

ON CLIMATE CHANGE AND FISHERWOMEN IN INDIA

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19 October 2020

Many historical and contemporary events have aggravated the social inequalities that exist along the divisive lines of race, class, caste, gender, and religion. Although climate change is not often discussed in terms of social divides, it is, perhaps, the most important amongst these contemporary events. It is a global phenomenon whose effects are expected to disproportionately affect the 'less-privileged' populations across the world. Women, especially those belonging to these communities, are particularly vulnerable and most likely to disproportionately face the adverse impacts of climate change.¹

Against this backdrop, this article begins by exploring the active interaction of women with the environment. It thereafter delves in some detail into the social, economic, and political disadvantages that fisherwomen continue to face which will be exacerbated by the impacts of climate change. The article concludes by discussing some of the initiatives being taken by the state and central governments of India, NGOs, and the fisherwomen themselves, to address these challenges, and argues that such initiatives must account for and adapt to the pressing reality of climate change.

Climate change is not only affecting the natural balance in the environment, it is altering the societal balance as well. According to the 2018 Special Report of the UN's Intergovernmental Panel on Climate Change (IPCC) on "*Global Warming of 1.5° C*",² global temperature and sea level are rising alongside frequent occurrences of extreme weather events. The average annual number of natural disasters has doubled over the past 25 years and their likelihood is increasing with every passing year. Climate change is adding to the existing environmental stresses of deforestation, land degradation, depleting freshwater resources, and air, water, and land pollution. As is often the case, the poorest communities across the world are likely to be the worst hit. Communities of fisherfolk, farmers, and

¹ Sheridan Rabbitt et al, "What's the catch in who fishes? Fisherwomen's contributions to fisheries and food security in Marovo Lagoon, Solomon Islands", *Marine Policy* 108 (2019).
<https://www.sciencedirect.com/science/article/abs/pii/S0308597X18308005>

² V Masson-Delmotte et al, "Summary for Policymakers", in *Global Warming of 1.5° C. An IPCC Special Report on the impacts of global warming of 1.5° C above pre-industrial levels and the related global greenhouse gas emission pathways in the context of strengthening of the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*, (Geneva: World Meteorological Organisation, 2018).
<https://www.ipcc.ch/sr15/chapter/spm/>

labourers, etc., are highly dependent on natural resources and/or climatic conditions for their livelihoods, which are now at increased risk due to climate change.

Women and the Environment

Women living in developing or least-developed countries and especially those belonging to marginalised communities within such countries, are intimately connected to nature and both land-based and marine natural resources. In many societies and cultures across the world, women derive their sense of identity and social wellbeing, as also their economic and food security, from the environment. It is not surprising, therefore, that Indian women have a long history of actively participating in environmental movements. In India, their participation dates as far back as the early 1730s, when the Bishnoi women started a movement to protect the Khejri trees in rural Rajasthan. Indian women participated actively in peasant ecological movements like that of the Champaran in 1917 in the early days of India's independence movement, and in the Chipko movement of 1973, where women mobilised their communities to maintain the ecological balance of the Terai region in Uttarakhand.³

Indian women are still actively involved in the agriculture- and allied sectors. This is true for the fisheries sector as well. For fisherwomen, the sea is their collective mother who gives life to their fishing villages.⁴ According to the 2018 edition of the “Handbook on Fisheries Statistics” produced by the Government of India's Department of Fisheries of the Ministry of Fisheries, Animal Husbandry and Dairying, published in September 2019, fisherwomen account for 34.6 per cent of the total fisherfolk population that engages in various fishing and fisheries-related activities.⁵ The latest draft of the “National Fisheries Policy 2020”, formulated by the National Fisheries Development Board (NFDB), claims to be “*based on the cardinal principles of equity and equality and adopts a people centric and participatory approach; [which] mainstreams gender and maintains inter-generational equity*”.⁶ In truth, however, the participation of fisherwomen is restricted throughout the various processes involving the fisheries sector, starting from the collection of fish and extending all the way to managerial and

³ “Women and Environmental Movements and Policies in India”, Paper 9, Module 14, *e-PG Pathshala – a Ministry of Education Project*.
http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000456WS/P000859/M019314/ET/1486099597QUAD-1.pdf

⁴ Maude Froberg, “Indian fisher-women regaining their livelihoods after the 2004 tsunami”, *International Federation of Red Cross and Red Crescent Societies*, 26 December 2014. <https://www.ifrc.org/en/news-and-media/news-stories/asia-pacific/india/indian-fisher-women-regaining-their-livelihoods-after-the-2004-tsunami-67824/>

⁵ Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India. *Handbook on Fisheries Statistics 2018* (Mumbai: Fisheries Survey of India, 2019)

⁶ “National Fisheries Policy 2020”, National Fisheries Development Board, Government of India.
http://nfdb.gov.in/PDF/Natio.al_Fisheries_Policy_2020.pdf

entrepreneurial positions. It seems clear that public policies and civil society support are not able to reach women in these communities effectively.

