Gender Assessment

FP317: Blue Halo S – Blue Ecosystem Adaptation Mechanism (BEAM)

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GREEN CLIMATE FUND

Blue Halo S – Blue Ecosystem Adaptation Mechanism (BEAM)

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ACRONYMS

ABR	Adolescence Birth Rate
AMAN	*Aliansi Masyarakat Adat Nusantara/*
APM	*Angka Partisipasi Murni*/ Nett Enrollement Rate
APK	*Angka Partisipasi Kasar***/** Gross Enrollment Ratio
BEAM	Blue Ecosystem Adaptation Mechanism
BPS	*Biro Pusat Statistik/* Statistics Indonesia
BUMDES	*Badan Usaha Milik Desa*
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GAP	Gender Action Plan
GCF	Green Climate Fund
GDI	Gender Development Index
GESI	Gender Equality and Social Inclusion
GoI	Government of Indonesia
HDI	Human Development Index/ *Indeks Pembangunan Manusia (IPM)*
KEMENPAREKRAF	*Kementerian Pariwisata dan Ekonomi Kreatif*
KIARA	*Koalisi Rakyat untuk Peradilan Perikanan*
KIP	*Kartu Indonesia Pintar*
KPPPA	*Kementerian Pemberdayaan Perempuan dan Perlindungan Anak*
KTP	*Kartu Tanda Pengenal*
KUBE	*Kelompok Usaha Bersama*
KUSUKA	*Kartu Pelaku Usaha Kelautan dan Perikanan*
MMR	Maternal Mortality Rate
MOST	Management of Social Transformation Program
MYS	Mean Years of Schooling / *Rata-Rata Lama Sekolah (RLS)*
NGO	Non Governmental Organization
PKH	*Program Keluarga Harapan*
Poklahsar	*Kelompok Pengolah dan Pemasar (Ikan)*
SSF	Small-scale fisheries
WA	Whatsapp Application
WPPNRI	*Wilayah Pengelolaan Perikanan Negara Republik Indonesia*

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Executive Summary

Introduction

Communities globally have been impacted by climate change, with different levels of severity and variety, affected by geographical, social, cultural, and economic factors. Coastal communities are at the forefront of being impacted by climate change. Furthermore, the 2007 Human Development Report underscores that climate change is not gender neutral. Gender inequality intersects with climate risks and vulnerabilities. Several factors are associated with gender inequality in the literature, highlighting how men and women experience their social, economic, and environmental realities differently. In Indonesia, there is a significant proportion of women in the fisheries and aquaculture value chain, mostly responsible for non-vessel activities and disproportionately constitute a large percentage of the workforce engaged in informal, lowest paid, least stable, and tasks considered to be least skilled. Acknowledging the importance of addressing barriers faced by women and other vulnerable groups, the Blue Halo S-Blue Ecosystem Adaptation Mechanism (BEAM) Project, which aims to support the Government of Indonesia's target in responding to the impact of climate change, conducted a gender assessment. The study was conducted in six provinces covered in WPPNRI (*Wilayah Pengelolaan Perikanan Negara Republik Indonesia)* 572, namely Aceh, West Sumatera, North Sumatera, Bengkulu, Lampung, and Banten, which will be the area for the initial pilot of Blue Halo S. The result of the study is utilized to develop a Gender Action Plan (GAP), covering recommendation to strengthen adaptive capacities to ensure the project achieving gender equality and social inclusion.

Methodology

The assessment was conducted with qualitative study as a main approach, utilizing in depth-interviews, focus group discussions (FGD) with 64 male and 71 female participants from community groups engaged in fishery and other blue economy field, relevant government officials, and non-governmental organizations, as well as observations on relevant activities in fisheries. The analysis utilizes qualitative content analysis method, where themes or patterns that emerged from the data were identified through a systematic classification process of coding. The study also collected quantitative/numerical data from local government offices and websites as secondary data, most of which underwent analysis using descriptive statistical methods. This information serves to enhance the understanding of the provincial socio-economic context, thereby reinforcing the qualitative analysis.

Findings

The study finds that those regarded as small-scale fisheries actors, particularly small-scale poor traditional fishers (male and female), women working in post-harvest, workers in fish farms, female elderly, and female heads of the household in coastal areas, are the most vulnerable to climate change, due to their high reliance on marine resources. While in general, fishers and other community groups in coastal areas have low awareness of climate change phenomenon (perceiving the relevant nature signs as part of inevitable/ non-preventable changes of natural phenomenon) and have been affected in their ability to make ends meet, women have been impacted significantly by extreme weather events and other damages caused by both climate and non-climate drivers, and have to juggle with domestic chores. Moreover, women's contribution throughout the fishery value chain is underreported, which in turn causes their roles to be undervalued and excluded from relevant program assistance. These factors have been impacting the ability of women and vulnerable groups to adapt to climate change. Program and assistance received by coastal fisher households across six provinces are limited, including those relevant to the fishery sector since they have an intersection with the interests and needs of coastal communities and the ones that target poor households in general.

Recommendations

The study highlights several issues that need to be addressed to ensure the project aims for gender equality and social Inclusion, ranging from low awareness and knowledge on climate change, sustainable fishery and livelihoods among women and other vulnerable groups, lack of sex-disaggregated data and information about roles of women in blue economy sectors that lead to lack of acknowledgment of women's contribution is fishery and access to government program and assistance, to the need for improving research and the development of assisting technology for fishing and processing to improve the livelihood of those in need, as well access for them to channel their aspiration and participate in decision making and collective learning. To address the issues, the study recommends strengthening adaptive capacity of women and other vulnerable groups by building five critical domains, including assets that can be accessed in times of need, flexibility in changing adaptation strategies, social organizations, the learning process to recognize as well as respond to change, and agency to take action in dealing with the impact of climate change. The measures are expected to enable women and other vulnerable groups to anticipate and respond, mitigate the consequences of climate change, and build the ability to recover and find new opportunities from the change as an advantage.

Report
Gender Assessment
for Blue Halo S Program

I. Introduction

The Blue Halo S [1] - Blue Ecosystem Adaptation Mechanism (BEAM) Project aims to support the Government of Indonesia's target to transform the country's marine and coastal economy in responding to the impact of climate change by ensuring that marine production benefits from protection while driving sustainable growth and development. Focused on the protection of resources and ecosystem, producing blue carbon, decreasing vulnerabilities to climate change, supporting the advancement of science, empowering the local community, boosting investment in fisheries, and expanding the market for Indonesian fisheries products, the program was designed to close the ecological and economic loop between ocean production and protection. As suggested by the developmental and environmental conservation community globally, the strategy of the program will cover the domain of climate change adaptation and mitigation[2], prioritizing the expansion of support for Marine Protected Areas (MPAs) and financing for community-based investments. The initial pilot of Blue Halo S will be focused on Fishery Management Area or *WPPNRI* (*Wilayah Pengelolaan Perikanan Negara Republik Indonesia*) 572, which will include West Sumatera and Indian Ocean, with a plan for replication and scale-up throughout the entire Indonesian archipelago and beyond. Administratively, WPPNRI 572 covers six provinces: Aceh, West Sumatera, North Sumatera, Bengkulu, Lampung, and Banten. Component 1 strengthens policies, institutions, data systems, marine protection, and creating the enabling conditions for the GoI's regulatory and policy transition to a sustainable blue economy. Component 2 supports locally led climate action through adaptation and mitigation subgrants, together with pre-identified investment-readiness activities. Konservasi Indonesia will serve as the sole Executing Entity. Gender equality and social inclusion will be integrated across both components. The Project will address barriers that limit women and vulnerable groups from accessing information, finance, technology, livelihood support, decision-making, and Project benefits.

Having extensive resources and biodiversity, WPPNRI 572[3] has critical roles in marine and fishery production in the country, which will eventually affect social and economic welfare in the surrounding region. Aligned with national priority in marine and fishery management, one of the objectives of the Blue Halo S program is to improve community well-being and resilience to climate change, especially in coastal communities. Within the fishery management plan, WPPNRI 572[4] it is explicitly emphasized that the social aspect is inseparable within the integrated management, aiming to improve community well-being, particularly the coastal marine community. This is also aligned with the mandate of Law no 7/ 2016 on Protection and Empowerment of Fishers, Fish Farmers, and Salt farmers (*Perlindungan dan Pemberdayaan Nelayan, Pembudidaya Ikan dan Petambak Garam)*, which highlights the importance to protect and

[1] The Blue Halo name is based on the understanding that when the resources of ocean (blue) are protected and well managed, the environmental benefits (halo) will impact livelihoods, equity, and food security. BEAM is part of the Blue Halo S Platform. More information about the program can be accessed here https://www.konservasi-id.org/inisiatif-program-nasional/blue-halo-s
[2] Adaptation in climate change context defined as "changes in processes, practices, and structures to moderate potential damages to or benefit from opportunities associated with climate change." Mitigation is referring to "an anthropogenic (human made) intervention to reduce the sources of green-house gases or enhance their sinks (IPCC (as cited in UNDP, 2009))
[3] WPPNRI 572 covers 94,368,838 Ha, including conservation area (2020) 1,318,007 Ha, with captured fish production 713,720 ton. Information about WPPNRI 573 can be seen in https://kkp.go.id/djpt/ditpsdi/page/5049-wppnri-572
[4] Based on Decree of Minister of Maritime Affairs and Fisheries no 76/2016

empower in particular small scale holders in fisheries, and that climate change with all the related risks need to be addressed to protect and empower these vulnerable groups.

Communities globally have been impacted by climate change, with different levels of severity and variety, affected by geographical, social, cultural, and economic factors. Coastal communities are at the forefront of being impacted by climate change. The 2007 Human Development Report highlights that climate change exhibits gender-specific implications. Gender inequality intersects with climate-related risks and vulnerabilities, with women being disproportionately affected by climate change-induced events, resulting in a higher number of female casualties in extreme weather incidents compared to men. [5,6,7]. Several factors are associated with this inequality in the literature, highlighting how men and women experience their social, economic, and environmental realities differently. As survival from disaster is highly determined by social factors like poverty, access to resources, and process of decision making, women are more often to have higher vulnerability to climate impact because women are more likely to live in poverty[8], have limited access to land ownership, health care, education, face more restrictions to contribute in the social sphere, as well as policy and decision-making process in the community, that eventually limit their freedoms and options to deal with climate change[9].

In the context of fishery and the blue economy in general, most of the inequalities are also reflected and rooted in gender-based task allocation throughout the value chain. As occurs globally [10], there is a significant proportion of women in the fisheries and aquaculture value chain in Indonesia, mostly responsible for non-vessel activities and disproportionately constitute a large percentage of the workforce engaged in informal, lowest paid, least stable, and works considered to be least skilled[11]. One of the studies in Indonesia conducted by *KIARA (Koalisi Rakyat untuk Peradilan Perikanan)* shows that 48% of income from fishers' households comes from women, and the majority of female fishers work more than seventeen (17) hours a day. Despite their valuable contributions, women's roles in the fishery and the blue economy in general in Indonesia are still overlooked. Combined with issues related to the absence of legal recognition from the government and inadequate data on their existence, women are often denied their right to access social protection, financial and other kind of government assistance[12]. On the other hand, despite the fact that in a patriarchal society, men have more access to information and other resources to deal with climate change, poor and small-scale male fishers are reported to be prone to a

[5] Bambrick,H. (2015, October 26). Worldwide, Climate Change is A Worse News for Women. The Conversation. https://theconversation.com/worldwide-climate-change-is-worse-news-for-women-49668
[6] *Pratiwi, AM. (2023, November 17).* Bagaimana Perubahan Iklim Memperparah Ketimpangan Gender di Kawasan Pesisir?. The Conversation. https://theconversation.com/bagaimana-perubahan-iklim-memperparah-ketimpangan-gender-di-kawasan-pesisir-217923
[7] United Nations Development Programmes. (2009). Resource Guide on Gender and Climate Change.
[8] Women Watch: Information and Resources on Gender Equality and Empowerment of Women. Women and Poverty. https://www.un.org/womenwatch/directory/women_and_poverty_3001.htm
[9] United Nations Development Programmes. (2009). Resource Guide on Gender and Climate Change.
[10] Food and Agriculture Organization of The United Nations. (2022). The State of World Fisheries and Aquaculture 2022.Advancing Towards Gender Equality in Fisheries and Aquaculture. https://www.fao.org/3/cc0461en/online/sofia/2022/gender-equality-in-fisheries.html
[11] Napitupulu, L., Smita, T. (2020). 3 Reasons why Women in Fisheries Matter for An Inclusive Economic Recovery. World Resources Institute (WRI) Indonesia. https://wri-indonesia.org/en/insights/3-reasons-why-women-fisheries-matter-inclusive-economic-recovery
[12] Medianti, E., Ade, Y. (2022, March 6). Menghapus Bias Gender di Pesisir Indonesia. Mongabay. https://www.mongabay.co.id/2022/03/06/menghapus-bias-gender-di-pesisir-indonesia/

large set of vulnerabilities; they face hazardous impact due to their nature of work on board fishing vessels[13] [14] [15].

To have an effective and impactful climate change adaptation strategy, the evidence is mounting that prioritizing women and the most vulnerable groups is crucial; vulnerable groups are impacted more by climate change, with women and children being 14 times more likely to die during a disaster[16]. It is evident that the most vulnerable groups are often excluded from programs and policies on conservation and alternative livelihood program, and this has been a common source of failure of these programs and policies, eroding desired impacts[17]. Protection of vulnerable groups from the impact of climate change by ensuring any innovations do not impose further burdens on these groups is declared as one of the main principles In Indonesia's National Adaptation Strategy Plan 2019 developed by *Bappenas*[18], local communities have been identified as one of the key stakeholders to be empowered by increasing or maintaining their adaptive capacity[19] to cope with climate change. Acknowledging the importance of developing gender sensitive and inclusive program design to address barriers faced by women and vulnerable groups, Blue Halo S conducted a gender assessment, and the result will be utilized to develop a Gender Action Plan (GAP) to ensure the design of the program promotes gender equality.

II. Objectives

The objectives of this Gender Equality and Social Inclusion (GESI) assessment are described below:

1. To identify potential beneficiaries for the program, in particular for targeted women and other vulnerable groups, so that the project will be able to increase the resilience and adaptive capacity of coastal community livelihood.
2. To ensure that women and vulnerable groups have fair access to Project participation, resources, services, subgrants, livelihood opportunities, decision-making, and grievance mechanisms.
3. To understand more how the livelihood of women and other vulnerable groups will be impacted by climate change, especially on how the gender roles will affect men and women (roles, access to, control of resources) differently at household and community levels, and what factors related to their vulnerabilities contribute to their resilience and adaptive capacity.
4. To understand specific potential barriers that will be faced specifically by certain vulnerable groups, including how men and women will be affected differently by these barriers to participate and access the project benefits
5. To identify efforts that had been done and required to address the needs and barriers faced by women and other vulnerable groups of coastal marine communities to increase their resilience and adaptive capacity to climate change

[13] Ministry of Women Empowerment and Child Protection, Republic of Indonesia. (2015).Technical Guideline: Gender-Responsive Climate Change Adaptation at Regional level
[14] Food and Agriculture Organization of the United Nations (FAO). (2016). The State of World Fisheries and Aquaculture: Contributing to food security and nutrition for all
[15] Suhartoyo, F.M., Oksfriani, J.S., Novie, H.R. (2022). Occupational Accidents among fishermen in Manado, South Sulawesi. https://ejournal.unsrat.ac.id/index.php/eclinic
[16] UN Women. (2018). *Turning Promises into Action: Gender Equality in the 2030 Agenda for Sustainable Development*
[17] The World Bank. (2023). Social Dimensions of Climate Changes in Indonesia
[18] Indonesia's Ministry of National Development Planning (*Bappenas*), (2019). National Adaptation Plan 2019
[19] Adaptive capacity is "The (in)ability of communities to cope with the expected impacts of climatic changes. The capacity to adapt is driven by social and economic factors, such as access to information, political power, and networks; and access to resources and opportunities, including the ability to diversify away from at-risk livelihoods (such as skills, remittances, ability to migrate). (The World Bank, 2023)

6. To identify relevant and strategic entry points and mechanisms in the program design, including financing and investment mechanism under window 3to mainstream and promote gender equality, as well as meaningful participation of women and other vulnerable groups.
7. Collect other relevant data and information that will be identified further during the assessment to develop a Gender Equality and Social Inclusion Action Plan for Blue Halo S.
8. To integrate gender equality and social inclusion into Project screening, appraisal, implementation, monitoring, and reporting.

Based on these objectives, this assessment will address these research questions:

1. Which women's and community groups can be identified as the most vulnerable groups in a coastal marine context that will be relevant for the Blue Halo S program?
2. How will their vulnerabilities affect their ability to be resilient and adapt to climate change?, and What factors contributed to their vulnerabilities?
3. How gender roles affect men and women differently at household and community levels (in roles, access to, control of resources, and decision making), particularly in relation to their involvement in fisheries and aquaculture sector.
4. What existing efforts have been done to address barriers faced by women and other vulnerable groups in becoming resilient and adaptive to climate change? What has worked and what has not? What is required to address these barriers?

III. Output

This GESI assessment will produce these documents as described below, which will be included in this report:

1. **Report document for the result of qualitative analysis.**
2. **Gender Action Plan (GAP) document** for Blue Halo S Program Design that will be developed based on findings and analysis from gender assessment.

IV. Approach & Methodology

The assessment was conducted in several stages using qualitative study as a main approach. A range of methods have been utilized to collect primary as well as secondary data and information, which will be described in the next section below. Primary data collection was done through observations and consultations with relevant stakeholders from community groups, government, and non-governmental organizations using qualitative methods, in particular in-depth interviews and focus group discussions (FGDs). Secondary data collection was carried out through desk reviews and government-official data gathered from local government offices.

Data collection was conducted in 6 provinces, led by two consultants with expertise in Gender Equality and Social Inclusion (GESI), with assistance from local enumerators in each province. All interviews and FGDs, as well as observations and secondary data collection conducted in this study, were guided by specific instruments developed for each group of respondents or dataset (please see Annex 1 for all study

instruments). The selection of diverse team members was promoted[20] and monitored, especially on the representativeness of females and males in team composition when conducting interviews and FGD in the field. The selection of eligible respondents also considers the representativeness of women and men in all activities during data collection.

