



VULNERABILITY TO VIABILITY
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Narratives of Happiness and Well-being: Lived Realities in the Chilika Lagoon

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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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Narratives of Happiness and Well-being: Lived Realities in the Chilika Lagoon

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Abstract

This reflective piece draws on insights from a six-day experiential field school in Chilika Lagoon, India's largest brackish water ecosystem and a Ramsar wetland. Through visits to eight communities and sites, the experience provided firsthand exposure to the interplay between livelihoods, resource management, and socio-ecological resilience. Observations and group discussions highlighted how happiness, wellbeing, and vulnerability are interconnected, shaped by community relationships and by external pressures such as natural and anthropogenic climate change. Key reflections emphasized five interconnected themes - transformation, identity, power, collectivism, and resources - which shaped how communities adapt and sustain themselves. Concepts such as resilience, community-based management, and the role of women's agency were reinforced through lived examples, including eco-tourism initiatives, forest stewardship, and fisheries governance. Beyond academic insights, the field experience highlighted the value of listening to local narratives and recognizing the cultural dimensions of resilience. These lessons apply broadly to resource management and adaptation planning, underscoring the importance of integrating ecological sustainability with community values, agency, and wellbeing.

Keywords Experiential learning • Socio-ecological resilience • Community-based resource management • Wellbeing and vulnerability • Climate change adaptation • Women's agency • Collective action

1. Introduction

1.1. Background and Context

The socio-ecological system of Chilika Lagoon sustains approximately 0.3 million small-scale fishers across more than 120 villages, alongside farming households and forest-dependent communities (Shukla et al., 2022). Despite differences in livelihood strategies and socio-economic conditions, these groups remain closely connected by the seasonal rhythms of the lagoon. Fishers adjust to fluctuating catches influenced by salinity changes and migratory species patterns, farmers rely on freshwater inflows and nutrient rich sediments to cultivate crops, and forest users depend on lagoon side resources for fuelwood and subsistence. As one of the largest brackish water ecosystems on India's eastern coast, Chilika represents a unique convergence of freshwater and marine influences. It is not only a Ramsar-designated wetland and the largest wintering ground for migratory waterfowl in the Indian subcontinent, but also a biodiversity hotspot, supporting several endangered and vulnerable species (Chilika Development Authority, 2021). The

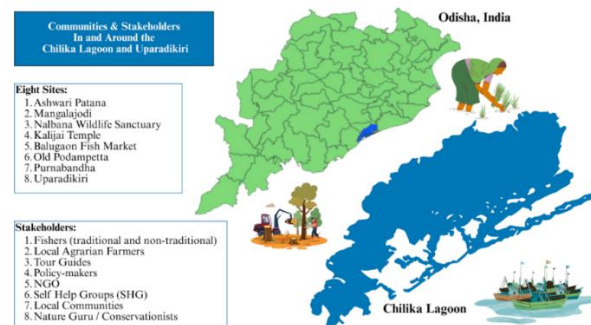
ecological richness of the lagoon provides material benefits such as fish and crops, but also cultural, spiritual, and psychological wellbeing, reinforcing a sense of belonging and resilience among its people (Akingbola & Kusumawardhani, 2024).

The communities around Chilika are diverse yet interconnected (figure 1). Broadly, they can be grouped into three categories: fisher households, farming families, and forest/resource-dependent communities. Traditional fisher groups, organized historically by caste membership, have deep-rooted customary rights over fishing grounds (Nayak & Berkes, 2011). These rights, however, have been subject to shifting governance regimes. From early systems of tribute under kings and zamindars, to colonial interventions, and later to state-controlled umbrella bodies such as FISHFED and the Chilika Development Authority, governance transitions have weakened grassroots institutions like *Jati Panchayats* and fisher cooperatives. This weakening of local institutions has reduced fishers' ability to manage resources collectively, undermining both livelihoods and wellbeing (Nayak, 2014, Miah et al., 2024). The growth of shrimp aquaculture in the 1980s intensified these pressures. Illegal and unregulated practices encroached upon traditional fishing grounds, and state leasing policies in the 1990s further transferred thousands of hectares to non-fisher groups (Nayak & Berkes, 2011). Although court rulings have since prohibited such aquaculture and reaffirmed customary rights, illegal cultivation persists, symbolizing a deeper vulnerability: the struggle between community-based rights and market-driven exploitation. Fishing communities, shaped by the changing nature of fish stocks, embody resilience through mobility, cooperation, and adaptation, (Susilo et al., 2021). Yet they face compounded vulnerabilities. Economic pressures include lack of capital, technology, and equitable access to markets; social challenges arise from weak community institutions, limited education, and inadequate healthcare; while environmental pressures stem from overfishing, sedimentation, and climate-driven threats like sea-level rise and erratic rainfall (Kusumawardhani et al., 2022).

Women play an increasingly vital role in enhancing family resilience and wellbeing. Beyond household duties, they contribute to income generation through fish processing, trading, or small enterprises. Their engagement not only supplements limited household earnings but also strengthens coping strategies, educational access, and overall family stability (Holijah, 2020; Zelasney et al., 2023). As Nordenmark (2004) suggests, women's triple roles- reproductive, productive, and community-based, enhance resilience by spreading risks and creating more balanced family economies. In Chilika, this role is particularly significant as men face irregular incomes from fluctuating fish catches.

Figure 1

Chilika Lagoon Stakeholders



Note: Various stakeholders in Chilika Lagoon include local fishing communities, who depend on the lagoon for their livelihoods, and government agencies, responsible for conservation and sustainable management. Additionally, NGOs, researchers, and tourism operators play a role in promoting ecological protection, research, and economic activities in the region.

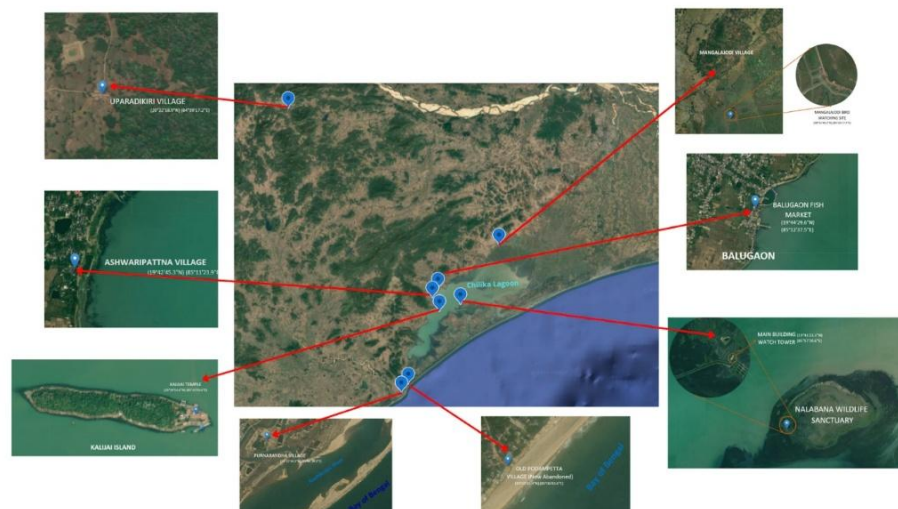
Happiness and wellbeing in Chilika are not defined by wealth alone, but by the strength of collective ties, the balance with nature, and the security of livelihood practices. Vulnerability here is multidimensional, encompassing ecological, economic, and institutional dimensions, and it reflects the degree to which both the lagoon and its people are exposed to stress (Nayak & Berkes, 2019). Viability, on the other hand, depends on sustaining the delicate balance of ecology, livelihood diversity, and community resilience (Ostrom, 2009). Chilika Lagoon is therefore more than a natural habitat; it is a lived landscape where joy, struggle, and endurance are shaped by the rhythms of daily livelihood practices. Protecting its viability requires policies that go beyond conservation and integrate the aspirations, rights, and cultural values of its communities. Strengthening grassroots governance, recognizing women's contributions, and securing equitable access to resources can reinforce both ecological sustainability and human wellbeing. In doing so, the lagoon can remain not only a refuge for biodiversity but also a source of happiness, identity, and resilience for generations to come.