Fisherwomen participate in various activities of the fisheries industry, such as fish-drying, net-making, and shrimp-making, among others.⁷ India holds the third position with respect to fisheries, and second with respect to aquaculture, globally.⁸ The annual fish production of inland areas (ponds, tanks, etc.) and marine ones (the latter includes the exclusive economic zone, the continental shelf, etc.) is around 3.2 million tonnes and 3.8 million tonnes, respectively.⁹ The fisheries sector in India employs about 16 million people and accounts for 6.58 per cent of the agricultural GDP, while contributing 1.03 per cent to the overall GDP (2017-18), .¹⁰ India is a leading exporter of seafood, with marine exports accounting for at 5% of the total exports of the country. According to the NFDB, India has the potential of producing 8.4 million tonnes of fish from an aggregate of inland and marine sources.¹¹

Implications of Climate Change for Fisherwomen in India

These impressive statistics notwithstanding, the ground reality is that India fares very poorly in terms of empowering its women, especially those with inherent socio-economic and political disadvantages. Recent studies on gender and climate change have shown that vulnerabilities emerging in the aftermath of extreme-weather events induced by climate change (such as floods, cyclones, droughts, etc.) have a notable gender dimension.¹² In general, women and men experience the impacts of climate change differently because of differences in their roles and responsibilities at the household and community levels. According to “Women Watch Fact Sheet: Women, Gender Equality and Climate Change” produced by the United Nations, “*women are more vulnerable to the effects of climate change than men – primarily*

⁷ Venkatesh Salagrama, *Climate Change and Fisheries: Perspectives from Small-scale Fishing Communities in India on Measures to Protect Life and Livelihood*, (Chennai: International Collective in Support of Fishworkers, 2012).
<http://www.fao.org/family-farming/detail/en/c/1025904/>

⁸ “About Indian Fisheries”, National Fisheries Development Board, Government of India. <http://nfdb.gov.in/about-indian-fisheries>

⁹ *Ibid*

¹⁰ “National Fisheries Policy 2020”, National Fisheries Development Board, Government of India.
http://nfdb.gov.in/PDF/National_Fisheries_Policy_2020.pdf

¹¹ “About Indian Fisheries”, National Fisheries Development Board, Government of India. <http://nfdb.gov.in/about-indian-fisheries>

¹² Nitya Rao, “Gendered vulnerabilities to climate change: Insights from the semi- arid regions of Africa and Asia”. *Brief for G.SDR* (2016).
https://sustainabledevelopment.un.org/content/documents/996448_Rao%20et%20al_Gendered%20vulnerabilities%20to%20climate%20change-Insights%20from%20the%20semi-arid%20regions%20of%20Africa%20and%20Asia.pdf

as they constitute the majority of the world's poor and are more dependent for their livelihood on natural resources that are threatened by climate change.”¹³

Women are more exposed to climate change because of a variety of social, economic, and political reasons, which often influence and intersect with one another at the local and national levels. It is important to understand the vulnerabilities of fisherwomen in India in the context of their roles and identities, which are neither static nor homogenous across the various socio-economic interactions of caste, income, geographic location, age, and household membership.¹⁴ Women experience gender-differentiated higher risks in their capacities as individuals, groups, and community members, in comparison to men.¹⁵

A recent study by the World Bank states that “103 out of 141 countries have legal distinctions between men and women that are likely to hinder women’s economic opportunities”.¹⁶ Fisherwomen in India face relatively harsher economic conditions and lack both, opportunities and access, in building economically sustainable livelihoods. Fishing, for instance, began as a purely traditional activity but has now become a decidedly commercial enterprise, with the dependence of traditional marine fisherfolk on marine capture-fisheries increasing just for sustaining livelihood. According to a case study published by the International Federation of Red Cross and Red Crescent Societies on fisherwomen in Andhra Pradesh, fisherfolk are relatively poor and often come from lower castes.¹⁷ Moreover, they often get trapped in bad debts because most of the fisherwomen are landless and depend on local moneylenders for credit. The latter ruthlessly exploit the fish-supply value chain, run “their businesses by essentially recycling the poor fishermen’s capital”, and push the fishers into “a vicious circle of debt and poverty.”¹⁸ Women are also dependent on their husbands, who control the finances and, in many instances, squander money on liquor.¹⁹ Fisherwomen do not have easy access to marketplaces — they often walk several kilometres to market their products.²⁰

