

State of Gender Equality and Climate Change in ASEAN

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Foreword by the Deputy Secretary-General of ASEAN for Socio-Cultural Community

The **Assessment Report on the State of Gender Equality and Climate Change in ASEAN** aims to support ASEAN's work on advancing gender-responsive climate action and resilience building at the regional level by examining the differential impact of climate change, vulnerability and the adaptive and mitigation capacity of women and men. In particular, this Report sheds light on the need for gender-responsive climate action and analyses gendered impacts of climate change in three selected sectors namely: Agriculture, Renewable Energy, and Disaster Risk Reduction. It also aims to inform policy-makers on better integrating gender equality considerations in the implementation of nationally determined contributions (NDCs) under the Paris Agreement submitted by the ASEAN Member States.

This Report was developed through a rigorous process of consultations, focus group discussions and key informant interviews at the national level in the Member States, and peer review, consultations and validation workshops conducted at the regional level. We are grateful for the leadership provided by the ASEAN Committee on Women (ACW) and the support and expertise of UN Women, UNEP, and the Stockholm Environment Institute Asia Centre, as well as the cooperation of all ASEAN Member States and other stakeholders involved in the development of this report. The ASEAN Secretariat is pleased and proud of its support to this undertaking.

Consisting of an analysis of regional, national, and sectoral policies, the report summarises research literature on the relationship between climate change and gender equality in the ASEAN region. It then presents a review of regional policies on renewable energy, disaster risk reduction, and agriculture, as well as of the integration of gender into regional policy documents. It also features case studies from Cambodia, Viet Nam, Indonesia, and the Philippines, highlighting best practices of how gender equality has been mainstreamed in national policies – again focusing on renewable energy, disaster risk reduction, and agriculture. The most important part of the report offers policy recommendations to support the integration of inclusive and gender-transformative climate actions in ASEAN and national policies, by transforming normative frameworks, improving coordination and facilitation, allocating resources, and building knowledge and capacities.

We hope that the Report would be useful for ASEAN sectoral bodies' work on advancing gender-transformative climate action and resilience building, including COVID-19 recovery efforts



Ekkaphab Phanthavong

Deputy Secretary-General of ASEAN for Socio-Cultural Community

Special Message from the Chair of the ASEAN Committee on Women

I have the honour to introduce the Assessment Report on the State of Gender Equality and Climate Change in ASEAN, developed by the ASEAN Committee on Women (ACW), in partnership with UN Women and UNEP. The Report provides a gender-based analysis of climate change adaptation and mitigation in the ten Member States of the Association of Southeast Asian Nations (ASEAN), focused on the three sectors of renewable energy, disaster risk reduction and agriculture.

The Report highlights growing evidence that women and girls are disproportionately impacted by climate change and disasters. This is increasingly recognised by ASEAN Member States and their commitments to integrate gender into climate and disaster risk reduction policies and plans is gaining momentum. It also fills some information gap on women's role and access in environment-related sectors, including the lack of sex-disaggregated data with broad country coverage in sectors such as forestry, agriculture, water, energy, marine, disasters and infrastructure.

The report also highlighted that gender inequality coupled with the climate crisis is one of the greatest challenges confronting the region. Women and men face climate change differently and have different capacities and resource access. Women in farming work and fisheries, for example, are particularly vulnerable and must be given access to resources, appropriate information and technical assistance to prevent huge economic losses.[1] Women have great potential contributions in climate change adaptation, including in waste processing, using alternative energy, planting mangrove trees, as well as knowledge sharing at the community level on adaptation strategies. It is important to provide a safe and enabling environment and strengthen the capacity of women and girls to mitigate and adapt to climate change.

This report forms part of the current ACW Work Plan 2021-2025 that is anchored to key strategic results and outcomes that will strengthen the resilience of women and girls to address and mitigate the socio-economic impacts of climate change, reinforce their agencies in disaster preparedness, and engage them in disaster risk reduction, response and recovery.

