



VULNERABILITY TO VIABILITY
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Reflections from Chilika-V2V Field School: Gender Dynamics and Coastal Resilience in the context of Blue Economy

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V2V Working Paper Series

V2V Global Partnership “Working Paper Series” aims to facilitate the exchange of ideas, mobilize knowledge and generate broad-based discussions on vulnerability-viability themes within the context of small-scale fisheries. The Working Paper Series will provide a collaborative and interactive platform for academics, practitioners, representatives of civil society, and individuals interested in making written contributions to the theoretical, methodological, practical, and policy aspects of small-scale fisheries, both locally and globally. To contribute to the V2V Working Paper Series, please contact v2vglobalpartnership@gmail.com.



Reflections from Chilika-V2V Field School

Small-scale fisheries (SSF) are important social-ecological systems across all parts of the world. Strongly anchored in local communities, SSFs reflect a way of life, and they provide critical contributions. Yet, their efforts and their existence are often overlooked as many SSF communities remain economically and politically marginalized, are highly vulnerable to change, and remain invisible in policy debates. Nonetheless, the continuity of many SSFs suggests certain strengths and forms of resilience. A holistic understanding of what causes vulnerability, as well as what makes fisheries social-ecological systems viable and through what processes is required. This understanding needs to be place based and situated within the SSF context, and the processes surrounding it must be long-term, collaborative and iterative.

The Chilika - V2V Field School aims to provide a creative platform for graduate students and early career scholars and practitioners to deliberate and learn about concepts, approaches and methods helpful to achieving transitions from vulnerability to viability within SSF social-ecological systems. The Field School takes place every year in the Chilika Lagoon, Bay of Bengal, India, where participants gain firsthand experience and creatively engage in furthering their understanding and knowledge of vulnerability to viability transitions, and experiment with concepts and approaches that are novel, transdisciplinary and problem-oriented. The Reflections from Chilika - V2V Field School is part of the V2V Working Paper Series that exclusively focuses on documenting the main learnings, insights, reflections gained by the Chilika - V2V Field School participants during their weeklong journey with the fisher communities of Chilika Lagoon.

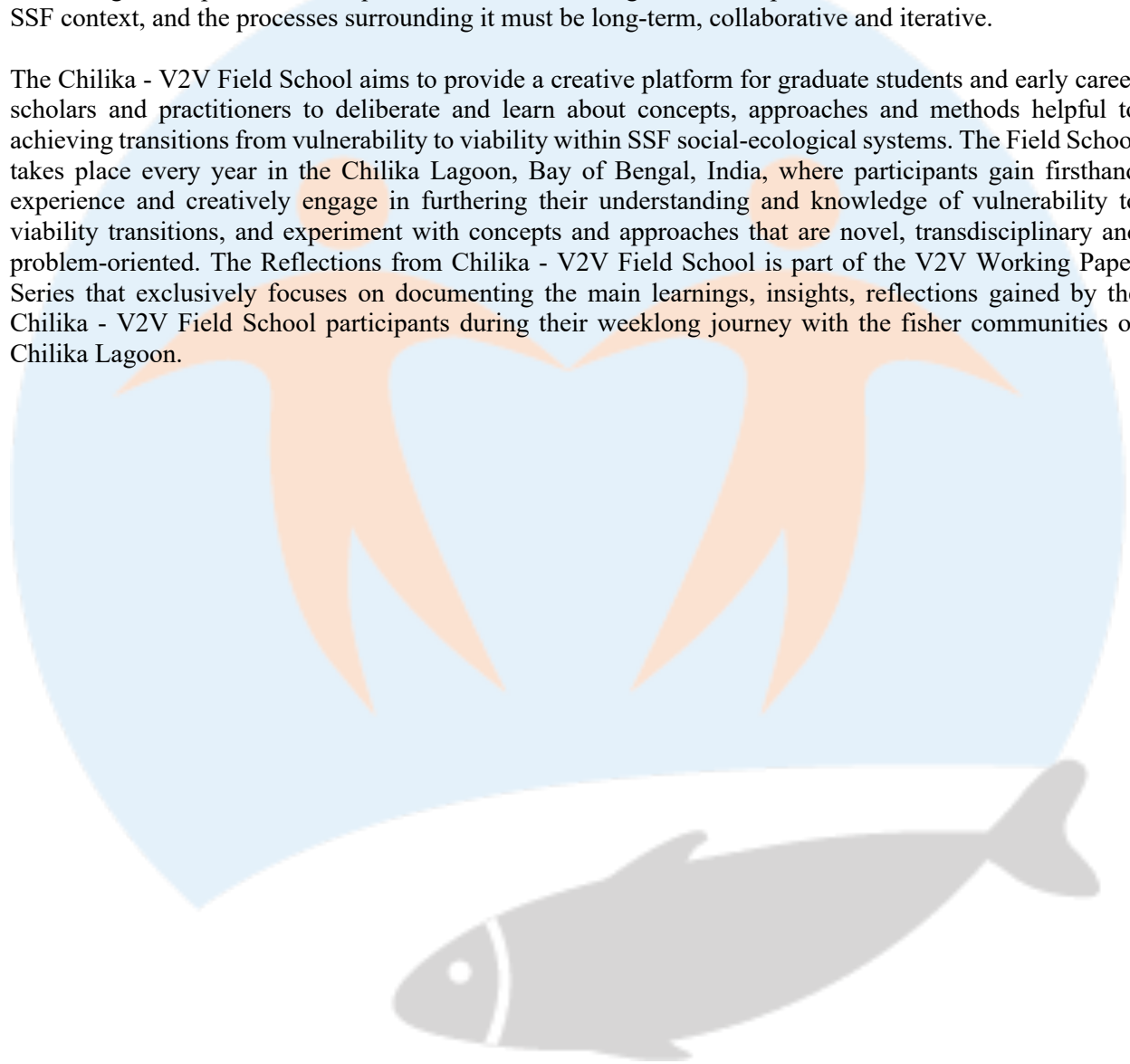


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Reflections from Chilika-V2V Field School: Gender Dynamics and Coastal Resilience in the context of Blue Economy