¹³ “Fact Sheet: Women, Gender Equality and Climate Change”, UN Women Watch.

https://www.un.org/womenwatch/feature/climate_change/downloads/Women_and_Climate_Change_Factsheet.pdf

¹⁴ *Ibid*

¹⁵ Fatima Noor Khan et al, “Women’s perspectives of small-scale fisheries and environmental change in Chilika lagoon, India”. *Maritime Studies* 17, (2018). <https://link.springer.com/article/10.1007/s40152-018-0100-1>

¹⁶ “Overview of linkages between gender and climate change”, United Nations Development Programme.

<https://www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/UNDP%20Linkages%20Gender%20and%20CC%20Policy%20Brief%201-WEB.pdf>

¹⁷ Froberg, “Indian fisher-women regaining their livelihoods after the 2004 tsunami”.

¹⁸ Priya Ranjan Sahu, “Ganjam fisherwomen unite to get back fish trade from monopolistic traders”, *Mongabay*, 2 April 2020. <https://india.mongabay.com/2020/04/ganjam-fisherwomen-unite-to-get-back-fish-trade-from-monopolistic-traders/>

¹⁹ *Ibid*

²⁰ Froberg, “Indian fisher-women regaining their livelihoods after the 2004 tsunami”.

Studies conducted by the ‘Action Aid’, and, the ‘District Fishermen Youth Welfare Association’, two NGOs based in Andhra Pradesh, highlight that fisherwomen “*face several hardships in the course of their backbreaking work*”, which involves long working-hours outdoors, which makes them unable to attend medical camps and they “*earn just Rs 100-200 a day*”.²¹ With climate change expected to make outdoor conditions worse due to rising temperatures and erratic rainfall patterns, fisherwomen will be exposed to greater health risks. Many of them already suffer from skin diseases, kidney problems, and sleep-deprivation caused by harsh working conditions and environments that do not provide even the most basic sanitary requirements. Their health is also impacted “*due to lack of toilets and drinking water facilities at the fishing harbour or other places where they sell their catch*”, a problem that is coupled with lack of awareness about sanitation issues and their rights to hygienic working conditions.²² They also bear the additional burden of unpaid care work and face gender discrimination and marginalisation. Many fisherwomen are anaemic, and often have to endure domestic violence in one form or the other.²³

Women are also more dependent on natural resources for survival. In India, climate-change events have impacted marine resources across the country. The most severe impacts of climate change are manifested in the forms of resource-depletion, increasing natural disasters, changes in aquaculture, habitat- and species-loss, loss of livelihood for fishing communities, and, biophysical changes such as changes in water-salinity and the introduction of invasive species. Climate change impacts the livelihood and coping responses of fisherwomen, and, in some cases, may even lead to large-scale migrations.²⁴ Several studies suggest that women, as a group, are often neglected in relief efforts in the aftermath of natural disasters. A case in point is the relief and rehabilitation efforts made by the government and humanitarian organisations in the aftermath of the 2004 *tsunami*, which largely neglected fisherwomen as a target group that needed assistance for rebuilding their lives.²⁵

Illiteracy and low levels of skill sets, amongst Indian women in general, and fisherwomen in particular, also contribute to their existing vulnerabilities because they impair their ability to make informed decisions in times of crises. Women are subjected to discriminatory cultural norms that restrict their participation in political and household decision-making processes, and the prevailing gender-differentiated socio-cultural ethos does not encourage women to learn skills (such as swimming, climbing trees, wilderness survival skills, etc.) that could better prepare them for natural disasters. The

²¹ Times News Network, “Fisherwomen a vulnerable lot, say NGOs”, The Times of India, 19 February 2015. <https://timesofindia.indiatimes.com/city/visakhapatnam/Fisherwomen-a-vulnerable-lot-say-NGOs/articleshow/46293071.cms>

²² *Ibid*

²³ Kayalvizhi V, *Stress Assessment and Management among Rural and Urban Fisherwomen in Puducherry*, (Coimbatore: Avinashilingam Deemed University for Women, 2014). <http://hdl.handle.net/10603/137840>
TTN, “Fisherwomen a vulnerable lot, say NGOs”.

