NEED OF WOMEN SPECIFIC INTERVENTIONS FOR EQUITABLE AND SUSTAINABLE BRACKISHWATER SHRIMP AQUACULTURE DEVELOPMENT IN MAHARASHTRA

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OUTLINE

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INTRODUCTION

India and Brackishwater Shrimp Farming

- Total estimated brackishwater area is about 12.40 million ha, out of which 1.19 million ha is found suitable for brackish water shrimp farming.
- 1,66,722 ha is developed for shrimp farming till 2021.
- Total culture shrimp production during 2021 was 8.4 lakh tonnes.
- Has high potentials for nutritional security, employment generation and export earnings.
- State of Andhra Pradesh is top in area under culture (74512 ha) as well as shrimp production (6.39 lakh tonnes).

Source: www.mpeda.gov.in

Contd.. Maharashtra and Brackishwater Shrimp Farming

- Around 52,001 hectare of potential brackishwater area.
- Out of this 10,400 ha is considered suitable for brackishwater aquaculture.
- 1,183 ha (13%) is developed for shrimp farming till 2019 and 9216 ha area is left.
- Maharashtra ranks sixth in terms of shrimp production and seventh in terms of number of shrimp farms.
- The average shrimp productivity recorded in Maharashtra is 4.7 MT/ ha/annum
- The main species cultured is Black Tiger Shrimp (*Penaeus monodon*), which has been replaced since year 2009-10 with White Legged Shrimp (*Litopenaeus vannamei)*.

Source: www. fisheries.maharashtra.gov.in

Contd…

- **Sustainable development can only be achieved when both men and women have the opportunities to achieve the life they choose" (IISD 2013).**

- **SDG: Goal-5: Gender Equality: Achieve gender equality and empower all women and girls.**

- **However, development processes and economic growth have not been gender neutral; men and women are affected in different ways (Momsen, 2010).**

- **FAO (2011) estimates that if women had the same access to productive resources as men, total agricultural output could be raised in developing countries, which, in turn, could reduce the number of hungry people in the world by 12–17 %.**

Contd… Women and brackishwater shrimp farming

- ✓ In agriculture, it is reported that women have been displaced from their traditional productive functions, and diminished the income, power, and status they previously had (Momsen 2010; Moser 1993).

- ✓ Brackishwater shrimp farming is one of the fastest growing forms of aquaculture.

Year wise Shrimp production (Ton)

16-17 (T)	17-18 (T)	18-19(T)	19-20 (T)	20-21 (T)
434486	565980	673580	747111	8,43,361

Year wise Shrimp export (MT)

16-17 (MT)	17-18 (MT)	18-19(MT)	19-20 (MT)	20-21 (MT) ESTD
559460	680018	614145	652253	5,90,275

Value of shrimp export during 2020-21 (in Crores) : 32,520

- ✓ **Shrimp farming has become a major aquaculture activity and attractor of investment over the past two to three decades.**
- ✓ Currently, **shrimp farming accounts for some 30% of total world shrimp production.**

- ❑ **Is this technology gender neutral?**

- ❑ **Has it displaced women from their traditional productive functions?**

Contd…

- **Need to recognize and explore if Brackishwater shrimp farming has displaced women by studying the historical data.**