1. Desk Review

The resources for the desk review include documents available through online search, relevant institutions' websites, and contact persons from this project team members' network, local government, journal repositories, and other credible resources that have been identified during the assessment (see Annex 2). Data and information gathered through desk review provide relevant data[21] and information as a context to enable the team to identify women and other vulnerable groups, especially those among coastal marine communities, who have and will be impacted the most by climate change, and how their vulnerabilities affect their resilience and capability to adapt, as well as opportunities for the project to be able supporting these community groups to promote their resilience and adaptive capacity. Particularly at the initial stage of the assessment, a desk review was conducted on several regulations on marine and fisheries national management in general, specifically related to management WPPNRI 572, as well as studies related to gender equality issues in this sector in Indonesia. The result has informed and been utilized to develop the assessment plan on determining community groups considered as vulnerable to be targeted respondents; these groups are small/ poor fishers, traditional fishers, small fish farmers, and salt farmers[22] (men and women), women from poor households and women involved in the informal sector of the blue economy[23]. This is also to ensure that prioritizing these groups will be aligned with the national priorities in protecting and empowering coastal marine communities that heavily rely on marine and fishery resources.

The desk review was also conducted on studies related to the blue economy in global and Indonesian contexts, along with grey literature such as programs related to marine and coastal livelihoods in the area of WPP572, especially about existing vulnerable and women's groups, their livelihood, and how climate change has impacted their roles at household and community level. To provide context for the analysis, secondary data and information related to the general situation of gender equality in each province covered in WPPNRI 572 was also gathered through desk review, along with information related to relevant social and cultural norms that influence the livelihood of surrounding communities, as well as existing programs that might be relevant and intersect with the project's objectives.

[20] Participation of women with relevant skills and expertise across team members was promoted to ensure gender-balanced perspective is in place and provide more opportunities for women in the area of expertise related to blue economy, marine and fisheries

[21] Relevant data here refers to quantitative and qualitative information that can provide overview on men's and women's access to basic services and development outcomes

[22] Law no 7/2016 stipulates the mandate to protect and empower small fishers, fish and salt farmers from natural disasters, climate change, and the risks arises from those factors. Furthermore, family members from these groups are also entitled to access government financing assistance, trainings, and scholarships. It is emphasized that the involvement and participation of women need to be addressed in protection and empowerment efforts.

[23] Blue economy defined as a "sustainable development framework for developing countries addressing equity in access to, development of and the sharing of benefits from marine resources; offering scope for re-investment in human development and the alleviation of crippling national debt burdens." (Blue Economy Concept Paper, UNEP 2016)

2. Data Collection in 6 provinces

The study team conducted primary and secondary data collection in pilot areas in 2 stages, covering 6 provinces: Aceh, West Sumatera, North Sumatera, Bengkulu, Lampung, and Banten.

2.1 Primary data collection through FGDs, interviews, and observations:

Considering the importance of involving vulnerable groups as part of the participatory gender assessment, focus group discussions (FGDs) and in-depth interviews were conducted with members of community groups, particularly those identified as vulnerable in coastal communities, within the context of blue economy, based on findings of desk review, as well as references from local stakeholders. Interviews were also conducted with relevant government officials and local Non-Governmental Organizations (NGOs). The combination of in-depth interviews and the FGD method was chosen to allow the study to enrich the data with more personalized individual experiences, revealing issues of gender inequality and social exclusion, as well as information related to group dynamics and collective agreement among coastal community members from the FGDs.

Below are the targeted respondent groups[24] for the interviews and FGDs in all study sites:

1) Small/poor fishers (Male and Female)
2) Women working in the informal sector of the blue economy[25]
3) Female head household in a coastal community
4) Fishermen (middle or big scale) employ small fishers
5) Small/poor Fish or Salt Farmers (Male and Female)
6) NGO working with coastal communities
7) Government officials from the Provincial & District Office of Marine Affair & Fisheries
8) Government officials from the Provincial & District Office of Women Empowerment and Child Protection.

Respondents were selected purposively with selection criteria determined before the assessment and consulted with the research team and local stakeholders[26] in each province. Criteria for each respondent group was developed (please see the details for each respondent group in the instruments attached in Annex 1), in summary, the selection of respondents in this study was made as follows:

1. Identification of sampling area within each province

Coastal areas inhabited by small fishers, poor coastal communities, and there are existing activities related to fisheries and other blue economy, especially where women are involved, were selected based on the

[24] The criteria for targeted respondents was initially used as a basis to identify eligible respondents, but adjustments were made based on situation on the field and local context. The follow up mapping found not all targeted groups (in particular salt farmers) exist in most of the selected sites. Community members interviewed in most of the study areas told the study team that there is low interest from community in the area on salt farming due to cost-benefit consideration; the need to hire land becomes one of the major challenges for poor farmers to undertake this work.
[25] Criteria for this targeted group set to allow room for other sectors in blue economy undertake by women's group in coastal community. However, the study team found none of the community members working in other marine related or blue economy sector than fishery.
[26] Through network of provincial team, local NGOs, government officials were contacted for consultation. For example, fishery instructors in few study sites (West Sumatera, North Sumatera) were managed to be involved in identifying targeted coastal community groups and consulted for the selection of respondents based on the required criteria and local context.

information from the provincial team, consulted with the team of Konservasi Indonesia (KI). Resources and time constraints only allow the study team to collect data from 1 village in each district. When it is possible, 2 villages nearby visited to ensure all targeted groups were represented. In a few areas where targeted respondent groups do not exist, it was decided to recruit targeted respondents from other villages as long as it was still reachable within 30 minutes by car or motorcycle.

2. Selection of targeted respondents and arrangement of interviews & FGDs

Identification of eligible respondents for certain community groups or members was also done through the snowball method; it is a non-probability sampling method, using a small pool of initial informants to recommend other eligible participants who have the potential to contribute to a specific study[27]. With this method, research participants in this study assist the research team in identifying or recruiting other potential respondents. In general, the eligible respondents in selected locations were recruited based on their engagement in the fishery and other blue economy fields (roles in the value chain, occupation, length of their engagement/experience in the field). The targeted vulnerable groups were identified based on the criteria defined in the regulations. Small-scale fishers for example, defined in this study as fishers use boats with a maximum size of 10 Gross Ton (GT), as stated in Law no 7/ 2016 on Protection and Empowerment of Fishers, Fish Farmers, and Salt Farmers.

Government officials from relevant offices at Provincial and District levels were also interviewed, as well as non-governmental organizations (NGOs) working in the area. All respondents involved in all FGDs, and interviews were informed about the study and asked to provide their consent (informed consent), either written or verbally. The total number of respondents who participated in FGDs and interviews are 135 people, with 64 male and 71 female respondents (please see the breakdown for each province in Annex 3- List of Respondents in Each Province).

In the selection of respondents and the arrangement of interviews, FGDs pay attention to gender balance composition, location, and time availability of respondents. Especially for the interview with community members, interviews with female respondents were conducted in separate locations with males to ensure they feel free to express their voices, and it was set not too far from where they live. Moreover, the time for the interview was set based on the respondents' availability so that it did not interfere with their work, and all respondents were informed about the purpose of the interview and compensated for the time spent on the interview.

3. Observation was conducted in selected working sites where women's groups usually undertake the work related to fisheries

Once the study sites were selected at the village level, the study team then identified the specific location where women's groups usually undertake the work related to the fishery to provide more information regarding workplace arrangements and available facilities. The working sites were selected based on their proximity to the study site in the village, and the study team ensured it was still operating. Before the observation was conducted, the study team asked for permission from the owner of the working site and informed all the workers who were present during the observation about the purpose of the observation and the study. A guideline was developed for this observation activity (please see Annex 1 in study instruments for the observation guideline), looking at access, participation, safety measures, and to what

[27] Morgan, D. (2008) Snowball Sampling. In: Given, L., Ed., The SAGE Encyclopedia of Qualitative Research Methods, SAGE Publications Inc., Thousand Oaks, 816-817

extent the working station is friendly for women and children[28]. These activities were conducted in selected areas in several provinces during data collection in the field from 05th of June to 07th of July 2023. However, in some study sites, the observation could not be conducted due to conflicting schedules with the interviews and FGDs.

2.2 Secondary data collection

The collection of secondary data (both quantitative and qualitative) related to the gender equality situation was conducted in each province, assisted by local enumerators. The process was closely coordinated with a Gender consultant in Jakarta, using the developed list of data and information as a guideline for the provincial teams to collect required information. Secondary data collected from a range of resources are mostly gathered from government offices in study sites and websites owned by relevant institutions like Statistics Indonesia (BPS), and local government at the provincial and district levels.

3. Data Management & Analysis

3.1 Data Management

Primary data collected through FGDs, Interviews, and observation, as well as secondary data, are stored in a dedicated Google Drive made accessible for assessment team members in Jakarta and each province to ensure all the data is kept safely, coordinated by gender consultant in Jakarta (only study team members have access to this storage through the dedicated link).

For all FGDs and interviews conducted, there are field reports developed summarizing findings and points of observation structured by the field report template developed for the data collection in 6 provinces. The digital record of all FGDs & Interviews are transcribed digitally for the analysis. All related documents (recording, transcript, report) are named with standard format containing information of activity (FGD/Interview), Group of respondents (Fishers or Farmers), Sex (male/female), time of data collection (date, month, year), and initial for individual respondent interviewed, and transferred to the cloud storage.

3.2 Analysis

The final result of the analysis is based on primary and secondary data collected throughout all stages of this assessment and will be utilized for the development of the Gender Equality and Social Inclusion (GESI) action plan. The development of the GESI action plan for Blue Halo S aims to comply with the requirements and template developed by GCF.

The main approach for the analysis utilizes qualitative content analysis method, which involves a systematic classification process of coding and identifying themes or patterns that emerge from the data[29]. The method puts emphasis on languages' characteristics as a way to communicate, with attention

[28] Even though there were no children found to be involved in the work when the observation being conducted, it is well known that often times women with younger children need to bring their kids when they undertake the work because no one can take care their children when they work or not at home.
[29] Hsieh, H., Sarah E.S (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research,* 15 (9), 1277-1288. https://journals.sagepub.com/doi/pdf/10.1177/1049732305276687

to the content or contextual meaning of the text. As explained by Downe Wamboldt (1992)[30], content analysis has the purpose of providing knowledge and understanding of certain phenomena being studied. This study utilizes a content analysis method, which is categorized under a conventional type, where the use of categories and names for categories are based on insights that emerge from the data. The analysis looks at the gendered division of labor in fisheries (in pre-, post, and harvesting stages)[31] gender roles within coastal communities, to understand how this eventually impacted access, participation, control, and benefit gained by women and vulnerable groups. The analysis also considers the intersectionality of women and other vulnerable groups in each province.

For secondary data, the study collected quantitative/numerical data from secondary sources (as mentioned above), most of which underwent analysis using descriptive statistical methods. This information serves to enhance the understanding of the provincial socio-economic context, thereby reinforcing the qualitative analysis.

3.3 Research Limitations

Using a qualitative approach, this study bases its analysis on qualitative data and information provided through FGDs and In-depth interviews with key informants. While the existence of vulnerable groups had been identified before the data collection conducted, there is a possibility that not all vulnerable groups were identified and reached by the study due to time and resource constraints. Therefore, it is important to take into account research limitation described below in interpreting analysis provided in this report:

- All study sites across six provinces were selected based on the availability of activities related to fisheries or blue economy undertaken by women in the area. This might lead to the exclusion of area and community groups that are actually vulnerable but do not have existing women's groups or activities. This also means that not all existing community groups in the area are represented in this study based on their socio-economic characteristics.
- One of the vulnerable groups that had not been identified in this study is a person with a disability. Information regarding the existence of coastal community members with a disability is very limited, especially those working as fishers, fish farmers, and salt farmers. Due to resource constraints, the study team was not able to reach out to this group. However, it is recommended for the project to further assess and include them in the design, implementation, monitoring, and evaluation of the program.
- This study assesses potential risks related to gender-based violence that might arise in the project and related factors to the issue. However, this study can only provide a brief narrative of the existing situation due to the lack of data required to strengthen the analysis. Most of the information is qualitative information and obtained from relevant government officials as well as community members. This also highlights the importance of having specific measurements on this issue if the project decides to address issues related to gender-based violence.
- As some of the provinces in WPPNRI 572 have indigenous communities residing in certain areas, it is important to understand their vulnerabilities and challenges faced due to climate change, and this needs to be specifically assessed. However, due to resource constraint, this study was unable to include them to participate in the study.

[30] Downe Wamboldt (as cited in Hsieh, H., Sarah E.S, 2005)
[31] Better understanding of gendered division of labour will be required to understand the processes of economic activities in fishery sector taken by women and men, that will improve accounting of women's participation, so that women's interests as one of the main actors in the Fishery sector can be taken fully into account (Fitriana, R. & Stacey, N. 2012)

V. Findings & Analysis

V.1 Context of Gender Equality and Social Inclusion in Indonesia

In this section, data and analysis on the general state of GESI in Indonesia and six Provinces within WPPNRI 572 will be discussed to enhance the understanding of the socio-economic context, thereby reinforcing the qualitative analysis. The analysis will be based on the available data that is usually utilized to picture gender equality at the national, provincial, or district levels.

Overall, Indonesia's score for the inclusivity index[32] is relatively low compared to countries around the world, even ASEAN countries; Indonesia is currently ranked 125th, below the Philippines and Vietnam. Indonesia's performance on this measurement is crucial to ensure the implementation of policies and actions in the country are inclusive and leave no one behind. In 2021, Indonesia's achievement towards SDG goal number five-gender equality and women's empowerment were ranked as 'moderately improving. Looking at the 2021 Sustainable Development Report dashboard, Indonesia uses four indicators upon which their assessment was made. Those indicators are the demand for family planning, education, the labor force participation rate, and women's participation in the national parliament (see https://dashboards.sdgindex.org/profiles/indonesia/indicators).

In 2020, total population in Indonesia reached 270.204 million people and has increased to 275.774 million (2022)[33], with women's population comprising 49.4 percent of the population. Delving deeper into the proportion of women in vulnerable groups, statistical data reveals results that are more or less similar. There are over 10 per cent of Indonesian population are elderly, with more than half (51,7%) are women. It is estimated there are 23.3 million (9%) people with disability in Indonesia and 55.5 percent are women[34].

Indigenous Peoples' Alliance of the Archipelago/*Aliansi Masyarakat Adat Nusantara* (AMAN) estimates there are around 70 million indigenous people in Indonesia (2018), of which almost half by its population are women (34.3 million or 49%). The Indonesian Indigenous people population is divided into 2.371 indigenous communities spread across 31 provinces. Sumatera has 392 Indigenous communities, which has put the province as the third largest concentration of Indigenous Communities, following Kalimantan in the first and Sulawesi in the second rank (772 and 664 Indigenous Communities, respectively)[35].These statistical figures indicate that women have a significant proportion of the Indonesian population, meaning that success in enhancing their participation and contribution to development will have a substantial impact on the country's well-being.

Indigenous women and men in Indonesia face different forms of discrimination. Women often lack access to land through inheritance and are only guaranteed the use of land when staying within their

[32] Inclusivity Index score is based on holistic measurement of inclusive development focuses on equality (race/ethnicity, religion, gender, and disability) in the realm political representation, out-group violence, income inequality, level of detention, as well as immigration and refugee policy (National Research and Innovation Agency, 2022)
[33] Statistics Indonesia. (2023). Statistical Yearbook of Indonesia 2023: Interim population projection 2020-2023 (mid year/June) 3
[34] Ibid

[35] Andriarsi, MK., (2010, October 10). Sebaran Masyarakat Adat.https://katadata.co.id/padjar/infografik/5f8030631f92a/sebaran-masyarakat-adat,

community[36]. Furthermore, some of the knowledge traditionally held by women can face systemic barriers to being recognized. For example, in many indigenous communities in Indonesia, women have deep knowledge of native seeds that might be hindered by national legal regimes of intellectual property rights. Furthermore, a study carried out in 44 villages in provinces different from the ones prioritized by the project suggests that ninety percent of the indigenous women surveyed reported never having exercised their right to Free, Prior and Informed Consent (FPIC), even though in some of the villages, agroindustry projects had carried out consultations for seeking FPIC[37]. In the West Sumatra province, women from the Metawai culture are rarely involved in decision-making regarding indigenous lands and their use[38].

One of the factors often found in the field related to the various limitations experienced by vulnerable communities to adapt to climate change is poverty[39]. Evidence across the globe has been showing that vulnerabilities and inequalities are closely associated with poverty due to the inability to access basic services and resources. In relation to climate change, poor households are often affected the most due to their inability to afford the required resources to adapt (e.g., water storage, adaptation technologies, capital for alternate livelihood), while they often cultivate land that is vulnerable to extreme weather events. Based on poverty data published by Statistics Indonesia/ *Badan Pusat Statistik*, in 2022, there are 9.57% or 26.36 million people live in poverty in Indonesia, where the proportion of women living under the poverty line is higher than men (9.68% of women compared to 9.40 of male). Moreover, there is relatively high proportion (15.8%) of female-headed households reported as poor households.

Households with a family member who has a disability are also more likely to live in poverty as a consequence of the inability of the primary carer to access paid work, hence reducing the household income. In addition, there is a higher disability-related living expenses compared to families without disability family members. A study conducted by Wibowo et al. (2021)[40] reveals that the poorest households who have members with disability have to bear additional costs of up to 20% to meet their basic needs. Moreover, people with disabilities are still facing barriers to accessing various basic services; access in 9 years of compulsory education and employment opportunities for people with disabilities in Indonesia are 8.6 and 5.4 times lower, respectively, than those without disabilities[41].

Across six provinces in WPPNRI 572, there are almost 4.7 million (1,7% of Indonesia's total population or 9,5% of total population across six provinces) people living below the poverty line. Aceh, Bengkulu, and Lampung have the highest proportion, with more than 12% of their total population reported as poor[42] (please see Annex 4- Statistical Information for GESI Indicators). Disaggregated by gender, the average of households headed by women in six provinces in WPPNRI 572 (15.5%) is higher than the national average (12.7%). Provinces with the highest proportion of female-headed households are Aceh (21.3%), North Sumatera 17.3%), and West Sumatera (17.3%).

