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# Women's Role in Blue Carbon Governance: Community-led Coastal Strategies for Gender Equity in Pahang

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### ABSTRACT

This research investigates the positions women hold in the governance of blue carbon through community-driven coastal strategies aimed at gender equity in Pahang, Malaysia. With a focus on women's engagement in the management of coastal ecosystems, data were gathered through secondary research involving journal articles, policy documents, and case studies. These were synthesized using thematic analysis to surface the dominant themes within the data. The findings indicated the importance of women's contributions to the restoration of mangroves, sustainable aquaculture, and community-based conservation. These efforts improved the community's coastal resilience, carbon sequestration, and cohesion. The efforts of women in community coastal initiatives also brought about change in the socio-structural order, with women's governance recognition, resource claim empowerment, and access, the improvements and social cohesion strengthening resource control improving the integration of the community. The entrenched cultural attitudes to women's leadership, inadequate access to training and mentoring opportunities, and the absence of resources to biologically and socially improve coastal management. The integration of gender-sensitive approaches into blue carbon policies and programs along with expanding capacity building, and inclusive decision-making at local and national levels, is highly important. Equitable participation and the sustainability of blue carbon projects can be achieved through collaboration between governmental offices, NGOs, and local women's organizations.

## 1. Introduction

Coastal wetlands and mangroves, marshes, and seagrasses store carbon as part of "blue carbon," and more importantly, they mitigate climate change and offer protective, diversified ecosystem services to coastal communities and livelihoods, and support biodiversity [16]. In Pahang, Malaysia,

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women's participation in the governance and management of these ecosystems is essential for equitable and sustainable outcomes. The need to advance gender equity in the governance of blue carbon ecosystems is well recognized now. Women living along the coasts have significant insights and details of management frameworks and functions, but still are not recognized within formal systems of governance [21]. As a result, policies and strategies may not tap into the full potential within the communities, which may affect the execution of blue carbon initiatives.

Also, [11] discussed that the governance of women in the marine and coastal resources is undervalued and underrepresented [21]. For instance, women have a mere 15% representation in the decision-making processes of coastal fishery communities [20]. Furthermore, gender-blind frameworks are inequitable and ineffective themselves; one global analysis found that 95% of coastal livelihood initiatives included women in some capacity, but only 10% aimed at shifting entrenched gender inequities [9]. In Pahang, there are different coastal communities and different mangrove corridors. As a result, there is a pressing need to prioritize gender-inclusive governance within blue carbon approaches. This paper analyzes the position of women within the framework of blue carbon governance in Pahang, particularly within the context of community-led gender equitable coastal governance initiatives. It studies the women's initiatives, participatory governance within the blue carbon sustainability framework governance of blue carbon, and the challenges and opportunities that such initiatives offer. It further studies the impact of such initiatives on the overall governance sustainability and effectiveness of the blue carbon.

## **2. Methodology**

### *2.1. Research Design*

The examination of women's functions in blue carbon governance in Pahang was based on secondary research. Journals, articles, books, reports, and reputable websites were the sources of the data [5]. The focus was on women's involvement in community-driven coastal initiatives and the effectiveness of governance including [7]. Most of the sources were from the last ten years, which allowed for the review to have contemporary perspectives. The review placed emphasis on the governance in the geography of Pahang and the outcomes of equity on the region. The absence of primary data allowed for the secondary approach to be sufficiently robust for the analysis of policy implications and the identification of practices.

### *2.2. Data Analysis*

Thematic analysis was conducted and key themes and patterns were detected [2, 22]. More than 15 pieces of literature were consulted to build these themes. The analysis concentrated on the functions, community-led actions, obstacles, and results of women in blue carbon governance. This analysis richly documented the contributions and equity initiatives of women in Pahang. It also examined the socio-cultural and institutional elements pertinent to the social order and, in particular, gender [15]. The absence of research in the area of inclusive blue carbon governance was demonstrated in the themes which were coded and classified to showcase the gaps.