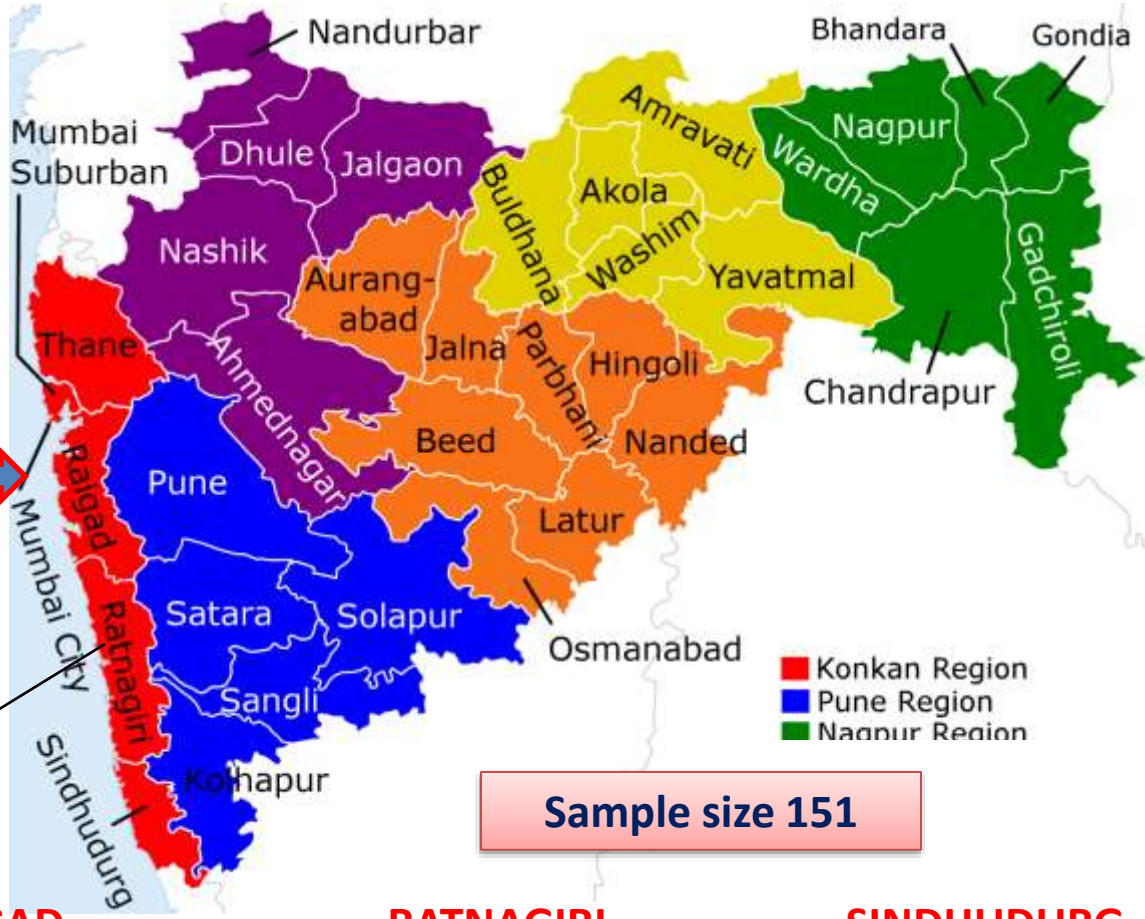
- **Historical behaviour of key indicators, in this case dating back to 1990 i.e., emergence of shrimp farming.**

OBJECTIVES

- To study the emergence of shrimp farming in Maharashtra
- To explore displacement of women from traditional productive functions due to brackishwater shrimp farming
- Constraints perceived in taking up of shrimp farming by women

METHODOLOGY

Locale of Study :



KONKAN

Sample size 151

THANE & PALGHAR

RAIGAD

RATNAGIRI

SINDHUDURG

Tool used:

- ❖ Interview schedule
- ❖ Discussion with women from shrimp farming family

Variables studied:

- ➢ Emergence of shrimp farming
- ➢ Shrimp farmers/farming profile
- ➢ Participation of women in aquaculture when shrimp farming started in 1990's and now
- ➢ Constraints perceived in taking up of shrimp farming by women farmers.
- ➢ Impact of new developments in shrimp aquaculture on women

RESULTS

Emergence of Shrimp Farming in Maharashtra

The first pilot brackish water shrimp farm which was established by Department of Fisheries (DoF), Government of Maharashtra in 1981.

Shrimp hatchery for *Penaeus monodon* was developed by DoF at Badapokharan village in Palghar, Thane district, Maharashtra

Later in 1989-90, Shakti, Pancham and Ruia Aquaculture were first three farms established at Saphale village, Palghar, Thane district, Maharashtra

Shrimp farming industry was at its peak around 1995 throughout India, but saw its decline mainly due to the White Spot Syndrome Virus (WSSV) disease

In 2008, Government of India permitted use of Specific Pathogen Free (SPF) stock of *Litopenaeus vannamei* for culture

This resulted in revival of shrimp farming along the coast of Maharashtra, Andhra Pradesh as well as other states in India.

Slowly number of farms increased. Now, there are 165 registered shrimp farms in Maharashtra.

