evident  
Dr V Kripa, Member Secretary, CAA

# Scrutiny before an application as recommended

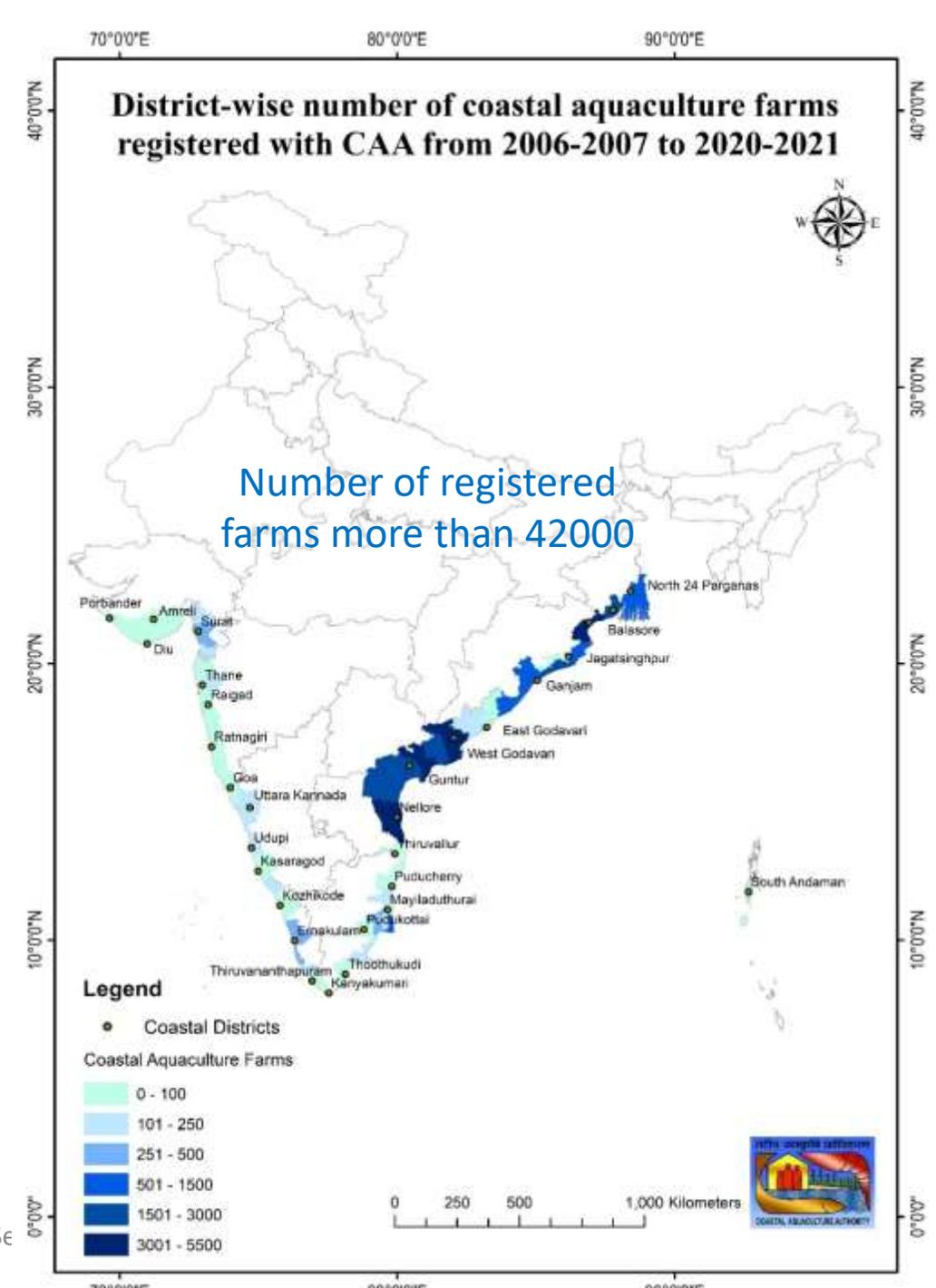
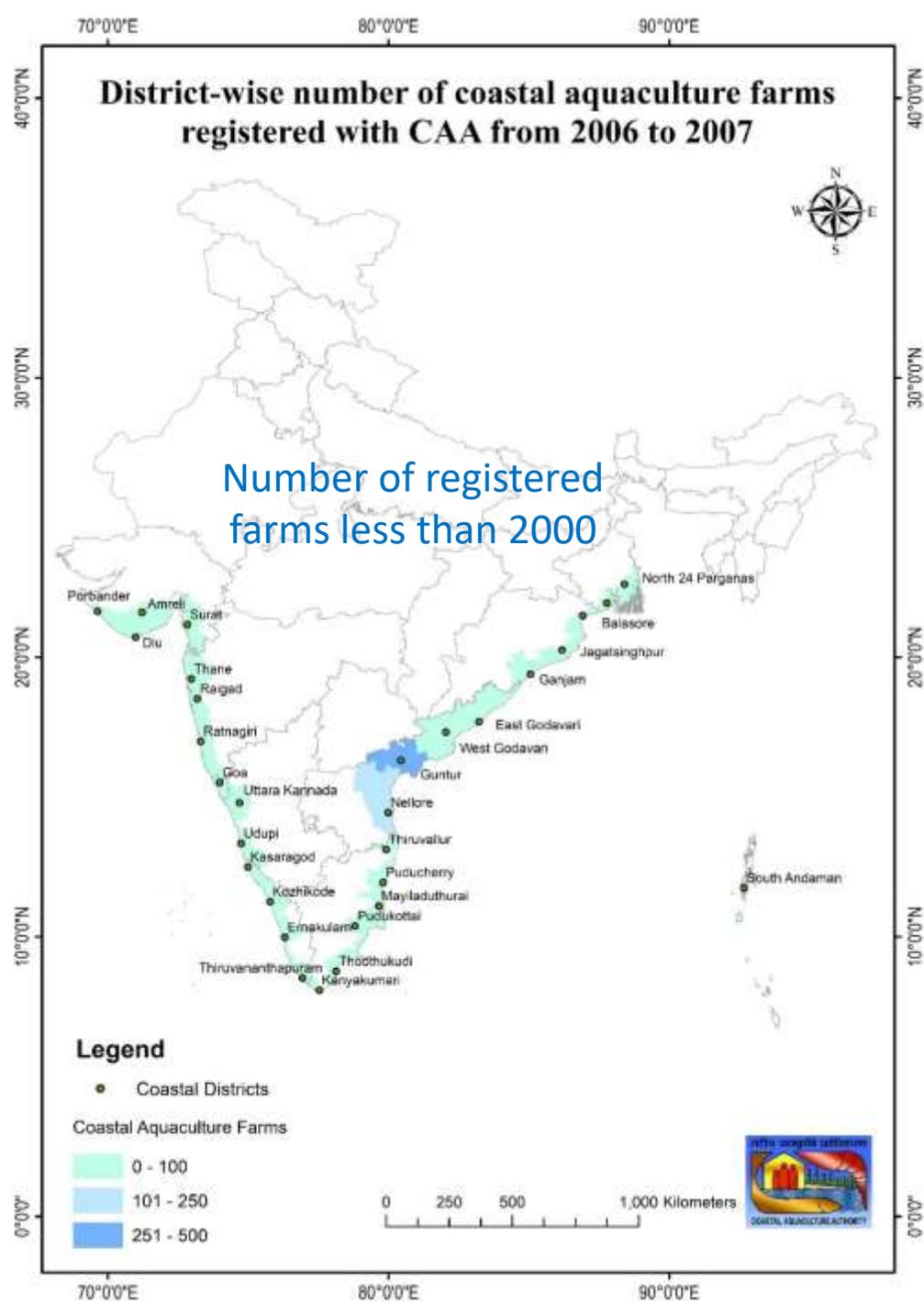