## **3. Results**

### *3.1 Women's Involvement in Blue Carbon Initiatives*

In the state of Pahang, women are now taking part in the management and conservation of coastal ecosystems. They take part in restoring mangroves and in practicing sustainable fishing [16].

For instance, women in Sri Jaya, helped the rehabilitation of degraded mangroves, and the mangroves are now resilient to the impacts of climate change and more effective in capturing and storing carbon from the atmosphere. However, the women’s contribution to the many researches done in the village is, to a significant extent, overlooked [9]. This is due to long-standing gender stereotypes and societal structures that exclude women from the positions of leadership and decision-making [12]. Therefore, women’s voices, needs, and perspectives become lost in proposed policies and strategies, making them ineffective in the governance of blue carbon initiatives.

**Table 1**

Historical Overview of Gender in Development Practice in Pahang (1960s–Current, Focus on Conservation)

Target of Development	Gender-blind	Women in Development (WID)	Women, Environment and Development (WED)	Alternative Visions for Women/Gender and Development	Women, Culture and Development (WCD)	Transformation and Development
<b>Time Period</b>	Pre-1960s	1970s	1980s	2000s	2010s	Current
<b>What Happened</b>	Conservation led by male-dominated institutions; women excluded	Women recognized as beneficiaries in social and development programs	Integration of women into environmental and coastal projects; recognition of traditional knowledge	Community-based organizations promoting participatory governance and inclusive conservation	Gender-sensitive policies linking women, culture, and conservation practices	Women actively lead and co-manage blue carbon initiatives; institutionalized gender mainstreaming
<b>Desired Outcome</b>	Resource preservation	Improve women’s welfare and livelihoods	Sustainable development with gender equity	Empower communities and enhance local governance	Cultural inclusion of women in development and conservation	Equitable, sustainable, and resilient coastal ecosystems
<b>Unintended Outcomes</b>	Women’s contributions are overlooked	Limited impact on structural inequalities	Focus on women without addressing systemic barriers	Uneven participation due to local norms		

Moreover, the women’s group PIFWANITA (established 2013) under Pahang Inshore Fishermen Welfare Association (PIFWA) acts as a platform for local women (many being wives of fishers) to engage in mangrove conservation and the creation of mangrove-derived products [13]. PIFWANITA produces items from mangrove species: e.g., jam and juice from *Berembang* (*Sonneratia*) fruit, tea from *Jeruju* leaves, snacks from *Piai* species, etc [9]. As shown in Figure 1 below, women in PIFWANITA play key roles in awareness-raising within their families and communities: “knowledge on mangrove conservation ... has been rapidly spread to their families by educating their children, conversations with friends, and in social situations.”



**Fig. 1.** President of PIFWA, Overseeing Mangrove Planting  
Source: Friends of the Earth International (2021)

Moreover, [11] emphasized that women play a crucial role in community-led mangrove restoration and blue carbon initiatives in Pahang through PIFWANITA, the women's group associated with the Pahang Inshore Fishermen Welfare Association (PIFWA). Established in 2013, PIFWANITA engages in mangrove conservation, educational outreach, and the production of sustainable forest-based goods such as jam and tea from mangrove fruits and leaves [17]. Women are actively involved in planning, fundraising, and implementing restoration activities, complementing the work of male fisherfolk. Many women are getting involved in restoration efforts. Already, they are seen taking care of saplings, which leads to about 90% survival rates [13]. Moreover, women promote resource sustainability and ecosystem awareness, which aids in community development and integration of conservation with community development. After overcoming political resistance, PIFWANITA now boasts recognition and influence in coastal biodiversity conservation, further demonstrating the impact of women's leadership on ecological resilience and community-based blue carbon governance in Pahang.

### *3.2 Community-led Coastal Strategies*

Community-led actions have been shown to work in promoting positive blue carbon practices. While this is the case, there is a need to develop gender-responsive initiatives that include economic opportunities, skill development, and the participation of women in the planning and decision-making of natural resource management and disaster response [13]. In Pahang, such initiatives have enabled communities to "own" their coastal resources and deploy self-determined management instruments that fit their socio-cultural context. These include coastal ecosystem monitoring, coastal zone management, participatory planning, and local conservation-initiated community groups [17]. The strategies encompassed participatory planning and monitoring, and, as in Figure 2, the development of the inclusive design, execution, and upkeep of knowledge and resource systems.