It is my hope that this report will be useful to policymakers and practitioners, in formulating national policies that promote women's and men's equal ownership, management and use of natural resources to mandate equal access to clean and renewable energy sources and technologies to engage women at all levels in disaster risk responses and management.





Lenny Rosalin

Deputy Minister for Gender Equality
Ministry of Women's Empowerment
and Child Protection, Indonesia
Chair of the ASEAN Committee on Women (ACW)

[1] READI-Human Rights Facility, UN Women & ASEAN Secretariat: 2020. Progress Report on Women's Right and Gender equality. p.282

Foreword by UN Women and UNEP

Southeast Asia is widely recognized as one of the most at-risk regions to the impacts of climate change. Recent disaster events and the COVID-19 pandemic have unequivocally demonstrated the disproportionate impact of these crises on the rights of women and the most marginalised groups.

Women and marginalised groups face multiple systemic barriers to climate change decision making and remain underrepresented in leadership positions undermining the potential of policies in reducing vulnerabilities and enabling genuine change. In the ASEAN region, women make up a significant part of the workforce in climate-vulnerable sectors such as agriculture, fisheries, forestry, and energy. Their greater reliance and unequal access to natural resources, the disproportionate burden of unpaid care work, and the prevalence of discriminatory social norms continue to challenge their ability to adapt and build long-term resilience.

Inclusive and climate-resilient green recovery can only be attained if we put gender equality and women's empowerment at the core of climate action. UN Women and the UN Environment Programme (UNEP) commend the commitments that ASEAN Member States have made to advance gender equality and human rights-based approaches in the cross-thematic work on climate change, renewable energy and disaster risk reduction.

Through the leadership of the ASEAN Committee on Women and the ASEAN Secretariat and in collaboration with the ASEAN Member States and sectoral bodies we are pleased to present the *State of Gender Equality and Climate Change in ASEAN Report* which provides an up-to-date regional analysis and evidence of the gendered impacts in the key sectors of renewable energy, disaster risk reduction and agriculture.

The report builds evidence on the importance of recognizing women's roles in climate action, and as active agents of change and knowledge holders. It draws from lessons and replicable practices of ASEAN Member States and civil society organisations in the region to sustain the momentum by reinforcing integrated policy solutions to the climate crisis.

It is our vision that this report will contribute towards a gender-responsive climate change agenda that delivers on the Paris Agreement by tackling the underlying causes of inequality and creating a pathway towards a just, resilient, and sustainable future for all.



Mohammad Naciri

Regional Director
UN Women in Asia
and the Pacific



Dechen Tsering

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Abbreviations

AADMER	ASEAN Agreement on Disaster Management and Emergency Response
ACW	ASEAN Committee on Women
AMAF	ASEAN Ministers of Agriculture and Forestry
APAEC	ASEAN Plan of Action for Energy Cooperation
ASEAN	Association of Southeast Asian Nations
CSO	Civil society organization
DOE	Department of Energy
DPSIR	Drivers, Pressures, State, Impacts, Responses
DRR	Disaster risk reduction
GHG	Greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
NDC	Nationally Determined Contribution
NGO	Non-governmental organization
OECD	Organisation for Economic Co-operation and Development
RE	Renewable energy
SDGs	Sustainable Development Goals
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

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Executive summary

Southeast Asia is one of the most vulnerable regions to climate change, due to its geography, its high concentration of people and economic activities in coastal and other high-risk areas, and the key role of agriculture and other natural resource-dependent livelihoods, especially in rural communities. It also faces significant climate-related disaster risks, including cyclones, major floods, heat waves and droughts.

Climate change adaptation and mitigation are thus crucial for the region - sectors need to become more resilient, holistic disaster risk reduction (DRR) measures are critical, and with energy systems heavily relying on fossil fuels, the region also needs to decarbonize rapidly by scaling up renewable energy (RE). While there is potential for climate responses to support broad-based sustainable development and poverty reduction in the ASEAN countries, to do so, they need to be grounded in an understanding of how intersecting forms of discrimination and inequality – based on gender, class, ethnicity, migration status, age, disability, and other factors – create differentiated vulnerabilities and limit people's ability to benefit from climate action.