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1. Introduction

Many people in coastal areas work as fishers and have done so for generations. The characteristics of fishing communities are formed following the dynamic nature of the resources they work on. To get maximum catch yields, fishers must therefore move around to follow the fish stocks (Susilo et al., 2021). Like other communities, fishing communities face a number of complex political, social, and economic problems (Nayak, 2017; Nayak & Berkes, 2019). These problems include poverty, social inequality, environmental and economic pressures. Economic pressures include limited access to capital, technology, and markets that affect business dynamics. Social pressures include physical weaknesses of existing socio-economic institutions, low quality of human resources, as a result of limited access to education and health and public services. Environmental pressures include the degradation of environmental resources in coastal areas, seas, and small islands, and weak maritime-oriented policies (Kusumawardhani et al., 2022).

Households whose jobs depended solely on fishing earned an income that could only meet their daily needs, and if there was money left, it was usually used for children's school fees, buying clothes, and repairing their homes. The condition of poverty of fishers is a complex problem as a result of the helplessness of fishers to access available natural resources. Factors such as low education, skills, lack of capital and low accessibility cause fishers to become an increasingly distributed group. Fisher's wives have an important role in overcoming poverty to improve the welfare of their household (Milan, 2019). Poverty in fishing families is high, therefore wives have to look for additional income because their husbands' income is variable.

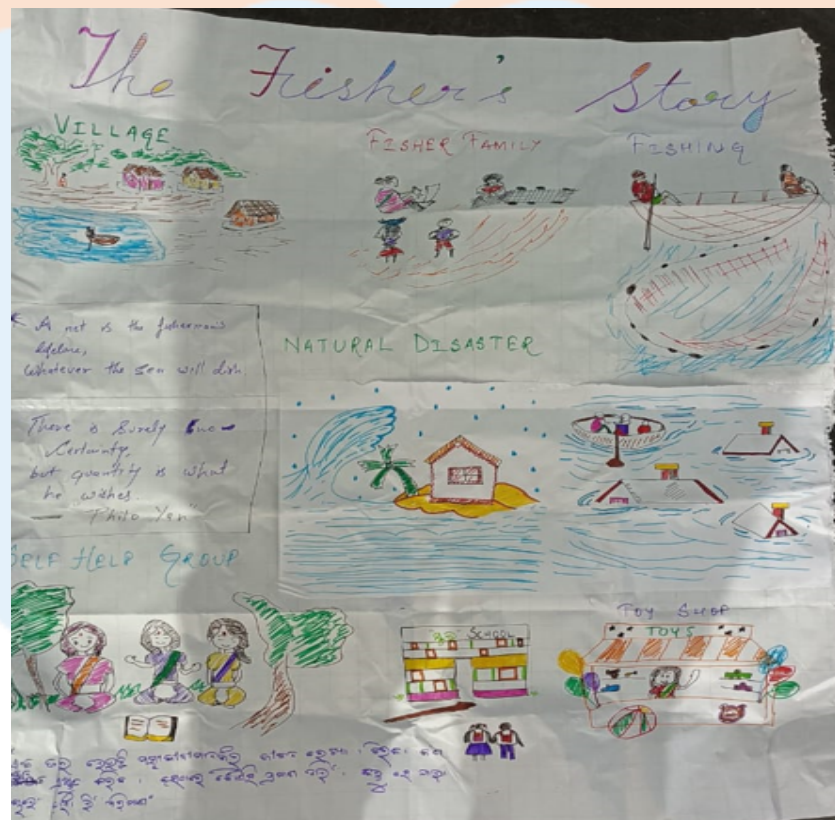
Due to poverty in fishing communities women play a triple role, namely as a breadwinner, a housekeeper and caretaker of children. Most of the people around Chilika Lagoon work as small-scale fishers. The fishing community in Chilika Lagoon reveals the triple role of women in the fishing community. They do not only carry out their roles and responsibilities as a housekeeper, but because of the family's uncertain income, they are work to help meet the needs. The involvement of coastal women in fulfilling family needs is an effort made to help and increase income when their husbands cannot go to sea. Coastal women's economic activities are carried out to contribute income to the family economy. Family welfare is very important in life's goals of achieving prosperity, and this can be seen when the family can fulfil their living needs.

Erratic weather conditions can also add pressure to the household income, therefore, to meet the needs of the family, women have to find alternate income sources. For example, many women fishers make fishing gears, and they sell the day's catch to the nearest market. In addition, they also work as toy sellers, cake sellers, and some even run a canteen. With these jobs, women fishers feel their family's needs can be fulfilled (Alami & Raharjo, 2017).

Currently, women's contribution to the family is not only as housewives, but also to the family economy (Herrera-Racionero et al., 2021; see Figure 1). The low income generated by the husbands and men in the family, often as the head of the family is one of the factors that cause most women to work in order to meet family needs, such as food, clothing, shelter, education, health and others. (Majid & Handayani, 2012; Zelasney et al., 2023). This means that family resilience will increase along with the triple role of women in the family. This is in line with research by Holijah (2020) that the involvement of a woman in the public sector affects family resilience, namely increasing economic resilience in the family. In addition, Nordenmark (2004) stated that women's triple roles benefit both husbands and wives. At the level of coping strategies, family resilience will increase when the coping strategies carried out by the family are maximized.