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[36] Noor, RS et al (2024). "GENDER EQUALITY IN INDIGENOUS PEOPLES IN INDONESIA (CHALLENGES AND EFFORTS TOWARDS THE 2030 SUSTAINABLE DEVELOPMENT GOALS)". Available at: https://ojs.journalsdg.org/jlss/article/download/2173/1442/11893

[37] Yusvitasari, D. and Yunitasari, D. (2024). "Reflections on The Neglect of Indigenous Women's Voices in Development Projects and The Need for Their Legal Protection: The Case of Indigenous Women in Indonesia". Available at: https://bhrj.blog/2024/02/22/reflections-on-the-neglect-of-indigenous-womens-voices-in-development-projects-and-the-need-for-their-legal-protection-the-case-of-indigenous-women-in-indonesia/

[38] Ibid.

[39] Most of the respondents from community groups in this study are reported to have low educational, social, and economic backgrounds. Many reported themselves to be a recipient of government assistance for poor household.

[40] Wibowo, G., Marlina, I., Arifin, B., Waristi, F., Bastias, D., Aulia, A., & Silalahi, M. (2021). Concession and Incentives to promote economic participation of people with disabilities in Indonesia. Fiscal Policy Agency Ministry of Finance Republic of Indonesia. https://fiskal.kemenkeu.go.id/kajian/2021/12/31/2441-konsesi-dan-insentif-untuk-mendorong-partisipasi-ekonomi-penyandang-disabilitas-di-indonesia

[41] National Research and Innovation Agency/ BRIN. (2022). Policy Manuscript for Increasing Inclusive Social Protection for Persons with Disabilities:Policy Recommendations of the Indonesian MOST-UNESCO National Committe

[42] National and Provincial Central Bureau of Statistics, Ministry of Marine and Fisheries Affair. (2020)

V.1.1 Human Development Index (HDI) and Gender Development Index (GDI)

Disaggregated by sex, in 2021, the national index showed a gap between males and females (69.59 for women and 76.25 for men). A higher HDI score in the country means better access to basic services for its population, which is associated with longer life expectancy, better education attainment, and a higher standard of living. The lower index of women compared to men means women are facing greater barriers to accessing basic services in the country.

Based on a Report published by Statistic Indonesia/ *Badan Pusat Statistik* on Indonesia's Human Development Index (HDI)[43] in 2022, there were only two out of six provinces in WPPNRI 572 had achieved above or equal to the national HDI (72.29)[44], namely Banten (72.72) and West Sumatera (72.65), while the other four provinces are below the national HDI (as the other 24 provinces in Indonesia).

Table 5.1 Gender Development Index (GDI) of six provinces in WPPNRI 572

Area/Province	2020	2021	2022
Indonesia (national)	91.06	91.27	91.63
Aceh (Banda Aceh)	92.07 (95.26)	92.93 (95.54)	92.24 (95.91)
Banten (Pandeglang)	91.74 (86.71)	91.83 (86.83)	92.18 (86.93)
Bengkulu (Kota Bengkulu)	92.07 (95.67)	92.23 (95.77)	92.24 (96.07)
Lampung (Bandar Lampung)	90.33 (93.86)	90.37 (93.93)	90.58 (94.02)
Sumatera Barat (Mentawai)	94.17 (89.59)	94.34 (89.81)	94.72 89.91)
Sumatera Utara (Nias Utara)	90.67 (79.37)	90.73 (79.63)	91.06 (80.12)

(Sources: https://www.bps.go.id/indicator/40/463/1/indeks-pembangunan-gender-ipg-.html)

However, overall, Gender Development Indexes (GDI)[45] in almost all provinces within WPPNRI 572 are above the national Index, except for North Sumatera Province. From 2020 to 2021, the overall GDI in all six provinces increased within the range of 0.04 – 0.17. Among six provinces in WPPNRI 572, West Sumatera was reported to have the highest accelerated growth (an increase of 0.17 from a score of 94.17 in 2020 to 94.34 in 2021. Its GDI (94.34) is among the top four provinces in Indonesia that achieved the highest score and above the national GDI (91.27). Based on both indexes of HDI and GDI, there are three out of six provinces in WPPNRI 572, namely North Sumatera, Bengkulu, and Lampung reported achieving lower scores than the national indexes[46]. Aceh is the only province within WPPNRI 572 that has a lower HDI than the national index, with its GDI showing better scores than the national. This shows that gender equality in the province is relatively high, but the overall quality of development is still low[47].

[43] HDI value shows how far a region has achieved the specified targets, which are high life expectancy, basic education for all level of society (no exception), expenditure and consumption level have reached decent living standard (Statistics Indonesia)
[44] There are only 10 out of 34 provinces in Indonesia have achieved above the National HDI
[45] Indicator used to describe comparison (ratio) between HDI achieved for women and men, assessing gender disparities in human development within a country. The lower the score means the disparity is higher between men and women in terms of human development
[46] HDI value shows how far a region has achieved the specified targets, which are high life expectancy, basic education for all level of society (no exception), expenditure and consumption level have reached decent living standard (Statistics Indonesia)
[47] Statistics Indonesia. (2022). Indeks Pembangunan Manusia 2022

V.1.2 Health

Referring to two globally common indicators used to assess gender inequality in health, namely Maternal Mortality Rate (MMR) and Adolescent Birth Rate (ABR), Indonesia have made a progress but has not yet achieved the desired outcomes and there are still regional disparities, particularly in relation to Adolescent Birth Rate (ABR).

In terms of MMR, Indonesia's rate is still high, ranking 136 out of 185 countries and 8 out of 10 ASEAN countries. Over the past 10 years, Maternal Mortality Rate in Indonesia has declined by 45% (From 346 in 2010 to 305 in 2015 and to 189 in 2020). Most of the provinces with the highest MMR in Indonesia are in the east part of Indonesia. Within WPPNRI 572, Aceh is reported to have the highest MMR in Sumatera, with 201 maternal death incidents per 100,000 live births in 2020 (Statistics Indonesia, 2023)[48]. Looking at the other five provinces within WPPNRI 572, the numbers are quite high in 2020, with several provinces (Bengkulu, Banten) managing to decline the MMR under 100 (please see Annex 4, table 4.B.1).

Analysis done by Statistics Indonesia based on Long Form Survey SP2020 (Statistics Indonesia, 2023) linked with the result of Socio-economic Survey 2020 reveals that maternal deaths in Indonesia are most likely to occur in households led by young age head of household, with low education, inadequate housing, and poor health facilities and basic infrastructures. Maternal deaths generally occur in women who live in poverty, in remote areas, or in regions with poor access to health facilities and basic infrastructures. Therefore, it is more likely to occur in women in rural areas. Moreover, the availability of maternal services at village/ *kelurahan* level can lead to lower maternal deaths[49]. The available data on the distribution of health facilities in villages/kelurahan across six provinces of WPPNRI 572, including maternal hospitals, does not provide a clear indication of its impact on the Maternal Mortality Ratio (MMR) in the region. For instance, despite Aceh having a high maternal mortality rate, there are only a few maternity hospitals and a relatively low overall number of hospitals. On the other hand, Bengkulu, which has a low MMR, particularly in 2021-2022, also has a relatively low number of general and maternity hospitals, as well as polyclinics (please refer to Annex 4, table 4.B.2).

Regarding the ABR indicator, based on the average score obtained by Indonesia (47.4) from 2015 to 2020, the average ABR in Indonesia is higher than the global average (43.3). (Ministry of Women Empowerment and Child Protection, 2021). According to the 2022 Human Development Report by UNDP, the Adolescent Birth Rate (ABR) in Indonesia declined to 33.90 in 2021, ranking it as the fifth highest among ASEAN countries. Studies from around the world have found that female adolescents aged 15-19 living in rural and poor households, as well as areas with high poverty rates, are more likely to give birth or become pregnant.

Other indicators that might be able to inform on the gender gap in health is the unmet needs of health services[50]. In general, at the national level, the unmet needs of health services are more likely to be higher for women than men from 2019 to 2023, with slight fluctuation; in 2019 and 2021, the number was lower for women (please see Annex 4, table 4.B.3). The smallest gap among men's and women's group, where

[48] Statistics Indonesia. (2023). Thematic Analysis of Indonesian Population: Adolescent Fertility, Maternal Mortality, Infant Mortality, and People with Disabilities

[49] Ibid

[50] Unmet needs of health services defined as number of population with health complaints which have affected their daily activities but not seek for treatment, compared with total of population in the area (Statistics Indonesia).

women's unmet needs are higher is reported in 2020 (Men 5.41, Women 5.46), while the highest is in 2023 (Men 5,08, Women 5.36).

Looking at the total percentage for men and women in six provinces in WPPNRI 572, in all provinces, the total percentage for unmet needs of health services have increased in 2022 and 2023 (sex-disaggregated data is not available). This might be caused by the COVID-19 pandemic; people were advised not to come to the health services if it is not severe or for emergency. Among six provinces in WPPNRI 572, however, unmet needs of health services in Aceh and Lampung are above the national percentage in 2022, while in 2023, there are Aceh, Bengkulu, Lampung, and Banten. In 2022, Lampung has the highest total percentage of unmet needs by 7.33 (please see Annex 4, table 4.B.6).

Other variable to be seen due to its representation of social, economic, education, health, and the overall quality of life of the population is Life Expectancy[51]. Indonesia's life expectancy is relatively low compared to most of the countries in ASEAN and Southeast Asia. Like in all countries around the world, Women's (73.83) life expectancy in Indonesia has always been higher than Men. In 2021 and 2022, for example, national life expectancy for women is 73.55 and 73.83, while for Men is 69.67 and 69.93 (Statistics Indonesia, 2022)[52]. Within WPPNRI 572, all six provinces' Life Expectancy is below the national Life Expectancy, both for men's and women's groups, from 2019 to 2022. Over four years (from 2019 to 2022), Aceh has always been the province within WPPNRI 572 with the lowest life expectancy both for men and women, followed by Bengkulu in the second lowest (see Annex 4, table 4.B.5).

V.1.3 Education

In Indonesia, there has been progress in narrowing the gender gap in education. However, as in other sectors, regional disparity persists as a challenge. Analysis of the numbers of Expected Years of Schooling (EYS) or *Harapan Lama Sekolah (HLS[53])* at the national level shows that from 2010 to 2021, EYS for females has always been higher than for males, and it has always been increasing every year (Ministry of Women Empowerment and Child Protection, 2022)[54]. In 2021, for example, EYS for females was 13.22 and 12.95 for males (Statistics Indonesia); this means that on average, children aged 7 years old who attend formal school in 2021 will have the opportunity to be in school for 12-13 years or in minimum complete senior high level. Within WPPNRI 572, Aceh (Banda Aceh City -M 17.84, F 17.72)) and West Sumatera (Padang City- M 16.33, F 16.87), and Bengkulu (Bengkulu City- M 16.01 F 16.44)) are reported to have EYS above 14 years, both for male and female.

Another variable often used to see the quality of education in certain areas is Mean Years of Schooling (MYS) or *Rata-Rata lama sekolah (RLS*)[55]. The national MYS from 2010 to 2021 has always been increasing both for males (from 7.19 in 2010 to 8.92 in 2021) and females (from 6.89 in 2010 to 8.17 in 2021), with MYS for males always higher than females over 11 years (Ministry of Women Empowerment and Child Protection, 2022)[56]. According to data from Statistics Indonesia in 2021, only two provinces in Indonesia

[51] Life Expectancy at Birth Life is defined as the estimated average number of years a person can live from the time of birth (Statistics Indonesia.
[52] Statistics Indonesia. (2022). Life Expectancy Rate by City/Region and Gender. https://www.bps.go.id/en/statistics-table/2/NDU1IzI=/life-expectancy-rate-by-regency-city-and-gender.html
[53] Expected years of schooling (EYS) is defined as the length of time (in years) that can be expected experienced by a child at certain age in the future. This indicator is measured from population aged above 7 years old
[54] Ministry of Women Empowerment and Child Protection Republic of Indonesia. (2022). *Pembangunan Manusia Berbasis Gender* 2022.
[55] Mean Years of Schooling (MYS) the length of time population attending school (in years), measured from population aged above 25 years old
[56] Ibid

have higher RLS (Ratio of Literacy Skills) for females than males. These provinces are Gorontalo (F 8.22 M 7.58) and Sulawesi Utara (F 9.64 M 9.59). Within WPPNRI 572, in 2022, the lowest MYS (Mean Years of Schooling) numbers for males are reported to occur in Lampung, Bengkulu, and West Sumatera, while for females, they occur in Lampung, Bengkulu, and Banten (please see Annex 4, table 4.C.6).

Looking at six provinces within WPPNRI 572, in general, from Nett Enrolment Rate (NER) in 2023, there are provinces with a lower rate than the national NER in primary, junior high, and senior high. At the primary level, six provinces reach a higher rate in NER than the national rate (97.89). North Sumatera lagged behind in 2021 with NER 97.69, but then progressed to achieve a higher rate in 2022 and 2023. At the Junior high or secondary school level, there are West Sumatera (80.22), Bengkulu (81.08), and Lampung (80.64) which have lower rates than the national (81.35). For percentage of the literate population aged above 15 years old, among six provinces in WPPNRI 572, the literate female population is relatively low in Banten, Lampung, and Bengkulu (ranging from 95.4% to 97.5%) from 2018 to 2023 (please see Annex 4 table 4.C.7). The pattern is similar for a percentage of the population (aged 10 or above) not/never attending school from 2018 to 2023 (see Annex 4 table 4.C.5); Banten, Lampung, and Bengkulu have a relatively high proportion of female who are not/never attending school (ranging from around 2.4% to 4.17%).

V.1.4 Economic Sector and Labour Participation

Data published by Ministry of Women Empowerment and Child Protection/ *Kementerian Pemberdayaan Perempuan dan Perlindungan Anak (KPPPA)* in a Report of Gender-based Human Development 2022, nationally, economic sector are still dominated by men with annual per capita expenditure in 2021 reached IDR 15,770 million, and 16,736 in 2023, compared to only IDR 9,050 million in 2021, and 9,579 million in 2023 by women, per capita expenditure annually. This data indicates economic inequality between men and women in the country.

The report also reveals that in terms of labour participation, women's labour participation rate is reported to be much lower (53%) than men's (82%). Similar to this, the average monthly salary for men is reported to be higher than for women. One of the factors affecting this is that there is a huge proportion of women in the country working in the informal sector, undertaking part-time jobs, and there is a greater proportion of women undertaking unpaid work. Data from Statistics Indonesia*/ Badan Pusat Statistik* 2023 shows that from 65.6 million men and women who are not economically active, 48.8 million or 74.3% are women. Of these 65.6 million, 41.2 million are taking care of households, where 37.6 million (91.2%) are women, and less than 10% (3.6 million or 8.7%) are men.

In the six provinces covered by WPPNRI 572, the data shows that men continue to dominate the economic sector, with their annual per capita expenditures ranging from 13.3 to 15.4 million Rupiah from 2019 to 2021. This range slightly increased to 14.02 to 16.03 million Rupiah in 2022 and 2023. Meanwhile, women's annual expenditures were reported to be around 7.8 to 9.8 million Rupiah from 2019 to 2021 and increased to approximately 8.4 to 10.2 million Rupiah in 2022 and 2023.

While the other five provinces in WPPNRI 572 have lower annual per capita expenditures for both males and females, Banten is the only province with higher annual per capita expenditure than the national average, and consistently being the province with the highest annual expenditure from 2019 to 2023, for both men and women. In 2023, it was reported that Banten reached 18,03 million and 10,7 million for men's and women's annual expenditures, respectively. It is important to note, however, when we see the

number closer across districts in Banten, the high average number on annual per capita expenditure is actually not distributed equally across districts/cities in Banten, it is affected by relatively high annual per capita expenditure only from several city/districts like Tangerang and Tangerang Selatan City, Cilegon, and Serang. This might reflect the wide development gap across districts/cities in the province. Furthermore, in a few districts with a significant proportion of coastal communities, namely Pandeglang and Lebak, there is still a wide gap in the participation of men and women in the economic sector, as is reflected in their annual per capita expenditures (in 2023, the annual per capita expenditure for men 14,6 million, and only 6,4 million for women in Pandeglang, and 13,7 million for men and only 4,4 million for women in Lebak).

Table 5.2 Adjusted per Capita Expenditure in Six Provinces of *WPPNRI* 572 Disaggregated by sex (thousand/person/year) 2019-2023

Province	2019		2020		2021		2022		2023	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
ACEH	13496	8212	13351	8103	13484	8162	14025	8495	14497	8751
NORTH SUMATERA	15471	8315	15058	8176	15265	8227	15762	8540	16033	8655
WEST SUMATERA	15311	9899	15031	9707	15167	9748	15634	10044	15954	10218
BENGKULU	14538	8207	14510	8159	14689	8233	15173	8499	15617	8718
LAMPUNG	14399	7863	14268	7720	14308	7778	14722	7999	15288	8283
BANTEN	17532	10593	17027	10309	17253	10371	17503	10497	18032	10785
INDONESIA	**15866**	**9244**	**15463**	**9004**	**15770**	**9050**	**16215**	**9281**	**16736**	**9579**

(Sources: https://www.bps.go.id/en/statistics-table/2/NDYxIzI=/pengeluaran-per-kapita-yang-disesuaikan-menurut-jenis-kelamin.html)

The labour participation rate in six provinces of *WPPNRI 572* shows a similar pattern, where women's labour participation rate is much lower than men's. From 2021 to 2023, men's rates in most of the provinces are close to men's national rate (82.27, 83.87, 84.26, respectively). During this period, among other provinces, Aceh shows a relatively lower rate both for men (79.4, 81.06, 80.57) and women (48.36, 46.15, 49.05). It is interesting to see that during this period, in 4 of 6 provinces, women's rates (around 54.3 to 57.8) are higher than the national (53.34, 53.41, 54.52 respectively). The lowest is found in Banten Provinces, where women's labour participation rates are less than 48% from 2021 to 2023. Lampung is in the second lowest for women participation, compared to the national rate and the other 4 provinces, particularly in 2021 and 2023. In 2022, Lampung was slightly higher 53.54) than the national rate in women's participation in labour.