To support the development of effective, equitable and inclusive policies, this study provides a gender-based analysis of climate change adaptation and mitigation in the ten countries in the Association of Southeast Asian Nations (ASEAN), with a focus on three sectors: RE, DRR and agriculture. In addition to a regional overview, it provides a closer look at Cambodia, Indonesia, the Philippines, and Viet Nam, with detailed reviews of relevant policies, and identifies best practices that could be emulated across the region.

Addressing gender equality in climate change adaptation and mitigation is critical to ASEAN

Climate change impacts are not gender neutral, but rather exacerbate gender and other inequalities. Within Southeast Asia, existing social stratifications make those who were already marginalized particularly vulnerable, as they often lack access to key resources needed to adapt, or the power to make decisions about how to protect themselves. This is especially the case for many women living in poverty, who have little or no economic, political, or legal power. Acknowledging women as agents of change in climate action and recognizing the need to integrate women's knowledge and experiences in climate-related planning and decision-making is an important step towards a gender-transformative agenda, which entails reforming power structures to enable women of all socio-economic backgrounds to participate in shaping responses to climate change.

Against this backdrop, ASEAN has made a high-level political commitment to gender equality and social inclusion through key documents such as the ASEAN Socio-Cultural Community Blueprint 2025, as well as the ASEAN Community Vision 2025. Most recently, the ASEAN Declaration on the Gender-Responsive Implementation of the ASEAN Community Vision 2025 and Sustainable Development Goals adopted at the ASEAN Summit in 2017 calls for incorporating gender into sustainable development, particularly in addressing climate change and disaster management. A strategic framework has also been developed with clear objectives and monitoring and evaluation plans for integrating gender and social inclusion in ASEAN policies and institutions.

However, key regional policies on energy, including the ASEAN Plan of Action for Energy Cooperation (APAEC) 2016–2025 and the 6th ASEAN Energy Outlook 2017–2040, can be further reviewed to highlight the gender dimensions in the energy sector. Greater progress has been made in DRR on recognizing the gendered impacts of disasters and the need for gender integration and women's empowerment – for instance, in the ASEAN Vision 2025 on Disaster Management. Further research to investigate why women and other marginalized groups are more vulnerable through strengthening production and use of gender statistics and complementing it with gender and social

analyses, as well as mandating the meaningful participation of various social groups in DRR decision-making. In the agriculture sector, there have been some promising efforts too. These include the ASEAN Regional Guidelines on Food Security and Nutrition Policy and the ASEAN Ministers on Agriculture and Forestry (AMAF) Approach to Gender Mainstreaming in the Food, Agriculture and Forestry Sector. Still, there is room for greater gender integration – for instance, in the guidelines on climate-smart agriculture.

Finally, all ten ASEAN Member States have submitted Nationally Determined Contributions (NDCs), and several have set clear gender equality priorities. This is a promising trend demonstrating political commitments to gender equality in the climate policy landscape. However, there is room to advance from gender-responsive to gender-transformative approaches, particularly in terms of delineating structural inequalities that impede gender equality and social inclusion and setting specific goals to address them.

Integrating gender in priority sectors: towards a more equitable and inclusive climate change response in ASEAN

Renewable energy

Economic growth, urbanization and industrialization have driven a rapid rise in energy use in the ASEAN region. Energy demand grew by more than 80% in the past two decades, and it is projected to grow by another 60% by 2040. Electricity demand has been growing by an average of 6% per year, while most of the new energy demand in recent years was met by doubling fossil fuel use. Although the transition to and upscaling of RE is urgent, multiple systemic barriers act as drivers of inequalities within the sector. These include gender disparities in energy sector leadership, gender inequalities at the household level that limit access to and use of RE, and the often-overlooked needs of small-scale energy users when planning centralized energy systems.