Figure 1

Illustration of women role by team



1.1. Sub-Domains

The following four facets of gender perspective and coastal viability in connection to blue economy and blue justice are the primary domains of this paper (see Figure 2). Summaries of our observations and discussions are included in each section, along with a final thought on the respective domains. The Way

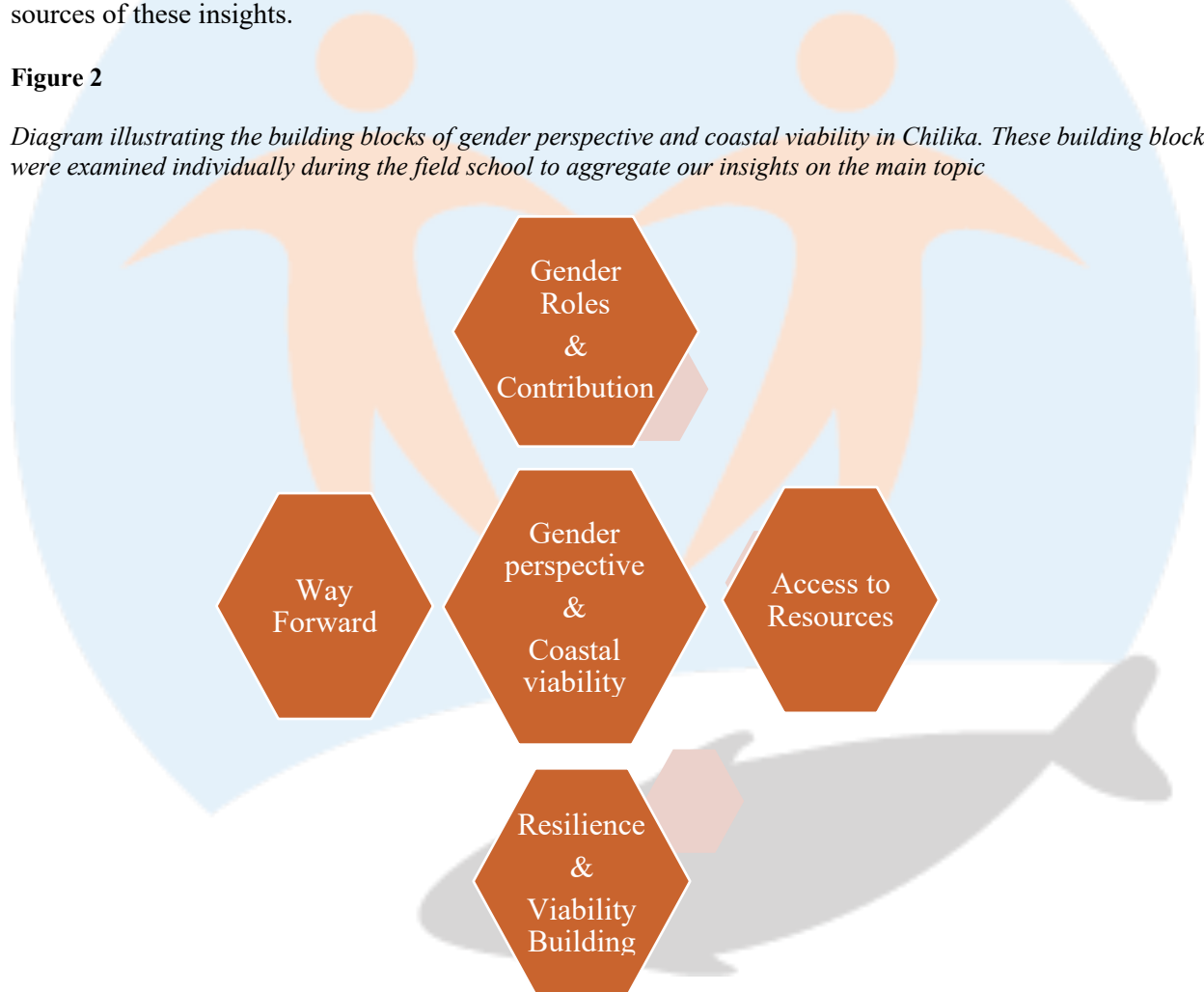
Forward theme outlines the directions to be followed in promoting coastal viability, taking into account all elements – the people and the environment of Chilika. It highlights the main directions to be followed while considering the opportunities and challenges brought about by the changing dynamics of Chilika.

1. Gender Roles and Contributions in Chilika
2. Gender Perspectives on Access to Coastal Resources
3. Resilience and Viability Building by Women in Chilika
4. Way Forward

The objective of this paper to intricately examine the incorporation of a gender lens into comprehending Chilika's coastal resilience within the framework of the blue economy. The authors' combined learning and observations from the Chilika - V2V Field School served as the foundation for this paper. The visual observations made during visits to fishing villages and other sectors in Chilika, direct conversations with women in coastal villages (self-help groups), conclusions from meetings held in fishing communities (Badakul and Gajapatnagar), and interactions with fishers and artisanal fish traders in Balugaon were the sources of these insights.