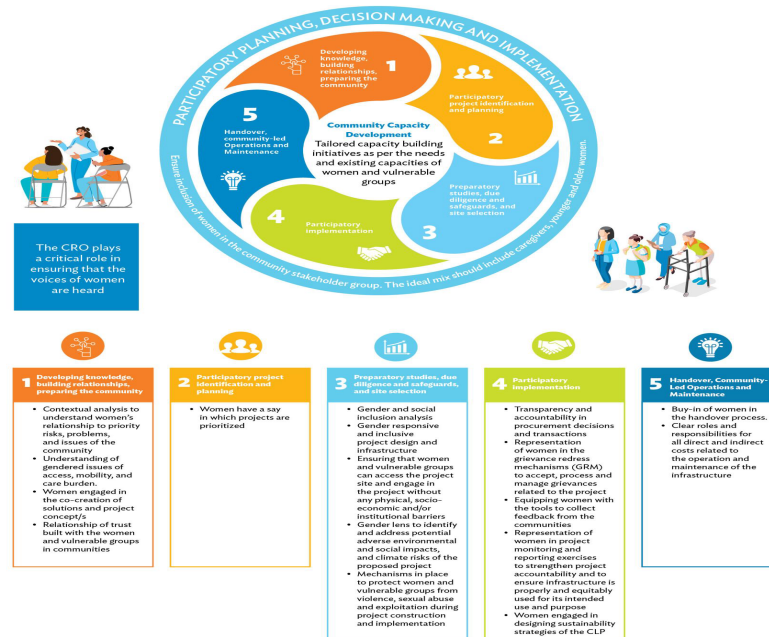


Fig. 2. Strengthening Gender-Responsiveness of Community-Led Projects [3]

As depicted in Figure 2 above, the initiatives help guarantee that women and other marginalized persons in Pahang have a role in controlling activities, monitoring, and the management of green infrastructure that is sustainable [17]. The response of women to community-led initiatives is a big boost towards the success of blue carbon strategies and their empowerment. For example, in the village of Kampung Awah, women leaders organize the development of community meetings and lead dialogues on sustainable coastal management practices [13]. This has prompted the design of effective and inclusive governance structures that prioritize the community's self-articulated needs and value the contributions of members, irrespective of social barriers.

In addition, Pahang's Cherating / Chendor coastline, a community-based project led by Malaysian Nature Society (MNS), works with local residents to restore mangrove wetlands, build ecotourism around them, and strengthen outreach and volunteer planting activities [17]. A related initiative by UMW Group and Universiti Malaysia Pahang targeted planting 300,000 mangroves by end-2023; by March 2023, they had planted ~195,200 trees nationally, including sites in Cherating. The science shows that Malaysian mangroves store very high carbon: about  $409.5 \pm 50.3 \text{ Mg C ha}^{-1}$  down to 1 m depth [21]. Therefore, through community-based mangrove restoration, women in the coastal communities of Pahang are active in the planting, monitoring, ecotourism services (such as mangrove fire-fly tours), and benefit-sharing (tourist income, carbon-credit revenue). Their inclusion turns them from passive stakeholders into co-managers (see Figure 3 below).



**Fig. 3.** Women in Mangrove Restoration in Pahang [9]

Therefore, women actively participate in mangrove restoration through PIFWANITA, the women's group under PIFWA. They engage in planting, conservation education, and creating sustainable products such as jams and teas from mangrove plants [3]. Although initially facing political resistance, women now play a key role in community-led strategies, combining environmental stewardship with income generation, education, and advocacy, thereby strengthening both coastal ecosystem restoration and gender-inclusive governance in Pahang. Table 2 below summarise these community-led strategies.