Table 5.3 Labour Participation Rate in Six Provinces of *WPPNRI* 572 Disaggregated by sex in 2021-2023

PROVINCE	Male			Female		
	2021	2022	2023	2021	2022	2023
ACEH	79.4	81.06	80.57	48.36	46.15	49.05
SUMATERA UTARA	81.9	83.89	84.4	56.5	55.37	57.81
SUMATERA BARAT	80.67	82.58	82.21	55.04	56.28	56.94
BENGKULU	83.54	84.72	84.99	55.45	54.36	56.22

PROVINCE	Male			Female		
	2021	2022	2023	2021	2022	2023
LAMPUNG	85.55	85.84	87.3	52.36	53.54	52.01
BANTEN	80.16	81.69	82.16	46.84	47.17	46.16
INDONESIA	**82.27**	**83.87**	**84.26**	**53.34**	**53.41**	**54,52**

(Source: https://www.bps.go.id/id/statistics-table/2/MjIwMCMy/tingkat-partisipasi-angkatan-kerja-menurut-jenis-kelamin.html)

Related to the participation of women and men in labour, it is also important to acknowledge the prevalence of sexual harassment in the workplace as a common issue in the country. In a study developed jointly between the ILO and the "Never Okay Project" in 2022, a survey was applied to 1,173 respondents across Indonesia to understand violence and harassment in the workplace. This study concluded that "women and persons with disabilities are more vulnerable to violence and harassment"[57]. Furthermore, 50,48 percent of respondents reported having experienced sexual violence and harassment. In 2023, Indonesia, through its Ministry of Manpower, issued Decree No. 88 on Guidelines for the Prevention of and Response to Sexual Harassment in the Workplace[58]. This decree provides guidelines to employers for the prevention, improved monitoring, and response to sexual harassment in the workplace, including a recommendation for employers to create a dedicated task force to address this issue. Similarly, in 2022, a National Law on Sexual Violence was adopted by Indonesia.

V.1.5 Social and Politics

Social and gender norms in Indonesia strongly affect many cultural practices and processes of decision-making related to policy and access to basic services. Gender norms in Indonesia are strongly influenced by patriarchal values that put men as the head of the household, while domestic responsibility and care duties are placed onto women's main responsibilities. This has also been reflected in many administration of legal documents, e.g., men (husbands) are by default registered as heads of the household, while women are often registered as housewives on their national ID card and family cards, which become the main legal document to access basic services. These factors, in turn, can limit women's access to paid work and participation in the public sphere. In addition, there are strong cultural norms related to women's bodies that restrict them from accessing certain health services.

Among six provinces within WPPNRI 572, Sumatera Barat, or to be more specific, the Minangkabau region, is the only province (and one among few provinces in Indonesia) well known to hold kinship customs based on mother line) or known as matrilineal. In this kinship system, women have more power, which is reflected especially in the arrangement of land ownership, decision-making, and Minangkabau traditional marriage institutions. When it comes to domestic work, women are still the ones in charge. Historically, women in Minangkabau were in charge of the domestic sphere and agricultural land in the era of agricultural civilization because men went hunting and wandering. Moreover, the matrilineal value is held

[57] ILO (2022) "It can Happen to Anyone". Available at: https://www.ilo.org/resource/news/no-workers-immune-violence-and-harassment-actions-needed-company-level

[58] IOE (2023) "Indonesia: new Guidelines on Workplace Sexual Harassment" Source available at: https://industrialrelationsnews.ioe-emp.org/fr/news/article/indonesia-new-guidelines-on-workplace-sexual-harassment

not by all regions in West Sumatera. Mentawai Island, the study site in West Sumatera, holds patrilineal kinship as the other regions in Indonesia.

In politics and government, the Government of Indonesia (GoI) has adopted a gender quota target of 30 percent women to increase women's participation in parliament since 2004. However, the implementation still faces many challenges, as women's representation in all levels of government is quite low. Currently, at the national level, women comprise only 20 percent in parliament and only 30.9 percent at the provincial representative level. Similarly, at the executive level, there are only 6 women out of 34 ministers (18 percent), only one female governor (3 percent), and 13 female district heads/mayors (2.7 percent) and 5 percent village heads. Despite the little progress in promoting women's representation in parliament, the implementation of gender quota has successfully increased female representation to above 10 percent since its initiation in 2004. It is evident that to achieve higher women representation, the implementation of the quota alone will never be adequate. Improving the capacity of women in the political field, as well as establishing an enabling environment to support women taking roles in politics, are required.

Table 5.4 Representation of Women at National Parliament in Indonesia

Period	Women	Men
1950-1955	9 (3.8%)	236 (96.2%)
1955-1960	17 (6.3%)	272 (93.7%)
1956-1959 (Konstituante)	25 (5.1%)	488 (94.9%)
1971-1977	36 (7.8%)	460 (92.2%)
1977-1982	29 (6.3%)	460 (93.7%)
1982-1987	39 (8.5%)	460 (91.5%)
1987-1992	65 (13%)	435 (87%)
1992-1997	62 (12.5%)	438 (87.5%)
1997-1999	54 (10.8%)	446 (89.2%)
1999-2004	46 (9%)	454 (91%)
2004-2009	65 (11.6%)	435 (87%)
2009-2014	101 (18%)	459 (82%)
2014-2019	97 (17.3%)	463 (82.7%)
2019-2024	118 (20.5%)	457 (79.5%)

Source: Umagapi, J.L., 2020

The situation in six provinces of WPPNI 572 is quite similar, proportion of regional representative council is still male dominated as can be seen in the table below. From the general election in 2009, 2014, and 2019, Bengkulu, Lampung, and Banten shows slight progress; there is an increase in the number of female representatives.

Table 5.5 Number of Representatives of The Regional Representative Council (*Dewan Perwakilan Daerah*/*DPD*) Disaggregated by Sex from the 2009, 2014, 2019 General Election

Province	2009		2014		2019	
	Male	Female	Male	Female	Male	Female
INDONESIA	**97**	**35**	**98**	**34**	**94**	**42**
Aceh	4	0	4	0	4	0
North Sumatera	3	1	3	1	3	1

Province	2009		2014		2019	
	Male	Female	Male	Female	Male	Female
West Sumatera	3	1	3	1	3	1
Bengkulu	3	1	2	2	2	2
Lampung	4	0	4	0	3	1
Banten	4	0	3	1	3	1
Total in 6 Provinces (% compared to national proportion)	21 (21.6%)	3 (8.6%)	19 (19.4%)	5 (14.7%)	18 (19.1%)	6 (14.3%)

Source: Statistik Indonesia 2011, 2015,2019, 2023, Statistics Indonesia

Despite women's low participation in decision-making roles, Indonesia has made progress in establishing enabling conditions for gender equality through policy, regulations, and programs. The following table summarizes all policies and regulations supporting gender equality at a national level.

Table 5.5a Policies, Regulations and Programs focused on Advancing Gender Equality in Indonesia

Name of Regulations	Description
Law on 8/1984 on ratification on CEDAW	The ratification of CEDAW laid the foundation for gender mainstreaming, with many related agendas subsequently aligned as priorities in line with CEDAW's principles.
Law No. 39/1999 on Human Rights	The law stipulates protection from gender-based discrimination, including the rights to work, education, and healthcare; protection against gen of women; safeguarding of reproductive rights; and the right to participate in politics. The law explicitly states that women's rights are human rights.
Law No. 35/2014 on the Amendment to Law No. 23 of 2002 on Child Protection	The law stipulate the governmnet obligation to protecting children's rights and expands legal protections for children from violence, exploitation, neglect, and discrimination.
Law No. 8/ 2016 on Disability	Law No. 8 of 2016 on Persons with Disabilities guarantees the rights and protection of persons with disabilities in Indonesia, based on principles of equality and social inclusion. It ensures access to education, health, employment, political participation, legal protection, and public services. The law mandates both national and local governments to provide reasonable accommodation and accessible infrastructure. It also establishes the National Commission on Disabilities to monitor and advocate for disability rights. Sanctions are applied to those who discriminate, making this law a key foundation for an inclusive and just society.
Law No. 23/2004 on the Elimination of Domestic Violence	Law No. 23 of 2004 on the Elimination of Domestic Violence criminalizes domestic violence and mandates state responsibility for prevention, protection, recovery, and prosecution.
Law No. 12/2022 on Sexual Violence Crimes (UU TPKS)	Provide comprehensive avenues in addressing sexual violence, including prevention, protection, recovery, and prosecution.

Name of Regulations	Description
Law no. 13 /2003 on Manpower	Contains gender-sensitive labor rights, including maternity leave, equal pay, and non-discrimination.
Law No. 21/2007 on trafficking	includes several provisions that implicitly and explicitly recognize the gendered nature of trafficking, although the word “gender” is not always used directly.
Law No. 20/2003 on National Education System	Promotes gender equality in access to education and includes principles of non-discrimination.
Law No. 23/2014 on Regional Government	Mandates local governments to mainstream gender in planning and budgeting (gender-responsive planning).
Presidential Instruction No. 9/2000 on Gender Mainstreaming	Mandates all ministries and local governments to mainstream gender in development planning, budgeting, implementation, and evaluation
Ministerial Regulation of Home Affairs No. 15/2008 on Guidelines on Gender Mainstreaming Implementation at the regional level.	Provide guidance for local governments in administering governance, development, and public services with a gender perspective.
MoWECP Regulation No. 4/ 2018 on Guidelines of Establishment UPTD PPA (Unit Pelaksana Teknis Daerah Perlindungan Perempuan dan Anak)	The 2018 regulation aims to formalize and institutionalize services for the protection of women and children through the establishment of UPTD PPA (Regional Technical Implementation Unit for Women and Children Protection). Unlike P2TP2A, which often operated as a non-structural or semi-formal service center, UPTD PPA is embedded within the local government structure as a technical unit under the relevant regional office (Dinas). It is equipped with a clear legal mandate, standard operating procedures, dedicated staffing, and funding sourced from the regional budget (APBD). The regulation positions UPTD PPA as a standardized, government-managed mechanism that is intended to replace or evolve from P2TP2A, ensuring more sustainable and accountable service delivery for women and children at the subnational level.
Government Programs	
Program Keluarga Harapan (PKH)	It is a conditional cash transfer program aimed at improving access to health, education, and social services for poor families, breaking the intergenerational cycle of poverty through human capital development, and supporting vulnerable groups, particularly women as primary caregivers.

Name of Regulations	Description
The Musrenbang for Women and Children (Development Planning forum for Women and Children)	The Musrenbang for Women and Children is a component of the regional development planning forum (Musrenbang) that focuses on integrating the interests and needs of women and children into local development plans. It aims to ensure their active participation in the planning process and to promote the inclusion of their rights in the resulting policies. Its implementation is not mandatory and largely depends on the political will of local governments. Some provinces and districts have already adopted it. Among the BEAM target areas, Aceh and Lampung are examples of provinces that have incorporated it into this year's regional development cycle.

In addition to the above, Indonesia also has a series of institutions that support the implementation of some of the policies and regulations to advance gender equality, as summarized in Table 5.5b.

Table 5.5b Institutions with a role in addressing gender-related issues in Indonesia and some of the challenges they face

Name of Institutions	Level	Description	Challenges
Ministry of Women Empowerment and Child Protection (MoWECP)	National	a government ministry responsible for the rights and welfare of women and children. The ministry's key functions include formulating and implementing policies, coordinating efforts, and providing services related to gender equality, child protection, and the overall empowerment of women and children.	The Ministry of Women's Empowerment and Child Protection (MoWECP) is not a technical ministry; rather, it serves a coordinating and policy development role within the Indonesian government. Its core mandate is to formulate national policies on women's empowerment and child protection, and to promote gender mainstreaming across sectors. However, MoWECP lacks regulatory authority over other ministries, leading to criticisms regarding its limited institutional power to ensure effective implementation. As a result, the ministry relies heavily on coordination, inter-ministerial collaboration, and engagement with both technical ministries and local governments to advance gender mainstreaming in planning, budgeting, and programming.

Name of Institutions	Level	Description	Challenges
			In the context of decentralization, this limitation is further compounded at the subnational level, where gender and child protection functions are often merged with other sectors such as social affairs, labor, or family planning. This institutional merging—combined with minimal budget allocations—significantly constrains the capacity of local governments to fully carry out the national mandate on gender equality and the protection of women and children.
National Commission on Violence Against Women	National	a national human rights institution established to address violence against women. It is mandated to create a enabling environment for the elimination of all forms of violence against women and to promote women's rights	Unlike the National Human Rights Commission (Komnas HAM), which is established by law and has investigative powers, the National Commission on Violence Against Women (Komnas Perempuan) was established through a Presidential Regulation and lacks law enforcement authority. Its mandate is limited to monitoring, advocacy, mediation, and policy recommendations. As a result, it cannot compel law enforcement officers to act on its recommendations, and many cases of violence against women remain unaddressed. Komnas Perempuan does not operate shelters, provide direct psychological services, or have emergency funds for survivor. Protection relies heavily on other institutions whose availability and quality vary across regions. Its limited

Name of Institutions	Level	Description	Challenges
			authority also means that its recommendations, such as those on sexual violence or agrarian conflicts affecting women, are often ignored by ministries, police, or local governments. Furthermore, its work is constrained by limited state funding, which hampers outreach and case monitoring in remote areas.
Integrated Service Center for Women and Children Empowerment and Protection (P2TP2A)	In district level (and subs-district in some cases)	P2TP2A is services center for women and children, particularly those who are victims of violence, discrimination, or neglect. Its services typically include legal assistance, medical and psychological support, social and shelter services, case handling and referrals, as well as awareness raising and advocacy to promote the rights of women and children. This services usually provided by respect women and children protection office.	The quality and effectiveness of P2TP2A varied widely across regions, as their establishment and operational support depended heavily on the policy commitment and capacity of local governments. P2TP2A was never mandated by national law—its formation was encouraged but not required. As a result, while some centers operated effectively with trained staff and strong multi-sector coordination, many others suffered from limited capacity, inadequate funding, or even inactivity. The absence of national standards for staffing, budgeting, and service provision further contributed to this uneven implementation across provinces and districts. MoWECP has been encouraging local governments to transform P2TP2A (Pusat Pelayanan Terpadu Pemberdayaan Perempuan dan Anak) into UPTD PPA (Unit Pelaksana Teknis Perlindungan Perempuan dan Anak). This transition is aimed at formalizing their institutional structure under local
UPTD PPA (Regional Technical Implementation Unit for the Protection of Women and Children)	National	UPTD PPA is a government unit established at the provincial or district/city level to provide integrated services for women and children who experience violence, discrimination, or neglect. It is part of the formal structure under the local office for women's empowerment and child protection (Dinas PPPA).	

Name of Institutions	Level	Description	Challenges
			government authority, enabling them to have clearer mandates, standardized operating procedures (SOP), and access to regional budgets (APBD). UPTD PPA in provincial level has been established in all BEAM targetted areas: Aceh, North Sumatera, West Sumatera, Bengkulu, Lampung and Banten.

Overall, although the legal framework is advanced, the main gap lies in its weak implementation. Several factors contribute to this, including limited understanding of the law among stakeholders, inadequate capacity (in terms of budget and infrastructure) to carry out programs, and political reluctance often rooted in prevailing cultural and patriarchal norms.

V.2 Community members and groups considered to be vulnerable in coastal communities

As identified in the regulations[59] governing the protection and empowerment of fishers, fish farmers, and salt farmers, certain groups are considered to be vulnerable; therefore, they need to be prioritized in various government programs and assistance targeting the well-being of coastal communities. This study finds that these groups are particularly vulnerable to climate change due to their high reliance on marine resources. These groups are regarded as small-scale fisheries actors, as they practice activities ranging from fishing, boat building, fish-processing, and marketing, which are usually characterized by the use of low-technology and low capital-based methods (Short, R.E. et al. 2021)[60]. In Indonesia, small-scale fishers have a very important role, as they contribute to sixty (60%) of fish production in Indonesia (Rudianto, E., & Seftiariski, R. (n.d.))[61].

V.2.1 Small-scale, poor, traditional fishers (male and female)

Across the study location in six provinces, this group was identified to be vulnerable, particularly due to their high reliance on marine resources for income and food security. Since men and women typically

[59] Act of Republic Indonesia no 76/2016 regulates Protection and Empowerment of Fishers, Fish, and Salt Farmers). This regulation then replaced by Peraturan Pemerintah Pengganti Undang-Undang (Perpu) 2/2022. However, there is no change in the definition of groups identified to be vulnerable

[60] Short, R.E. et al. (2021). Harnessing the diversity of small-scale actors is key to the future of Aquatic food systems. Nat.Food 2, 733-741

[61] Rudianto, E., & Seftiariski, R. (n.d.). *The Impacts of Climate Change to Marine and Fisheries Sector and Its Relevances to United Nation of Convention of Law of the Sea (UNCLOS) Arrangements.* Directorate General of Surveillance for Marine and Fisheries Resources

have different roles at the household and community levels, their experiences and the impacts of ocean-related risks resulting from climate change are different.

V.2.1.1 Male Fishers

Across all study sites, male fishers usually have roles as the head of the households and breadwinners, usually the ones who undertake fishing trips to the sea. Particularly for male fishers, most of the time, side or alternative jobs are very limited in the coastal area, while certain types of jobs are only available in certain seasons (construction worker, farming, carpenter, etc). On the other hand, low education and skill outside fisheries become two of the factors for this group to have very limited options for alternate jobs and income.

Many of the interviewed male fishers grew up in households where fishing was the main source of income. As a result, fishing became a profession passed down through generations, with many fishers joining fishing trips from a very young age. For most of the male respondents interviewed in this study, it was explicitly expressed that being fishers has become an occupational identity for them. While the agency of fishers determines their behaviours towards climate change, key cultural values like place attachment and occupational identity can also be the potential source of resistance and opposition to adaptation efforts (Cinner, JE. et al., 2018). Therefore, it can be challenging for fishermen to take other jobs outside the fishery or ocean economy sector. Furthermore, as described by Cinner, JE. (2011)[62], diversification is not always seen as an option for severely poor households since the potential costs and risks arise from trying something new can be insurmountable.