Figure 2

Diagram illustrating the building blocks of gender perspective and coastal viability in Chilika. These building blocks were examined individually during the field school to aggregate our insights on the main topic

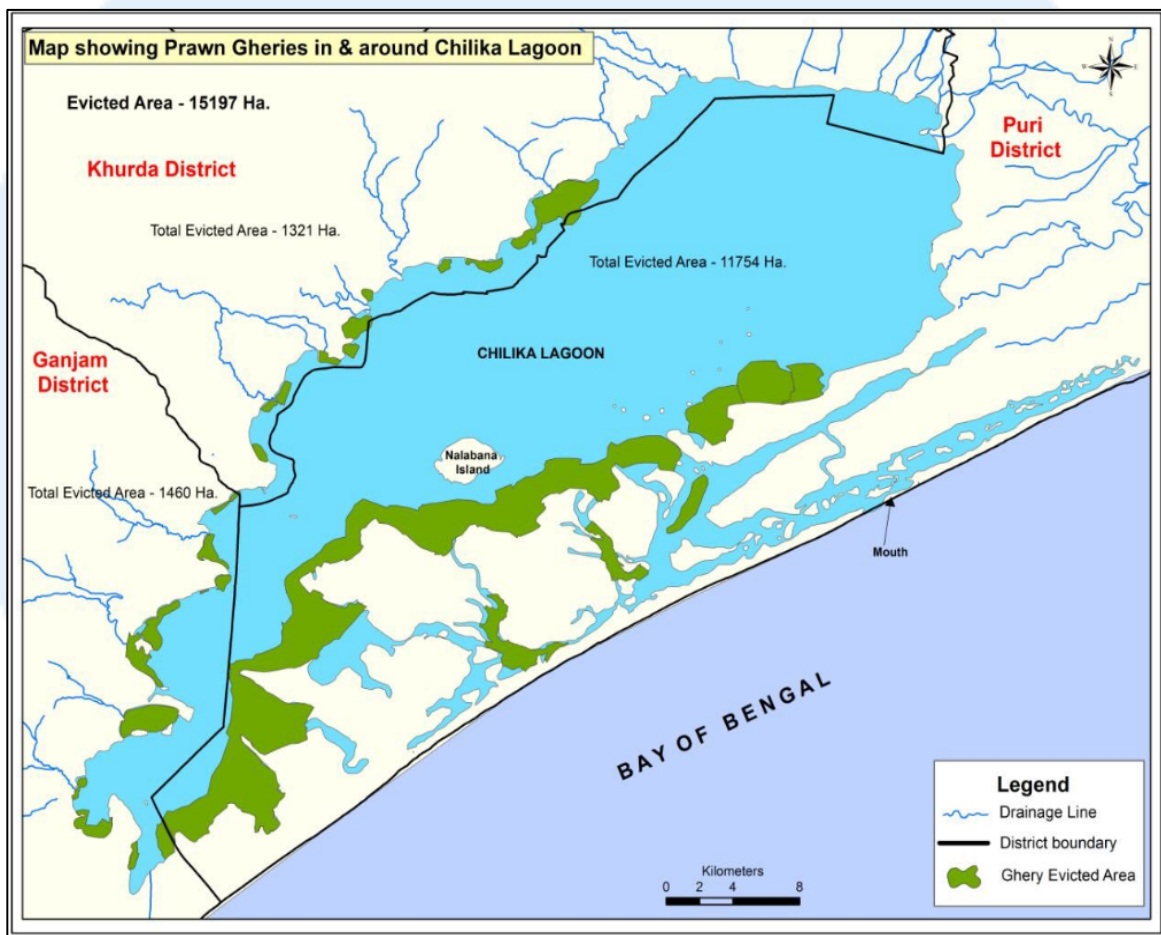


2. The Location of the Field School

The Chilika Lagoon in Odisha is considered to be one of the major fishery resources in India providing livelihood to fishers. The Chilika Lagoon is considered to be the largest brackish water lagoon in Asia (see Figure 3). It is situated on the east coast of India, in Odisha and lies between latitudes 19°67' and 85°35'. The lake has a water spread area which varies from about 900 km² in summer to 1200 km² in monsoon. The lagoon is the second largest in the world and is a unique assemblage of marine, brackish, and freshwater eco-systems. Chilika has been designated as a Wetland of International Importance (IUCN) (Mohapatra et al., 2014).

Figure 3

Map of the Chilika Lagoon



Source: Mongabay, 2018

The Lake, a highly productive ecosystem, is a main source of capture fishery resource of Odisha. The fisheries output shares more than 70% of Chilika's economic value. The Chilika fish including fish, shrimp, crab. Fisheries contribute to 2,4% of the GDP of Odisha and thereby play an important role in the economy of the state (Mohanty & Nayak, 2012). Chilika lagoon comes under three districts – Puri, Khordha and Ganjam. Its rich biodiversity, along with the beautiful scenery of the area, attracts many bird watchers and ecotourists. Chilika lagoon supports around 337 fisher and non-fisher villages. Among the 337 villages,

150 of the villages are fisher villages. More than 400,000 fishers, belonging to specific caste groups, customarily depend upon the lagoon for their livelihoods (Nayak & Berkes, 2010, 2014). The four major fisher castes in the Chilika lagoon are Kaibartya, Khatia, Kandra and Tiara (Nayak & Berkes, 2010, 2014). The Chilika lagoon ecosystem also supports nearly 800,000 non-fisher villagers (Nayak & Berkes, 2010, 2014). The lagoon is also extremely important for the local population especially for the fisher communities as a source of livelihood (mainly through its fisheries) and also as a focus for cultural, religious and spiritual activities.

3. Gender Roles and Contributions in Chilika

In Chilika's blue economy, gender roles and contributions are complex and multidimensional. Women in Chilika are becoming resilient members of the fisheries value chain by going beyond traditional positions. This shift is a reaction to the decline in fish populations across time caused on by anthropogenic activity and climatic effects. Traditionally thought to be male-dominated fields, net mending, sorting, fish processing, and marketing are actively carried out by women in areas like Gajapatnagar and Rambha.

