

**ASSESSING THE IMPACT OF ENVIRONMENTAL CHANGES
ON THE LIVELIHOODS OF COASTAL WOMEN WITH
SOCIO-ECONOMIC AND GENDER ANALYSIS (SEAGA)**



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- People in coastal villages, particularly women, face challenges due to climate and environmental changes
- From traditional occupations, coastal women have now turned towards adopting new livelihood practices.
- After the event of natural disasters in the coastal areas, the livelihood options inside and outside the fisheries sector has reduced
- This has forced occupational changes and increased social pressures among women
- These impacts have particular gender dimensions which needs to be considered.
- Disaster mortalities rates are also higher in women and children than in men, as a result of socially constructed gender roles and unawareness among women.
- These gendered impacts need to be considered by researchers and developmental agencies.
- Detailed gender and livelihood analyses have never been attempted before in assessing the impact of environmental changes on the livelihoods of coastal people.



Sorting of trash fish by coastal women

Children waiting for their mother's to return from wild shrimp and clam collection



Sample size

- 200 women and men including tribal groups

Selection of area

- Tiruvalur, Kancheepuram, Cuddalore and Nagapatinam coastal districts of Tamil Nadu, South India

Tools and analysis used : 1. Participatory Rural Appraisal (PRA) tool
2. SEAGA analysis

SEAGA

Socio-economic and gender analysis helps to assess the challenges faced by coastal women due to the climatic and environmental changes and the impact of environmental changes on the livelihoods of coastal women in Tamilnadu, has been developed on the basis of three different tool kits.

SEAGA tool kits includes;

- Development context
- Livelihood analysis
- Stakeholders priorities for development

Each tool kits helps in assessing;

- Impact of environmental changes on the **livelihoods of coastal women and men**
- Impact of environmental changes on **village environment**
- Impact of environmental changes on the **village infrastructure and institutions**
- Impact of environmental changes on the **gender and social issues**

1. Impact of environmental changes on the livelihoods of coastal women and men

● Men dominated the off-shore activities like fishing, whereas women dominated the on-shore and in-shore activities.

● **Coastal women are engaged in the following activities;**

- fresh fish and dry fish sales
- wild shrimp collection
- fish vending
- jelly fish processing
- clam collection
- crab fattening (in concrete tanks)
- labours in shrimp farms and agricultural fields
- fish marketing
- crab fattening (in pens, ponds and in tide-fed ponds)
- seabass nursery rearing in hapas
- polyculture farming of seabass and crab in community ponds
- fish feed development
- maximum number of coastal women participated in NREGA (National Rural Employment Guarantee Act), a 100 days' rural employment scheme implemented in all the selected coastal districts

In the post - tsunami period, the brackishwater aquaculture technologies transferred by CIBA (alternative livelihoods opportunity) and welfare measures of various government organizations and non-governmental agencies transferred to these WSHGs and other fishers in these coastal areas was a blessing to them

- Men in fishing activities during pre - tsunami period were found to get good fish catch. In post tsunami period there was interrupted and non-availability of fish during fishing.

WSHGs facilitated the issues like;

- resettlement of families of victims of tsunami
- adoption of new livelihoods by the victims
- fund raising for new business activities for the victims
- helped the members in income generation through fisheries/aquaculture activities.

Factors that contributed due to adoption of brackishwater aquaculture technologies by women

- change in their attitudes
- supported their family income
- economic opportunities
- improved their standard of living
- financial support was received to improve their livelihoods

Women were supported by men in the village for activities like;

- Construction of crab pens
- Harvesting of crabs
- Pond management
- Fish transportation
- Watchmen in the watch yards
- Purchase of water crabs and sales of fattened crabs.

2. Impact of environmental changes on the village environment

- Sea level was raising and **sea water was invading few coastal villages** after tsunami disaster
- Freshwater ponds in the village were shrinking and the fresh water in the wells was also becoming saline resulting in **drinking water problems**
- To fetch drinking water **women in the village had to walk long distances.**
- The natural resource base was also deteriorating resulting in low fish catch, non-availability of fish for marketing and **unemployment problems**
- There was a **need for an alternate livelihood for these coastal populations**
- There was a **decline in the forest resources, fish availability and certain fish species** in the sea in the selected villages of the project sites..
- Main resource available in all these project sites was **brackishwater lakes and canal.**

C. Impact of environmental changes on the village infrastructure and institutions

From the perception of women group institutions that support and create awareness;

- state government departments
- research institute (like CIBA who transferred brackishwater aquaculture technologies for alternate livelihood options)
- fishermen associations and WSHGs
- NGO's
- community halls- temple - church (were community meetings are held)
- bank – grocery shop and markets (supplied food items to the victims).