Aside from the vulnerability related to the livelihood, the study also finds other concerning issues related to occupational risk affecting the health and life of the male fishers; several cases of death identified from respondents' stories due to sickness from exhaustion, the use of improper equipment for the work involves diving activity. However, this study does not have enough data and information on this matter; a further study is highly recommended to explore more the occupational risks and health consequences faced by male fishers from fishing trips.

V.2.1.2 Female Fishers

Across study sites, task allocation for men and women in the fishery sector is quite clear, with women usually in charge of processing and marketing the catches (usually called and registered as *Poklahsar/ Kelompok Pengolah dan Pemasar* by the office of Fishery). The *Poklahsar* groups rarely have few male members; most of the time, it is reported to be dominated by women. At the household and community level, women are responsible mainly for domestic chores (cooking, taking care of children and family members, and cleaning the house). Women's role as caretakers of the house and family members can be considered inherent and perceived to be the main roles.

In addition, a study finds that the term fishers is commonly perceived to be male domain in all study areas, as this is similar to what happens in Indonesia and other countries (Branch,T.A. & Kleiber,D. 2017)[63], there

[62] Cinner JE. (2011). Social-ecological traps in reef fisheries. Global Environmental Change 2011, 21(3): 835-839

[63] Branch, T.A. & Kleiber, D. (2017). Should we call them fishers or fishermen? Fish and Fisheries. 18, 114-127. Wiley Online Library. https://doi.org/10.1111/faf.12130

are common practices found in several areas for women to do fishing activities, particularly in Banten, Mentawai, and Bengkulu Provinces. However, the types of catches typically targeted by women and men differ. Most women in these areas reported going on fishing trips, usually gleaning snails and seashells as their main catches on a regular basis, both for commercial and subsistence purposes. It is also important to note that the study found a widespread misperception that gleaning snails and seashells are often considered not as fishing since seashells and snails are not 'fish'. As a consequence, women are usually not considered as fishers. The study identified the misconception as one of the factors causing gaps in the registration of women in fisheries sectors as fishers, while in fact, the fishery sector in Indonesia defining Fishes as all types of organisms that all or part of their life cycle are in the aquatic environment[64]. This issue, with its consequences in hindering women from accessing government assistance programs, will be discussed in the next section.

Aside from their vulnerabilities related to being excluded from the official data/registration system, female fishers are found to be one of the most vulnerable, particularly due to their reliance on marine resources (both for earning income and providing food for their families), unavailability of proper working equipment and safety measure, excessive burden and working hours from domestic chores, as well as fishery pre & post harvesting work. The double burden faced by women and being excluded from most of the assistance programs for fishers often put women more vulnerable than their male counterparts. A previous study done by *Jurnal Perempuan* highlighted the issue of the excessive burden and working hours, as well as exclusion from access to fisher's card faced by women in coastal community, as illustrated by the quotes from the interview with few of their respondents below (Pratiwi, AM., Abby,G., 2017)[65].

" Well, (I) want recognition as a fisherwoman because my husband and I both go out to sea. It's heavy for me, plus taking care of husband, child(ren), household chores, selling as well, selling martabak, chicken noodle, shaved ice. Once I arrive home, I take care of children first, cook, and at 3pm I leave the house again to sell chicken noodle, martabak in front of my own home until 9pm. And then I wake up again at 2. Well, what can I do. I work more than my husband." (Surotun 2017, interview 4 September 4)

" Once women are acknowledged as fisherwomen, access to a fisher's card can be obtained by fisherwomen. Also, in demanding access for fisherwomen, we're also (demanding) the protection of fishermen/women's rights because, in fact, Law No. 7/2016 on the Protection of Fishermen, Salt Farmers and Fish Farmers has not yet touched on fisherwomen and has not been implemented well in practice, only on paper. " (Masnuah 2017, interview 3 September)

In this study, it is quite common to find women who work as snails and seashell gleaners also undertake the processing and marketing to earn more money, except in Bengkulu and Mentawai. Women often take various jobs outside the fishery and ocean-related sectors to meet their family needs, ranging from farming, providing services as a laundress, household assistant, and masseuse, and making and selling crafts from plastic trash. One of the success stories shared by women's group in Lampung on their alternate livelihood in making and selling crafts. The activity was facilitated by the local government through the provision of support to one of the women's groups. The group is able to sell their products in the exhibition events and this has been reported as one of the sources of additional income for women in the local area.

A. **Women working in the informal sector (particularly in post-harvest)**

[64] The Act of Republic Indonesia no 76 on Protection and Empowerment of Fishers, Fish, and Salt Farmers categorized clams, oysters, snails, and other mollusc species that often catched by women as Fishes

[65] Pratiwi, AM., Abby, G. (2017). The Presence of Power of Fisherwomen in the Villages of Morodemak and Purworejo: Against Violence, Bureaucracy & Biased of Religious Interpretation. Jurnal Perempuan, vol. 22 no.4. https://doi.org/10.34309/jp.v22i4.203

Around the world, women's involvement in small-scale fisheries is fundamental yet undervalued, as it is found across many fisheries and contexts that women are most likely to undertake labour-intensive post-harvest activities, which typically pay less compared to harvest-related work (FAO 2016). Similar to this, in Indonesia, post-harvest tasks are well known to be female-dominated, as there are large proportion but unknown numbers of women are involved in long hours work in post-harvest related activities, with low payment (Fitriana, R., Stacey, N 2012, Salagrama, V. and A. Salka. 2010[66]). Based on information gathered from respondents in all study areas, below is the comparison of average fees among various tasks in pre-, post, and harvest-related activities performed by men and women.

Table 5.6 Tasks and activities done by men and women in fishery

Stage/Activities	Fee/ Earning	Stage/Activities
Pre-Harvest		
Preparing meals	unpaid	Women
Mending nets	unpaid	Men (sometimes women undertake the task)
Preparing bait	unpaid	Men
Prepare fuel	unpaid	Women
Prepare boat & vessel	unpaid	Men
Harvest-related		
Catching fishes	50-300K/day	Men
Picking up Snails, Seashells	20-100K/day	Women
Picking up crab	50K/day	Women
Post-Harvest		
Handling (preserve the fresh catches)	unpaid	Men & Women
Cleaning	100K/day (2 boxes)	Women
Sorting	5K/kg	Women
Chopping	3K/kg	Women
Filleting	3-4K/kg	Women
Peeling clams	5K/kg	Women
Selling catches (fish)	5-10K/kg or 50K/day (nett profit)	Women
Farming (Fishes)		
Applying seed, feed, Monitoring, watering, etc	IDR 2-3 mio/month	Men
Preparing meals for workers	IDR 1.2-1.5/month	Women

The list of activities above has shown that most of the post-harvest-related tasks are usually done by women, with very low pay. Across study areas, most of the women working in fishery interviewed in this study to some extent involved in the post-harvesting process (handling, cleaning, sorting, smoking, boiling, chopping and marketing, and selling). Those whose main income comes from this sector are highly reliant on the availability of fish caught by their partners or other fishers to be able to earn money from processing the catch. As mentioned above, other than paid jobs, women must take many unpaid works at the household level (cleaning the house, cooking, doing laundry, caring for the children), assisting their

[66] Salagrama, V. and A. Salka. (2010). A Study of the Fisheries Post-Harvest and Market Supply chains in Nias Island, North Sumatra Province, Indonesia. FAO Nias Information Bulletin 1.Food and Agriculture Organization of the United Nations (FAO). 128 pp.

partners in pre-harvest tasks (preparing meals, buying fuels, mending nets) and post-harvesting (processing, marketing and selling the catch).

B. **Workers in Fish Farms, Aquacultures**

Among the other respondent groups, this group was the hardest to interview since they usually live in a compound and are involved in labour-intensive work, especially those in charge of supervising the working process of fish farming and aquaculture. The study team managed to talk with a few staff living inside the compound while they were not working. Information gathered from informal talk with the workers in the field indicates that they are usually living in a compound during their work period, have very limited access to information, and live outside the compound, and it is common to work without a contract. While most of the workers are usually men, women live in the compound, usually the wives of the workers, and sometimes employed as cooks, and there are children living with them. There is a high possibility they are not even registered as actors of fisheries in KUSUKA and do not have access to any assistance, as most of them are not registered as fishers or farmers and rely on informal working agreements.

C. Other vulnerable groups

Female-elderly & Female head of the household in coastal areas

Female head of the household is found to be vulnerable across all study areas in six provinces; they usually have low education and skills outside fisheries since most of the time they have been involved in fishery-related works, making them highly dependent on marine resources as the main source of income. In addition to that, having no partner in earning income for the household means they must undertake a double burden of replacing the role of the main breadwinner, along with all the responsibilities of caring for the children and household.

The other group, the elder[67] women working as fishers are particularly found in Mentawai, while in another area, only a few of them are found to work in fish sorting or processing. In one of our interviews with the elderly in Mentawai, we found cases where the older women undertake fishing and other kinds of work to cover not only their needs but also other family members (adult children, grandchildren, daughter-in-law) even though they are often limited by their physical condition. The fact that it is common to find even elderly to undertake fishing might, to some extent, reflect the large proportion of fisher households in Mentawai. Accurate numbers on the existence of women's groups involved in fisheries, including the elderly, are not available, not only in Mentawai but across Indonesia.

Poor Coastal Community Groups involved in the tourism sector

In several study sites where tourist attractions are located nearby, especially for marine tourism, the study finds intersecting interests and roles of poor coastal communities, including those involved in fisheries, with activities in tourism, which sometimes results in conflict. In one of the discussion sessions with male fishers, there is a story about an illegal practice done by a certain group of people to sell subsidized fuel to resorts, involving small fishers hired to deliver the fuel with their boats. The case was identified by authorities and led to the shutdown of the fuel subsidy program targeting small farmers in that area. There are also reports from fishers and NGO staff interviewed on destructive behaviours from tourists dropping anchors to deeper water in prohibited areas, resulting in damage to corals. It is important to note,

[67] According to Presidential Decree no. 88/2021 on National Strategy for Elderly, individual aged 60 years old above categorized as elderly

however, that information provided about the involvement of the poor coastal communities in the tourism sector is anecdotal and not experienced by the respondents themselves. Therefore, it is recommended that it be assessed further. There is a lack of information on their roles, experiences, and contributions in this sector. While this study is set to allow the involvement of actors from another blue economy sector in the interviews and FGDs, none of the respondents in this study have experience working in the tourism sector; most of the respondents rely on fishery as their main income.

In general, the tourism sector in Indonesia has relatively high labour absorption. Ministry of Tourism and Creative Economy and Statistics Indonesia/BPS (2022)[68] reported that in 2021, there are 333.47 million labourers, or 25.54% of total workers in Indonesia, reported working in tourism and the creative economy. This sector has a higher proportion of females (55.232%) than male labours (44.68%). In tourism alone, the shared proportion is about 16.2%, meaning that there are 16 people working in tourism among every 100 workers in Indonesia. During 2020 and 2021, the male labourers are predominantly consisted of the age group 25-40 years old (38.75% and 37.61%), while their female counterparts dominated by labourers aged 41–59 years old (37.65% and 38.80%). Both for male and female groups, the lowest percentages are among labours aged above 60 years old.

Within six provinces of WPPNRI 572, below are the number of labourers in each province working in the tourism sector, with the percentages representing the proportion of total workers in the country. Among six provinces, from 2018 to 2021, North Sumatera and Banten have the greatest shares of labours working in tourism, followed by Lampung and West Sumatera.

Table 5.7 Number of workers in tourism in six provinces of WPPNRI 572 in 2018 – 2021

Province	2018	2019	2020	2021
Aceh	235,333 (1.21%)	250,189 (1.20%)	263,796 (1.29%)	282,834 (1.33%)
North Sumatera	1,006,444 (5.17%)	1,062,386 (5.12%)	1,016,434 (4.97%)	1,083,979 (5.09%)
West Sumatera	378,073 (1.94%)	386,079 (1.86%)	407,282 (1.99%)	415,896 (1.96%)
Bengkulu	99,090 (0.51%)	105,850 (0.51%)	114,319 (0.56%)	110,012 (0.52%)
Lampung	536,535 (2.75%)	545,316 (2.63%)	515,970 (2.53%)	546,111 (2.57%)
Banten	905,147 (4.65%)	1,028,254 (4.95%)	1,110,507 (5.43%)	1,133,570 (5.33%)
Indonesia	19,457,554	20,760,624	20,434,296	21,255,535

Sources: Statistics of Labours in Tourism and Creative Economy 2018-2021, Ministry of Tourism and Creative Economy & Statistics Indonesia

**Percentages are proportion in each province compared to total workers in Indonesia*

Looking further at the national data of labour in tourism, there is evidence indicating socioeconomic vulnerabilities from the great proportion of labours in the sector. In 2021, both in urban (45.69%) and rural

[68] Ministry of Tourism and Creative Economy/*Kemenparekraf* (2022). Statistics of Labours in Tourism and Creative Economy Sector 2018-2021.
https://api2.kemenparekraf.go.id/storage/app/uploads/public/63e/d99/bb5/63ed99bb5d83b591570455.pdf

(63.10%) areas, there are great shares of workers in tourism with completed highest education from junior high school or below. Compared to other sectors in Indonesia, tourism has a relatively higher proportion of informal workers, with greater percentages among female than male groups. In 2021, 81.83% of informal workers in tourism are female, and 56.76% are male, compared to 68.3% and 56.61% in all sectors for informal female and male workers. Most of them are blue-collar workers, with a higher proportion coming from a female group (95,90% for females and 94,28% for males in 2021) and those residing in rural areas (97.23% in rural and 94.33% in urban areas in 2021). In addition to that, both among male and female groups, there are significant numbers reported to work more than 48 hours/week (42.02% for male and 45.61% for female in 2021). While this is the pattern identified for other sectors (all sectors column) in the country, it is also important to take notes on the significantly higher numbers of female workers reported undertaking unpaid work or considered as family workers compared to their male counterparts, as one of the gender gap indicators in this sector. From 2018 to 2021, the total number of female labourers who undertook unpaid work was consistently more than two times higher than the male group.

Table 5.8 Number of unpaid/family Workers in tourism and all Sectors by sex from 2018-2021

Sex & Years	Tourism				All Sectors (2021)
	2018	2019	2020	2021	
Male (Unpaid/Family Workers) (% from total)	740,717 (8.15%)	724,656 (7.40%)	724,656 (7.74%)	1,193,100 (12.63%)	5,311,225 (6.70%)
Total Male Workers with all status	9,092,512	9,785,152	9,357,772	9,447,567	79,263,314
Female (Unpaid/Family Workers) (% from total)	1,887,125 (18.21%)	2,089,334 (19.04%)	2,588,937 (23.37%)	2,717,256 (23.01%)	12,614,924 (24.36%)
Total Female Workers with all status	10,365,042	10,975,472	11,076,524	11,807,968	51,787,209

Sources: Statistics of Labours in Tourism and Creative Economy 2018-2021, Ministry of Tourism and Creative Economy & Statistics Indonesia

SEAH and the tourism sector

According to national studies, sexual exploitation associated with tourism is present in almost all of Indonesia. The most affected age group ranges between 14 and 18, and the majority are girls.[69] In the island of Sumatra, the most affected province by the sexual exploitation of children associated with tourism is North Sumatra, especially the area of Medan. Child prostitution's demand in North Sumatra is driven by men who travel for business or tourism, from other regions within Sumatra, and also coming from countries outside Indonesia. The main vulnerability factor for children who are sexually exploited in this region is poverty. Children are usually identified and approached by sex traffickers through their school peers. Even though sexual exploitation is currently not reported to be a major issue in the provinces of Sumatra, which are prioritized by this project, a potential increase in the influx of male tourists or male workers could potentially expand this issue to the provinces supported by the project if mitigation measures are not considered.

[69] ECPAT Indonesia. "Global Study on Sexual Exploitation of Children. Country-specific Report-Indonesia" (2016). Report available at: https://ecpat.org/wp-content/uploads/2021/05/3.-SECTT-INDONESIA.pdf

Gender Roles in the tourism sector in Indonesia

Tourism is one of the sectors in Indonesia which has a significant participation of women. Despite the participation is high, women are often engaged within the sector in community-based tour, such as ecotourism and rural tourism[70]. Women in Indonesia often have roles like homestay operators, cooks, artisans, and cultural performers[71]. Less frequently, they occupy management positions or as business owners. This context makes important to acknowledge that often initiatives focused on tourism might replicate existing gender stereotypes and will continue to maintain women in the roles within the sector that are unpaid or have lower salaries. This risk is highlighted by Lestari(2020) by highlighting that often "greenwashing" in ecoturismo initiatives also comes together with processes that reproduce inequalities and gender stereotypes[72].

Gender Roles in the Waste Management Sector in Indonesia

In Indonesia, the waste management sector tends to have very differentiated roles, responsibilities, and opportunities for women and men. Although sometimes women and men work together in waste-picking (as a household or a couple), it is common to observe that women experience more stigma doing this labour, and they also face higher security risks of experiencing sexual harassment[73]. In addition to this, women are more often participating in the waste management informal sector and have less access to formal job opportunities[74]. This is often due to gender stereotypes, for example, the belief that men are more capable of doing the work due to physical strength.

The types of roles for women and men in the waste management sector are often different as well. Men usually have collection and transporting roles, while women's roles are more related to sorting, recycling and participating in waste banks. These roles tend to be less valued, and remuneration tends to be less than that of their male counterparts[75]. Approximately 75 percent of those participating in waste bank programs in Indonesia are currently women[76].Also, it is observed that women have lower access to equipment and markets, and this often results in them facing greater health risks.