Shrimp farmers/ farming profile- Maharashtra

No.	Profile categories	Details
1	Age	Middle age 36-45 years
2	Education	All educated
3	Gender	Male
4	Experience	5 years or more
5	Own Ponds Leased ponds	45.70% 54.30%
6	Pond area • Up to 2 ha • 2-5 ha • 5-10 ha • 10ha	 39.74% 37.09% 13.25% 9.90%
7	Two crops/year	95.36%
8	Stocking density • 26-50 nos./m^2 • 16-25 nos./m^2	 54.97% 33.11%
9	Average annual income	Rs. 5,52,900/-
10	% Shrimp farms registered on name of women's	6% (But these farms run by men)
11	No. of women's doing shrimp farming in Maharashtra	4 Nos. (3%)

Involvement of men and women in shrimp farming

1990	2021
Farm ownership: Men	**Farm Ownership**: Men (Only 6% ownership in name of women)
Farm labour: Men and women	**Farm labour**: Men
Seeds from wild: Women	**Procurement of seeds from hatcheries**: Men
Feed making : Women	**Company feed**: Men
Marketing: Women and Men	**Marketing**: Men from seafood companies
Peeling/cleaning: Women	**Peeling/cleaning**: Women

Involvement of men and women in shrimp farming

- During emergence of shrimp farming in Maharashtra, men were owner of shrimp farms.
- Role of women in shrimp industry was as farm workers and they were involved in pond construction, wild seed collection, feed making, feeding and marketing etc.
- At present as per official records available with Department of Fisheries, Maharashtra, 6% of farms are registered in name of women.
- But at ground level these shrimp farms are run by men which show that farm ownership is dominated by men.
- In the present times, numbers of shrimp farming practices have changed with new technologies/practices.
- New technologies/practices include use of machines/tractors for pond digging, hatchery for seed supply, factory feed, automatic feeder, zero water exchange system, direct marketing through companies, Use of IoT etc.

Constraints perceived in taking up of brackishwater shrimp farming by women

- High level of investment
- Lack of skill
- High risk
- Delay in the allotment of land, poor infrastructure facilities
- Lack of awareness about new technology
- Remote location of farming site

High levels of investment:

- ✓ Shrimp farming is a capital-intensive business. For starting shrimp farming in 1 ha area, total investment will be approximately 20 lakh.
- ✓ A large investment in capital costs and operating costs is necessary before any returns are realized.
- ✓ Capital expenditure- Rs. 7.0 lakhs (Land lease value/ land cost, pond construction cost, other capital investments etc), Operational expenditure for one crop Rs. 13.00 lakh (Seed, feed, chemicals, medicines, labour, other charges etc.).
- ✓ A large investor has less problems in starting up a shrimp farm, providing he/she is willing to commit the necessary funds to the project.
- ✓ On the other hand, financial constraints will make it nearly impossible for a small shrimp farmer (MEN/WOMEN) to get it started
- ✓ There is a need for substantial collateral security if loan is needed. Banks require adequate security for any loan.
- ✓ House ownership which is a form of collateral security is usually in the name of men so women are unable to avail the loan.

Suggestions:

- ❖ MUDRA loans is an option from which women can take advantage of.
- ❖ Schemes especially for women to increase involvement of women in shrimp farming.
- ❖ Benefits can be given if farming is done by women.

Skill:

- ✓ Shrimp farming requires different professional skills like decision making, problem solving skill, critical thinking, analytical skills for being successful in business.
- ✓ It is learned from field experiences that shrimp farming has several risks due to either greediness of the hatchery operators and farmers and poor farm management.

Suggestions:

- ❖ Women should be encouraged to participate in skill and capacity development programs related to shrimp farming (Women are not involved in skill enhancement programme related to shrimp farming).
- ❖ 'Women only' training, 'shrimp farming couples training' can be organized.
- ❖ Train both the husband/wife, son/daughter within each family, in order to ensure that both genders achieve as much as possible from the training.

Risk-

- ✓ **Shrimp farming is considered a "risky business" and often compared to gambling as reported by farmers.**

- ✓ **It is associated with a diverse range of risks and uncertainties including volatile markets, climate variability, production risks, disease incidence, mass mortalities etc.**

Suggestions:

- ❖ **Follow Better Management Practices (BMPs) from Seed procurement up to Harvesting.**

- ❖ **Train women in Better Management Practices (BMPs) in shrimp farming.**

- ❖ **Cluster based approach (Shrimp farming through SHGs/group faming)**

Delay in allotment of land:

- ✓ Even though the lease policy is in place, DoF does not advertise or provides information of designated lands available on lease basis for shrimp farming.
- ✓ Total brackishwater land suitable for farming- 10,400 ha. and only 15% land under cultivation till 2019. Around 85% area is not under cultivation.