These points in CAA Guideline are meant for preventing salinization of ground water, promote social harmony and for protection of heritage areas. Again based on Precautionary principle of Environmental law



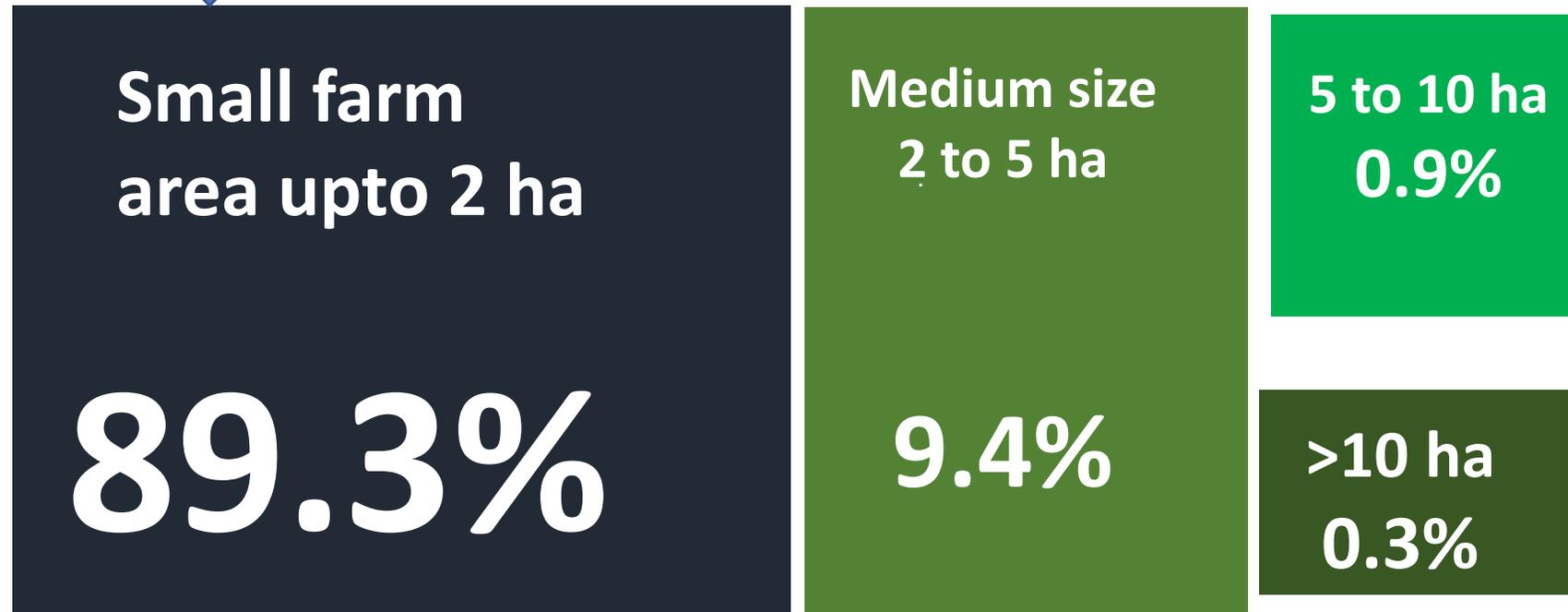
The SDLC/DLC will scrutinize these mandatory points as per 4.9 of CAA Guideline before recommending CAA. If the application fails to meet these, then the application is rejected.





# Majority farms are small

As per CAA data Collected from Registration details



Women - mostly as employees, not owners

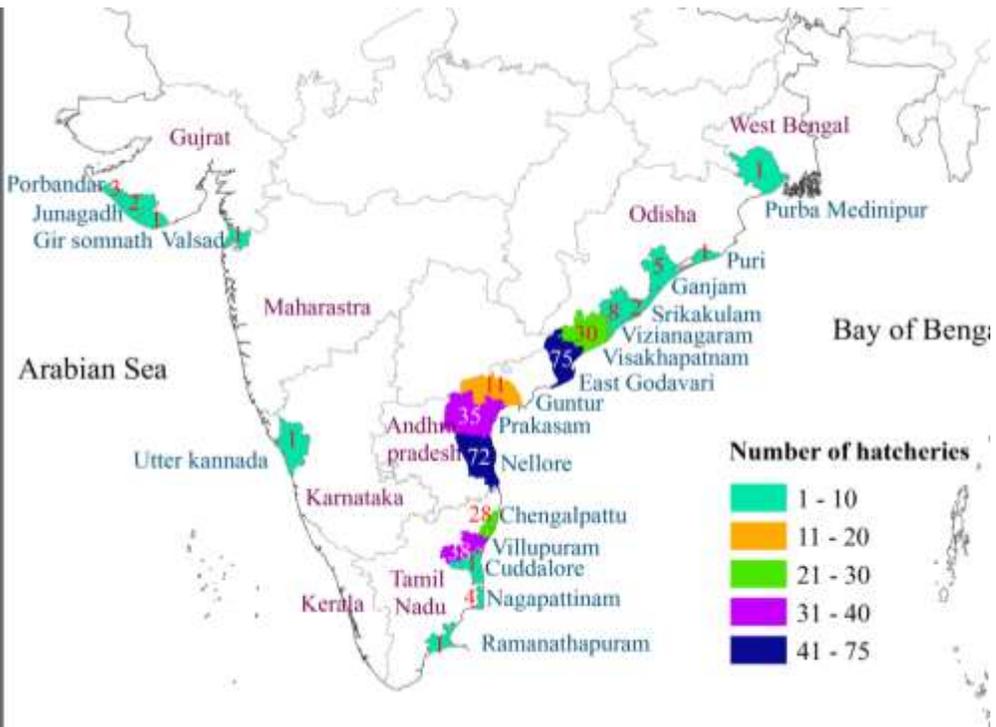
Reasons why shrimp farming is a male dominated sector