²⁴ Fatima Noor Khan et al, “Women’s perspectives of small-scale fisheries and environmental change in Chilika lagoon, India”, *Maritime Studies* 17, (2018): 145-154. <https://link.springer.com/article/10.1007/s40152-018-0100-1>

²⁵ *Ibid*

rate of illiteracy is the highest amongst fisherwomen who work in the unorganised fisheries sector.²⁶ Further, their knowledge of scientific subjects, including those directly related to the environment, is often severely lacking. All these existing systemic disadvantages for fisherwomen will inevitably be exacerbated by climate change.

There are virtually no rigorous, contemporary studies on a major, pan-Indian level that focus upon the impacts of climate change on fisherwomen in India. There is, consequently, a lack of analysis of climate-change impacts on fisheries from a gender perspective. Some case studies, such as the “*Awareness, perceptions, and adaptation strategies of women in an urban fishing village in a climate change environment – a case study in Versova, Mumbai*”, published in 2016 in the Indian Journal of Fisheries, have looked at the impacts of climate change on fisherwomen, but these are far and few between.²⁷ There is certainly no systematic pan-Indian study on the subject.

Alleviating Challenges and Empowering Indian Fisherwomen

Admittedly, the long-standing systemic challenges facing fisherwomen in India are beginning to get noticed, howsoever sporadically, and have become a topic of policy debate in recent years, even though explicit correlations with the impacts of climate change have not yet been made. This section will highlight some of the noteworthy measures that have been taken at the local and national policy level and by civil society groups to elevate the fisherwomen communities.

Since fisheries is a state subject, a few state governments in the coastal states of India have taken initiatives to support fishing communities. Odisha, for example, which is one of the major aquaculture and maritime states of India, has introduced the ‘*Matsyajibi Unnayana Yojana*’ which extends financial assistance to fisherwomen, amongst other measures.²⁸ Odisha’s Fisheries Policy is another of its state-level policy measures, and aims to give importance to education, vocational training, diversification of employment opportunities through capacity-building, market tie-ups, and social benefits, amongst its various measures for the state’s fisherwomen. Likewise, Andhra Pradesh, in execution of the “Fisheries Policy of Andhra Pradesh, 2015-2020” extends orientation-training and technical and financial assistance for ornamental fishing to women self-help groups, and provides subsidies to women belonging to fishing communities — subsidies that are at par with its industrial policy.²⁹ It is important to note that while the measures taken by Odisha and Andhra Pradesh are encouraging, they

²⁶ Kayalvizhi V, *Stress Assessment and Management among Rural and Urban Fisherwomen in Puducherry*.

²⁷ Banti Debnath et al, “Awareness, perceptions and adaptation strategies of women in urban fishing village in a climate change environment – a case study in Versova, Mumbai”, *Indian Journal of Fisheries* 63, No 3 (2016): 120-125.
https://www.researchgate.net/publication/308900104_Awareness_perceptions_and_adaptation_strategies_of_women_in_an_urban_fishing_village_in_a_climate_change_environment_-_a_case_study_in_Versova_Mumbai

²⁸ “Matshyajibi Unnayana Yojana (MUY)”, Government of Odisha (2011).
<http://www.fardodisha.gov.in/sites/default/files/misc/Fishery-sector-compendium-joined.pdf>

²⁹ “Fisheries Policy of Andhra Pradesh 2015-2020”, Fisheries Department, Government of Andhra Pradesh (2015).
https://www.ap.gov.in/wp-content/uploads/2015/12/31102015AHF_MS30.pdf

are certainly not being replicated across all the states and union territories of India. Moreover, there is little or no evidence that any significant emphasis has been given, within any of these initiatives, to the worsening impacts of climate change and their repercussions for fisherfolk, in general, and fisherwomen, in particular. That said, there are, nevertheless, some faint glimmerings of a more enlightened policy and these deserve to be highlighted.