Suggestions:

- ❖ DoF should advertise or provides information of designated lands available on lease basis for shrimp farming.
- ❖ Special schemes for women to take up shrimp farming.

New technology/practice:

- New technologies in shrimp farming- Shrimp farming with biofloc technology, nursery for shrimp farming.
- Supply-side technological progress that spurred growth in shrimp farming was greater availability of hatchery-raised post-larvae, better feed formulations, and a shift in preferred shrimp species from Penaeus monodon to Specific Pathogen Free (SPF) *Litopenaeus vannamei* appear to have been critical technological advances that triggered rapid growth of shrimp farming.

Suggestions:

- Awareness, training and skill development on new technologies in shrimp farming.

Inferences drawn from the study

How has brackishwater shrimp farming affected women and men?

Answer

- **Brackishwater shrimp farming affected women and men in different ways**
- **Development in shrimp farming has affected women negatively.**

Did brackishwater shrimp farming displace women from their traditional productive functions?

Answer

- **Yes**. In the **present times, numbers of shrimp farming practices have changed with new technologies.**
- **Modernization in shrimp farming practices includes use of machines for pond digging, hatcheries for seed supply, factory feed, automatic feeder, zero water exchange system, direct marketing through companies etc.**
- **So, all jobs in which women were involved earlier have been eliminated or have become less**.
- **In Brackishwater shrimp farming, women have been displaced from traditional productive functions.**

Inferences drawn from the study

Constraints faced by women in taking up brackishwater shrimp farming

Answer

High level of investment, lack of skill, high risk, delay in the allotment of land, poor infrastructure facilities and lack of awareness about new technology, remote location of farm site.

Has the development in brackish water shrimp farming been gender neutral?

Answer

Development in shrimp farming has not been gender neutral

Views of women from shrimp faming family

Mrs. Sarika Jadhav

Views:

- ✓ Male dominating business.
- ✓ Sites are in remote area and need to travel during night time if any emergency
- ✓ Non availability of facilities like Bathroom/toilets etc on farm

Suggestions:

- ✓ Possible to do farming if she owns house nearby farm area.
- ✓ Local women labours can be trained in shrimp farming activities

Views of women from shrimp faming family

Mrs. Ashwini Chavan

Reasons/constraints for non participation:

- ✓ **Women giving preference to Indian culture, family.**
- ✓ **Remote location of farms.**
- ✓ **In case of emergency in aquaculture requires to stay on farm also. So, need of strong family support.**
- ✓ **Women mostly preferred safe job (9.00-5.00) rather than aquaculture.**
- ✓ **Aquaculture/shrimp farming is risky business, requires regular monitoring, observations as compared to other business.**
- ✓ **High investment in shrimp farming.**
- ✓ **Very few women in aquaculture and needs family support.**

Suggestions:

- ✓ **Potential is there to undertake aquaculture activities but should be encouraged to participate in shrimp farming.**
- ✓ **Make aware the women regarding their potential, hardworking, responsiveness.**
- ✓ **Organize training specially for womens etc.**
- ✓ **Make visit on the farm of successful women entrepreneurs in aquaculture/shrimp farming so they will get motivated.**

Suggestions:

- Need to have policies which address the reasons for less participation of women in shrimp aquaculture. It is necessary to undertake study related to gender analysis of women in shrimp aquaculture.
- Development alone will not cure gender inequality but policies will.
- To ensure that women utilize their full potential in profitable activities like shrimp aquaculture, it is necessary to provide capacity building support like 'farming couples training', 'women only' training
- Department of Fisheries, MPEDA, NFDB should take initiative in this regard.

New initiatives:

- Effort to bring women farmers in India into the mainstream is under progress.

- One such change is that 15 October has been earmarked as Women Farmers Day (*Mahila Kisan Divas*) by Government of India

- It is expected that an inclusive approach, from policy to implementation, will bring women in brackishwater shrimp farming into mainstream.

Conclusions:

- ✓ **Masculinity of capital seems to have inclined towards investing resources among men**
- ✓ **In shrimp farming, which is a sunrise industry, ownership of farms / ponds by women is minuscule and gender gap exists.**
- ✓ **There is need of women specific interventions.**
- ✓ **Women need to be owners, farmers and entrepreneurs and not just labours in shrimp farms and providing them with these entitlements will be the key for sustainable and equitable development.**

Thank you !