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[70] Bently, C. (2020). "Towards Gender Equality in Indonesian Tourism". Available at: https://www.tourism-watch.de/en/article/focus/towards-gender-equality-indonesian-tourism/
[71] Ibid.
[72] Lestari, S.F. (2020). "Ecotourism, Greenwashing, and Reinforcement of Gender Roles in Lombok, Indonesia". Available in: https://medium.com/@serunifauzialestari/ecotourism-greenwashing-and-reinforcement-of-gender-roles-in-lombok-indonesia-94d0f17b263c
[73] Putri & Colombijn (2025). "Debilitating Domestic Duties: Precariousness of Female Waste Pickers in Indonesia". Available at: https://www.whp-journals.co.uk/WW/article/view/1135
[74] Ibid.
[75] World Bank (2019). "Improvement of Solid Waste Management to Support Regional and Metropolitan Cities Project". Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/608321575860426737/indonesia-improvement-of-solid-waste-management-to-support-regional-and-metropolitan-cities-project
[76] Ibid.

In addition to all the above, women also have a higher participation in managing waste at the household level, as part of the domestic unpaid labour[77]. They also participate more than men in community-based waste management efforts. Furthermore, as women participate more often of the informal sector, and have higher burdens of unpaid domestic work, they have less time available for productive work. This often translates in them having lower incomes than men. Overall, there are many barriers for women who participate in the waste management sector, but there are also opportunities to improve their current working conditions and enhance their already existing associative initiatives.

V.3 Their vulnerabilities, challenges faced, and how it impacts the ability of women and vulnerable groups to adapt to climate changes

A. Fishers and other coastal community members in general are not familiar with the term nor aware of climate change phenomenon that occurs globally, perceiving the relevant nature signs as part of inevitable changes of natural phenomenon

All the fishers (both male and female) and other coastal community members interviewed in this study are not aware of the term nor of the climate change phenomenon that occurs globally, but all respondents across study sites reported several similar natural signs and how it impacts their work. :

- Decrease in the amount of catches, harder to catch the usual amount of fish.
- Catching areas move further from the coastal line. Fishers often need to travel further or move to several spots in one fishing trip.
- Unpredictable bad weather, harder to predict the weather.
- Unexpected/non-targeted species like mammals often get caught in the net.

One of the male fishers explained to the interviewers that they could never predict the weather as they usually did in the past.

" ….but before, a week before the storm we usually can predict it. It is not the case for now, lets say we go to the sea today, and we could see from the weather at night that the storm will be coming tomorrow, but suddenly we have good weather, we really cannot predict the weather now."

As documented and highlighted by the Ministry of National Development Planning/Bappenas (2021a)[78], the nationwide climate impacts, including increasing extreme waves, rising sea levels and temperatures, and changing rainfall, have been found to increase hazards in marine and coastal ecosystems. Those hazards are similar to what has been reported by respondents in this study: coastal slope decline due to floods, ecosystem damage, as well as decreasing fishing range for small boats (<10GT), storm surges, and extreme waves.

Despite all the negative impacts experienced by fishers and the communities, these changes are perceived more as inevitable natural phenomena, that can't be prevented and are part of the natural occurrence.

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[77] Fitriani et al. (2024). ""Community-Based Waste Management in the Township PT. Bukit Asam, Tanjung Enim, Indonesia". Available at: https://ijoems.com/index.php/ijems/article/view/369

[78] Ministry of National Development Planning/Bappenas (2021). Climate Resilience Development Policy 2020-2045.https://lcdi-indonesia.id/wp-content/uploads/2021/11/0_Executive-Summary.pdf

On the other hand, changes reported above have been associated by many respondents with some ocean-related incidents that occurred in the past or near the time when interviews were being conducted in study sites. In Aceh, for example, bad weather has been reported to be more unpredictable since the Tsunami in 2004, while a decrease in catches was linked to the ship incident spilling asphalt into the ocean in Nias and the development of a power plant tower in Banten.

While the low awareness of how climate change can impact livelihood among coastal communities might be caused by a lack of access to information, this leads to misunderstanding on what can be done. This is due to low awareness and level of knowledge on sustainable fishing and farming practices, as well as a wider context of what is happening to the ocean and its resources in general. Some of the respondents reported that they never heard any information related to abrasion or damage in marine resources. This has, to some extent, caused a perception that fishers can only surrender, and nothing can be done to address and prevent all those negative impacts.

Interviews with NGOs working on environmental issues and climate change across all study sites confirm that there is low awareness among fishers and coastal communities about climate change and what can be done to prevent and address it. Small fishers, women, and other vulnerable groups have no accessible information related to climate change and how it can impact their livelihood. This is confirmed by several respondents from local NGOs interviewed in this study, who have background and experience as fishers and are now fully or partly working in an NGO with a focus on the environment. They told the study team that the exposure working with NGOs has improved their awareness and knowledge of climate change. Furthermore, Having no access to adequate capital and limited assistance from the government also lead to the condition where they have no flexibility in shifting gears or occupation outside the fishery.

B. As most of the fishers and coastal community members involved in SSF are poor, a decrease in the amount of recent catches has significantly affected their ability to make ends meet.

Climate change has brought negative impacts, particularly on the livelihood of vulnerable groups relying on marine resources and living in coastal areas. All reported changes in frequency, predictability of bad weather, less catches to find in usual catching areas so that fishers need to either travel further or to several locations in one trip, have, in turn, reduced their income and often increased the cost required for the fishing trip since they need to buy more fuels for the trip.

With a very limited option to find alternative sources of income and no savings, most of them often rely on loans from individually owned or informal financial institutions (loan sharks are among them), unions, Badan Usaha Milik Desa (BUMDES), or village-owned enterprises as a way out. These institutions have been chosen by most of the community members looking for loans due to their accessibility and relatively easy, simple procedure (they only need to provide a copy of their ID card, and someone in the family has a job as a warrantor), most of these institutions take high interest rate. As an example, women interviewed in Banten told the interviewer that if they take IDR 2 million loan they have to return IDR 600K for the interest (30% interest rate). Coastal communities also often seek to borrow money from relatives or nearby stores where they can pay later for meals or goods. Interviews with community members and stakeholders from NGOs highlight that fisher households are often in huge debt due to financial mismanagement and no access to financial institutions with fair interest rates. This, in turn, can weaken their resilience and exacerbate their vulnerabilities to climate change in the long run. In one of the FGDs with fishermen, further impact on the coastal community, in general, was discussed, that decreased catches have also, in

turn, affected the ability to surround the coastal community to buy fish. Therefore, it is harder to sell the fish compared to the past.

" It affects us a lot. Their ability to buy have also decreased, before if we travel around with car we can sell 500kg, sold within a short time. But no, even to sell 100kg is hard."
-FGD with fishermen in North Sumatera

In one of the FGDs with a women's group working as fisherwomen in Banten, they reported recent changes in the declined amount of catches, and one of the respondents linked this with the development of a steam power plant in the area.

" (R1) Since none of us here have a land to cultivate, so we rely on marine resources. But recently it is not reliable, not enough for us to (to meet daily needs), I don't know why….."

" (R2) Since the steam power plant built here, the mud becomes too thick, therefore somehow lamis, and other seashells, hard to be found….i can say, the waste can't flow and trapped there, so all the organisms from the sea, like seashell, clams, crab, could not live there. In the past i can just take the catches there and sell it in the market, and it is enough, i can have (the money) to buy all the needs to take care my children. But since the power plant built there, all the waste are trapped there.
-FGD with fisherwomen in Banten

One of the interesting practices observed is how the community, especially women's groups, create a mechanism to help each other in a group when they take a loan from the *rentenir* (called *Bank Keliling*), appointing a leader/coordinator, making trust-based agreement among the members that when one of the members could not pay their instalment, the other members will help to cover it. Women are often the one who deal with the loan administration even though it needs to be registered under their husband or other adult family members. Women usually cannot register themselves to get the loan since their ID recorded them as housewives.

Interviewer	*: Have you ever experienced one of the members could not pay the debt?*
R (Respondent)1	*: Yes, it oftentimes*
R2	*: Not only once…however, we help each other, because we made an oath that we will back each other up*
R3	*: Bearing this together.*
R1	*: We take the loan with an oath, taken in group. We made an oath first, and when we get it (the loan), we pay weekly, fifty thousand rupiah each. If there is one of us could not pay, then the other will pay on behalf of her.*

There are a few other strategies reported to be quite common practice, which could be varied across provinces. In North Nias, for example, men are often traveling outside Nias to work in plantations during low catch season. In Mentawai, coconut farming has been done by several farmers as an alternative source of income beside fishing. Only a few of the respondents are able to have savings and use them when in need; usually, when they have good catches, they will save the money, and when bad weather hits, they will use the savings to cover daily needs. There are only a few examples found in the study where the community utilized technology like cold storage to preserve the catch, oven to smoke fish, and to support the household when there is no catch. Only in Nias Utara did the study find an active union who have cold storage and an oven that can be utilized by its members. Most of the women's group interviewed are making smoked fish with the traditional methods (sun-dried) to earn more money or when there are no catches to be sold.

C. Women have been in particular impacted significantly by extreme weather events and other damages caused both by climate change and non-climate drivers, and at the same time, have to juggle so many tasks in the domestic area

The natural signs and extreme weather events that reflect the effect of climate change have been described by all respondents in this study to have negative impacts on their livelihoods. This study found that for women in particular, the impacts are significantly affecting their roles, both directly and indirectly.

C.1. As women are usually targeting organisms like clams, crabs, and seashells that live in shallow coastal or intertidal habitats, the damages caused by extreme weather events, as well as non-climate drivers, have significantly impacted the livelihood of those depending on coastal biodiversity

As described in the previous section, most of the women who undertake fishing usually target organisms in shallow coastal or intertidal habitats like seashells, clams, and crabs, as they can reach this area without a boat or specific tools. As it is found in previous studies (Colette C.C.W., Robert, B., Sarah, H., et all. 2021), this study found that climate changes described by many female fishers in the form of extreme weather events, sea level rise, coastal erosion, have hindered their ability to get the catches or access nearshore fishing ground. Moreover, non-climate drivers, such as pollution, coastal development, and eutrophication, exacerbate the damage to coastal biodiversity, which in turn impacts the livelihood of those who depend on their existence. The case of damages caused by water pollution has been found specifically in a study site in Lampung Province, where the development of factories has caused damage and water pollution in a coastal area. Therefore, the fishing ground nearshore no longer exists in the area, causing many fishers to lose their jobs. When the study was conducted, many fishers were reported to work as odd labourers or casual workers, undertaking anything they could find to earn money while they were waiting for any program and intervention from the government to restore the fishing ground.

Another concerning issue to be highlighted here is the lack of safety measures and equipment to assist women in conducting the work. As this is observed to be one of the contributing factors that cause fishers in general to be potentially injured by extreme weather events (KOMPAS, 26 July 2023)[79], women, in particular, are more vulnerable since their activities are often not included as fishing. Therefore female fishers are often excluded from program assistance providing fishing equipment or tools that will enable them to undertake the work safely. The study finds that even though women undertake fishing in shallow coastal areas, the absence of proper gear often puts women at risk arising from the occurrence of extreme weather events and sea level rise when they undertake fishing work, let alone their exposure to pollution. While the necessity of using proper equipment and applying safety measures are rarely discussed, yet considered to be prioritized, there are cases of injuries and high risks of accidents (crooked fingers, pale and numb palms and fingers from water bugs) reported by women during the interviews and FGDs.

[79] Yunus, S. R., Yulianus, J., Manumoyoso, A. H., Triwibowo, D. R., & Herin, F. P. (2023, July 26). Warga Pesisir Masih Bertaruh Nyawa di Laut. *KOMPAS online*. https://www.kompas.id/baca/nusantara/2023/07/26/warga-pesisir-masih-bertaruh-nyawa-di-laut

Image 5.1 One of the organisms (snails or *siput biduan*) collected by women with barre hands (left) and One of the female fishers showed her crooked fingers from gleaning snails with barre hands (right) in Bengkulu



Photo Credit: Melly /Blue Halo S GESI Assessment

Gleaning siput biduan or snails is one of the regular fishing activities done by women in Pulau Baai, Bengkulu. During our interview with a group of fisherwomen, they describe that to be able to catch the snails; they have to dip their hands into the sand, groping for the snails, and pick them up when they can reach them. Doing it on a daily basis, it is common to find snail gleaners with crooked fingers. The fisherwomen can collect up to 30kg per day, carrying them on their backs during their trip going back home. They have been doing the work with bare hands, there is no assisting tool or equipment utilized to do the work.

Image 5.2 One of the fishing equipment functioned as a 'boat' by women in Pandeglang, Banten



In one of the FGDs with female fishers in Banten, it was reported that often times one of them ride the white box in the picture as it will float her like being on the boat when she is looking for seashells (lamis). The box is not designed for sailing or carrying people but has been utilized as one of the pieces of equipment to assist women when they do fishing, in particular, to enable them to reach the further areas near the shore without being submerged in the water. The female respondent, who often rides the box, told the interviewer that she has no money to buy a proper boat and gear to do her work. Being the female head of the household and breadwinner, she expects the government to provide assistance for poor fishers like her.

Photo Credit: Emmy/ Blue Halo S GESI Assessment

C.2 Most of the jobs available in fishery for women require long hours of work with low pay, but to some extent considered to offer time and arrangement flexibility, especially for those with children

In relation to women's role in the post-harvesting sector, climate change has, in turn, affected activities throughout the supply chain in the fishery and the incomes derived from them. For most of the fishers, particularly the small-scale ones, more days with bad weather means fewer days for boat-based fishers to

go out fishing. This has been impacting the amount of catches, which in turn lessens the income of fishers (in most cases men) and also affects the quantity of fish available to be processed and traded, which in many contexts, including Indonesia, is done by women.

As mentioned in the previous section, most of the women interviewed in this study were involved in fishery-related work to earn additional income for their families. Most of the jobs taken are fishery related, particularly in sorting, processing, and selling. As most of those workers pay a very small fee based on the amount of catches being processed (per kg, per box, etc.), women have to work for long hours (on average, women can work 4-7 hours for this post-harvest alone, interspersed by other domestic works) to be able processing a sufficient amount of the catch so that they can get enough money (as described in table 2 above). It is also important to note that while the work being done in fish processing requires women to perform a certain level of speed and thoroughness, these tasks are often regarded as low-skilled or unskilled work, which is then reflected in the payment, status, and working conditions. This eventually led to practices of women's work being undervalued throughout the fishery value chain.

Image 5.3 Night shift in one of the stalls for fish processing in Pandeglang, Banten



Working time for fish processing depends on the time when the fishing trip is complete. During the data collection, we observed several working stations that usually employ women across study sites and at various work shifts. Women usually work during the day time in fish processing and marketing, but there are times when the catches arrive at night so the processing work needs to be done late at night. As shown in the picture, in one of the fish processing stalls in Banten, workers (mostly women) were sitting on the floor, sorting the anchovy at night shift with bare hands. The night shift usually starts around 6-7 PM until the work is done, which depends on the amount of catches and the number of workers involved. In average, women usually work for five to ten hours in a day, with fee IDR 5K for 1 kg sorted anchovy (earning IDR 25K – 50 K per day).

Photo Credit: Emmy/Blue Halo S GESI Assessment

As household catch decreases and household income is impacted, the fisher household can not rely solely on their own catch to meet needs. The necessity to maintain household expenditures then drives household members to seek additional income besides their main income from fishing activities. The wives of fishermen, in most cases, are the ones who will undertake more work for additional income since their husbands spend most of their time on fishing trips, but sometimes the wives also take additional work on top of accompanying their husbands in fishing. One of the available work opportunities that feel familiar to them, therefore often done by women in coastal areas, is processing catches from larger-scale fishers who are able to ensure a more steady fish supply since they have larger boats, more sophisticated gears, and employ many fishers.

Despite working long hours and being paid low wages, having access to these types of jobs in coastal areas can be a lifesaver for women, especially when there is little or no catch at the household level to be processed. In general, female respondents interviewed in this study told the interviewer that the work arrangement is considered accessible for women. There are no specific requirements for them to be allowed to do the work, and they don't have to worry about being asked to perform skills unrelated to fishery or with which they are not familiar. They also don't have to provide collateral funds, and they get paid on the same day when the work is done. Especially for those with children, factors such as the location of the workstation being close to home and the flexibility in the time to start and finish work enable them to earn money while still taking care of their kids and households.

Gender-based task allocation among coastal communities is reinforced by the perception that certain works are better done by women or men. Fish processing, in particular, is perceived to be better done by women due to its proximity to the type of work undertaken by women at home. The study also finds that the lack of assistance technology and facilities to enable men and women to do certain work has been one of the underlying factors that reinforces this gender-based task allocation. For example, works involving activities of lifting heavy items (pulling the net, drying the processed fish) are better done by men, while in fact the use of assisting technology would enable men and women to do the work. Another example is the availability of an accessible public toilet on the boat near the fishing ground that will enable women to join the fishing trip with other male fishers. The study team found that in certain areas, for example, in Mentawai, there are socio-cultural factors that hinder women from undertaking the fishing trip; women are not allowed to undertake or join the fishing trip when they are menstruating due to the belief this can bring bad luck.

C.3. Women are in charge of managing the household finances, and in most cases, incomes earned by their husbands from the catches are not enough to cover all the household bills. While managing household finance could provide access to resources, in this case, women have the double burden of earning more money to cover the gap, along with their main responsibility for domestic works

From the interviews with coastal community members in six provinces, it is a common practice that women are given the responsibility to manage the finance and day-to-day needs of the household, allocating money for school fees, food, and other household needs, as well as when their husband ask money for cigarette, fuel, etc., (based on the request from their husband). The use of money outside this routine (especially when big spending is involved) will need approval from their husband. While this practice leads to an impression that women have access to financial resources at the household level, it can add a burden for women since, most of the time, the money is not sufficient to cover all the household needs, putting women responsible for covering the gap. Moreover, women have no control or making decisions to use the money for other purpose than daily needs (if there is an excess); they still have to get permission from their husbands.

Different practice of financial management is found in households with higher [80]income (when they can have a surplus to buy, not only primary needs), where husbands usually take control in managing and allocating the money, while women will be given a certain proportion to be managed. However, this is not a common practice that can be found in coastal households, especially among the SSF community, and

[80] This is arise from the interviews with few of male respondents reported to earn higher income than small fishers interviewed in this study. They reported to earn higher income from running a medium to big scale business related to marine resources (exporting pearl, lobsters – can earn more than 15mio per month), medium scale aquaculture, agriculture.

was identified only in a few interviews with middle to big-scale fishermen, fish farmers, and aquaculture entrepreneurs.