1.2. Learning Area

The Chilika Lagoon, situated along the Odisha coast in the districts of Puri, Khurda, Nayagarh, and Ganjam, is Asia's largest brackish water body and the world's second-largest coastal lagoon (Kumar & Pattnaik, 2012; Nair & Nayak, 2023). With a history exceeding 5,000 years (Ghosh & Pattnaik, 2003), it spans approximately 64.3 km in length and 20.1 km in width, and its area fluctuates seasonally between 906 and 1,165 km² (Ghosh et al., 2006; Nair & Nayak, 2023); It is by rivers such as the Daya and Mahanadi before opening into the Bay of Bengal (Arizi et al., 2024). Although altered hydrodynamics have promoted sand bar formation and reduced maritime activity (Tripathi & Vora, 2005), the lagoon remains a biodiversity hotspot (Nair & Nayak, 2023; Ramsar, 2012). During the learning process we visited Asuaripatana, Nalabana Wildlife Sanctuary, Kalijai Temple, Mangalajodi, Old Podampetta, Purunabandha, Uparadikiri, Balugaon Fish Market (figure 2).

Figure 2

Chilika Lagoon Learning Areas



Note: The map shows Chilika Lagoon and its surrounding areas, highlighting visited small-scale fishing villages (e.g., Uparadikiri, Asuaripatana, Mangalajodi), the Balugaon fish market, and wildlife and conservation sites (Nalabana Wildlife Sanctuary, Kalijai Island).

1.3. Images: Happiness and Wellbeing

The observations and reflections were examined through the lens of happiness, wellbeing, and resilience. For this paper, resilience refers to the interplay among socio cultural connectedness, livelihood security and economic autonomy, and the ability of communities to adapt to and live in harmony with the natural environment. Each of these parameters carries distinct implications for happiness and wellbeing. We infer that the interplay between happiness and wellbeing fosters resilience. Happiness, while deeply subjective and shaped by individual preferences, also has a collective dimension within a community. When individuals are integrated into a shared social fabric, happiness becomes a unifying force, creating bonds that strengthen communal relationships. This sense of connectedness supports the community's sustainability across generations. Wellbeing, in turn, encompasses the broader conditions that enable individuals and communities to thrive, including happiness, health, connectedness, and purpose (American Psychological Association, 2020). A community that strives for wellbeing fosters conditions where individuals feel nurtured and engaged, thereby reinforcing resilience.

2. Framework and Approach

This experiential work draws on observation and reflective processes akin to journaling to capture and narrate the visible and invisible lived realities of eight sites. Through visual documentation and descriptive accounts from community members, we developed a guiding framework of five interconnected themes - transformation, identity, power, collectivism, and resources. Transformation reflects how communities adapt to changing ecological and social contexts. Identity captures the cultural ties, traditions, and shared sense of belonging that shape resilience. Power highlights dynamics of influence, voice, and decision-making within and beyond the community. Collectivism emphasizes solidarity, cooperation, and the strength of working together. Resources encompass both tangible assets, such as land and water, and intangible ones, such as knowledge and skills. These themes emerged from our interpretation of images and narratives, offering a lens to understand how communities in Chilika navigate challenges while sustaining resilience. The mixed style of this work helped to triangulate interpretations, allowing the strengths of one method to enhance the other, and ultimately attempting to provide a more complete and nuanced understanding of the dynamics at play.

2.1. Observations

The observational component of this project involved five days of field engagement (August 10-15, 2025) across eight sites in Odisha, India, with each visit lasting approximately 1-4 hours, allowing for a brief grounded understanding of daily life, cultural practices, and community dynamics. Through participant observation, informal conversations, and visual photographic documentation, this experiential learning sought to capture the nuances of each theme. By prioritizing the lived experiences of residents, the work foregrounded their perspectives rather than imposing an external analytical lens. This approach not only offered rich, qualitative insights but also ensured that the observations reflected the complexity of social and ecological relationships in context. The resulting narratives, captured through both written field notes and photographed images, form a brief, yet authentic representation of how each community navigates challenges and opportunities. Overall, the scope of our observations aimed to (1) Provide an account of challenges and resilience, (2) Share the causes and consequences of hardships, (3) Understand vulnerability, (4) Highlight the emergence of conscious community and communitarianism; and (5) Explore how narratives can be used in building linkage between happiness, wellbeing and resilience.

2.2. Reflective Process

The journaling process served as a central reflective approach, complementing field observations by fostering continuous interpretation and reflexive engagement. The reflective process complemented the observations by creating space for ongoing interpretation and critical self-awareness throughout the field visits. After each village visit, the research team engaged in structured discussions to review observations, share interpretations, and identify emerging themes. Journaling functioned as both a data source and an analytical lens, enabling the team to trace evolving patterns across sites while remaining attentive to context. This process allowed for cross-validation between individual perspectives and fostered a deeper understanding of the meanings behind what was observed. Reflection was not only an analytical tool but also a means of ensuring ethical sensitivity and cultural respect, helping to avoid misrepresentation of the communities' lived realities. Integrating reflection into the experiential learning design created a dynamic and iterative cycle of learning that informed subsequent visits and helped shape the thematic framework applied to the visual and narrative materials.

2.3. Limitations

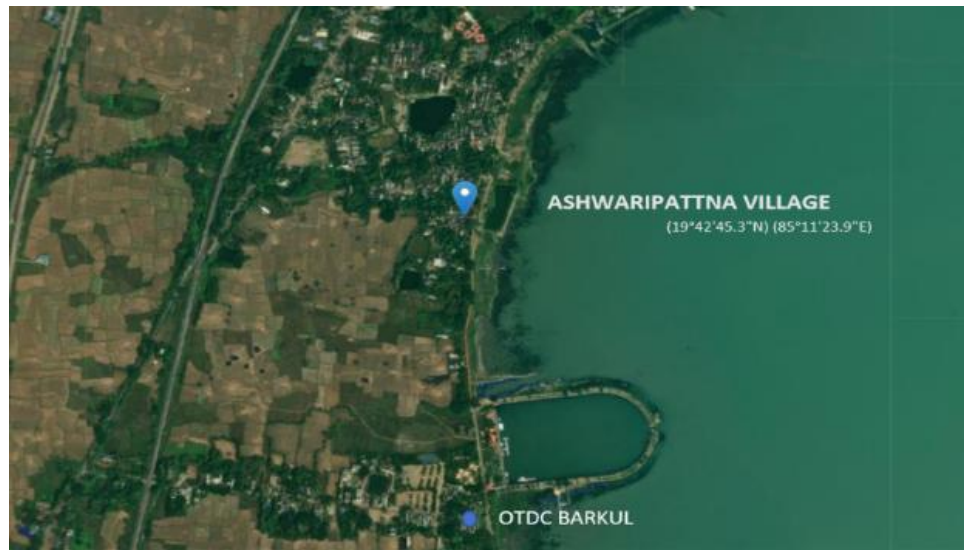
Findings are highly context-bound, shaped by seasonal cycles and local conditions, making generalization difficult. Learners' interpretations are influenced by personal biases, cultural background, or emotional involvement. Community participation is uneven, as caste hierarchies, gender roles, and power dynamics often silence certain groups, particularly women and marginalized fishers. Moreover, field immersion requires time, resources, and sensitive facilitation. This learning experience was only one week in length and thus, is not considered research and does not offer finalized conclusions. Without careful ethics and reciprocity, there is a risk of extractive practices that fail to represent community realities inclusively.

