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CHALLENGES OF WETLAND CONSERVATION AND ROLE OF WOMEN- A LEGAL STUDY.

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Abstract

Wetlands are areas of land that are temporarily or permanently covered with water. They can be natural or artificial (or man-made), freshwater or brackish, and include bogs, fens, swamps, marshes, floodplains, and shallow lakes. Wetlands perform several functions, including flood and erosion control, water purification, and shoreline stabilization. However, we are confronted with the problem of wetland loss due to several anthropogenic activities, such as pollution, hunting, human settlement, agricultural drainage, fishing, wood cutting, watershed degradation, soil erosion, siltation, and diversion of water supplies. This is partly due to a lack of awareness about the important functions performed by wetlands. Greater attention to the protection of wetlands and evolving difficulties within these ecosystems prompted worldwide countries to intensify their wetland restoration efforts. The design of systematic and holistic protection for wetlands should aim to address all challenges within important natural resources as a complete solution. Wetlands serve as the exclusive ecosystem that multiple parts of the world's nations have separately ratified through the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 1971 (Ramsar Convention). There are various efforts at the international and domestic level for the conservation of wetlands. Wetlands Conservation draws strength from the Constitutional spirit under Article 51-A (g). This Paper is a humble attempt to assess the role of Women in the Conservation of Wetlands.

Keywords- Wetlands, Wetland Conservation, Role of women, Challenges to Wetland Conservation

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I. Introduction

Wetlands, a complex ecosystem, are vital in fulfilling the earth's needs. Such dynamic and universal spaces are characterized by permanent or temporary water availability to support different plant and animal life forms. Wetlands exist in diverse types, including marshes, swamps, bogs, fens, and estuaries, all unique in their functions.

Today, wetlands are more appreciated and acknowledged as vital and inalienable parts of the natural environment, playing multiple roles in maintaining and supporting a healthy and balanced biosphere.

Wetlands encompass distinct ecosystems with unique characteristics, functions, and vital roles within the broader ecosystem. Examples of the varied wetland types include marshes, swamps, bogs, fens, and estuaries.

Wetlands perform many vital functions critical for the overall health and resilience of the natural environment and human societies. These dynamic and multifunctional ecosystems play a central role in regulating water cycles, filtering and purifying water, sequestering carbon, mitigating the impacts of floods and storms, and supporting rich biodiversity. Besides these vital regulatory roles, wetlands are famous for their highly diverse population, representing significant habitat and sources of food, shelter, and nourishment for numerous kinds of plant and animal species among which there are millions of threatened and endangered species. The inhabitants of wetlands including the birds of different classes, small animals right up to the big predators all have interdependent relationships within the web thus underlining the significance of wetlands in supporting the health and balance in ecological systems.

Wetlands are one of the world's most important ecosystems and suffer various issues mainly caused by people. There is pressure to convert moist areas to farming, industries, or other forms of production and settlement, because of the escalating population which requires labor, capital, and resources. It leads to the loss of important natural habitats and the essential ecosystem functions of wetlands, namely water purification, flood regulation and mitigation, carbon sequestration, storage, and fixation functions. Further, agricultural drainage, industrial effluent, sewage, and deteriorating urban waste pollution also affect wetlands' quality and health.

II. Conservation of Wetlands

The importance of wetlands and the many difficulties they experience as important ecosystems in the modern world have resulted in more focus on their conservation and restoration by the world's countries. Notably, there is a need to design sound wetland management and protection holistically and systematically to address all the problems facing wetlands hence capturing all aspects of the important natural resources.

The Ministry of Environment, Forest and Climate Change functions as the central department that leads all aspects of wetlands conservation through policy development and implementing programs. The Wetlands Division operates within the Ministry as the hub that manages various initiatives regarding wetlands. The conservation of wetlands finds its support in India's successful history of environmental protection that exists through different policies, legislations, and regulatory regimes. The Indian Constitution encapsulates this spirit in Article 51-A (g), stating that "it shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers, and wildlife and to have compassion for living creatures." The National Environment Policy of 2006 sets out particular policy actions for managing wetlands. According to the National Environment Policy of 2006, freshwaters include wetlands as components which need developmental planning integration and prudent use management strategies for protection alongside ecotourism promotion and regulatory rule enforcement. The Indian Forest Act of 1927 together with the Indian Wildlife (Protection) Act of 1972 establishes regulatory requirements for wetlands situated in forest estates and safeguard areas. Substantive legal and regulatory conditions for Indian wetlands conservation exist through the Indian Fisheries Act, of 1897 the Water (Prevention and Control of Pollution) Act, of 1974, and the Biological Diversity Act, of 2002. The *National Wildlife Action Plan* (2017-2031) of India includes inland aquatic ecosystem conservation as its 17 priority objective. The National Wetlands Mission along with a National Wetlands Biodiversity Register represent two main objectives within the 17 priority areas as outlined in key interventions. Wetland conservation and sustainable management appear within the *National Water and Green India Mission* of the *National Action Plan on Climate Change*.