These institutions served as a primary important institutions and rendered their emergency services during tsunami and post-tsunami in the most affected villages.

- State Govt. departments and NGO's have constructed tsunami rehabilitation centers, information centers, fish landing centers and cold storage units after environmental threats like tsunami and cyclone. **Many infrastructure developments' has taken place after tsunami disaster in these selected coastal villages.**
- Minor institution like, tea shop (refreshment shop) in the village also served as an important **venue were communication of radio news, TV news and daily news in newspaper was shared among the men fishers and friends, who visited the tea shop (refreshment shop) to have a cup of tea or coffee.**

D. Impact of environmental changes on gender and social issues

- During tsunami disaster **many fishers lost their possessions**, houses and property especially and shifted their dwellings to occupy the tsunami houses (built by Govt. institutions and NGO's).
- **Women were responsible for taking up their livelihoods** and generating family income.
- **Majority of the households were led by women.**
- In few villages **women were not entertained to participate in village meetings and discussions.** But **forming of women SHG was encouraged by men because of the benefits available** to WSHG members (family members) through government welfare schemes.
- **Majority of the women alone made decisions.** Due to the fact that majority of the **men migrated** from their villages in search of new alternative livelihoods
- **Women were found to have access and control of brackishwater areas** like river, canal, pond and lake in the village **for small scale fishing and aqua farming activities**

🌿 **Stress and drudgery faced by women and men**

- unemployment
- irregular employment
- interrupted power supply
- non- availability of seasonal fishes
- high price of fishes
- land pollution
- increasing fishing fleets
- use of very small mesh size fishing nets by trawlers,
- difficulty in drying fish due to lack of space
- Low fish catch

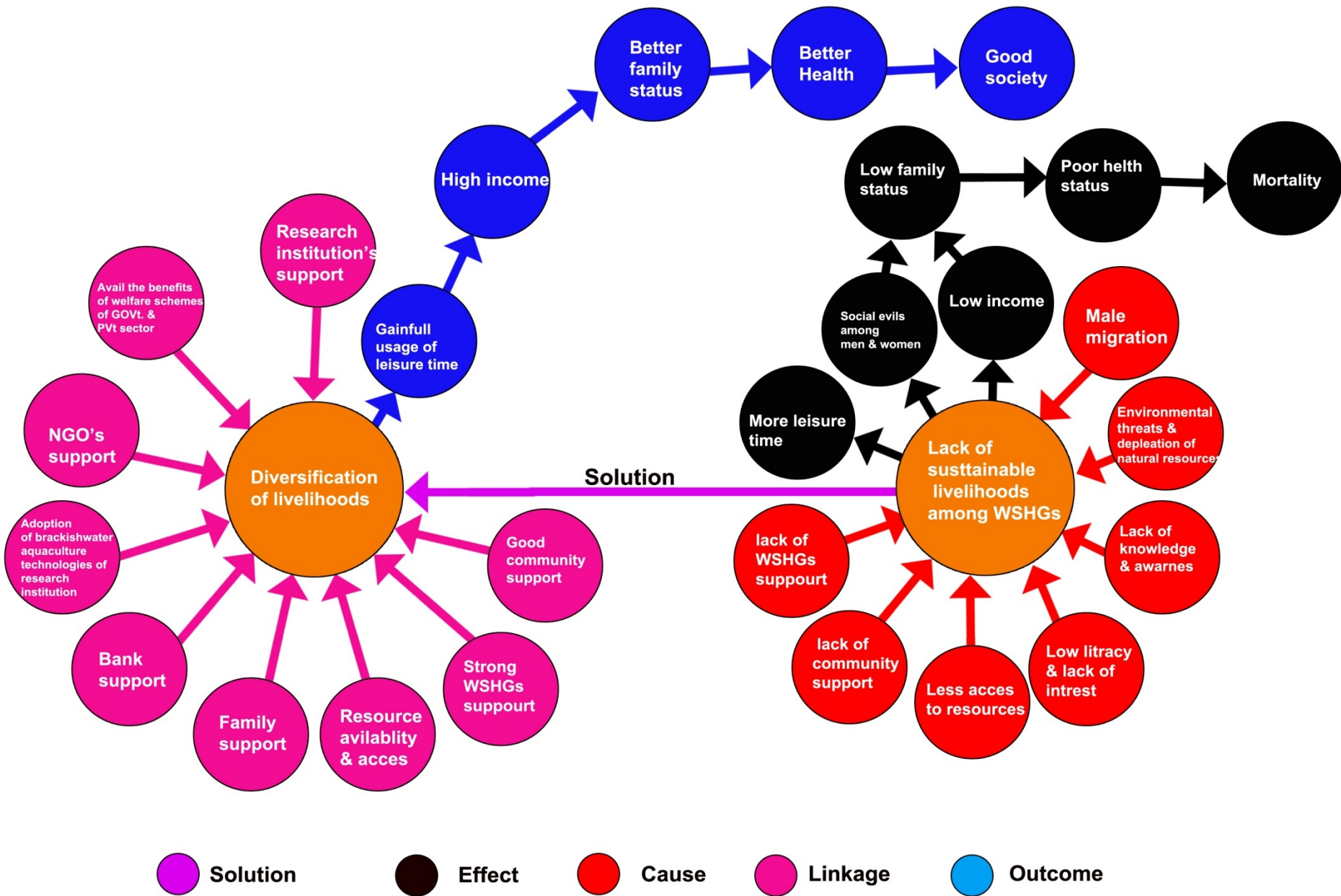
🌿 **Women's priority problems was "Lack of sustainable livelihoods"**