As women are in charge of managing the money at home, this often includes the responsibility of seeking a way out when the money earned from fishing is not enough to cover all household necessities. This often means women are pushed to undertake work outside the home, sometimes more than 1 job during the day. Other than their main roles as caretakers for all family members and chores at the household level, all women interviewed in this study, to some extent, are involved in various forms of work to earn money. In general, at the household level, women are responsible mainly for domestic tasks, ranging from caring for children, dropping and picking children up from school, cooking, cleaning the house, and doing the laundry and dishes. As in many places in Indonesia, socio-cultural norms in all study sites perceive women's main responsibilities to be in domestic areas. At the household level in a coastal community, these roles are reinforced every day since the fishing trip, which is done mostly by men, requires very long working hours. As a consequence, men are often not at home.

C.4 Women's contribution throughout the fishery value chain is underreported, which in turn causes their roles to be undervalued and excluded from relevant program assistance

In all FGDs and interviews conducted in this study, it is admitted by all community members and govt officials that women have a significant role in creating added value by processing and marketing the catches.

"If there is no fish processing, men's catches will be wasted when unsold or if it can be sold, will have lower value, compared to if it is processed by the women"
-FGD with fishermen in North Sumatera

As reported by women involved in fishery-related works in this study, normal days for women usually started around 5 AM to prepare meals for all family members going to work (fishing trip) and school. In Banten, when the harvesting season for *Lamis (*clams) arrives, sometimes women have to leave home around 2 AM and finish at 5 AM, and then take care of the house chores, preparing and dropping children at school. While waiting for the time to pick up kids from school (for those with kids), many are using their time to work, from catching clams, chopping, sorting fish, or cleaning other's houses. Often times, when doing side jobs like planting rice and farming (labour in ricefield, farm), the work is done together with the husband. Related to fishing trips, women are often involved in preparing (buying) fuels for the fishing trip, as well as repairing the net (only in certain study sites).

Beside their well-known roles in processing and marketing, women undertake many unpaid works throughout the fishery supply chain, even from the pre-harvesting stage (preparing meals, buying fuels, mending nets). However, since most of these works are done at the household level, these are often considered part of women's responsibilities as fishermen's wives to take care of the families and the households. This in turn, has led to the exclusion of women's work in fisheries in the national government census under fisheries-related employment (Fitriana, R., & Stacey, N. 2012)[81]. This study also found that

[81] Fitriana, R., & Stacey, N. (2012). *The Role of Women in the Fishery Sector of Pantar Island, Indonesia*. Gender in Aquaculture and Fisheries: Moving The Agenda Forward. Asian Fisheries Science Special Issue, The Journal of Asian Fisheries Society Vol *25s*, 159–175.

the government's official data is still lacking in reporting the proportion of women involved throughout the fishery supply chain.

Specifically related to fishery sector, the underrepresentation of women is also reflected in the ownership of KUSUKA[82] *(Kartu Pelaku Usaha Kelautan dan Perikanan*). National data recapitulation on the ownership of KUSUKA shows there are only 10% women registered, with the lowest proportion as inter-port marketer, there are only 425 women or 13,3% from total 3,189 inter-port marketer registered (https://kkp.go.id/setjen/PUG/infografis, accessed August 09, 2023).

Table 5.7 Numbers of KUSUKA Disaggregated by Profession and Sex

Profession/Sex	Fishers	Inter-port Marketer	Marketer	Fish Farmer	Fish Processor	Salt Farmer
Female	19.832	425	25.482	56.403	45.959	3.020
Male	931.236	2.764	14.010	349.696	9.215	10.560

(Source: One data database Ministry of Marine Affairs and Fisheries, updated April 07, 2022)

Looking at the role of women in the fisher households and coastal community in this study and information from previous studies regarding the exclusion of women from being registered as fishers in the system, there is a high possibility that the proportion of women undertakes roles in the categories in the table above is underreported. As highlighted in the previous sections in this report, most women in fisher households undertake work in pre and post-harvesting, but they are often not acknowledged or registered as fishers and, therefore, excluded from KUSUKA.

Qualitative data and information collected in this study further inform that the official reported numbers do not reflect the actual situation in the field related to women's role in the fishery. From interviews and FGDs with women involved in fisheries in six provinces, there are only a few women reported to have KUSUKA, and many (around 80-90% of all female respondents in this study) have not heard about KUSUKA. In addition, another reason causing the exclusion is that even though they know about KUSUKA, they did not register themselves or are being registered by the fishery instructors because their husband already has KUSUKA, or they do not know how to register themselves. In conclusion, there are several factors identified in this study contributing to this issue:

1) Fisheries Instructors' understanding of the scope of targeted beneficiaries (who can be categorized as fishers) and rules on how many people in the same household can apply for KUSUKA (If the husband already registered, it is often assumed the wife will not be able to register). In addition to this, the wide scope of tasks and working areas leads to the inability of the instructors to provide assistance for out-of-reach individuals or groups, often causing women and vulnerable groups to be excluded.
2) Requirement for eligible beneficiaries to be registered in National ID card as fishers, farmers, or any category of business actors in fisheries while in Indonesia there is a wide practice of registering women as a housewife, especially when they work in informal sector. During the data collection, the study team found there are most of the women (around 80%) joining P*oklahsar* groups registered as housewives in their ID card. For cases like this, a reference letter (valid for 6 months)

[82] Issued and implemented based on Ministry of Marine Affairs and Fisheries Regulation no 39/2017, KUSUKA is an identity card for business actors in Marine and Fishery sector, including those in small-scale fisheries (https://kkp.go.id/setjen/satudata/artikel/5374-kusuka-kartu-pelaku-usaha-kelautan-dan-perikanan). Only those registered in KUSUKA can have access to program and assistance provided by government for actors in Marine and Fishery sector. These program and assistance are ranging from provision of fishing gears, fish processing tools to trainings in making marine-based products.

will be issued by village government while they still need to process amending their ID status from the status of housewives to fishers/farmers/processors.

D. Gender-based violence and domestic abuse in general is estimated to be high among Coastal Community

Nationally, gender-based violence (GBV) remains a significant concern in Indonesia, with women and girls across various social and economic backgrounds being the most affected. Based on the data reported in *SIMFONI PPA*[83] *(Sistem Informasi Online Perlindungan Perempuan dan Anak/* Protection of Women and Children Online Information System), from 2021 to 2024 shows an increasing trend, (total case in 2021, 2022, 2023 and 2024 are 23,964, 27,007, 29,102 and 32,158, see Annex 4 table 4.D.1 for the detail), with a very high proportion of cases occur towards women.

Among six provinces in WPPNRI 572, North Sumatera has consistently reported the highest number of violence cases from 2021 to 2024 (1390,1531,1681, 1573) followed by West Sumatera (774, 801, 1010, 1024, with Banten dan Aceh show a hike in case reported in reported cases (1234, 1089). Among districts/cities that are study sites, Bandar Lampung is reported to have the highest number of reported cases in 2024 (198), followed by Padang (123) and Banda Aceh (111) (see Annex 4 Table 4.D.5).

Interviews with community members in the coastal areas and the local government office of Women Empowerment and Child Protection indicate that there is a potentially high risk of gender-based violence occurring at the household and community levels in the coastal areas. Most of the women interviewed in this study explain that they never experienced abuse, but admit that conflict at the household level (between husband and wife) is very common, especially when they have no enough money to meet the household needs, and there is a possibility for physical violence to occur, as explained by one of the female respondents.

" (I think) it depends on the mistakes being done. If it is a big one, for sure there will be a slap, a fist. But Thank God there is no (incidence) like that in this area"
-FGD with Informal Female Worker in Nias Utara

On the other hand, qualitative information provided by local government staff in study sites emphasizes high prevalence of violence to occur in coastal community, with domestic abuse, physical and sexual abuse towards women and children as the most frequent cases of violence to occur. One of the factors mentioned to contribute the most is economic difficulty, in which economic pressure becomes a stressor, as illustrated in one of the stories told by a female respondent in Bengkulu.

(I) Have you ever experienced a conflict in your household?
(R)Yes, it is often
(I) What kind of conflict?
(R) Grumbling
(I) Who is grumbling?
(R) The housewives
(I) How about the husband?

[83] SIMFONI PPA is an application based system for documentation and reporting on violence against women and children that can be accessed by all service unit providing assistance for victims of violence at national, province, and district/city level. The development of SIMFONI PPA has a purpose as a media for documentation, monitoring, and evaluation on violence towards women and children in Indonesia.

(R) Just keep in silence,(he) gives IDR 200K, and it is not enough to pay this and that. (he) went for 1 week and bring home money around IDR 200K, exhausted and hungry. For sure IDR 200K will not be enough, child school tuition need to be paid, but he does not understand (when I grumble); (he said) I want to being more money too, but that's all my luck allow me to, and then (we) fight.
-FGD with Female Fishers in Bengkulu

Another factor being mentioned is the opportunity arises due to the nature of work in a fisher household, where parents are often forced to leave their children at home for the fishing trip. From the interview with local government staff, it is also mentioned that the lack of data has become one of the biggest challenges that is hindering efforts to prevent, monitor, and address the issue. While the development of SIMFONI PPA reflects the progressive efforts of the country to address the issue of violence, low awareness, and understanding of the issue both at the community level and the authorized is still prevalent. Efforts have been made to address gender-based violence through legal reforms and awareness campaigns, but challenges persist in implementation and cultural shifts. As is the case in other regions in Indonesia, conflicts at the household level are often considered as private or family matters that shouldn't be disclosed or intervened by external parties, even though there is violence involved.

As mentioned earlier, due to resource constraints, this study was not able to assess the magnitude of the issue in each province and provide a more general situation on gender-based violence. However, it is important for the project to have a follow-up assessment on this matter and arrange a safe and adequate system to deal with the potential risk of gender-based violence during program implementation.

V.4 The existing programs and assistance targeting women and vulnerable groups in coastal communities & the experience in accessing it

This study identified, in general, that there are two categories of programs and assistance received by coastal fishing households across study sites in six provinces. They are programs and assistance targeting coastal communities and the ones that are not specifically targeting coastal communities as their beneficiaries. The latter was not designed to target coastal communities, in particular women and other vulnerable groups, but its targeted beneficiaries and activities have intersected characteristics with the interests of certain groups in coastal communities.

4.1 Programs targeting coastal community

Most of the fishery-related program assistance received by coastal community members in this study are provided by the Government Office for Marine and Fisheries. As explained by relevant government officials and fishery instructors, program assistance targets businesses and working groups in fisheries, and individual fishers/farmers/marketers/processors are not eligible to receive the assistance if they are not members of local groups. According to the fishery instructors interviewed in this study, in general, four focus area of fisheries included in their scope of work related to assistance for community groups are farming, fishing, marketing, and processing. The most frequent assistance provided by government for community groups based on their category in focus area of fisheries are listed in the table below.

Table 5.8 Assistance Provided for Working Groups in Fisheries

Fisher	Marketer & Processor	Farmers
○ Vessel (outboard engine) ○ Net ○ (plug) Light ○ Fibre (cooler box) ○ Fishing gear ○ Life vest ○ Rope ○ Boat ○ Motor car to transport ○ the catches ○ Fish dome ○ Fuel subsidies	○ Building for workstation (Rented & renovated) ○ Fridge ○ Fibre (cooler box) ○ Freezer ○ Cart ○ Water tank ○ Equipment for Processing (knives, plastic, basket, apron, container) ○ Equipment for packaging (plastic, vacuum sealer) ○ Trainings (making processed seafood, snacks, registering business license)	○ Seed ○ Feed ○ Equipment for farming

As men and women are working on different roles, the group is established, and the types of assistance received by both genders in groups reflect the differences. Men are centralized in fishing and farming groups, while women are in marketing and processing (The government offices used the term Poklahsar/ kelompok pengolah dan pemasar or group of processors and marketers). The study team found that the way men and women grouped for most of the activities, usually following the gender-based task allocation, exists at the community level. For example, it was rare/ there were only very few of men registered in *Poklahsar* (almost none) across study sites, and the same goes for women, there were no fishing group registered with female members[84]. However, the case is different for Mentawai (especially in Siberut), we found there are groups of women registered as fishers and received fishing aid[85].

To be able to access this assistance, it is required for fishers and farmers to join the local business/working group and register in KUSUKA. To register, a written application accompanied by an identity, a tax document (Nomor Pokok Wajib Pajak/NPWP card), and a reference letter from the village government have to be submitted to the district Office of Fisheries, assisted by a fisheries instructor. The fisheries instructors are also responsible for assisting in forming, coaching groups, and developing a proposal for assistance. One fisheries instructor is usually responsible for 1 district, and there is a high reliance on these instructors in collecting data on coastal community members and registering them in KUSUKA[86]. This is one of the contributing factors causing many of the eligible fishers/farmers to not register and own the KUSUKA card. In addition to that, the study team found that most of the community members have distrusted the mechanism of applying for assistance since many proposals and feedback in the past have

[84] The process of selecting beneficiaries for the program or activities usually done by the government officer, assisted by the community leader in targeted area. The segregation for men and women to join certain training is usually determined by their roles, occupations, or characteristic of targeted area. For example, training for making snacks from sea products will be targeting women live in the coastal area, or those already run small business making food products.

[85] Based on data provided by district office of fisheries in Mentawai, during 2017 to 2023, there are groups of women registered in fishing category and received fishing aid in the form of long tail

[86] There are 5,700 fisheries instructors located across Indonesia, assisted by 514 office at district level and 139 technical implementation unit/ Unit Pelaksana Teknis (UPT) to input proposal for data collection into the module of KUSUKA (https://kkp.go.id/setjen/satudata/artikel/5374-kusuka-kartu-pelaku-usaha-kelautan-dan-perikanan).

never been addressed. According to the instructors interviewed, they often get questioned about the previous proposals from community members. Having very limited information, they cannot promise anything and try to explain that they have to wait. This has caused many to refuse to develop new proposals for government assistance. This is also confirmed by community members; they explain to the interviewers that they never expect government assistance to arrive in a timely manner.

In addition to all these programs, through KUSUKA, scholarship programs are also provided for family members (children) of coastal fishing households to continue higher education. On top of that, insurance for fishers is included for all fishers registered as the owner of the KUSUKA card. However, based on the report from community members, the local government only pays for a 1-year subscription, and the card owner has to pay by themselves to continue the subscription. This has been one of the challenges identified for community members to continue their subscription, especially in areas like Mentawai, where they have to cross the ocean and travel to Padang City to make the payment to an appointed bank.

Other programs identified targeting coastal communities are those delivered by local NGOs working on environmental issues. The most popular programs are related to mangrove restoration, where women are involved and get paid to plan the mangroves around the coastal areas. Other programs run by local NGOs not specifically working on environmental issues found in Aceh; it is a financial management program that has been running for 2 years, delivered by an NGO in collaboration with the Union for Small Fishermen. Another interesting program run by an NGO in Mentawai also targets the coastal community, focused on financial management practices through the establishment of community-based saving groups[87]. The participants of the program are mostly women, aiming to develop the skills and habits of the community to save and manage their money by making priorities. This program, however, was implemented on another island (Siberut Island) in Mentawai and hasn't reached the community in this study site.

While the assistance program provided by the Office of Fisheries aims to improve well-being, especially in food security and economic empowerment of those in need among coastal community members, the way it is planned and implemented is found to have more focus on the existing business than targeting vulnerable groups. As mentioned before, assistance is provided only for community members joining local businesses/working groups and usually targeting businesses that are already run when applying for assistance. This mechanism often creates gaps for the most vulnerable groups, making program assistance less accessible to them. This is because many of the poorest, the most vulnerable groups live in remote areas and do not have access to join groups or information to do so. Therefore, they are most likely to be excluded. In particular, women, besides being often registered as housewives, making them ineligible for getting KUSUKA and having access to program assistance related to the fishery, have less access to information and any kind of channel to voice their aspirations. The latter has made them to be excluded and not counted in program and policy design.

On the other hand, many community members from coastal fishing households reported that the mechanism to provide assistance through groups was seen to be ineffective and benefited as expected. One of the fishers told the study team that when his group got a fishing boat, it ended up with no one willing to use it since there was confusion on how to share the income, cost, etc, from the fishing trip. This is strengthened by one of the heads of the fisher group in Nias, North Sumatera, who explained that based on his past experience, he needs to be careful in receiving assistance since it can create potential conflict among group members.

[87] The program was designed to target the indigenous community of Mentawai Island in Siberut. It aims to educate the beneficiaries to make financial priorities and create a financial pooling that can be used anytime in need (due to sickness, death).

"….(if) there was a conflict in the union…who got blamed? It must be the head of the group. That's why I regret to receive that assistance in the past. Before, for many years, we never have conflict among us, I don't want this group to experience problems just because the assistance, it creates polemic. So I refuse to accept it (the assistance) last time when they offer it, the risk is on the union." (FGD with Fishermen in North Nias).

One important note taken by this study, based on the interviews with several local government staff from the Fishery office, is that most of the assistance provided for Fishers and coastal communities tends to be one to two times event, not inadequate in providing more intensive, continuous guidance. One of the officers in Banten highlighted, in the example of providing venture capital, the beneficiary will need guidance not only on steps in building a business but also to manage the finance and day-to-day operations. Limited resources have been hindering the existing program assistance to provide a comprehensive package.

4.2 Programs not specifically targeting coastal community

For programs that not target coastal community, there are 2 categories of programs reported have been received by coastal community members in this study:

1) **Programs relevant to the fisheries sector:** Program categorized under this category is usually delivered under certain themes where it has an intersection with the interests and needs of the coastal community. The Government Office for Child Protection and Women Empowerment at the district and provincial levels (Dinas Perlindungan Anak dan Pemberdayaan Perempuan/P3A) will have programs targeting women in their working area, where the themes of the program will be designed based on requests from community members. It was explained that most of the focus of the program for women is related to economic empowerment, ranging from training on cooking, making popular meals, and establishing a business, combined with educational material related to gender equality, child protection, and domestic violence). Since the coastal area is part of their working area, there are participants from the coastal communities identified during the delivery of the programs.