- Remote location of farms
- Comparatively high investment
- High risk involved
- technical knowledge on various aspects of farming essential
- Need for interaction with diverse input suppliers at various points who are mostly men
- Lack of land ownership
- Lack of flexibility in working hrs

The farms are mostly **small-scale** and the farmers have to be **updated frequently** about the progressive developments as well as rules and regulations. Also **prone to huge financial loss** due to **natural calamities**

# Shrimp seed production units along Indian coast

State-wise distribution of SPF *L.vannamei* hatcheries approved by CAA



- Total hatcheries – **320**
- **Total Nauplii Rearing Centres - 149**
- Seed production capacity **120 billion per annum**

- **Women - mostly as employees, not owners**

## Technically skilled women power

- Women with high educational qualifications capable of handling highly scientific SOP in **aquatic health management** are available in the country .
- In most **Aquatic Animal Health Labs** and **water quality monitoring labs**, women employees are more.
- Within the hatchery, women are more in the **packing section** and **labs**

1

Area which can be developed

14.2 lakh ha

Indicates high potential for women empowerment through aquaculture

Potential for Coastal Aquaculture Development

2

Difference in percentage utilization of potential area



Andhra Pradesh



Maharashtra



Gujarat



Brackish water area utilized

1.8 lakh ha

3

- The potential for farming can be more effectively utilized if
- 1) potential areas are identified –(to avoid conflicts with common resource users)
  - 2) Hand holding with the stakeholders by creating proper awareness on latest technologies

# ADDITIONAL STRENGTHS FOR AQUACULTURE DEVELOPMENT

Fast growing indigenous species



Good connectivity



Aquaculture potential for economic development of communities

Financial support from Central & State Government



Women friendly aquaculture technologies



Technology for Advanced spatial mapping



Skill development programs by State & Central depts



# Change is required



- **Gender perceptions are deeply rooted** and vary widely both within and between cultures.
- However, they can change over time and do not have to remain fixed (FAO, 2017).

Gender studies and approaches have multiplied and have shown how women are often **assigned the most unstable roles, or poorly paid or unpaid positions that require lower qualifications** – most often in the secondary sector – and are under-recognized or not recognized at all in the sector

Women should be strong enough to face challenges and take up responsibilities

## Entering and sustaining entrepreneurship

- Women frequently abandon entrepreneurial ventures because of a lack of finances, for personal reasons (-relating to assets, other responsibilities), norms, due to lack of profitability and attraction of other opportunities.
- Sometimes men take over the businesses once stable compared



# Recognize the role of women and support

- Ensure that **women and small-scale producers and processors, have the capacity to seize opportunities** and engage fully in sustainable and equitable food systems.
- Mainstream gender-inclusive policies to increase the role, well-being and working conditions of women in the sector, including at decision-making levels.



We can dream of Indian women as aquaculture consultants, aquaculture input manufacturers and suppliers, sea food exporters, owners of shrimp and fish hatcheries, and so on and on

**And strive to make our dream a reality**

Pradhan Mantri Matsya Sampada -total estimated investment of Rs. 20,050 crores - implemented over a period of 5 years from FY 2020-21 to FY 2024-25



Lets take advantage of this opportunity and build a nation with diverse sustainable aquaculture activities empowering women and the less privileged.

potential to contribute to women's economic and social empowerment



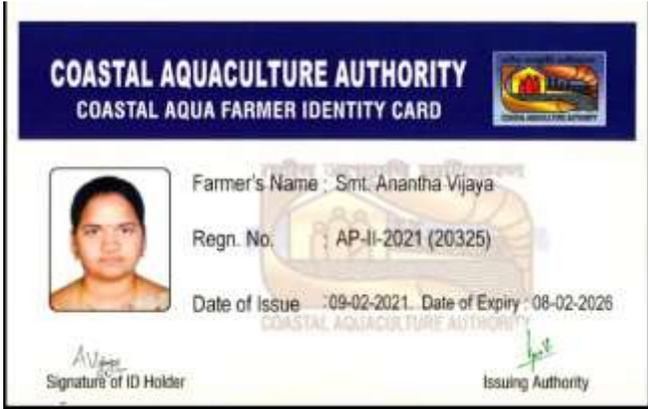
women's successful entrepreneurship

- Benefit family
- Community
- Benefit sector

Greater influence in household decisions

More respect within family

**Higher social status** in the community



ID Card of a registered shrimp farm owner

*Thank you*