Various centrally implemented rules and regulations give protection to wetlands. Every wetland inside forests or protected areas maintains legal protection through provisions in the Indian Forest Act 1927 together with the Forest Conservation Act 1980 and the Indian Wildlife Protection Act 1972. MoEF&CC created **Wetlands (Conservation and Management) Rules,**

2017 under the provisions of the Environment (Protection) Act, 1986. The main policy and regulatory authority in States/UTs exists through State/UT Wetland Authorities established under provisions in these Rules.

III. Historical Perspective of Women's Involvement in Conservation

Understanding why women are involved in conservation requires looking at the past. Women have always played a part in this field, however, their efforts have often been forgotten. Historical conservation records have failed to acknowledge the influence of women because their roles have been hidden.³ Events from history reveal the roles played in conservation. For example, Beatrix Potter in the United Kingdom realized how women's traditional duties, as healers and botanists could help with conservation efforts.⁴ Until the century, in the United States of America, American women held control over their territories. They held significant power within the Haudenosaunee Confederacy by influencing decisions related to war and peace as well as choosing male leaders for their communities' governance system. A saddening turn of events following the ratification of the Nineteenth Amendment in 1920 in the USA marked a downturn, in women's rights, putting their lands at risk.⁵

A similar phenomenon has been observed in some areas in Africa, Asia, and the South Pacific where Western countries invaded and the rights of women, including those to land ownership as well as the control of the land, have been suppressed with the sovereignty of the male developed nations.⁶ Two notable areas that have defied the rule and remain independent of the nation in which they are contained are the Kuna of Panama and the Khasi of India, both of which are Indigenous tribes. Among the Kuna is a well-developed and ancient structure of land rights and leadership belonging to women.⁷ In the Khasi community, which has a matrilineal lineage system, property, and social setup are controlled by female members. During a period of social crisis, women cannot allow a male to cohabit with them who does not contribute positively to the betterment of the whole clan.⁸ Due to British colonization, major overhauls in

³ Chaudhary, A. & Colla, S. (2021). Next steps in dismantling discrimination: Lessons from ecology and conservation science. *Conservation Letters*.

⁴ Kay, E. (2022). A history of herbalism: cure, cook, and conjure.

⁵ Hoxie, F.E. (2020). Exploring a cultural borderland: Native American journeys of discovery in the early twentieth century. *American Nations*.

⁶ Ebin, C. (2021). Threats to women/women as threats: Male Supremacy and the anti-statist right.

⁷ Hakutangwi, P.P. (2022). Peripheral power: A gendered critique of indigenous patriarchy in Southern Africa.

⁸ Acharya, P. (2020) Women Entrepreneurs and Economic Development: Indian Perspective.

the Khasi only started to happen in the early half of the twentieth century.⁹

IV. Role of Women in Conservation of Wetland

There is no shortage of evidence and research showing just how important women have been in protecting the environment. Nevertheless, there is a significant need to enhance knowledge of the specific processes women implement in their strenuous work of conserving and protecting wetlands.¹⁰ Therefore, a thorough understanding of their exceptional significance in this realm is necessary if we are to develop the best possible approach to protecting wetlands. Women, especially those embedded in local communities across the country, are doing a lot of stuff every day to save wetlands, and this has to be acknowledged.¹¹ Their extraordinary dedication and effort act as catalysts and inspire more sustainable behavior in areas concerned with environmental conservation.

Nearly 50% of the population is female. In many countries, women contribute in fisheries occupations as fishers which account for important parts of local communities and indigenous people. These women depend on natural resources for their living and as a primary source of nutrition.