Therefore, women's involvement in Blue Carbon initiatives in Pahang has grown steadily as awareness of their role in coastal ecosystem management increases. Women's groups and fisherwomen cooperatives are now involved in the rehabilitation of mangroves, eco-tourism initiatives focused on the protection of biodiversity and carbon sequestration, and the monitoring of seagrasses [18]. Pahang now has about 40% women participating in these community-led mangrove restoration programs, as noted by the Malaysian Ministry of Energy and Natural Resources (2023). Therefore, there are notable changes in environmental governance, as gender equity is improving. In addition, many opportunities are being created by these initiatives, encouraging sustainable aquaculture and nature-based enterprises. All these help enhance carbon storage capability [3]. Strengthening the participation of women in governance ecosystem activities has enabled NGOs to provide ecological monitoring and leadership training, as has been the case with Reef Check Malaysia and Blue Communities, promoting gender equity with respect to the governance of Pahang's blue carbon ecosystems.

**Table 2**

Community-led Coastal Strategies in Pahang

Community-led Coastal Strategy	Brief Explanation	Effectiveness in Promoting Gender Equity
<b>1. Women-led Mangrove Restoration Groups</b>	<ul style="list-style-type: none"> <li>Local women organize and lead mangrove planting and monitoring activities.</li> <li>They engage in seed collection, nursery management, and community training.</li> </ul>	<ul style="list-style-type: none"> <li>Increases women’s leadership visibility and decision-making roles.</li> <li>Builds environmental and technical skills for sustainable livelihoods.</li> <li>The contribution of women to ecosystem resilience is recognised.</li> </ul>
<b>2. Sustainable Aquaculture and Livelihood Programs</b>	<ul style="list-style-type: none"> <li>Women participate in small-scale aquaculture, seaweed farming, and eco-tourism projects.</li> <li>Initiatives often supported by NGOs and government for income diversification.</li> </ul>	<ul style="list-style-type: none"> <li>Promotes economic independence and social empowerment.</li> <li>Reduces gender income gaps in coastal communities.</li> <li>Encourages collective participation in local governance.</li> </ul>
<b>3. Gender-Inclusive Coastal Management Committees</b>	<ul style="list-style-type: none"> <li>Women are included in committees for planning and decision-making processes.</li> <li>Women take part in policy formulation and monitoring coastal projects.</li> </ul>	<ul style="list-style-type: none"> <li>Voices of women are strengthened in governance structures.</li> <li>Gender-sensitive policies and equitable access to resources are improved.</li> <li>Blue carbon initiatives ensures long-term inclusion</li> </ul>

**3.3 Impact on Gender Equity**

The participation of women in the governance of blue carbon ecosystems has far-reaching consequences for gender equity. The sustainability of blue carbon initiatives depends on the participation of women. Activating social inclusion and economic empowerment is a direct result of women’s involvement [18]. Women participating in blue carbon initiatives in Pahang have reported an increase in resource accessibility, an improvement in their livelihoods, and a rise in the social status of their communities. Community-led activities demonstrate how women are getting out of the “support” role in the household and are becoming environmental stewards and diversifying their livelihoods through the mangrove value chains [3]. However, there appears to be a lack of comprehensive quantitative data for Pahang on women’s share of decision-making, leadership roles, or income derived specifically from blue-carbon activities.

Women in coastal communities often perform crucial but under-recognized roles in processing, gleaning, and near-shore activities [18]. For example, a global review highlights that women make up nearly half of the workforce in fisheries sectors in developing countries and depend heavily on mangrove/blue-carbon ecosystems for livelihoods [16]. Therefore, by integrating women in blue-carbon governance, programs can open up new income-generating opportunities (such as value-added mangrove products, eco-tourism, carbon-finance-linked work) which help reduce economic gender disparity and boost women’s social status.