- Due to low literacy level
- Lack of knowledge and awareness
- Less access to resources as the causes of this problem
- Gender discrimination,
- Increase in female-headed households
- Migration of men in search of new jobs

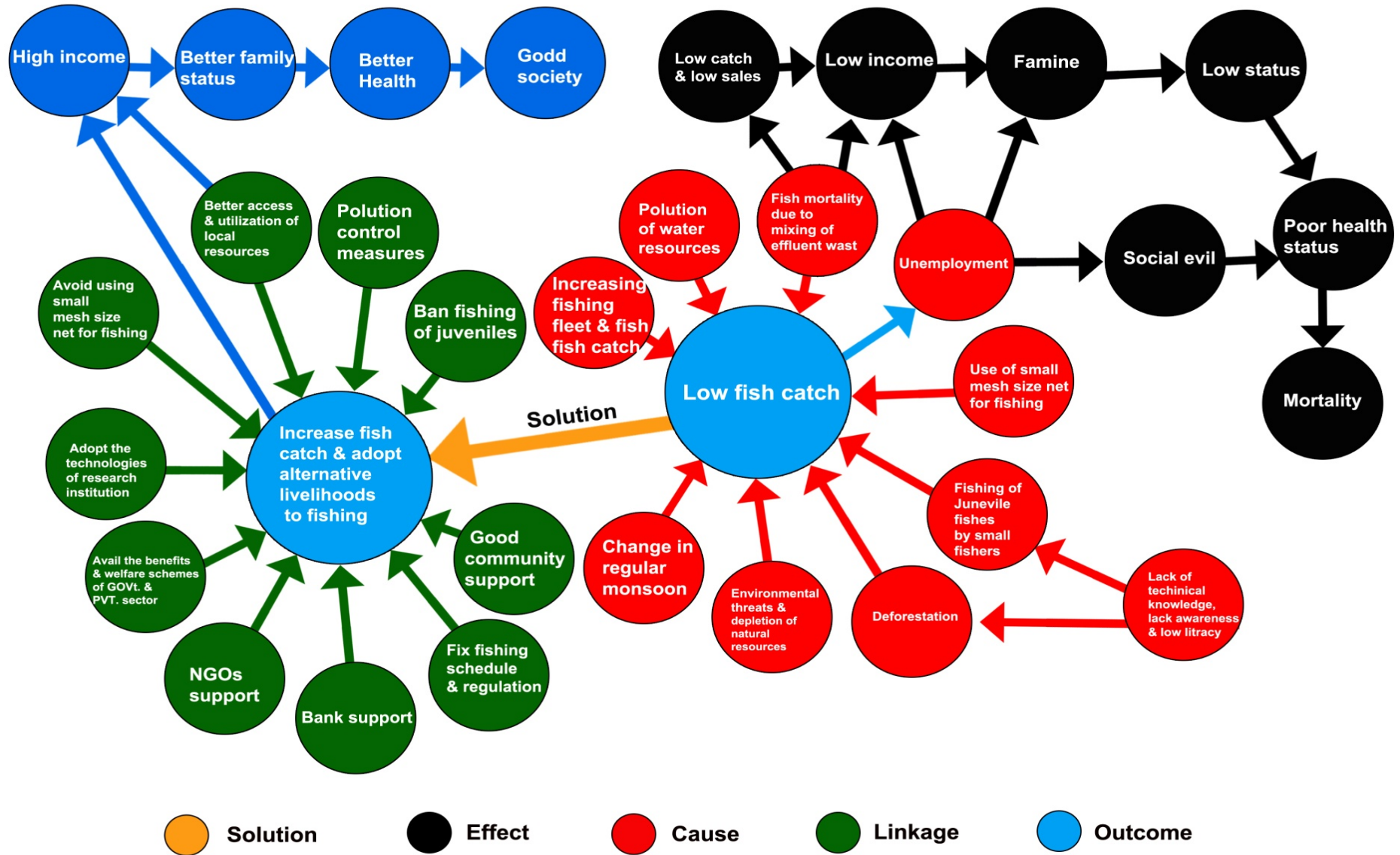
🌿 **To overcome this problem - solution**