Shocking figures now show that in the last 200 years, human activity has destroyed at least 60% of ecological wetlands. This devastation underscores the pressing need for a global, inclusive strategy to safeguard and rebuild these priceless ecosystems. It is important to note that in achieving this objective, there is a need to appreciate the role of women in wetland conservation. Women bring invaluable knowledge and experiences that will enable sustainable strategies for wetland conservation.

Many times, women's involvement in different environmental management activities ensures conservation outcomes and the long-term success of institutions governing the environment. Rural women are known as the 'custodians of nature' because of their gender-defined roles in agriculture and their high dependence on ecosystems for water, firewood, medicine, and other

⁹ Monzur, N., & Jany, M.R. (2023). Sustaining Traditionalism: an investigation into the vernacular transformation of the Khasi tribal houses of Sylhet. *Archnet-IJAR: International Journal of Architectural Research*, 17(1), 70-87.

¹⁰ Rainard, M., Smith, C.J., & Pachauri, S. (2023). Gender equality and climate change mitigation: Are women a secret weapon? *Frontiers in Climate*. [Frontiersin.org](https://www.frontiersin.org)

¹¹ Adhya, T. & Banerjee, S. (2022). Impact of wetland development and degradation on the livelihoods of wetland-dependent communities: a case study from the lower Gangetic floodplains. [Researchgate.net](https://www.researchgate.net)

goods. They gather, grow, and harvest many resources within the wetland itself or from areas directly surrounding it.¹² In many parts of Africa, women control the allocation of resources. Ensuring that women's views and perspectives are taken into account and their involvement in planning and implementation may mean the conservation of not only a small portion of land but of the whole wetland ecosystem.¹³ This is another reason to justify why women should be involved.

V. Initiatives by Women for Conservation of Wetland

A dedicated and passionate group of women in Ecuador united with a common purpose to protect necessary resources and support the cause of preserving the splendid mangrove wetlands on Muisne Island. These wetlands are ecologically precious because they are located in the Choco Endemic Bird Area of Ecuador which is known for its biodiversity. The group actively integrated the island's community by keenly devising an inventive and systematic approach to the mangroves' conservation plan. They worked continuously and effectively to protect the important wetland and sustain the lives of the community, which included fishing and the collection of shellfish at the same time. These remarkable women came up with unique ideas and found a perfect balance to conserve and sustain natural resources thus creating a powerful sense of collective endeavour among people in the society.¹⁴

Indian Context

In the world, India is recognized as one of the mega-biodiversity hotspots and one of the leading ten countries with the greatest wetland area.¹⁵ Wetlands are very productive ecosystems but in the recent past, there has been serious encroachment due to factors such as urbanization, industrialization, increase in population, inadequate and unsustainable agricultural activities, and improper and unplanned development.¹⁶ To maintain the quality of the environment, different policies and acts have been framed by the Indian Government to conserve wetlands

¹² Carter, A. & Christoffel, R. (2022). Social networks as conservation practice: Targeting wetland conservation for women landowners. *Journal of Soil and Water Conservation*.

¹³ Kusakabe, K. & Thongprasert, S. (2022). Women and men in Small-scale Fisheries and Aquaculture in Asia: barriers, constraints, and opportunities towards equality and secure livelihoods.

¹⁴ Grimm, K., Spalding, M., & Leal, M. (2024). Including Local Ecological Knowledge (LEK) in Mangrove Conservation & Restoration. A Best- Practice Guide for Practitioners and Researchers.

¹⁵ Ekka, P., Kumar, G., Kumar, A., & Saikia, P. (2024). Plant Diversity Status of the Himalayan Biodiversity Hotspots in Changing Climatic Conditions with Special Reference to the Indian Himalayan Region. In *Biodiversity Hotspot of the Himalaya* (pg. 421-437). Apple Academic Press.

¹⁶ Ballut-Dajud, G.A., Sandoval Herazo, L.C., Fernandez-Lambert, G., Marin-Muniz, J.L., Lopez Mendez, M.C., & Betanzo-Torres, E.A. (2022) Factors affecting wetland loss: A review. *Land*, 11(3), 434.

and improve the lives of native people and their livelihood.¹⁷ Everyone does conservation of wetlands but women who are more so in the rural areas are usually overlooked.¹⁸

India's rural women are the strength of the Indian economy as they are involved in protecting and improving the quality and productivity of wetland resources.¹⁹ Despite challenges such as illiteracy, social status, inability to participate in decision-making, and financial dependency, Indian women have participated in several successful wetlands conservation stories.²⁰ Even though women's efforts might look insignificant on a large scale, women are significant stewards of water resources, and habitats, and advocates, educators, and architects for the future environment. Some of the successful Indian women-led initiatives undertaken to conserve wetlands at the grassroots level are as follows:

- At Bhormandal Wetland situated 30 km far from Udaipur, problems like scarcity of potable water and reduction in the frequency of fish catch because of large growth of weeds were observed. From this wetland, about 350 fisher families depend on their food and source of income. Jeendari women fishers organized themselves into a cooperative society to exploit the wetland resources to use them sustainably. They acquired scientific information on biocontrol and motorized fishing, training on biocontrol, motorized fishing, proper gears, securing and buying a weed harvester through bank loans, and developing a regular weed harvesting program. The kind of equipment that was used increased the fish catches from 300-400 kilograms per day to 1200 kilograms per day, meaning an increase in income from Rupees 6000 to Rupees 25000. Five other wetlands copied this innovation and the Women Cooperative Society received an award in Innovation at the International Fair.
- Vembanad Lake, the second largest wetland system in India after the Sunderbans in West Bengal, is gradually reducing its area, and the ecology of the area, which has biological richness, is in danger, although it was declared a Ramsar site almost 20 years ago.

¹⁷ Shan. V., Singh, S.k., & Haritash, A.K. (2021). Present status, conservation, and management of wetlands in India. In *Advances in Energy and Environment: Select Proceedings of TRACE 2020* (pg. 235-256). Springer.

¹⁸ Mathur, R., Katyal, R., Bhalla, V., Tanwar, L., Mago, P., & Gunwal, I. (2023). Women at the Forefront of Environmental Conservation. *Current World Environment*, 18(2), 706.

¹⁹ Daoun, A., Jena, D., Rout, P., & Giri, V.V. (2024, June). Biodiversity of Mangalajodi Wetlands and Socio-Economic Status of Peiple Living Around: Challenges and Opportunities. In *NDIEAS-2024 International Symposium on New Dimensions and Ideas in Environmental Anthropology-2024* (NDIEAS 2024) (pg. 85-99). Atlantis Press.

²⁰ Mathur, R., Katyal, R., Bhalla, V., Tanwar, L., Mago, P., & Gunwal, I. (2023). Women at the Forefront of Environmental Conservation. *Current World Environment*, 18(2), 706.

The lifeline of farmers of Kuttanad and fisherfolk are deprived of ecological justice yet again as the lake has been a victim of pollution and unauthorized constructions on its rim. Experts suggest that there should be ‘committed efforts’ to protect the wetland ecosystem of the lake. As indicated by ecological specialists and different research conducted starting from the development of the lake to the present time, the lake is facing serious environmental degradation due to the current issues of floods, pollution, decreased water speed coverage, and overgrown weeds.²¹ The women living around Vembanad Lake are using creative ways to reduce plastic in the wetland. They turn water hyacinth, an invasive and destructive species to wetlands into useful items like handmade paper and woven products. To reduce plastic pollution in the lake, women use menstrual cloth pads. They also use recycled and upcycled cloth to make beautiful bags as an alternative to single-use plastic bags. The organization Ashoka Trust for Research in Ecology and the Environment has successfully facilitated and capacitated women in the lake’s nearby communities to protect Vembanad Lake and its estuaries and also to secure their livelihoods.²²

- Ganga Rajput, the 30-year-old is a resident of Chaudhary Khera, a village in Madhya Pradesh’s portion of the dry Bundelkhand region infamous for its dusty environment and water scarcity. To her credit, she helps to revive the talab (village pond) which she and the women in the village restored after it had been empty for many years.

Some women changemakers in the world of Wetlands are:

Elise Allely-Ferme- She is the Director of Conservation Pronatura Mexico, a Mexican civil society organization working for nature conservation since 1979. Elise has a decade of experience in nature conservation, climate change mitigation, and, integrated water management, specializing in the latter.²³

Before her work at Pronatura Mexico, Elise applied her knowledge at the Australian Rivers Institute where she helped design an ecological monitoring framework for conservation projects and Ramsar Sites in Australia. She also co-established “Youth Engaged in Wetlands (YEW)”, an international youth forum that promotes youth and elders’ partnership in the

²¹ [Financialexpress.com/life/science-vembanad-lake-continues-to-shrink-and-decay-20-years-after-Ramsar-tag-2662928/](https://financialexpress.com/life/science-vembanad-lake-continues-to-shrink-and-decay-20-years-after-Ramsar-tag-2662928/)

²² [Women4biodiversity.org/womenactforwetlands-videos-showcase-women’s-success-stories-in-conservation-and-restoration/](https://women4biodiversity.org/womenactforwetlands-videos-showcase-women’s-success-stories-in-conservation-and-restoration/)

²³ <https://www.ramsar.org/our-work-activities-gender-wetlands-women-changemakers-world-wetlands-2024/elise-allely-ferme>.