3. Observations and Reflections

This section details observations, conversations, and visual documentation, highlighting the lived experiences, practices, and interactions of fishers, farmers, and forest-dependent groups. Through these reflections, the section aims to capture how ecological, social, and cultural factors intersect to shape community wellbeing, resilience, and collective identity.

3.1. Asuaripatana

The village Asuaripatana is a small fishing community nestled along the western shores of Chilika Lagoon (figure 3). Traditionally identified as fisherfolk, this cultural identity forms the foundation of the community's resilience and coping strategies in response to shifting access to common resources. Women in the village play a central role in both household and economic life, often managing households and participating in Self-Help Groups (SHGs) that foster financial independence. Their aspirations for their children's wellbeing are closely tied to their own sense of happiness, highlighting how individual and collective resilience are intertwined within this community.

Figure 3*Asuaripatana Village**Note: Geographical coordinates of Asuaripatana Village*

Religious practices and collective worship are central to the community's sense of happiness and shared identity (figure 4). Rituals, festivals, and daily devotional activities not only reinforce spiritual values but also strengthen social bonds, creating a sense of belonging and mutual support. These practices serve as both a marker of cultural continuity and a coping mechanism, helping community members navigate uncertainty and environmental changes. Through shared beliefs and traditions, the community cultivates collective resilience, where cultural identity, social cohesion, and emotional wellbeing are deeply interconnected.

Figure 4*Community Happiness, Identity, and Power**Source: The photos were captured by a participant in the Chilika - V2V Field School 2025*

3.2. Kalijai Temple

The Kalijai Temple, located on a culturally and spiritually revered island within the Chilika Lagoon (figure 5), serves as more than a place of worship; it is a living common that has united generations. Beyond its religious significance, the temple fosters collective stewardship, trust, and social cohesion, making it a cornerstone of both cultural heritage and ecological sustainability. Worship at Kalijai reflects profound expressions of spirituality, where shared belief systems and efforts to preserve cultural heritage foster a sense of hope, strength, peace, and happiness among community members. As a shared space, the temple exemplifies how spiritual devotion, cultural identity, and environmental care converge to support both community wellbeing and the resilience of the lagoon's ecosystem.

Figure 5

Kalijai Temple



Note: Geographical coordinates of Kalijai Temple.

The presence of the cobra at the centre of the Lord Shiva temple serves as a powerful symbol, embodying the sacred identity of devotees. Within the community, the serpent is not feared but revered as Shiva's divine messenger and a trusted guardian against misfortune. This profound faith is expressed in deeply personal ways; for example, some individuals, including a few women, tuck small representations of the cobra into their sarees, symbolizing trust in its protective power. Beyond being a symbol, the cobra functions as a spiritual shield, a constant reminder of Shiva's protective presence in daily life. Its significance reinforces collective identity, strengthens faith-based social cohesion, and illustrates how spiritual symbols contribute to both emotional resilience and the community wellbeing (figure 6).

Figure 6

Kalijai Temple as community strength, identity, belief and spirituality



Source: The photos were captured by a participant in the Chilika - V2V Field School 2025

3.3. Mangalajodi

Mangalajodi is located on the northern banks of the Chilika Lake in Odisha (figure 7); it is a unique community-managed wetland, where social–ecological interactions have evolved over several decades. This micro-level system provides critical ecosystem goods and services, such as predator–prey regulation and habitat formation, through complex but well-understood ecological relationships that remain in balance under undisturbed conditions. Interwoven with this ‘natural’ system is the human dimension, which includes boats, waste management, permanent settlements, and other infrastructure. The co-existence of these natural and human systems is most evident in the symbiotic interplay of activities such as tourism, conservation, and fishing.

Figure 7

Mangalajodi Village



Note: Geographical coordinates of Mangalajodi village.

The community's transition from poaching to wildlife conservation reflects a deep sense of belonging and shared responsibility (figure 8). By protecting biodiversity and restoring ecosystems, community members experience mutual benefits that balance livelihoods with ecological health. These practices foster a collective identity rooted in stewardship, highlighting how sustainable engagement with the wetland enhances both ecosystem resilience and community wellbeing.

Figure 8

Mangalajodi Eco-tourism as community transformation



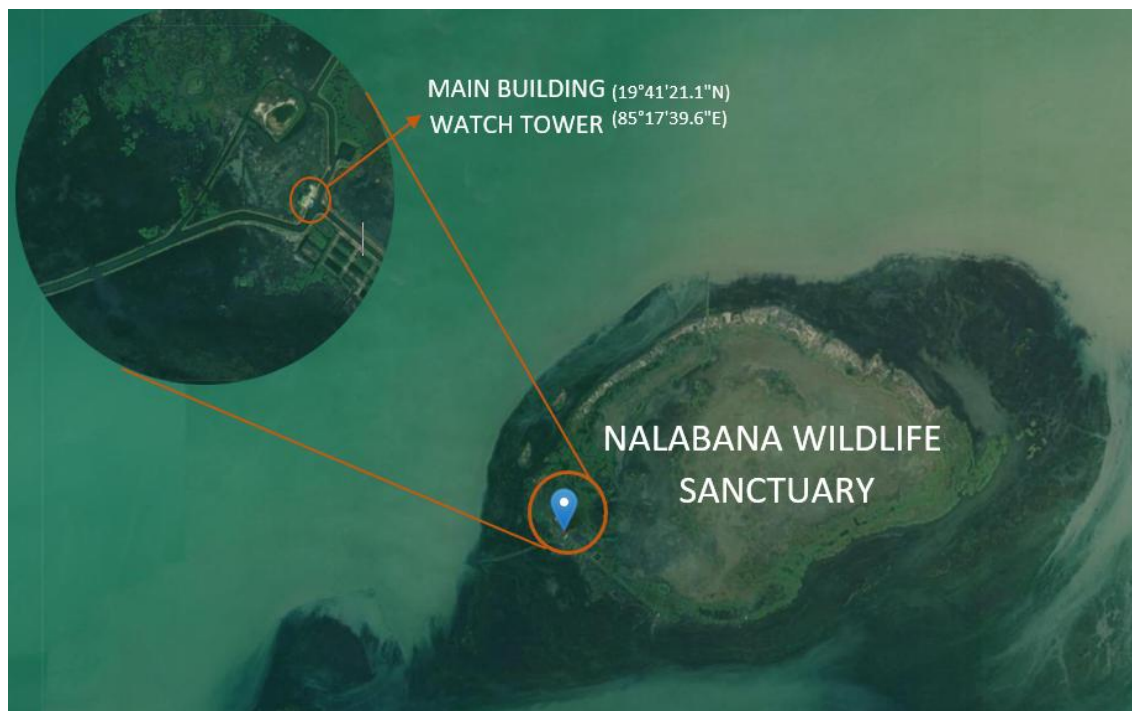
Source: The photos were captured by a participant in the Chilika - V2V Field School 2025