**Fig. 4.** Gender Equity in Blue Carbon Ecosystems [1]

Involving women in the governance of blue carbon projects helps reshape preconceived ideas about their involvement in leadership and decision-making. The number [18] identify that women are typically assigned less valued roles and are excluded from leadership opportunities. However, more than attitudinal changes are happening in Pahang. Women, empowered at the helm of leadership to Restorer projects, carbon monitor and negotiate pay, are starting to receive recognition. Every projects for the first time contributes to women's active participation in the management of their environment and to the additional goals of social and economic political empowerment [8]. Pahang has deepened this progress with the Gender Inclusiveness Policy (2019) that entrench the expectation of normative inclusiveness in state level decision making and through the Gender Responsive and Participatory Budgeting framework that tackles pay equity, child care and other care work [19]. Other efforts include programs for women's leadership, empowerment through capacity-building and community activities, and initiatives to involve men in achieving gender equality, such as discussions on toxic masculinity.

When women participate meaningfully in governance, such as planning, monitoring, and benefit-sharing [10]. Therefore, there is a greater likelihood that their distinct needs, knowledge, and perspectives are incorporated. For instance, the programme Mangroves for the Future emphasises gender analysis and inclusive design in coastal resource work. This helps shift gender equity away from tokenism (women being recipients) to genuine co-managers and decision-makers, which strengthens both equity and ecological outcomes [18]. In Pahang, this means women members of coastal communities (such as fisher-wives groups) can move from supporting roles to governance roles.

The participation of women in the decision-making sphere and the governance of blue carbon frameworks creates fairness in the distribution of benefits that result from blue carbon projects. Women are guaranteed participation in community initiatives, which equitably address their needs and promote gender equity [9]. Differentiated roles between women and men in the use of blue carbon ecosystems mean that the loss of mangroves and their associated ecosystem services disproportionately affects women (subsistence, income, social, and ceremonial roles)[14]. This is also the case in social resilience. Women's equity in governance means that they are no longer passive victims of ecosystem degradation but are active protectors and restorers of ecosystems. Therefore,

if Pahang can promote gender equity in social adaptations, it will achieve positive restorative ecosystem outcomes.

#### **4. Discussion**

This research argues that women's involvement in blue carbon governance in Pahang has improved in the last decade. Despite the improvement, Pahang is still facing issues with gender inequalities. However, these inequalities are caused by cultural and institutional factors that the region is still addressing [10]. In Pahang, women's participation in restoring mangroves and in coastal communities' development has delivered substantial social and environmental benefits. Yet they continue to be marginalized in formal decision-making structures. In Pahang, the PIFWANITA programs catalyzed women's leadership in mangrove conservation and eco-enterprises development, demonstrating the impact women can have in such roles [9]. Thus, these cases confirm the progress made and the structural challenges that continue to circumscribe gender equity in blue carbon governance.

There is also the integration of women in conservation and restoration practices. Women's activities and knowledge of coastal ecosystems, resource cycles, and gleaning significantly contribute to the success of restoration, and in Pahang, this was demonstrated in the 90% sapling survival rates. This is backed by global literature, which indicates that gender-inclusive ecological management results in sustainable ecological outcomes. However, the technical and social outcomes of blue carbon initiatives have benefited from women's participation [12]. Policy frameworks continue, however, to view women's roles as complementary rather than central, and thus reflect the residual "Women in Development" (WID) paradigm rather than transformative Gender and Development (GAD).

Gender development practice also supports this critique. The policy history indicates a transition from gender-blind conservation to gender mainstreaming, but the outcomes are uneven [8]. Early initiatives focused on women's welfare, but did not address the deeper structural inequalities of inequitable land access, training opportunities, and gaps in decision-making. There are now gender-sensitive programmes, but if participation is measured quantitatively, the risk of tokenism is real [9]. This echoes [5] framework of empowerment, which posits that the enduring gender inequity is not participation but the absence of agency to make decisions and influence institutional change.

In Pahang, the PIFWANITA case exemplifies bottom-up transformation, where women have evolved from beneficiaries to agents of change. Most notably, Women PIFWANITA amalgamated the conservation of mangroves with the production of mangrove-based jams, teas, and eco-tourism. Subsequently, economically empowering women creates a powerful sense of individual and community resilience and may positively change the historically domestic prescribed roles of women in society [12]. Such a change, however, appears to be context-dependent and extremely fragile. The lack of large-scale reforms, especially in policy, is most often the result of the engagement of certain NGOs, like Reef Check Malaysia and Blue Communities [14]. Without large-scale institutional reforms, including refined gender budgeting and funding, coupled with the recognition of ecological women's leadership, such case studies will be powerful but isolated, and extremely difficult to replicate.