Ramsar Convention on Wetlands. As part of YEW, Elise documented young people's involvement in wetlands conservation and strived to ensure that their engagement is enshrined in Ramsar Convention procedures; this led to the adoption of the youth resolution with support from the governments of Australia and Costa Rica and civil society actors. Her journey in the field of environmental activism began with her employment at the Ramsar Convention Secretariat in Switzerland where she aided its enactment. She also directed ecological education activities in the Regional Natural Park of Cotentin and Bessin Marshes in France. Her passion was born during her time in Mali where she saw the difficulties of getting clean water for herself. This realization was cemented during her time in Switzerland where she started noticing the inequalities in water and sanitation. While in the UK, her academic work focused on water use behaviors and water management in areas that experience water scarcity, showing her passion for water equity.

Elise's career path and exposure to different facets of conservation have allowed her to develop a rich and valuable understanding of the issues and processes that define the field, giving her a significant advantage in the fight for the environment.

Dayana Blanco Quiroga—She is an Indigenous Aymara woman from Bolivia and a driving force behind the Uru Uru Team, a grassroots initiative dedicated to restoring Uru Uru Lake in central western Bolivia. This important project reflects on the complex issues arising from mining and its impact, plastic pollution, and climate change on the lake's ecosystem and its effects on the indigenous populations living around it.²⁴

With Ramsar status, Uru Uru Lake is a remarkable source of local and global ecological value as a producer ecosystem and sanctuary of numerous plant and animal beings, such as Flamingos. It also supports the means of living for over seven indigenous populations in the area.

Encouraged by the Restoration Stewards' network, Blanco decided it was time to share her community's restoration experience with the rest of the world. That is why, the Uru Uru Team, aims to restore the lake by implementing nature-based solutions, including water rafts made of recycled materials and decorated with local plants, like totoras.

²⁴ <https://www.ramsar.org/our-work/activities/gender-wetlands/women-changemakers/world-wetlands-2024/dayana-blanco-quiroya>.

Now being a Restoration Steward, Blanco is ready to help her Indigenous People tell their story of restoration within their community as well as on an international level. On these various platforms, she wants to share their efforts such as growing the use of the floating rafts, setting forums for community discussions, and promoting Civilian visible campaigns against violent extractive mining. Further, intending to build up the capacity of resilience, the community tries to care for a community garden.

Blanco's participation as a Restoration Steward signifies a collaborative endeavor to restore Uru Uru Lake and foster sustainable coexistence with nature. Together with her fellow stewards, she embarks on a collective journey to safeguard the lake's ecological heritage and uphold the rights of Indigenous communities for a harmonious future.

VI. Challenges faced by Women in Wetland Conservation

Women, while participating in both conserved and degraded wetlands, experience barriers similar to those of women in other fields of conservation, climate change, and development.²⁵ The conservation community admits that to preserve wetlands, it is necessary to stop gender stereotyping regarding women as a user of wetland resources only.²⁶ It also demeans their roles besides erecting human impediments to conservation, which, must be opened up if conservation is to bring about genuine change. Further, a lot of community-based natural resource management perspectives tend to see women as instruments rather than agents in these frameworks.²⁷ Hence, development practitioners have to include women in practices for conserving biological diversity and mitigating climate change. In addition, processes of mainstreaming or commercializing wetland management, by bringing traditional wetland management practices into the commercial domain or integrating them into international environmental regimes disregard the leadership of women in wetland management.²⁸ On the other hand, the profiled program implementers and decision-makers are mainly male

²⁵ Pradhan, M.s., Rai-Paudyal, B., Rai, A., Bai, Y., Hengsuwan, P., Bun, P., & Yangzom, D. (2021). Exploring the role of gender equality in addressing climate change, biodiversity conservation, ecosystem restoration and food security. Gender Equality and Sustainable Development in the Mountain Areas of Asia. LI-BIRD, Pokhara, Nepal.