   Other social assistance programs delivered by the government identified in a few areas are related to assistance for households experiencing tidal floods. Few respondents reported having received assistance in the form of staple food (rice), soap, and toothbrushes.

2) **Social assistance targeting poor households in general:** The other assistance program reported has been received by the community is Program Keluarga Harapan/ PKH or the Family Hope program. Targeting poor households, the assistance is provided in the form of cash transfers (around IDR 300K/month, transferred 3 monthly) and staple food (occasionally, not provided on a regular basis). There are assistance programs focused on financing a child's education through Kartu Indonesia Pintar/KIP or smart Indonesian card (delivered every 6 months). Across study sites, not all respondents reported receiving these assistance programs.

The study notes a few things related to program delivery, access to information, and feedback mechanisms that could be improved to ensure women and vulnerable groups are included:

a) Selection of time, location for activities, and arrangement for women & child-friendly venues during the program event. It is important to ensure women and other vulnerable groups have

access to program activities by paying more attention to the selection of time and location, as well as arrangement for specific needs at the venue (e.g., multimedia and methods are provided in the delivery of training materials for illiterate community), especially women with young kids and people with disability. This might require pre-assessment and grouping of attending participants based on their needs. Most of the activities held by the program are reported to consider friendly time arrangements for the targeted beneficiaries. In organizing training for women's groups, for example, the schedule is usually arranged from the morning to noon, when women have completed the domestic work like cooking, preparing and dropping kids to school, etc. However, it is still a rare practice to provide child-friendly space or assistance to look after the children while women join the activities.

b) Lack of mechanism for channelling aspirations and feedback related to programs and assistance in fishery, especially for women who are often excluded from the regular hamlet or village community meetings. When being asked about aspiration channels, respondents mentioned several common channels; they are head of RT/Rukun Tetangga, hamlet, or through development planning meetings at the village level, also known as *musyawarah perencanaan pembangunan desa/ musrenbangdes.* Only a few, however, reported that they had accessed the channel to convey their aspirations or complaints. This study finds that even though almost all community members interviews had complaints and expressed dissatisfaction with the lack of response and assistance from the government to address challenges they have been facing, most of them either have no information about where to file or report their complaints or choose to keep it for themselves because they perceive the channel as not reliable. There is a widespread perception among community members in all study sites that there is no use in filing a complaint since it will not be addressed by the institutions and figures who should be held accountable.

   There are few good practices identified across all study sites related to this matter. In Aceh, there is a mechanism for fisher women to participate and involve in decision making process. In Lampung, the Provincial Office for Marine Affairs and Fisheries provide channel for community to voice their aspirations through WhatsApp group and social media account dedicated for this purpose. The official government interviewed told the interviewer that response from community members is positive, reflected in many aspirations and complaints received, but they often failed to respond in timely manner due to limited resources.

VI. Recommendations

In summary, the proposed plan will focus on addressing issues on Gender Equality and Social Inclusion that are particularly related to:

1. Awareness and knowledge on climate change and its impact, sustainable practices in fishery, and livelihoods among women and other vulnerable groups.
2. Availability of disaggregated data by sex, roles in the SSF value chain, and other ocean economy sectors.
3. Acknowledgement of women's contribution to the fishery sector and access to KUSUKA as well as any government assistance, including access to market, credit, and financial instruments with fair rates.
4. Utilization of improved fishing and processing technologies to improve the livelihoods of women and other vulnerable groups and more research in the effort to drive innovations.
5. Access for women and other vulnerable groups to channel their aspirations and participate in decision-making and collective learning.

In addressing these issues, this report proposes several recommendations to strengthen five domains of adaptive capacity to the impacts of climate change. The recommendation will outline the proposed measures for each domain on the issues mentioned above. These recommendations will be developed into a Gender Action Plan. The design, implementation, monitoring, and evaluation of the proposed Gender Action Plan will apply the GESI twin-track approach, a method that combines GESI mainstreaming (GESI is an integral part of program stages, outputs, and outcomes) and targeted initiatives (address the specific issue by developing GESI-focused initiatives targeting women and other vulnerable groups) to integrate and promote GESI perspectives throughout the project, to advance the rights of the vulnerable and marginalized groups.[88] The identification of GESI mainstreaming and targeted initiatives can be found in the Gender Action Plan document.

Based on the definition developed by Cinner, JE. et al. (2018)[89] adaptive capacity here is defined as the conditions that facilitate people to anticipate and respond to change, mitigate the consequences, recover, and take advantage of new opportunities that arise from climate change. There are five critical domains required to build adaptive capacity, they are assets, flexibility, social organizations, learning, and agency. These domains cannot stand alone and are interlinked to each other, meaning that to strengthen one domain, the availability or intervention towards other domains will be required. Please note that measures described under these 4 domains are more focused on building the adaptive capacity of women and other vulnerable groups, while other measures to create an enabling environment for GESI mainstreaming and specific interventions will also be described in this section

1) Assets that can be drawn or accessed in times of need,

Assets here refer to any resources to which the community, especially women and other vulnerable groups, have access. Assets can be available in the form of capital (financial), fishing gears, or fish

[88] The Fiscal Policy Agency. (2021). Guidelines for Mainstreaming Gender and Social Inclusion in Climate Change Projects: For GCF Project Proponents

[89] Cinner, J.E., Adger, W.N., Allison, E.H. *et al.* Building adaptive capacity to climate change in tropical coastal communities. (2018) *Nature Climate Change* **8**, 117–123. https://doi.org/10.1038/s41558-017-0065-x

processing tools (technology and health care (service) and can be owned by individuals or exist as public goods. While the effort to build assets can focus on individuals (e.g., micro-credit loans) or community-scale public goods (e.g., information dissemination), it is important to pay attention and address gender equality and other gap in social dynamics to ensure the assets can be accessed by the most vulnerable.

The Gender Action Plan proposes several measures to increase the accessibility of assets for the most vulnerable groups identified:

1) The establishment of a community-based saving group targeting small-scale fisher households with the objective of facilitating the community in exercising practical financial management and increasing access of the members to save in time of need. Not only facilitating practices to save money, this measure will also provide capacity-building activities for women (who usually have a role as household financial managers) in financial management. This mechanism is expected to facilitate the community to exercise in making priorities, saving, and helping their members in their time of need. The establishment of a community-based saving group will also serve the social organization domain, which will be discussed in the social organization section.
2) Improving access to KUSUKA for Female Actors in SSF by increasing knowledge and awareness from the supply side (the service providers, which includes fishery instructors- please see number 3, local fishery office, and the appointed CBOs). Awareness raising and improvement of knowledge activities on demand side targeted women's community groups) will be done through fishery instructors and activities implemented through the appointed community-based organization working in each province. Increased access to KUSUKA is expected to lead to more accessible program assistance, insurance, market, and capital for Female SSF actors.
3) Strengthening the capability of agencies and organizations on the supply side, which will include mainly:
    a. Fishery extension services in targeting & improving women-led MSMEs from Small Scale Fisheries (SSF) at the village level through support for additional human resources and regular capacity building. The existing fishery instructors work very closely with the coastal (fishery) community and have responsibilities for outreach, coaching, and assisting the community to establish a working group. However, there is no specific target for women's groups, and they usually cover large working areas, limiting them to provide more intensive assistance. It is proposed to strengthen their capability through additional human resources and capacity building. Strengthening fishery extension services proposed here aims to provide more resources for the instructors, with a focus on improving women-led MSMEs at the village level in improving their business, including assistance to link them to market and capital. This is a measure on the supply side or the service provider side to create an enabling environment for women to have more access to program assistance, market, and capital.
    b. Community-based organizations (CBOs) appointed or grantees implementing activities throughout the project cycle. Considering the limited resources and programs available in the area focused on issues related to women's empowerment, it is important for the project to allocate resources to building the capacity of these local organizations on GESI. Measures like regular capacity-building activities for all staff, accessible resources to learning material, network, and forum with a focus on GESI are proposed to build local capacity, not only for the project purpose but also to empower local organizations in the long run. As described above, embedded regular capacity-building activities for all staff focused on building an understanding of GESI and how to implement its principles will be one of the mandatory requirements to be included in the proposal for selected grantees.

2) Flexibility in changing strategies by having various potential adaptation options

As organizations and individuals with more flexibility will have a better ability to adapt to climate impacts, this domain becomes a crucial part of adaptive capacity construction. Flexibility here refers to the ability to switch between adaptation strategies and have various potential adaptation options. Strengthening flexibility is expected to enable vulnerable groups to minimize losses or even take advantage of climate-related changes. As mentioned briefly in the previous section, it is important to note that job diversification is often not feasible when households are trapped in deep poverty due to the insurmountable costs and risks associated with trying something new. Therefore, intervention aims to build flexibility to shift occupations, primarily focusing on developing alternative income or subsistence livelihoods that are often implemented in conjunction with poverty alleviation intervention.

To strengthen this domain, the Gender Action Plan proposes for:

1) Appointing a community-based organization led by women or having a relevant program focusing on women empowerment in each province to manage and implement programs targeting vulnerable women in coastal communities, with a focus, especially on improving their access to more sustainable alternate livelihood options (can be different for each province, based on local commodity), knowledge and resources related to climate-resilient measures, protection of marine and coastal ecosystem. This will include the involvement of women in paid tasks within the existing rehabilitation programs of mangroves and seagrass. It will be mandatory for the appointed CBO to have specific regular capacity-building sessions during the project implementation for their staff on understanding and implementation of Gender Equality and Social Inclusion in the context of this project.
2) Production and Provision of fish processing technology that can reduce the burden of excessive working hours and load experienced by women, which will be executed through grant allocation for innovative research looking for ideas for the innovation, piloting, and development of the assisting technology.

To promote inclusive innovation aiming to improve the livelihoods and welfare of the coastal communities, especially women working in fishery, it is proposed to allocate grants for research focused on developing technology that can assist women in fish processing. The project needs to collaborate with universities and local NGOs in proposal selection and review to ensure the idea will answer the needs of women and vulnerable groups in coastal community members.

In the selection process, the requirements for the consultation and involvement of women throughout the research stages need to be made explicit and clear. This could include, for example, the use of alternative media adjusted by the needs of targeted vulnerable women in all relevant discussion sessions with community members (e.g., using visual and audio media to facilitate the delivery of information to groups with low literacy levels). New and improved technologies produced by the innovative research should be piloted, involving all relevant stakeholders from government, NGOs, universities, and targeted community groups (female fish processors), and focus on facilitating the needs of this women's group.

3) Social organizations

As explained by Cinner, JE (2018), **"**Social organization is the domain of adaptive capacity that captures the ways in which society is organized to enable (or inhibit) cooperation, collective action, and knowledge sharing."

This domain involves aspects of individual, community, and organizational relationships (both formal and informal) and bonding social capital (trust and social cohesion) that play a key role in whether or not people will support each other in times of crisis or agree on coordinated action. The emerging evidence suggests some practical efforts to build social organization, which include the creation of interaction arenas where people can work together towards shared goals and build trust, which can occur through community meetings or other social events at the community level. Strengthening this domain is aligned with the existing mechanism developed by the Ministry of Marine and Fisheries. The ministry only delivers the assistance program to groups of fishers, fish processors, etc.; there is no scheme for individual assistance.

These measures are proposed as part of the Gender Action Plan to strengthen the domain:

A. Strengthening the existing local working/business groups (that have been registered in the Ministry of Marine and Fisheries or regional fishery office) through capacity-building sessions to extend these groups' function as innovation platforms (self-organized social platforms to build trust, social cohesion, the platform for collective learning). The innovation platform will serve a function as a self-organized social platform to build trust and social cohesion, a platform for collective learning and channeling their voices. The innovation platform should be accessible for women not joining any existing working group but interested in learning from others who are already joining a group or running a business in the fishery or ocean field. This platform aims to facilitate not only capacity-building activities provided by fishery offices, NGOs, or private institutions but also to build social cohesion and trust through community events organized by and delivered for communities.

   The establishment of a community-based saving group described in the domain of assets will also serve the purpose of strengthening this domain. As it is mentioned earlier, the proposed measures do not stand alone, they are interlinked to each other.

(4) Learning to recognize and respond to change

Domain Learning here is defined as the ability to generate, absorb, and process information related to climate change and options to adapt to the change, how to live with it, and how to manage uncertainty. Strengthening this domain can be done through facilitating access to formal education and informal forums for learning. It is highlighted that access to critical information related to climate change and its impacts is central to building this domain in coastal communities, as this will enable people to assess the potential risk, frame the issue, and decide on preventive measures.

The necessity to invest in peer-to-peer networks (known as communities of practice) is emphasized by Cinner JE et al. (2018), as it can facilitate people to share experiences of ecological surprises from other locations and knowledge systems. This, in turn, will facilitate learning and empowerment, where people can develop novel adaptation strategies.

Based on this understanding, the Gender Action Plan proposes for this measure to strengthen the domain:

> 1) The development of inclusive KIE materials on climate change and its impact on the coastal community and their livelihood. The material will include information on how it impacts men and women differently, the power dynamics in coastal communities, and what roles they can undertake to improve climate resilience based on previous research and scientific findings. It will also include more inclusive research dissemination materials for future research conducted by the program. The material will be adjusted to the needs of the local fisher community and fisher households (e.g., using local language or dialect, using visual and audio rather than written media to improve their understanding of the result of research on climate-related events, its impact on their livelihood, and climate-resilient measures).
>
> This activity is proposed as a response to improving awareness and knowledge of fisherfolks and their household members on climate change, how it impacts men and women differently, its impacts on their livelihood, and required measures to improve climate resilience

Other than raising awareness and knowledge of women and other vulnerable groups on climate change and its impacts, the Gender Action Plan also proposes for capacity building activities on sustainable fisheries and protection of coastal ecosystem:

> 2) Capacity building to improve knowledge and skills on sustainable fisheries and protection of coastal ecosystems, including eco-tourism, targeting the most vulnerable groups in coastal communities, especially local fishers. The capacity-building activities will be arranged in series under sustainable fisheries and protection of coastal ecosystem topics, delivered in varied sessions. There will be sessions delivered for men and women separately and sessions both for men and women. The capacity building will take into account specific roles men and women play in the fishery value chain, for example, discussion and exercise on specific measures for women's groups related to the fact that women usually harvest shells and snails. These sessions will also integrate fundamental issues around GESI, including gender bias, Gender Based Violence (GBV), and how it impacts the power relationship between men and women in the community. Materials produced in no 1 activity will be utilized in this capacity-building activity.

(5) Agency to take action in dealing with the impact of climate change

The agency domain here refers to the ability of individuals or groups (collective) to have free choice in responding to environmental change. Agency is influenced by belief whether the individual or group has the ability to take action on and manage prospective situations and control events that impact them. Agency encompasses empowerment, motivation, and cognition and plays a vital role in activating the other domains of adaptive capacity. People will perceive to have no benefit or incentive to adapt to climate change unless they believe that their actions can prevent climate change from getting worse or improve their livelihood. Agency is the foundation for creating visions of alternative futures when changes in large scale are required.

Measures that have been mentioned above for the other 4 domains will also serve to strengthen Agency, in particular the development of inclusive KIE materials, capacity building, and the establishment of innovation platform that enable women and other vulnerable group to equip themselves with information,

lessons learned from their peers, and having access to channel their aspiration. All these measures are expected to improve awareness and how women and other vulnerable groups perceive climate change and encourage them to adapt and contribute to a larger purpose set with their communities.

As mentioned earlier, besides measures focused on building the adaptive capacity of women and other vulnerable groups, there will be other measures proposed to mainstream GESI in the program that will also work as a mechanism to create an enabling environment for building the adaptive capacity. These measures are:

1) Development and integration of specific modules for capacity-building activities across the program (including the BEAM on-granting windows for adaptation and mitigation) to strengthen knowledge and awareness of relevant government institutions on the needs of women and other vulnerable communities for more inclusive, sustainable, integrated protection-production & national blue investment. This will include a specific section on improving access for women, promoting a more inclusive institutional & regulatory framework on improving legal acknowledgment for women's role in fisheries, and access for women to amend their ID status and register in KUSUKA

   This activity is an intervention from the supply side/from the service provider side required to facilitate the program developing adaptive capacity among women and other vulnerable groups

   The GESI-related module will be treated as a default module, required to be integrated across capacity-building activities within the program, and cover issues related to GESI across provinces in WPP572 based on the assessment conducted or follow-up assessment for specific areas will be conducted. A detailed module will need to be developed by the program.

2) Develop a practical guideline on GESI-responsive approach for research grantees selection, research implementation & dissemination, capacity building activities

   Another vital component of the program is the implementation of research. The program will need to ensure all the studies conducted will mainstream GESI throughout all stages, and as mentioned earlier there will be production of research-based learning materials targeting women and other vulnerable groups in SSF. To consistently ensure GESI mainstreaming is in place across research conducted during the program implementation, a practical guideline will need to be developed as a manual for a GESI-responsive research approach.

   Several basic criteria for mainstreaming GESI in grantees selection, research implementation & dissemination, capacity building including a gender-balance proportion of research team and participants, representative of women and other vulnerable groups in participant groups, specific analysis for GESI issues, compliance on research ethical clearance to protect the vulnerable, reasonable accommodation for vulnerable groups to participate in dissemination. However, more detailed guidelines will be required for program implementation

To strengthen the availability of sex-disaggregated data for the use of Monitoring, Evaluation, and Learning, these measures will be put in place to ensure GESI mainstreaming in the data aspect:

3) The implementation of inclusive data recording and collection, disaggregated by sex, disabilities, roles in the fishery value chain, and other blue economy sectors across activities in the program, including research conducted during program implementation.

4) Conducting qualitative study measuring changes that occur as an impact of the project on gender equality, focused on looking at the benefit from the project gained by women and other vulnerable groups (how the project has an impact towards improved adaptive capacity to climate change).

This study is proposed to strengthen MEL data on the impact of the program, especially those related to GESI. The qualitative approach is specifically proposed since the indicators proposed for MEL data are most likely quantitative, as recommended in the GCF guidelines. Qualitative information gained from this study is expected to enrich the analysis related to desire and unexpected impact.