ASEAN Member States have committed to significantly increasing the share of renewables in their energy mix, with the APAEC Phase I plan setting aspirational targets of a 23% RE share in the total primary energy supply (up from 13.7% in 2017) and a 32% energy intensity reduction from 2005 levels, both by 2025. However, despite Southeast Asia's large RE potential, less than 15% of the primary energy supply now comes from renewables (excluding the traditional use of solid biomass). Furthermore, while clean energy has many benefits, questions around equitable access and use remain. Energy poverty remains a challenge in many parts of the region, and women living in poverty in rural areas face particular challenges in accessing clean and affordable energy.

Lack of access to clean energy, including from RE, disproportionately affects the economic opportunities and personal safety of women and girls, who are typically responsible for collecting biomass fuels. Evidence has also suggested that large-scale RE projects can have more hidden and indirect gender implications. There is increasing evidence that large-scale RE projects may lead to land loss and displacement, which can threaten food security and livelihoods, with poor and marginalized people bearing disproportionate costs. A more sustainable energy system will not automatically translate into equal social outcomes, and it is imperative for ASEAN's energy policies to acknowledge and address socially differentiated needs and conditions at the outset of policymaking. However, to date, key ASEAN energy policy documents and plans make little or no mention of gender, though some efforts have been made to start addressing gender issues in energy planning. Beyond focusing on broad green growth strategies and large infrastructure development, it is urgent to place the differentiated needs of energy end-users at the core of policies, in order to yield more positive environmental and social outcomes for the ASEAN. This includes a keen awareness of the gendered dimensions of energy access and use to inform equitable and inclusive RE policy.

Disaster risk reduction

ASEAN countries are highly susceptible to disasters linked to natural hazards, all with major human and economic impacts. With climate change, disaster risks are intensifying, making disaster resilience a top priority for the region. Disaster impacts are gendered and disproportionately affect the livelihoods, health, and well-being of women, especially of those with low socio-economic status. Increase in gender-based violence are increasingly documented in post-disaster contexts. Various intersecting social, economic and political factors continue to drive increasing vulnerabilities. Disaster responses that fail to address women's unpaid care work can hinder women's abilities to effectively recover from disasters. Additionally, responses that do not cover the informal sector, which women are overrepresented in, can yield gendered impacts where more women's livelihoods are made even more precarious in the wake of disasters.

Addressing gendered vulnerabilities requires a holistic and long-term vision for DRR. This means that DRR efforts are not only immediately linked to disaster preparedness and response, but also to broader development efforts, such as access to education and other social services and infrastructure, resilient livelihoods, meaningful participation in decision-making and overall climate change action. Across the region, significant progress has been made in recognizing the gendered nature of disasters and the need for gender integration – for instance, in the ASEAN Vision 2025 on Disaster Management. The ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Work Programme 2021–2025 serves as a crucial entry point for supporting Member States in implementing gender-responsive DRR and humanitarian action. The ASEAN Regional Framework on Protection, Gender, and Inclusion in Disaster Management 2021–2025 provides guidance for a gender-responsive and, to some extent, gender-transformative implementation of the Work Programme. Additionally, since the adoption of the Sendai Framework, important progress has been made at the national level in terms of mainstreaming a gender-responsive and disability-inclusive approach to DRR policies and practices. Countries such as Myanmar, the Philippines, Thailand, and Viet Nam have made policy commitments to more inclusive DRR and are actively working towards their translation into practice.

Yet women in the region are significantly underrepresented in government, including in DRR decision-making roles, which can result in governance systems that do not recognize the lived experiences of women and girls or address their needs in the context of DRR. At the same time, marginalized people who are highly vulnerable to disasters, including rural women and Indigenous populations, have important knowledge and skills to mitigate, predict and respond to natural hazards. However, institutionalized DRR approaches often fail to integrate this knowledge. Despite this, there are still ample opportunities to harness the momentum found in the DRR sector and mainstream its good practices to other sectors in the region.