3.4. Nalabana Bird Wildlife Sanctuary

Nalabana Bird Sanctuary is located within the core area of Chilika Lake (figure 9) and is a dynamic ecosystem where spatial and temporal transformations shape both ecological patterns and human experiences. Seasonal migrations and changing habitat conditions mean that what brings abundance or wellbeing to some species or stakeholders at one time may create scarcity or challenges for others. This interplay embodies the idea that “someone’s unhappiness is someone’s happiness,” highlighting the delicate balance of needs, resources, and outcomes within the sanctuary. For instance, fishers lost their rights to fish in certain areas following the sanctuary’s notification, yet this measure has enabled more streamlined and effective conservation efforts by the government.

Figure 9

Nalabana Bird Wildlife Sanctuary



Note: Geographical coordinates of Nalabana Bird Wildlife Sanctuary

The protection and sustainable management of resources play a critical role in restoring ecosystem health, which is closely linked to the wellbeing of both the community and the environment. Through stewardship and thoughtful governance, the sanctuary demonstrates how ecological restoration and community resilience are intertwined, underscoring that preserving the ecosystem supports collective prosperity and long-term sustainability (figure 10)

Figure 10

Nalabana Bird Sanctuary as transformation of power and resource conservation



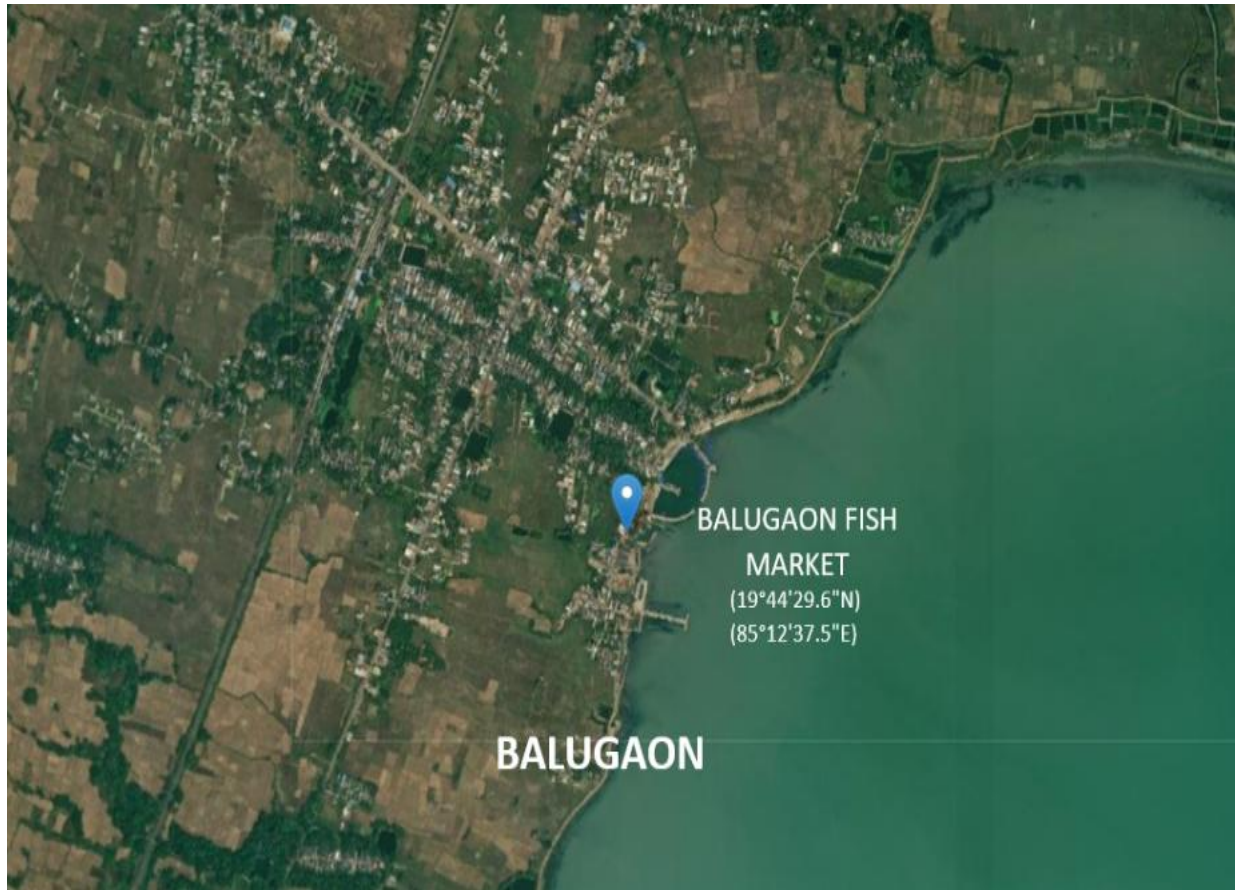
Source: The photos were captured by a participant in the Chilika - V2V Field School 2025

3.5. Balugaon Fish Market

The Balugaon Fish Market, located in Balugaon in the Khurda District of Odisha, India (Figure 11), is situated near the banks of Chilika Lake and serves as a vital hub for the local fishing community. The market's proximity to Chilika Lake underscores its significance as a primary point where freshly caught fish are brought, traded, and distributed across the region.

Figure 11

Balugaon Fish Market



Note: Geographical coordinates of Balugaon Fish Market.

The Balugaon Fish Market reveals both unity and struggle within the fishing community. On one hand, there is collective strength, cooperation, and mutual support, where working side by side reflects forms of trust, teamwork, and communal solidarity that help fishers sustain their families (Figure 12). At the same time, the market reveals the power imbalance within the value chain, as middlemen and wholesalers hold significant control over trade. This control often places small scale fishers in cycles of financial dependency, limiting their agency and reinforcing patterns of vulnerability. Additionally, environmental and seasonal changes further exacerbate the community's challenges, as fluctuating fish populations can intensify competition for catch and create greater uncertainty. The market thus embodies both the resilience of community bonds and the hardships imposed by structural inequalities.