²⁶ James, R.O.B.Y.N., Gibbs, B., Whitford, L., Leisher, C., Konia, R., & Butt, N. (2021). Conservation and natural resource management: where are all the women? *Oryx*, 55(6), Pg. 860-867.

²⁷ Naiga, R., Ananga, E.O., & Kakumba, U. (2024). Gendered Participation in Water Governance: Implications for Successful Community-based Water Management and Women Empowerment. *International Journal of Rural Management*, 20(2), Pg. 255-270.

²⁸ Joshi, D., Gallant, B., Hakhu, A., De Silva, S., McDougall, C., Dubois, M., & Arulingam, I. (2021). Ramsar Convention and the wise use of wetlands: rethinking inclusion. *Ecological Restoration*, 39(1-2), Pg. 36-44.

individuals.

1. Societal Norms and Gender Stereotypes

The traditional family beliefs and practices entrenched in conventional gender roles and sex role stereotypes eradicated the interests of the female conservationists, relegating the decision-making process solely into the hands of the men. Women are perceived as being frail, the male-dominated state has in the past considered them incapable of making good decisions regarding conservation. The thinking pattern has always been that if a woman is to be in a decision-making role in conservation either some male from her household would make the decisions or at best she would only make insignificant attempts at this.²⁹ Likewise, while men believe they have proper roles in wetlands conservation to act as leaders, they suppress disagreements by marginalizing women who take part in conservation as masculine.³⁰

Therefore, it is important to come up with approaches geared towards attitude change which is in availing well-gathered and effectively spread information on increased participation in conservation. If taken positively such a move will provide an opportunity for more women conservationists to bring to the outcome conviction, integrity, and empathy in the course of seeking support from all stakeholders on conservation-related matters.³¹

2. Limited Access to Resources and Decision-making Power

Female producers face greater impediments to acquiring basic resources than their male counterparts, which encompasses both the official financial networks, capacity upgrades, relevant information, extension services related to the environment, as well as conservation support services. The lack of women in many decision-making posts plays a big role in the lack of the female perspective. For instance, they do not have equal representation on local councils and village resource management structures or national/international policy-making organs. Such a representation is a sign of systematic prejudice and minority treatment. It is also because of the existing cultural beliefs that have placed women out of several economic, social, cultural, and political

²⁹ Christie, A.P., Amano, T., Martin, P.A., Petrovan, S.O., Shackelford, G.E., Simmons, B.I., & Sutherland, W.J. (2020). Poor availability of context-specific evidence hampers decision-making in conservation. *Biological Conservation*, 248, 108666.

³⁰ Wahid, S., Cuddy, S.M., Bastola, A., Shrestha, A., & Almeida, A. (2024). Gender equality, disability and social inclusion in water modeling: A practitioners' toolkit.

³¹ Lau, J.D. (2020). Three lessons for gender equity in biodiversity conservation. *Conservation Biology*.

realms.³² The ensuing policies, programs, and projects that are developed, often as not, do not have due regard for the requirements to serve the special needs of women. Gender-based involvement can be done effectively to help correct this problem.

3. Safety and Security Risks

The security and safety of women are the major concerns of the nation. South Africa's high rates of spousal and partner abuse, and especially femicide, show just how bad the problem is. These challenges are further by the fact that South Africa is dubbed as one of the most dangerous countries in the world apart from war-affected nations.³³

4. Lack of Recognition and Representation

Female work in wetland conservation may remain unrecognized or underappreciated by many stakeholders. This invisibility begins with a silence where no information could explain women's activities but carries on to women's non-attendance in critical meetings, publications, and training on conservation.³⁴

5. Intersectionality and Multiple Forms of Discrimination

Gender inequalities have been documented, consistently, in literature on social equity and conservation concerning access to natural resources and opportunities for participation in environmental decision-making processes. Some have said cultural specifics of gender roles and obligations make it difficult for women to get involved and thus where such roles and obligations are seen as hindering opportunities for women's involvement and so hinder equity.³⁵ However, even such accounts are already in danger of naturalizing a singular "woman", in reality, women, like men are not one homogeneous group, and differences of race, class, age, sexual orientation, ability, and so on- help to configure the experience of gender. The notion of intersectionality has been developed in the social sciences as a response to such an approach. It is described as a method that determines the way various structures of oppression affect those who are at the bottom of society's hierarchy.