Women also experience the most acute form of 'formal' and 'informal' governance participation. Women's engagement in 'local governance' is significant, but they are also the most under-represented in high-level decision-making positions, such as district-level environmental councils and formal carbon policy-making at the national level [8]. This lack of governance and decision-making power affects women's ability to control and decide how resources, including carbon credits and eco-tourism profits, are allocated [4]. Pahang's Gender Inclusiveness Policy (2019) and Gender

Responsive and Participatory Budgeting (GRPB) framework represent important steps towards bridging this gap [19]. However, implementation is still inconsistent. In fact, only a few blue carbon projects undergo gender audits. This shows that although institutions increasingly acknowledge gender equality, putting it into practice is still not enough.

Women's participation in Pahang's environmental governance has increased, enhancing social resilience and gender equality. More women now engage in monitoring, education, and ecosystem management. Their involvement strengthens community preparedness for climate challenges, reflecting [17] view that local collective action fosters more effective and inclusive governance. Women's leadership in ecological knowledge management and social capital in blue carbon community management is observed in PIFWANITA leadership in Pahang [6]. As an interesting observation in both case studies, the absence of comprehensive quantitative data on women's economic gains, leadership, and decision-making influence has been noted as concerning. Much of the population assessments is based on qualitative documents produced by NGOs or governmental bodies. Such reports are useful but can hinder policy affordability through evaluation and comparability [12]. Future research will focus on mixed methodology integrating gender-disaggregated data on income, time use, leadership, and ecological outcomes to more definitively assess the impacts of gender equity.

## 5. Conclusions

To sum up, women's stake in the management of blue carbon in the coastal Pahang ecosystems is positive from the perspective of gender inclusiveness in the local community. Community-based approaches with the involvement of women and integrated leadership are more likely to succeed and promote inclusiveness in blue carbon programs. To optimize the effectiveness of these approaches, challenges limiting women's participation need to be resolved. These include strategies on policy frameworks for gender inclusiveness, the provisioning of training and education for women, and awareness at the local level on the importance of women's participation. If all these are done properly, there is no doubt that blue carbon governance will contribute to environmental sustainability and social equity.

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## References

- [1] Asian Development Bank. "Women as Agents of Change for Strengthening Community Resilience." *Development Asia*, December 29, 2022. <https://development.asia/insight/women-agents-change-strengthening-community-resilience>.
- [2] Braun, Virginia, and Victoria Clarke. "Reflecting on Reflexive Thematic Analysis." *Qualitative Research in Sport, Exercise and Health* 11, no. 4 (2019): 589–597.
- [3] Butt, M. N., V. Sharma, and H. Jeans. "Women as Agents of Change for Strengthening Community Resilience." *Development Asia*, December 29, 2022. <https://development.asia/insight/women-agents-change-strengthening-community-resilience>.
- [4] Chee, S. Y., L. B. Firth, A. Y. H. Then, J. C. Yee, A. Mujahid, Y. A. Affendi, et al. "Enhancing Uptake of Nature-Based Solutions for Informing Coastal Sustainable Development Policy and Planning: A Malaysia Case Study." *Frontiers in Ecology and Evolution* 9 (2021): 708507.
- [5] Coe, Robert, Michael Waring, Larry V. Hedges, and Lee D. Ashley, eds. *Research Methods and Methodologies in Education*. London: SAGE Publications, 2025.