Figure 12

Balugaon Fish Market as power dynamics and collectivism



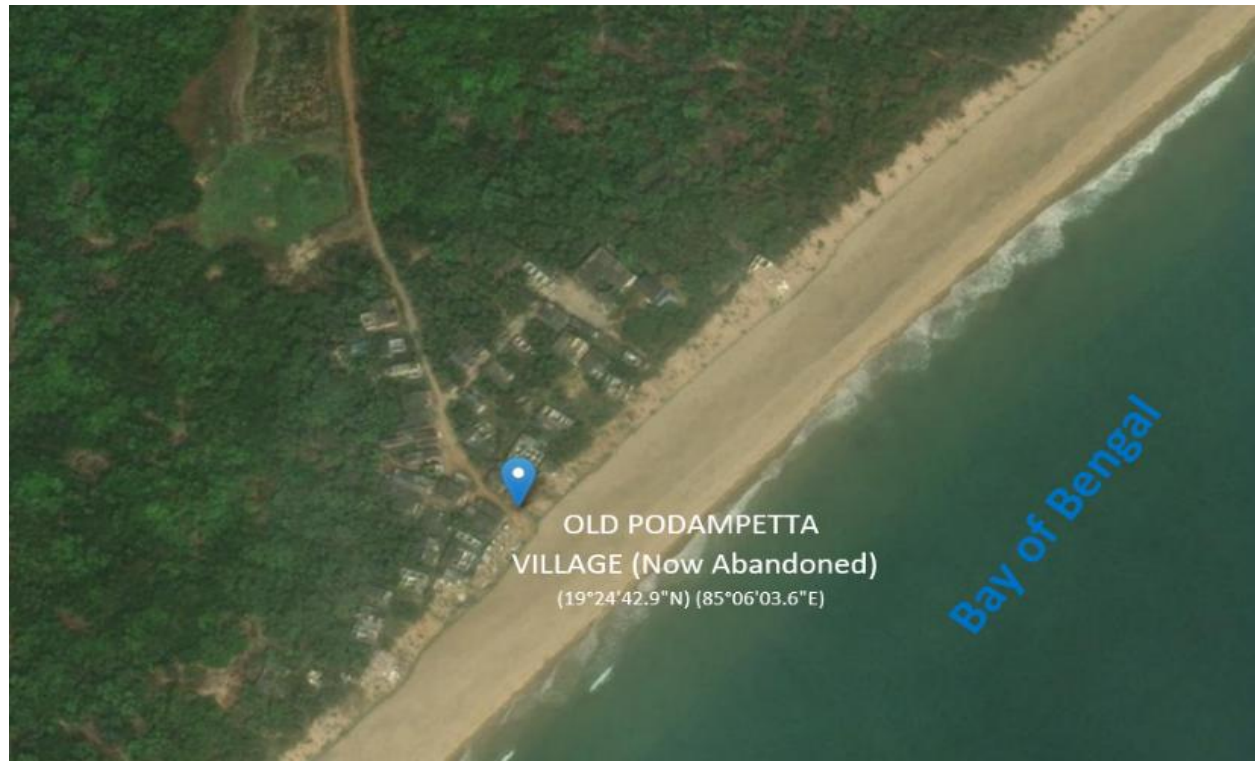
Source: The photos were captured by a participant in the Chilika - V2V Field School 2025

3.6. Podampetta

Old Podampetta Beach, located in the Ganjam district of Odisha, India, along the eastern coast near the mouth of the Rushikulya River, has for years served as a nesting ground for Olive Ridley turtles (figure 13).

Figure 13

Old Podampetta Village



Note: Geographical coordinates of Old Podampetta Village.

Historically, it also housed a local fishing community. However, coastal erosion driven by climate change and sand mining at the catchment area has caused much of the beach to be claimed by the sea, leading to the resettlement of communities to areas like New Podampetta. This displacement has forced the community to grapple with protecting their identity and coping with the impacts of climate change. At the same time, there are ongoing concerns about whether Olive Ridley turtles will return to nest - a conservation initiative the community has long been involved in, highlighting their continued role in environmental stewardship (figure 14).

Figure 14

Old Podampetta Village as power, identity and resilience



Source: The photos were captured by a participant in the Chilika - V2V Field School 2025

3.7. Purunabandha

Purunabandha is a coastal village in the Ganjam district of Odisha, India, located near the Rushikulya River mouth along the Bay of Bengal (figure 15).

Figure 15

Purunabandha Village



Note: Geographical coordinates of Purunabandha Village.

Situated along the sea, the land plays a vital role in livelihoods - fisherfolk use the beach to park boats, dry fish, and mend nets. When threatened by sea-level rise and encroachment, the community turned to mapping their commons using geospatial tools. This carefully demarcated map empowers them to assert their rights, resist external intrusion, and protect their future. For the fisher community of Purunabandha, the map symbolizes their heritage, conservation efforts, and a safeguard for generations to come (figure 16).

Figure 16

Purunabandha Village as identity, rights and conservation



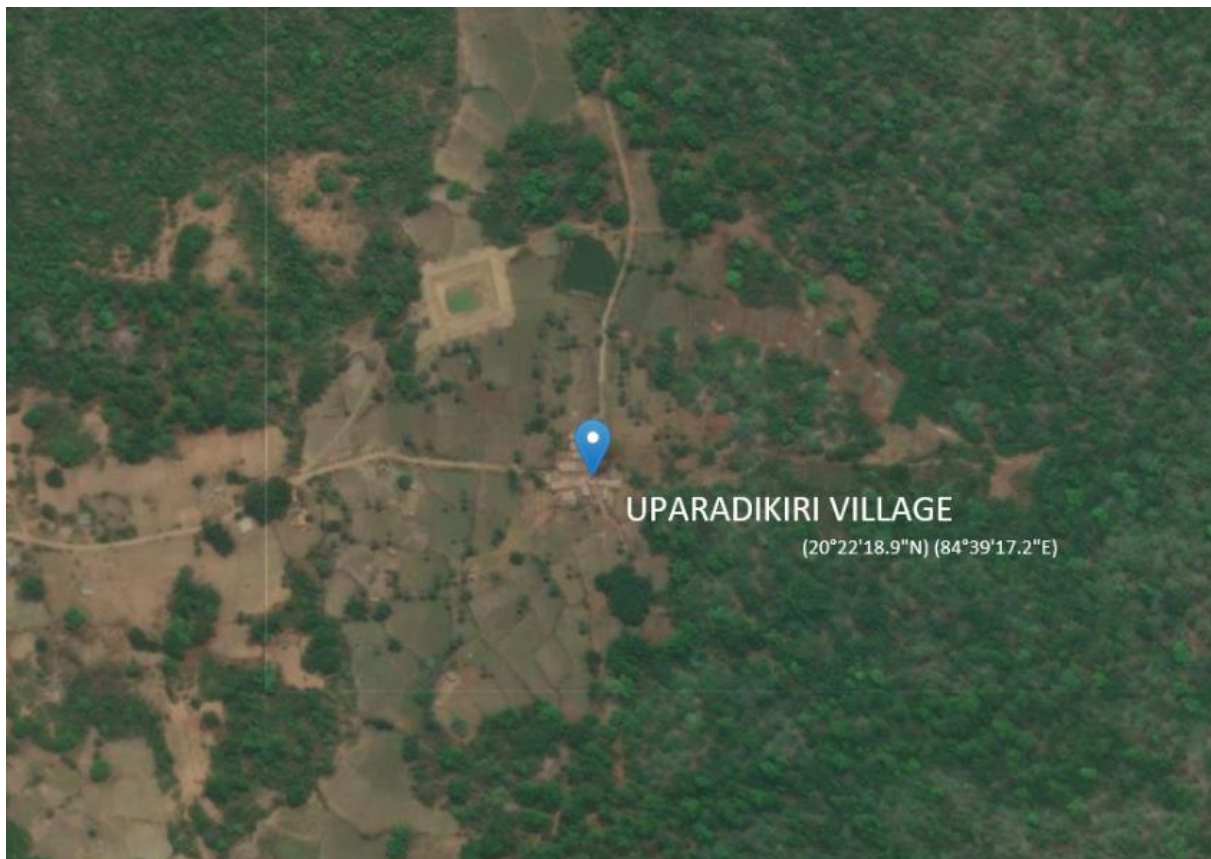
Source: The photos were captured by a participant in the Chilika - V2V Field School 2025

3.8. Uparadikiri

Uparadikiri is a small tribal village in Banigochha Tehsil, Nayagarh district, Odisha, India - situated roughly 28 km from the sub-district headquarters at Banigochha and about 68 km from the district headquarters at Nayagarh (figure 17).