At the national level, the ‘National Institute of Fisheries Post Harvest Technology and Training’ (NIFPHATT) has undertaken several initiatives to empower fisherwomen across Odisha, Andhra Pradesh, Lakshadweep, Tamil Nadu, and Kerala, through training programmes, restoration programmes, the proactive involvement of fisherwomen in product-development activities, and employment generation through self-help groups for fisherwomen. The NIFPHATT claims that, *“treading along the meaning of the famous saying ‘Give a man a fish and you feed him for a day: teach a man to fish and you feed him for a life time’, this Institute has been providing the skill and techniques to fisherwomen which help them to get their daily bread’*.³⁰

Staying at the national-policy level, the draft National Fisheries Policy (NFP) 2020 states that, *“necessary steps will be taken to encourage women in fish processing, value additions, marketing activities, fisheries management including creation of requisite amenities for improving workplace environment ... current welfare, and social protection programs will be streamlined and further strengthened’*. To ensure gender equality, welfare, and mainstreaming of women in the fisheries and aquaculture sectors, the policy draft adds that, *“government will further enhance support to women cooperatives, women self-help groups and through women-friendly financial support schemes’*.³¹ The NFP 2020 aims to achieve these targets by 2030. Alongside these policy measures, however, there is an urgent need for the governments of India’s coastal states, as well as the central government, to work together with each other in the fisheries sector, so as to utilise the resources, particularly those resources that are presently underutilised, to offer opportunities for the development of livelihoods, and for ushering economic prosperity³², with special measures taken for the empowerment of fisherwomen. This is more critical now than ever before, because of the fast-changing climatic conditions and the adverse impacts that these will have on the livelihoods of fisherwomen.

A few notable NGOs, too, have been active. For instance, ‘ActionAid India’ and the ‘District Fishermen Youth Welfare Association’ (DFYWA), have initiated programmes (with some financial support from the UK and the European Commission) that focus on improving the living standards of fisherwomen in India by establishing market linkages, building sensitivity among families of fishermen about the contribution of fisherwomen, and, upgrading skills and leadership qualities of

³⁰ “NIFPHATT’s endeavours to fisherwomen empowerment”, National Institute of Fisheries Post Harvest Technology and Training, Ministry of Agriculture, Government of India (2015).
<http://www.ifpkochi.gov.in/Fisherwomen%20empowerment.pdf>

³¹ “National Fisheries Policy 2020”, National Fisheries Development Board.

³² *Ibid*

fisherwomen in rural areas.³³ They also aim at strengthening women collectives and cooperatives. The support received from these NGOs has yielded tangible and beneficial results on the ground – some women who formed part of their target group have become ward members, while others are headed to government offices or collectorates. Some have also learnt how to write, and, in some families, women are now supported by their male family members in their work.

Fisherwomen themselves have begun to participate proactively in improving their circumstances. For, instance, women’s agencies, such as Kerala’s ‘Society for Assistance to Fisherwomen’, and one of their microenterprises, ‘Seafood Kitchen’, are focussed on empowering fisherwomen through small businesses.³⁴ In Odisha, a group of fisherwomen started an NGO called “*Samudram*”, which now comprises 4,000 members from 250 women’s self-help groups.³⁵ *Samudram* enlisted the support of OXFAM in 2008, and, in 2010, received the UNDP Equator Prize for its efforts in biodiversity-conservation, and poverty-alleviation.³⁶ Such community-led efforts will play an increasingly important role in the future as climate-related challenges become more prominent. They must, therefore, be encouraged and supported by local and national governments. Additionally, there is a need to increase the reach of government-led welfare programmes to the less-economically-developed states and districts.

Conclusion

Gender issues have traditionally been sidelined in research that has been undertaken on major policy and academic issues, including those in the maritime domain, of which fishing and climate change form an integral part. Fisherwomen in India form an intrinsic part of the fisheries sector. However, their contribution, participation in the industry, and their vulnerabilities, are largely ignored both at the local community level and the national one.

Measures need to be taken at both the level of public policy, as also at the level of civil society at large, to incorporate the perspectives of fisherwomen in the larger policy framework of India. In this regard, there is an urgent need to undertake case studies conduct field visits, and, undertake primary research at the local/state level, so that a reliable pool of data is generated that could assist in formulating gender-sensitised policies for the fishing community in India.

³³ TTN, “Fisherwomen a vulnerable lot, say NGOs”.

³⁴ B Bindu Ramachandran, “Seafood Kitchen: Survival Strategy of Kerala’s Fisherwomen in an Uncertain Economy”, *International Journal of Rural Management* 13, No 2 (2017): 199-205.
<https://journals.sagepub.com/doi/10.1177/0973005217721005>

³⁵ Sahu, “Ganjam fisherwomen unite to get back fish trade from monopolistic traders”.

³⁶ *Ibid*

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