- Need of alternate livelihoods option through the adoption of brackishwater aquaculture technologies
- Need linkages and support of government , research organization and private institutions
- NGOs & banks support
- community support.

Flow chart for lack of sustainable livelihoods (views expressed by women)



Flow chart for low fish catch (views expressed by men)



Priority problems of men

- Fishing of juvenile fishes by small fishers due to non- availability of fish during fishing
- Lack of sustainable livelihoods
- Lack of income generation activities
- Lack of marketing strategies

Priority problems both men and women

- Irregular employment,
- Natural disaster threats
- Sea level rise

Youth organization in village facilitated and supported by

- saving the lives of victims affected in disaster
- helping in school construction work in the village
- volunteered in teaching the village people resettlement of displaced people
- conservation of water resources
- afforestation, road maintenance, voluntary services to the victims of tsunami, cyclone and floods.

Conclusion

- Resource poor families will not be able to come out of the poverty trap, unless they gain the power and economy of scale at the production add post-production phases of their principle source of **livelihood through other diversified livelihood options.**
- To add value to the work of the women, **catalyze active participation of women in development.**
- The **brackishwater areas like lagoons, estuaries and creeks available** in this area can be well utilized for dissemination and adoption of technologies
- The adoption of **scientific farming through technology dissemination also needs to be sustainable among the women beneficiaries.** As the coastal community need to be rehabilitated from wild collection of aquatic resource to scientific farming to generate income.
- Measures should be taken to **improve the nutritional status of coastal families.** Fishers should be motivated to consume more fish (diving a portion of catch) vegetables (by raising kitchen garden in the backyard of their houses)
- To **avoid migration of men to cities in search of new jobs.** Technical training and job opportunities can be given in the village to the youth and fishermen

- **Linkages with research institutions, state government depts., NGO's and banks** for technological upgradation and entrepreneurial developments to be created for women
- Coastal women **need to be encouraged to participate in disaster preparedness** meetings and discussions.
- **Coastal aquaculture technologies integrated with agro-based technologies** will offer best option which could help them to regain dignity and respectability through increased employment and income.
- This study helps as **successful models for all development organizations** and policy makers to **plan development programmes** for the upliftment of coastal women in planning the strategies for development.
- This will also facilitate in **taking action towards disaster and environment management and appropriate technology to be disseminated** to develop a sustainable livelihoods among the fishers.



THANK YOU