Figure 17

Uparadikiri Village



Note: Geographical coordinates of Uparadikiri Village.

In Uparadikiri, collective hard work lies at the heart of community life, where people come together to manage, govern, and utilize resources in sustainable ways that aim to benefit the community. Women are perceived as vocal and integral members of the community, playing a crucial role in managing resources and carving out their own space in the governing body of the institution, highlighting both power and identity.

Forest conservation here is a shared responsibility embraced by every household. Through *Thengapalli* - a community-based system where each family safeguards eight trees - the villagers ensure the preservation of their forests for future generations. This practice not only protects the forest but also provides security and continuity for each household. Within the forest, a medical plant garden is nurtured and cherished; the community often refers to it as their “jewellery box,” symbolizing both healing and value. These plants embody the intertwined power of community and forest in sustaining wellness.

The villagers' cultural traditions also reflect their values of respect and identity. Guests are welcomed with local songs accompanied by traditional instruments, handmade flower bouquets, and rangoli designs spelling out "welcome" in the native language. Such gestures embody warmth, hospitality, and cultural pride. In daily life, the use of hand-crafted leaf utensils and flower bouquets as eco-friendly alternatives further symbolizes their deep commitment to sustainability (figure 18).

Figure 18

Upardikiri Village as collectivisation, power, and identity

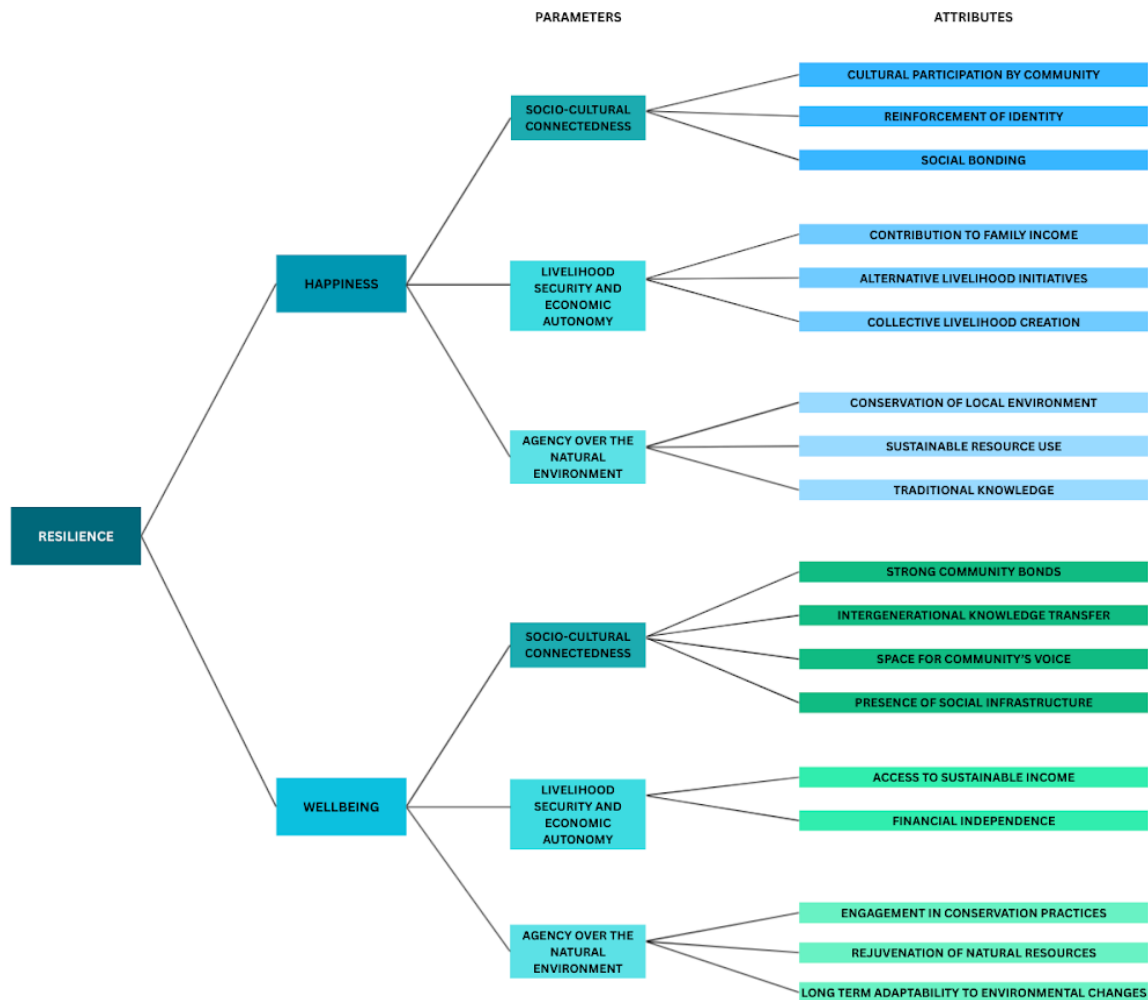


Source: The photos were captured by a participant in the Chilika - V2V Field School 2025

4. Abstract Conceptualization

For this paper, resilience is understood as the interplay between happiness and wellbeing. Since happiness and wellbeing hold different meanings for different people, they are difficult to define in absolute terms. While numerous interpretations exist, we have developed a working framework to guide our analysis. This framework is neither definitive nor final, as happiness and wellbeing are dynamic, deeply personal concepts. Instead, it provides broad parameters that support interpretation through our observations.

Based on this approach, we identify three parameters that connect resilience with happiness and wellbeing (figure 19). These parameters are: (i) socio-cultural connectedness, (ii) livelihood security and economic autonomy, and (iii) agency over the natural environment. Each parameter encompasses further attributes that help articulate the concepts of happiness and wellbeing. Given the breadth of these definitions, we assume that the presence of even one attribute signals the presence of that parameter. Together, the interplay of these factors - which broadly define happiness and wellbeing - contributes to fostering resilience.

Figure 19*Resilience as the Interplay of Happiness and Wellbeing*

Note: This framework illustrates how resilience emerges from the interconnected dimensions of happiness and wellbeing, grounded in socio-cultural connectedness, livelihood security and economic autonomy, and agency over the natural environment.

What follows is an explanation of the images that were observed based on the categorization that was done in section three. These images are further linked to the framework on resilience, happiness and wellbeing.

4.1. Image of Transformation

Asuaripatana village reflects a story of transformation where women have become the backbone of households and community life. They drive livelihoods through small businesses, self-help groups (SHGs), and active participation in shaping their children's futures, while men's long hours of labour outside the village provide only basic sustaining needs. Women's perspectives on family, education, and self-

sufficiency emphasize a belief that true happiness lies in progress for the next generation - laying the foundation for resilience, unity, and community pride amid evolving aspirations and challenges.