3.1. The Triple-Role of Coastal Women

Women's participation is one way to achieve viability. Families with triple roles of women have coping strategies in balancing domestic and public roles (Febri et al., 2017; Kusumawardhani & Susilowati, 2021). Based on the results of the study, women's multiple roles are significantly positively related to coping strategies. The higher the demands between roles, the more optimal the coping strategies carried out by individuals. Coping strategies are carried out as a way to minimize conflict between domestic and public roles (Asra, 2013). The highest proportion of family coping strategy levels was in the moderate category. This proves that families do not have a maximum coping strategy to solve various problems related to women's dual roles. individual assessment of a problem is one of the success factors in overcoming a problem. Families do more emotion-focused coping strategies than problem-focused coping strategies. This is because families tend not to be able to change the situation and accept the situation more. This result is in line with research by Lazarus (1993), that individuals will use coping strategies focused on emotions when they do not have the resources to change the situation.

In an additional cluster analysis women were classified into three groups: (1) production (worker) role, (2) community role, and (3) family role: spouse, parent, and houseworker (see Figures 4-6). There were limitations to combining them into one role, as each role has its own characteristics. The number of single-parent families is rising, and proportion of women has been increasing that get support or help for housework and childcare from family or professionals so that they can focus on their careers. Therefore, finding and applying criteria that can clearly distinguish home based roles are necessary.

Figure 4, 5 and 6

Photos showing the role of women in Chilika



Source: These photos were captured during the Chilika-V2V Field School 2023

3.2. Reflections

The sea is the work domain of men fishers and land is the work domain of coastal women. The main activity of men is fishing, while women process and sell their husbands' catches. Most of the time is spent by fishers to handle fishing work, as there are not enough opportunities for fishers to take care of socio-economic activities on land. In contrast, coastal women spend most of their time handling land-based jobs. Starting from the work of taking care of and caring for children, taking care of the household such as cooking and cleaning the house. The woman's responsibility as a housewife is also to educate children in academic, social, and religious fields. In general, fishers' wives who work help their husbands to sell their catches. The involvement of women in public activities is not only for work. Women's activities in the public sector aim to build social status in the eyes and environment of society. Meanwhile, participation in making household decisions is dominated by the role of women. Coastal women have a big role in creating social welfare (e.g., education, health, religion, and family harmony) of fisher's families. They remain responsible for the educational needs of their children. Women also have an important role in maintaining the health of all family members. They are also active in maintaining social, cultural and religious activities and participate in mutual help. In a typical fisher community of Chilika, women's role in creating family harmony is crucial as they tend to understand their family best. Therefore, the role of women in family social welfare is very important.

4. Gender Perspectives on Access to Coastal Resources

In Chilika, gender dynamics and access to coastal resources are closely related, reflecting both deeply ingrained cultural norms and economic factors. This section sheds light on the complexity that generate gender disparities in coastal communities by examining how fisherfolk in Chilika perceive and experience differences in their access to resources based on gender.

4.1. Perceptions of Environmental Changes

Fisherfolk in Chilika perceive environmental changes as directly impacting their access to coastal resources. According to Nayak and Berkes (2014), aquaculture, which started in the 1980s, and the 2001 creation of a new sea entrance are two major anthropogenic factors contributing to environmental change in Chilika. This perception varies based on gender roles, with men primarily engaged in active fishing mechanisms on the lagoon, while women traditionally manage household chores and fish processing activities. In Badakul, environmental changes such as declining fish populations, have been reported to drive men away from fishing, put more of the household burden on women, and increase the number of men leaving the fishing villages in search of a different means of livelihood. The women in Chilika hold a more comprehensive and interrelated perspective on the environment, focusing on the close relationship between humans and the environment as a whole. They are also inclined to give priority to the welfare of future generations and promote sustainable practices. In contrast, men tend to view the environment more from a utilitarian standpoint, emphasizing the economic advantages of natural resources. In addition to access to resources and education, cultural and societal norms can have an impact on gender disparities in how people perceive changes in the environment. (Khan, 2018).

4.2. Cultural Conditions and Decision-Making Power

Gender differences in access to coastal resources are substantially shaped by cultural factors (Eder, 2010). The culturally imposed submissive role that women are assigned frequently restricts their ability to make decisions and their access to resources. In Chilika, men actively engage in fishing, but cultural norms that limit women's access to resources, particularly employment prospects, limit their participation to household duties. These cultural conditions subjugate women's roles and limit their participation in economic activities and influence in decision-making processes. During the poster presentation to the Fisher Federation representatives, the women had to leave around late afternoon based on the necessity of going home to prepare dinner for the family, leaving only the men behind for the rest of the event. This implies that women's access to resources is often constrained by these cultural norms, leading to increased household burdens for women as a result of the heightened emigration by men.

4.3. Impact of Gender Disparities

Women in Chilika face additional challenges as a result of the differences in access to coastal resources based on gender. Women's economic opportunities are directly impacted by limited access to coastal resources, which exacerbates already-existing gender disparities. For instance, no women were spotted during visits to other economic sectors in Chilika, like the Ports, The Bird Sanctuary, or the Fish Processing Unit in Ganjam. The cycle of vulnerability is further maintained by the unequal distribution of decision-making authority, which prevents women from realizing their full potential in supporting and profiting from coastal livelihoods.