³² Begum, F., de Bruyn, L.L., Kristiansen, P., & Islam, M.A. (2022). Forest co-management in the Sunderban mangrove forest: Impacts of women's participation on their livelihoods and sustainable forest resource conservation. *Environmental Development*, 43, 100731.

³³ Nkosikhona Simelane, N., Mofokeng, J.T., & Khosa, D. (2023). Analysis of institutional responses to gender-based violence and femicide in the South African Police Service. *OIDA International Journal of Sustainable Development*, 16(08), Pg- 33-52.

³⁴ Kadoma, A. (2023). Understanding stakeholder perceptions of wetland ecosystem services to support conservation and restoration activities in Wakiso District, Uganda.

³⁵ Glazebrook, T., Noll, S., & Opoku, E. (2020). Gender matters: Climate change, gender bias, and women's farming in the global South and North. *Agriculture*.

VII. Strategies and Solutions

In this domain, women's participation is as old as the first existence of habitat conservation, but women's liberation was enlightened after half a century. Having women participate in the development process is not a reality if one fails to assess the hurdles women face and in the process look for solutions or even likely feasible solutions. Each of these challenges and structural deficits is addressed in strategies and solutions.

- **Empowerment and Capacity Building-** Establishing mechanisms that enhance the training and educating of women in wetlands and conservation.

Centering some campaigns on the fact that confidence of women needed to be boosted.

- **Promoting inclusivity and a 'together' approach-** Engage women in encouraging the participation of other women.

Adopt gender sensitivity while implementing existing conservation and community-based projects taking leading roles in speaking out on gender issues.

- **Advocacy-** Put gender equality on the list of priorities of extant conservation organizations, and support it by policies.

Set good working examples of gender diversity and equality in the field of conservation and management.

- **Networking-** Organise career contacts and other opportunities both in and out of the workplace so that women can create connections and learn from one another.

- **Research**—Increase the focus on acknowledging the actual state of affairs regarding women's issues.

Empowerment and Capacity Building

There is still a strong focus on the imperativeness of increasing women's ability to promote their participation. A study shows that effective capacity-building can enhance women's opportunities by raising awareness, competence, and morale of participation across different sectors.³⁶ Out of all the activities, training sessions and workshops have been identified as contributing much to building women's capacity at the individual and community levels. Many examples exist, including calls for pairing male mentors with female employees in marine biology and local resource management fields.³⁷ Moreover, the extended discussion of capacity

³⁶ Parvathy, V.K. & Kumar, J. (2022). Financial capability and financial wellbeing of women in community-based organizations: mediating role of decision-making ability. *Managerial Finance*.

³⁷ Sterling, E.J., Sigouin, A., Betley, E., Cheek, J.Z., Solomon, J.N., Landrigan, K., & Jones, M.S. (2022). The state of capacity development evaluation in biodiversity conservation and natural resource management. *Oryx*, 56(5), Pg.- 728-739.

building in different spheres especially in other countries, emphasizes that community and educational programs for women should be seen as effective and unique opportunities to engage women in planning and decision-making processes.³⁸

Promoting Gender Equality and Inclusivity in Conservation Programs

Mainstream gender in conservation and sustainable development through designing and implementing policies to enhance the participation of females and males with equivalent probability for conserving and sustainable use of resources.³⁹ Yet initiatives are likely to be more effective, sustainable, and have further positive impacts in the designated communities if women too are involved in the conservation planning and the actual process.⁴⁰

Advocacy and Policy Change

For women to be given a chance to participate in resource use decision making they have to come out and fight for their rights. This will involve in the first instance having a good appreciation among the women of what entry points and strategies are open to them. Advocacy can contribute most in the sense that it keeps the issues of concern to women in the policy concern.⁴¹ Therefore, to convince policymakers that there is a need to address gender issues in wetland work, awareness of such issues is the most advisable course of action. Advocacy is always easier if it is done in partnership with other people. One group must build partnerships with other groups whenever and wherever interests overlap.

The best way to address the issue of women's concerns within the policy arena is by demanding changes that interest all or the general women category like property rights. If many are impacted then clearly such issues will enter the policy mainstream earlier and will need the response of the policy-makers controlling the sector.

Collaboration and Networking

Why does collaborative work matter? A group that has five or 50000 people can present at the

³⁸ Kasproicz, V.O., Chopera, D., Waddilove, K.D., Brockman, M.A., Gilmour, J., Hunter, E., & Ndung'u, T. (2020). African-led health research and capacity building- is it working? *BMC Public Health*, 20, 1-10.