Mangalajodi village represents another powerful transformation. Once known for poaching, the community - through visionary leadership and conservation awareness - shifted toward protecting their wetland ecosystem. Literacy programs and training provided the foundation for this change, enabling villagers to embrace new livelihoods in eco-tourism, bird guiding, and community-based fisheries that replaced destructive practices of the past.

The creation of Nalabana Bird Sanctuary in 1987 illustrates a more complex transformation. While conservation policies benefited migratory birds, they simultaneously displaced local fishing communities and stripped them of traditional rights to their waters. This shift in power from community to government authorities highlights the tension between ecological protection and social equity.

In Uparadikiri village, transformation is embodied in the community's deep bond with the forest, which they regard as a source of life, heritage, and resilience. Women are at the forefront of conserving biodiversity and asserting forest rights, with 18 households collectively developing *Tota*, a common property for orchards that sustain medicinal plants, fruits, and traditional knowledge. This practice strengthens identity and emotional ties across generations, while fostering empowerment, solidarity with neighbouring villages, and resilience in protecting land and resources.

4.2. Image of Identity

The image of identity in Asuaripatana village, situated along the shores of Chilika Lagoon, is inseparable from its ecological setting. The lagoon is both a livelihood source and a symbolic space of belonging, shaping how residents perceive themselves as a community. Hospitality here is expressed through simple welcoming ceremonies, where guests are received with warmth and respect—gestures that mirror the openness of the lagoon itself. These modest acts embody a cultural ethic of sharing and reciprocity, forming the foundation of Asuaripatana's collective self-image. Painted walls in homes and community spaces extend this identity further, transforming everyday happiness into visual narratives that preserve memory and strengthen communal bonds. Temples and religious practices amplify this sense of identity by aligning spiritual devotion with the ecological rhythms of the lagoon. Ceremonies held at sacred sites intertwine faith, water, and livelihood, weaving them into a single cultural fabric. Through this interconnection, Asuaripatana projects an image of identity as a cultural waterscape, where hospitality, artistic expression, and ritual practice converge to express resilience, belonging, and continuity within the lagoon environment.

In Uparadikiri village, identity is deeply rooted in the role of the community as guardians of the forest. Hospitality takes a performative form through welcoming dances, where choreographed movements communicate solidarity, respect, and ecological values. These are not magical rituals but meaningful cultural acts that affirm both unity and the village's enduring bond with the forest. This image of identity is further reinforced by ground drawings made with natural pigments - ephemeral yet powerful gestures of blessing and respect for the land. The offering of natural bouquets extends this ethic of harmony, signalling reverence for nature and a commitment to sustainability.

Together, Asuaripatana and Uparadikiri reveal how identity is shaped by distinct ecological and cultural contexts. Asuaripatana, bound to the lagoon, expresses openness and reciprocity through ceremonial acts, while Uparadikiri, rooted in the forest, embodies stewardship and solidarity through performance and ritual. Both show that identity is not static but a living expression—continuously enacted through hospitality, art, ritual, and livelihood, deeply embedded in the landscapes that sustain human life.

4.3. Images of Power

Asuaripatana village offers a powerful image of community strength, embodied most clearly through the leadership of women. Forming their own self-help groups (SHGs), women have taken collective responsibility for securing their families' futures. With 20 members in each group, they provide for essential household needs such as education, food, and social support. This reflects a model of empowerment in which women improve their lives and assert independence, shaping resilience from within the household outward.

In Mangalajodi, the image of power is expressed through ecological transformation. Once reliant on poaching, the community has shifted to protecting and preserving their wetlands - the vibrant home of countless species of flora and fauna. Through training, literacy, and ecological awareness, villagers now share their knowledge of wetland pathways and birdlife with visitors, turning conservation into a livelihood. Their commitment to sustainability reveals the power of collective will: to protect, to learn, and to keep the wetland alive for future generations.

In Purunabandha, community power takes the form of rights over commons. Through geo-spatial mapping, fishing communities have demarcated the diverse uses of their coastal commons, securing safeguards against encroachment and asserting their control over local resources. These maps are more than technical tools; they are symbols of agency, ensuring that livelihoods tied to the coast remain in the hands of the community.

The people of Upadikiri express their power through a deep relationship with the forest. Medicinal gardens are planted throughout the area, serving as a "jewellery box of the village," a source of health and resilience drawn directly from natural resources. The *Thenga* - a symbolic bamboo stick that passed among neighbours - represents their collective responsibility to protect the forest. For them, trees are not just resources but life itself, sustaining both identity and livelihood. This ethic of stewardship ensures that power remains rooted in their community's control over the forest.

4.4. Images of Collectivism

In Asuaripatana, collectivization is not a passive inheritance of tradition but an active and evolving strategy of survival and wellbeing. Cultural identity, emotional ties, and social cohesion come together to form a collective strength that helps the community navigate environmental and socio-economic challenges. Women are central to this process, playing vital roles in both domestic and economic spheres through Self-Help Groups (SHGs). These groups serve as financial safeguards and as spaces where collective agency is nurtured, enabling women to strengthen their independence while uniting under shared goals. Religious rituals, festivals, and collective worship further reinforce this spirit of collectivism, anchoring people in a shared rhythm of belief and practice.

The Kalijai Temple embodies this ethos at a larger scale. More than a site of worship, it acts as a living common, binding generations through cultural and spiritual heritage. Its influence extends beyond individual devotion to nurture collective stewardship, trust, and cohesion. Temple worship provides a shared sense of hope, strength, and belonging, while also reinforcing commitments to cultural preservation and resource care.

In Balugaon, collectivization is visible in the cooperative practices of fishing. Fishers work side by side, pooling their strength and trust to support one another on the water. Yet, this collective spirit is challenged by external pressures, particularly market forces and middlemen, which create cycles of dependency that weaken community autonomy.

Upadikiri reflects another dimension of collectivism through sustainable resource management, inclusive governance, and cultural solidarity rooted in the forest. A striking example is the *Thengapalli* system, where villagers take turns patrolling communal forests with sticks, ensuring protection through shared responsibility. This grassroots model highlights the strength of eco-traditional practices and the depth of community stewardship in safeguarding both land and livelihood.

4.5. Images of Resources

The observations made at Chilika's villages, markets, sanctuaries, and sacred sites highlight that "resources" in this socio-ecological system extend far beyond fish stocks and wetlands. They include cultural identity, social networks, spiritual practices, ecological assets, and collective knowledge. These varied resources form the foundation of community happiness and resilience, while also shaping the vulnerabilities and viability of the lagoon system.