4.4. Reflections

The exploration of access to coastal resources in Chilika, viewed through the lens of gender, reveals a complex interplay of tradition, environment, and societal norms. Comprehending these factors is crucial in order to formulate initiatives that advance gender parity in the management of coastal resources. It calls for challenging cultural conventions that uphold gender roles and giving women the authority to actively engage in processes of decision-making pertaining to coastal resources. This gender-focused examination of accessibility to coastal resources sheds a crucial spotlight on the need for inclusive strategies and initiatives in Blue Economy that not only acknowledge the particular difficulties faced by women but also work to remove obstacles that prevent them from taking full advantage of Chilika's rich coastal ecosystems.

5. Resilience and Viability Building by Women in Chilika

The depletion of fish stocks in Chilika due to climatic impacts and anthropogenic activities has significantly altered gender norms within the community. The decline in fishing activities has posed several threats to the household income and nutritional requirements of local communities. As fish production reached an all-time low, household level incomes dropped, resulting in the loss of fishery-based livelihoods (Nayak, 2014). The decline in fishery resources has also pushed fishers to out-migrate, leaving their communities and fishery-based livelihoods behind (Frayne et al., 2022). This particularly affected women, who often manage post-harvest operations. In addition to dealing with market volatility and fish shortages, they also experience the negative effects of out-migration. (Khan, 2018). In response to these challenges, women in Chilika have showcased remarkable resilience and adaptability, leading to the creation of alternative means of livelihood and the formation of close-knit support networks.

5.1. Diversification of Livelihoods

The decline in fishing activities has prompted women in Chilika to diversify their means of livelihood. Observations from the field school reveal a notable shift from traditional roles, with women actively engaging in income-generating activities beyond their conventional responsibilities. Women in Badakul engaged in the selling of toys and petty trading to supplement their household income. This diversification not only augmented their income but also served as a strategic response to the unpredictability of the fisheries sector.

5.2. Formation of Women Self-Help Groups (SHGs)

To cope with the economic challenges, women in Chilika have formed self-help groups that promote communal cooperation and provide financial incentives. These groups serve as platforms for sharing experiences, pooling resources, and collectively navigating the evolving economic landscape. The strength of these groups lies not only in financial gains but also in fostering a sense of community and solidarity among the women. In Badakul, it was observed that SHGs had internal governance structures with leaders or representatives speaking for the group.

5.3. Involvement in the Fisheries Value Chain

Women in Chilika, who were previously confined to domestic responsibilities, are presently actively involved in various aspects of the fishing value chain (see Figures 7 and 8). These encompass fish processing, marketing, sorting, and net mending as observed in Gajapatnagar, Rambha. A transformative alteration in gender dynamics has led to women assuming a more substantial position in household and communal decision-making, in conjunction with the significant economic benefits that have arisen from these undertakings.

Figure 7 and 8

Interactive session with the members of the self-help groups and a woman engaging in post-harvest activities by selling fish in the market



Source: These photos were captured during the Chilika - V2V Field School 2023 by Shreya Roy

5.4. Empowerment and Decision-Making

The active participation of women in fisheries activities has provided an enhancement of their economic and social capabilities. In addition to their contribution towards the income of their households, women have acquired a platform to voice their opinions in the decision-making processes. Except for the minimal disapproval pertaining to the authorization for women to express their viewpoints, an allowance that was opposed by certain individuals within the community, women were permitted to conduct interviews, articulate their perspectives, and contribute ideas during multiple trips to the fishing villages. In most cases, the leaders of the women groups represent the groups by speaking their collective opinions (Shukla et al., 2022). The previously prevalent traditional gender roles that restricted women to domestic duties are gradually transforming, thus establishing a more comprehensive and egalitarian framework within the community.

5.5. Reflections

The diversification of livelihoods, ranging from the mending of nets to active engagement in the fisheries value chain signifies an economic adaptation and also a profound reconfiguration of gender roles. The establishment of self-help groups by women in Chilika highlights the sense of community that unites these women. These groups function as economic entities and also serve as platforms for shared experiences, mutual support, and the cultivation of a diverse community. The empowerment of women supports their economic contributions and facilitates their greater roles in the decision-making processes within households and the communities. As we contemplate the resilience exhibited by the women of Chilika, it prompts us to consider the broader implications for coastal communities around the world. The lessons learned from Chilika serve as a beacon for fostering sustainable, inclusive, and resilient blue economy in coastal communities, where every individual, regardless of gender, plays a crucial part in nurturing a harmonious relationship with their environmental resources.

6. The Way Forward: A Direction Towards Viability

The resilience and adaptability displayed by the communities surrounding the Chilika Lagoon in the face of environmental challenges lay the foundation for a forward-looking strategy. This section delineates key aspects of the path ahead, considering both the challenges and opportunities presented by the evolving dynamics of the region.

6.1. Avenue for Resource Access for Men and Women

The sustainable future of Chilika's coastal resources necessitates the establishment of avenues that ensure equitable access for both men and women. This requires the formulation of policies and initiatives that challenge conventional gender roles, ensuring equal chances for men and women to participate in and reap the benefits of coastal livelihoods. Creating platforms for open dialogue and collaboration between genders will be pivotal in fostering an inclusive and resourceful community.

6.2. Avenue for Climate Resilience

Chilika's vulnerability to climatic impacts demands a proactive approach in safeguarding its inhabitants. Implementing robust disaster preparedness and response plans such as cyclone shelters, with a specific focus on gender-inclusive strategies, is paramount. It is important to ensure that both men and women have opportunities to access information, resources and participate in decision making processes before during and, after disasters. This will help strengthen the resilience of the community and minimize vulnerability amongst fisherfolks.