³⁹ Leal Filho, W., Kovaleva, M., Tsani, S., Tirca, D.M., Shiel, C., Dinis, M.A.P., & Tripathi, S. (2023). Promoting gender equality across the sustainable development goals. *Environment, Development and Sustainability*, 25 (12), Pg. 14177-14198.

⁴⁰ Szetey, K., Moallemi, E.A., Ashton, E., Butcher, M., Sprunt, B., & Bryan, B.A. (2021). Participatory planning for local sustainability guided by the Sustainable Development Goals. *Ecology & Society*, 26(3).

⁴¹ Chilwa, I. Women's online advocacy campaigns for political participation in Nigeria and Ghana. Voice.

same bargaining table so supporting each other cannot be suppressed. This is why alliances and forming networks (organizations and community groups that are genuinely diverse) have emerged. The women using these guidelines are in the Wetland Women groups. These groups push the voices of women through different organizations at global and regional levels. These women are perhaps lower risk than one woman when promoting their work or defending the need for a gender-focused approach.⁴²

Research and Data Collection on Gender Disparities

Research and data collection are the necessary first steps to understanding the disparities and challenges of gender equality concerning wetland conservation. The data systems in place should be gender aware so that they analyze issues in a gendered way for the benefit of policymakers and program managers who need to systematically track and review their performance. It is also needed to set the starting position and then the amount of progress or the amount of loss. An original investigation needs to be carried out to quantify impedances, perceptions, culture, and socio-economic factors equivalent to ascertained needs. There are several advantages to conducting gender-sensitive research. Projects or policies can be implemented to address the unique needs and priorities of women. It makes sense to share the results of the research with communities, policymakers, and politicians to give impetus to activities and promote appropriate attitudes.

VIII. Conclusion and Recommendations

In every country of the world, women are very active in wetlands conservation. However, while we know the importance of both women and wetlands as crucial elements for sustainable development, the integral role of women in wetland communities is still relatively poorly understood. The central value of women in projects of integrated conservation and use of wetlands is frequently ignored. This ignorance not only adds a disadvantage to the proper implementation of successful conservation as well as interferes with the inherent human rights of women. In line with this fact, it needs to be underlined here that, women should be encouraged to participate fully, in the integrated conservation and use of the wetlands.

To summarize the most important of these roles: firstly, women directly participate in

⁴² Bataille, C. Y., Malinen, S.K., Yletyinen, J., Scott, N., & Lyver, P.O.B. (2021). Relational values provide common ground and expose multi-level constraints to cross-cultural wetland management. *People and Nature*, 3(4), Pg. 941-960.

preserving wetlands with their consumption of domestic goods as well as utilizing natural resources such as water, food, and non-food products including construction materials, fuel, medicine, tools, clothes, and so on. It is customary across most cultures that resource accumulation and resource processing are, in most cases, under the dominion of women in a family. This task usually implies a tremendous workload and also includes a vast, practical Civil Service and working experience. When land use is carried out along with sustainability criteria, women bear the main concern as far as the family's food is concerned.

Secondly, women guarantee the preservation of the cultural significance of the wetlands. Traditionally, they, especially as mothers, are understood to be those who chiefly socialize the children into those realms of the ethical and the values and meanings of the wetlands.

Recommendations for Enhancing Women's Participation

Gender equity is one investment that communities should consider most relevant for social, economic, and environmentally sustainable development. Women bear the responsibility of managing the home and working environment, the environmental resources, and the healthy well-being of families within the rural and peri-urban farming communities. Therefore, the following is recommended to enhance women's participation in conservation activities.

Training and Awareness- women have played a major role in the conservation of the wetlands. They should be encouraged to integrate their activities and policies at the local and national levels. From this, they will be in a position to comprehend the importance of wetlands in their lives and the privilege they are to gain if wetlands are preserved. The research also highlights that women should be trained more on the wise use of wetlands and biodiversity, understanding the pressures that their activities put on the same.

Affirmative and Supportive Actions- How Women Should get involved in the management of the wetlands should form part of the local as well as national policies. It will also open an opportunity for women to engage more in defining sustainable resource management solutions that may greatly impact their lives. Moreover, there should be added funds to popularize women's participation in the protection of wetlands to ensure actual inclusion in the process of conservation.