See the resource summary below:

Resources of different learning areas of Chilika Lagoon

Asuaripatana

- **Ecological Resources:** Fishery
- **Social Resources:** Fisherfolk identity, SHGs
- **Cultural Resources:** Religious rituals, collective worship
- **Knowledge-Based Resources:** SHG financial skills

Kalijai Temple

- **Ecological Resources:** Lagoon biodiversity
- **Social Resources:** Cultural heritage
- **Cultural Resources:** Communal worship, festivals, faith in deity
- **Knowledge-Based Resources:** Traditional knowledge of rituals and symbols

Mangalajodi Eco-Tourism

- **Ecological Resources:** Wetlands, biodiversity, bird habitats
- **Social Resources:** Community conservation
- **Cultural Resources:** Sense of belongingness, collective identity
- **Knowledge-Based Resources:** Eco-tourism practices, local ecological knowledge

Nalabana Bird Sanctuary

- **Ecological Resources:** Migratory birds, wetland habitat
- **Knowledge-Based Resources:** Data on migratory and native birds guiding conservation efforts

Balugaon Fish Market

- **Ecological Resources:** Fish catch
- **Social Resources:** Cooperation, solidarity, caste networks
- **Cultural Resources:** Trust and solidarity in shared trade
- **Knowledge-Based Resources:** Market knowledge, trade strategies

Old Podampetta

- Ecological Resources: Olive Ridley turtle nesting site
- Social Resources: Community heritage, identity tied to coast
- Cultural Resources: Ancestral connections
- Knowledge-Based Resources: Community adaptation to erosion, conservation knowledge

Purunabandha

- Ecological Resources: Fishing grounds, coastal commons
- Social Resources: Commons mapping as collective action
- Cultural Resources: Safeguarding cultural rights through mapping
- Knowledge-Based Resources: Geo-spatial mapping, rights documentation

Uparadikiri

- Ecological Resources: Forests, medicinal plants
- Social Resources: Community rituals, women's leadership
- Cultural Resources: Medicinal garden, cultural performances
- Knowledge-Based Resources: Knowledge of plant use and benefits

5. Discussion

5.1. Vulnerabilities in Chilika

The vulnerabilities of Chilika Lagoon arise from intertwined ecological risks, economic traps, and socio-cultural fragilities, revealing the delicate balance between resilience and vulnerability in this socio-ecological system. Heavy dependence on lagoon fisheries makes communities highly sensitive to ecological changes and restricted resource access. Reliance on eco-tourism brings alternative income but leaves livelihoods vulnerable to market fluctuations and competition from commercial operators. Small-scale fishers remain caught in exploitative value chains dominated by middlemen and wholesalers, deepening cycles of poverty. At the same time, climate change, coastal erosion, and sand mining have displaced entire communities, eroding cultural identity and settlement security. Rising sea levels threaten the physical base of fishing livelihoods, while encroachment by external actors undermines traditional commons and access rights. Together, these pressures reveal how structural inequalities, environmental changes, and shifting governance erode wellbeing and resilience, making Chilika Lagoon a contested yet vital landscape for both survival and identity.

5.2. Resilience in Chilika

Resilience in the Chilika Lagoon emerges from the community's ability to adapt, innovate, and sustain their socio-ecological systems despite mounting pressures. Community forest conservation, as seen in Uparadikiri's *Thengapalli* practice, strengthens both ecological balance and household wellbeing. Efforts toward rejuvenation of forest resources, through medical plant gardens and community-led preservation, highlight how local stewardship enhances both ecological regeneration and long-term wellbeing. In Uparadikiri, resilience is visible through multiple parameters. Happiness is seen in the reinforcement of identity, social bonding, sustainable resource use, traditional knowledge and environmental conservation. Wellbeing is visible through strong community bonds, intergenerational knowledge transfer, community's voice, and rejuvenation of natural resources.

Community wetland conservation, exemplified in Mangalajodi, transforms past poaching practices into stewardship, ensuring biodiversity protection alongside livelihood security. Eco-tourism initiatives link conservation with income, fostering pride and collective responsibility. In Mangalajodi, livelihood security and economic autonomy, and agency over the natural environment act as proof of the community's resilience. Kalijai temple is a spiritual figure showcasing the community's resilience in the form of finding happiness through social bonding, reinforcement of identity, cultural participation and the presence of social infrastructure.

When traditional fishing becomes uncertain, households pursue alternative livelihoods such as small enterprises, fish trading, and women-led Self-Help Groups, diversifying income streams. A manifestation of resilience can be seen in Asuaripatana through the presence of socio-cultural connectedness and economic autonomy. Happiness manifests through cultural participation and social bonding, and contribution to family income and creation of a collective livelihood. Wellbeing manifests in the form of the presence of social infrastructure, i.e., the village temple, and financial independence.

Communities like Old Podampetta demonstrate resilience by shifting to new settlements while striving to retain cultural identity amid coastal erosion. In Purunabandha we get to witness the presence of happiness and wellbeing through the presence of socio-cultural connectedness and agency over the natural environment. Resilience can be seen through the reinforcement of identity, conservation of local environment, displaying the community's voice, and long-term adaptability to environmental changes.

The sustainable use of natural resources, from medicinal plants to regulated fisheries, reflects ecological knowledge embedded in daily practices. While there exist several factors that challenge the community's resilience, what is also visible are the various factors that uphold it. Together, these factors weave a dynamic web of resilience, sustaining Chilika as both a habitat and a cultural landscape of hope.

6. Conclusions

This field experience illuminated the intricate relationships between ecological systems and community life, emphasizing how happiness, wellbeing, and resilience are co-produced through cultural practices, livelihood strategies, and environmental stewardship. Across the eight sites, communities demonstrated how identity, power, collectivism, resources, and transformation function as interconnected dimensions of resilience. Whether through collective conservation initiatives in Uparadikiri, spiritual identity and stewardship at Kalijai Temple, or adaptive transitions from poaching to ecotourism in Mangalajodi, each community reflected the profound link between ecological health and social cohesion.

Experiential learning proved central to these insights. By combining ethnographic observation, reflective journaling, and visual documentation, the learning process captured not only the visible realities of community practices but also the less tangible aspects of belonging, meaning, and aspiration. This approach underscored that resilience is not only about adapting to ecological vulnerabilities such as erosion, overfishing, or climate-induced change, but also about sustaining cultural continuity, social bonds, and the pursuit of wellbeing across generations. This helped us recognize that the benefits to one group may create challenges for another. The reflections reveal that community wellbeing in Chilika is shaped as much by collective agency and rights over resources as it is by access to education, livelihoods, and social infrastructure. At the same time, challenges such as power imbalances in markets, tourism pressures, and ecological degradation remind us that resilience is fragile and requires constant discussion.

Moving forward, this work suggests that documenting indigenous practices, strengthening participatory governance, and fostering direct livelihood linkages are key areas for future exploration. At a broader level, the Chilika experience demonstrates the value of experiential learning in understanding socio-ecological

systems, offering insights not only for students and practitioners but also for policymakers and community leaders seeking pathways toward sustainable and resilient futures. Table 1 offers guiding questions for future learners.

Table 1	
<i>Areas for Future Investigation</i>	
Questions	Is community wellbeing in Chilika primarily linked to rights, agency, and resource access, or do basic amenities (e.g., sanitation, clean water, healthcare) play an equally critical role?
	To what extent does participatory decision-making in local institutions enhance social cohesion, trust, and life satisfaction?
	What are the possible avenues and approaches for addressing and dealing with emerging challenges akin to commercial large tourist boat (Garuda), aquaculture, middlemen-based market chain, lack of places for small-scale fisheries?
	What efforts are needed to have direct market linkage for fishermen without depending on wholesalers to have more financial income?
	Whether conservational acts of wildlife make community life vulnerable?
	What possible efforts are to be taken to document the indigenous knowledge and cultural practices of tribal communities?

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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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