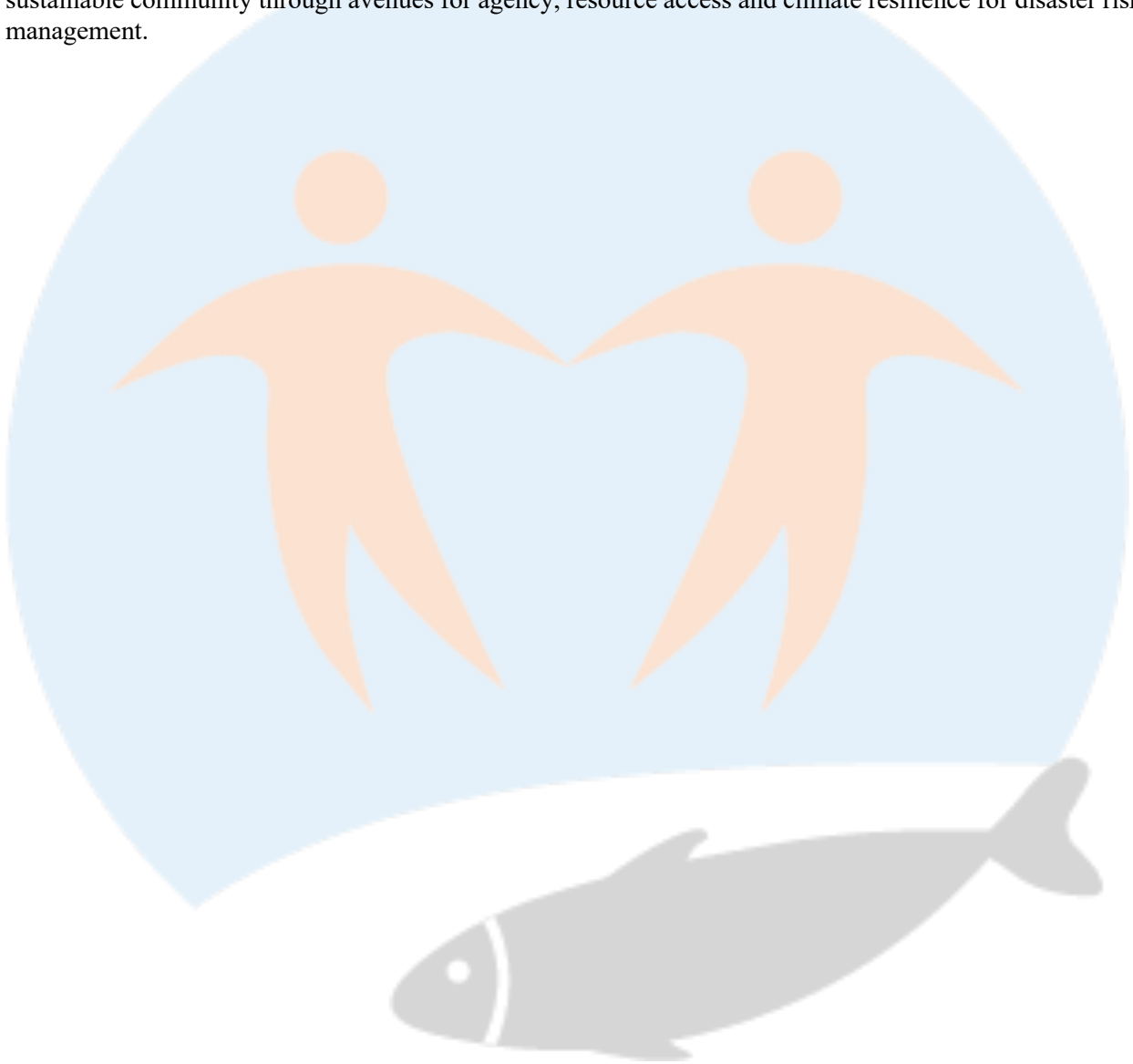
6.3. Avenue for Agency

Promoting blue economy in Chilika must include empowering the community with agency, which involves recognizing the potential within each individual, irrespective of gender. Encouraging the involvement of women, in decision making within households and communities is crucial to this effort. Beyond economic considerations, providing avenue for agency involves empowering individuals, especially women to have control over their own future, make meaningful contributions to their communities and participate in sustainable development. An implementation of these avenues for the facilitation of blue economy in Chilika requires a comprehensive and holistic approach so as to promote fairness to men and women. The challenges faced by Chilika's communities are interconnected, requiring solutions that transcend traditional boundaries and address the multifaceted nature of coastal livelihoods. As Chilika charts its course forward, collaboration between local communities, government bodies, and non-governmental organizations becomes instrumental. By fostering an environment of cooperation, where diverse voices are heard and respected, Chilika can emerge not only as a resilient ecosystem but also as a model for sustainable coastal development. In essence, the way forward is a collective journey—one that values inclusivity, environmental stewardship, and the inherent potential of every individual, weaving together a narrative of resilience, empowerment, and sustainable growth.