- [6] Dawson, N. M., B. Coolsaet, E. J. Sterling, R. Loveridge, N. D. Gross-Camp, S. Wongbusarakum, et al. "The Role of Indigenous Peoples and Local Communities in Effective and Equitable Conservation." *Ecology and Society* 26, no. 3 (2021): 19.
- [7] Dufour, Isabelle F., and Marie-Claude Richard. "Theorizing from Secondary Qualitative Data: A Comparison of Two Data Analysis Methods." *Cogent Education* 6, no. 1 (2019): 1690265.
- [8] Eswaran, U., V. Eswaran, K. Murali, and V. Eswaran. "Women's Leadership in Environmental Conservation: Challenges and Success Stories." In *Gender, Environment, and Human Rights: An Intersectional Exploration*, 211–244. 2025.
- [9] Friends of the Earth International. "Fisherfolk Who Plant Trees: Turning the Tide on Mangrove Deforestation." March 4, 2021. <https://www.foei.org/fisherfolk-mangrove-deforestation/>.
- [10] Grant, M., and J. Willetts. "Locally Led Opportunities for Water, Sanitation and Hygiene, Climate Change and Gender Equality Partnerships in the Blue Pacific." *Water* 16, no. 6 (2024): 872.
- [11] Humphrey, H. M. *Assessing Social, Economic, and Environmental Factors Shaping Sustainable Resource Management and Community Dependence on Mangrove Forests in Borneo: A Case Study of Sepilok Laut Mangroves, Sabah, Malaysia*. 2024.
- [12] Humanis Foundation. *Women's Rights and Resilience in Coastal Areas Amid Regulatory and Climate Changes*. 2025. [https://humanis.foundation/wp-content/uploads/2025/01/lores-A4-policy-brief-Womens-Rights-and-Resilience-in-Coastal-Areas\\_english\\_rev-2.pdf](https://humanis.foundation/wp-content/uploads/2025/01/lores-A4-policy-brief-Womens-Rights-and-Resilience-in-Coastal-Areas_english_rev-2.pdf).
- [13] Islam, M. M., A. A. Amir, and R. A. Begum. "Community Awareness toward Coastal Hazard and Adaptation Strategies in Pahang Coast of Malaysia." *Natural Hazards* 107, no. 2 (2021): 1593–1620.
- [14] Karpowicz, D. A., M. Mohan, M. S. Watt, J. F. Montenegro, S. A. King, P. P. Selvam, et al. "Mangrove-Based Carbon Market Projects: Fifteen Considerations for Engaging and Supporting Local Communities." *Diversity* 16, no. 9 (2024): 574.
- [15] Largan, Chris, and Theresa M. Morris. *Qualitative Secondary Research: A Step-by-Step Guide*. 2019.
- [16] Lopez, D. E. *Gender Equality in Blue Carbon Ecosystems: A Literature Review*. Working paper. KIT Institute, 2024. <https://www.kit.nl/wp-content/uploads/2022/01/Gender-Equality-in-Blue-Carbon-Ecosystems-A-Literature-Review.pdf>.
- [17] Noor, N. M., N. S. Iskandar, N. I. Nurhalimi, and S. A. Adim. *Waters of Change: Social Consequences of Climate Impacts on Southeast Asian Aquatic Ecosystems*. 2022.
- [18] Prakash, A., K. McGlade, M. K. Roxy, J. Roy, S. Some, and N. Rao. "Climate Adaptation Interventions in Coastal Areas: A Rapid Review of Social and Gender Dimensions." *Frontiers in Climate* 4 (2022): 785212.
- [19] Pahang Women's Development Corporation. "Gender Responsive and Participatory Budgeting in Pahang, Malaysia." *Participedia*, 2019. <https://participedia.net/case/5285>.
- [20] Rahman, S. "Analysing Climate Change through a Human Security Lens: A Case Study of Fishermen in Crisis from Peninsular Malaysia." *Geopolitics* (2024): 1–36.
- [21] The Pew Charitable Trusts and NDC Partnership Support Unit. *Blue Carbon Ecosystems Supplement: Climate Investment Planning and Mobilization Framework*. May 2025. <https://ndcpartnership.org/sites/default/files/2025-05/blue-carbon-ecosystems-supplement-climate-investment-planning-and-mobilization-framework.pdf>.
- [22] Wickham, R. J. "Secondary Analysis Research." *Journal of the Advanced Practitioner in Oncology* 10, no. 4 (2019): 395.