7. Conclusions

The reflections from the Chilika-V2V Field School underscore the intricate interplay between gender dynamics, coastal viability, and the evolving landscape of the blue economy. The Chilika Lagoon, a significant fishery resource in India, has become a representation of the challenges faced by coastal communities worldwide. As the lagoon grapples with environmental changes and anthropogenic impacts, the resilience exhibited by its residents, particularly women, becomes a beacon illuminating a path towards a sustainable and inclusive future. As we progress towards the future of blue economy in Chilika, the

imperative lies in crafting a narrative of inclusivity. Gender disparities, woven into the fabric of societal norms, pose challenges to the equitable utilization of coastal resources. It is essential to facilitate a shift in mindset and adopt policies that transcend boundaries, ensuring that both men and women have opportunities and involvement in decision making processes. The vision for Chilika encompasses more than just economic sustainability; it extends to resilience, agency, and empowerment. To protect the community from the impacts of climate change, we need not to be only prepared for disasters but to embrace gender inclusive strategies. Women, often the backbone of coastal households, must be active participants in shaping the response to environmental challenges. The way forward is a collaborative journey amongst all stakeholders, identifying the unique strengths and needs of every individual to contribute to a resilient and sustainable community through avenues for agency, resource access and climate resilience for disaster risk management.



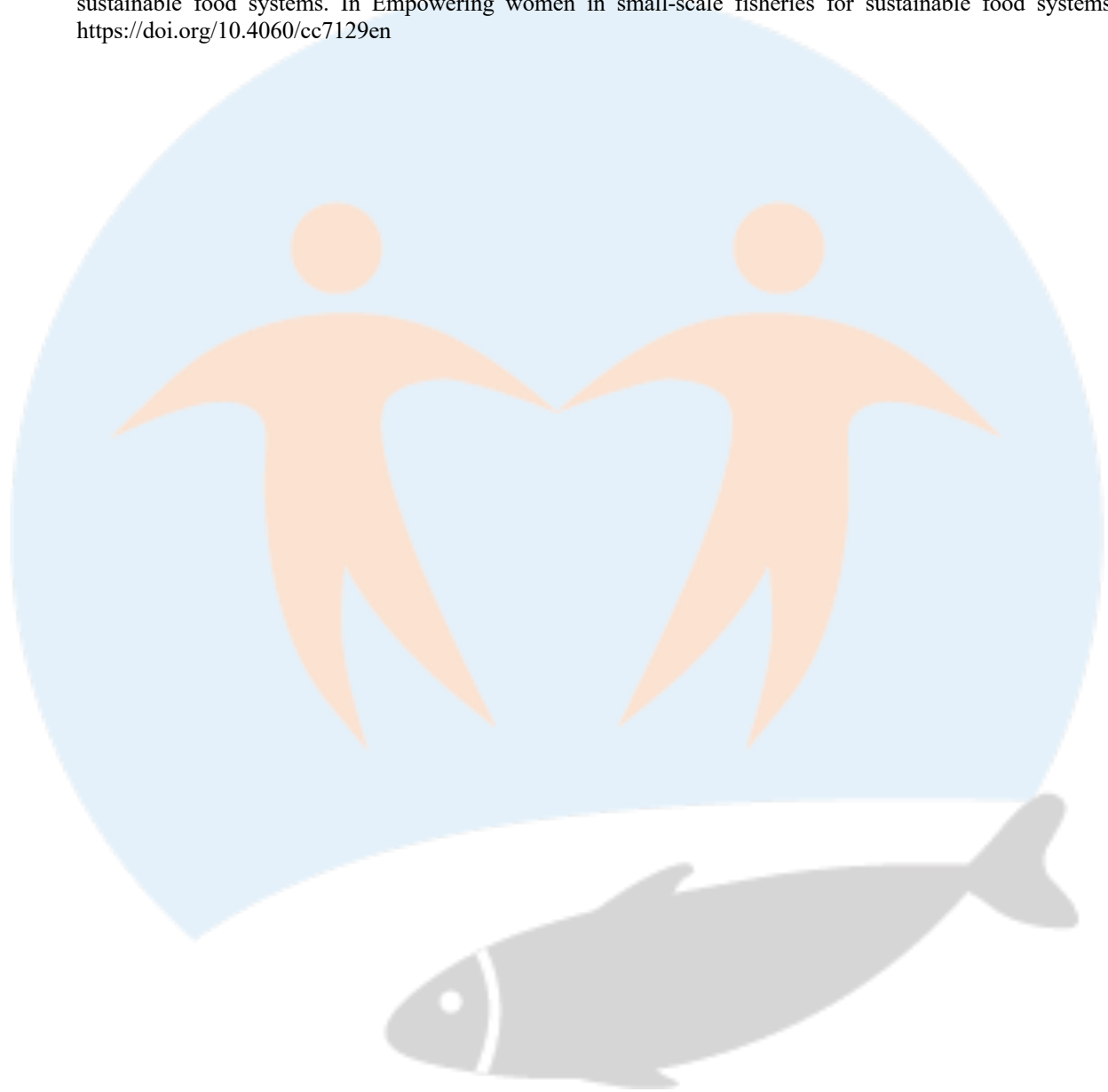
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Vulnerability to Viability (V2V) Global Partnership

The Vulnerability to Viability (V2V) project is a transdisciplinary global partnership and knowledge network. Our aim is to support the transition of small-scale fisheries (SSF) from vulnerability to viability in Africa and Asia. Vulnerability is understood as a function of exposure, sensitivity and the capacity to respond to diverse drivers of change. We use the term viability not just in an its economic sense but also to include its social, political, and ecological dimensions.

The V2V partnership brings together approximately 150 people and 70 organizations across six countries in Asia (Bangladesh, India, Indonesia, Japan, Malaysia, Thailand), six countries in Africa (Ghana, Malawi, Nigeria, Senegal, South Africa, Tanzania), Canada and globally. This unique initiative is characterized by diverse cultural and disciplinary perspectives, extensive capacity building and graduate student training activities, and grounded case studies from two regions of the world to show how and when SSF communities can proactively respond to challenges and creatively engage in solutions that build their viability. Further information on the V2V Partnership is available here: www.v2vglobalpartnership.org.

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