Agriculture

Climate change poses a grave threat to crop production in Southeast Asia, as the sector is very sensitive to changes in temperatures and precipitation, extreme heat and cold, droughts and storms. As climate change leads to reduced yields and crop failures, it creates ever-worse hardships in agrarian communities. Despite women's significant involvement in the sector, gender norms and structural inequalities significantly limit their ability to adapt. They are often excluded from decision-making and are far likelier than men to lack crucial productive resources, especially land.

Across Southeast Asia, the rural share of the population is projected to decline from about 50% in 2021 to under 40% by 2050. Large numbers of men have migrated to urban areas, leaving farm work in women's hands. The feminization of agriculture can leave women doubly burdened, with both domestic and wage-earning responsibilities, even

as they keep being side-lined from decision-making processes and adaptation efforts. Gendered livelihood practices, such as the collection of non-timber forest products, can also lead to women being negatively affected by climate and conservation policies.

Although climate change is forcing both men and women farmers to work harder and longer, the relative impact on women is greater, as they also shoulder care responsibilities. In addition, pre-existing livelihood precarity can make women particularly vulnerable. For example, in the event of floods or droughts, women who are informally employed may be the first to lose their jobs. This suggests that when climate variability is high, women involved in agricultural activities tend to be more at-risk than men and less able to cope with the unpredictable shocks.

ASEAN has demonstrated a strong commitment to mainstreaming gender in the agricultural sector, through policies such as the ASEAN Regional Guidelines on Food Security and Nutrition Policy; AMAF's Approach to Gender Mainstreaming in the Food, Agriculture and Forestry Sector; the 2018 ASEAN Guidelines on Promoting Responsible Investment in Food, Agriculture and Forestry and, to an extent, the ASEAN Regional Guidelines for Promoting Climate Smart Agriculture Practices.

Key takeaways and recommendations

Overall, ASEAN and individual Member States have made important progress in gender integration in recent years, especially in DRR, but the analysis shows significant differences across ASEAN policies, between sectors and among countries. The task now is to build on best practices and move towards gender-transformative policies and initiatives at all levels, with strong institutional support to ensure success. The analysis identified the following recommendations:

- Addressing root causes of vulnerability, a basic precondition for being able to address those root causes in a holistic and cross-sectoral manner.
- Promoting robust and consistent gender-disaggregated data and related analyses are still in short supply, hindering effective policy-making as well as monitoring and evaluation.
- Increasing investment, dedicated resources, and capacity for gender mainstreaming at all levels and across sectors.
- Addressing discriminatory gender and social norms to unleash the potential contribution of women to sustainable development policy and practices at all levels: regional, country, and community.

Recommendations emerge from those insights, for ASEAN and national governments, near- and long-term, for both sectoral and overarching policies to support gender-transformative responses to climate change, in line with the ASEAN Community Vision 2025. More specific highlights include:

Transforming normative frameworks

- Promote policies and programmes aimed at enabling equal and fair access to and control of resources for those who have traditionally been marginalized.
- Ensure that gender is meaningfully and thoughtfully integrated into overarching regional and national policies, plans and declarations, as well as in a "just transition" framework for RE and in DRR and agricultural policy frameworks.
- Develop clear plans for how gender-transformative goals will be operationalized, including synchronizing and cross-referencing such plans across policy documents.

Coordination and facilitation

- Clarify and prioritize leadership roles within ASEAN's governance to spearhead and oversee gender integration across sectors at both the regional and country levels.
- Develop platforms that encourage gender-transformative, multi-stakeholder dialogues on climate change and response options, including both women and men from marginalized communities.
- Enhance cooperation between ministries in charge of climate-related sectors and those in charge of women's affairs, and facilitate the exchange of knowledge between technical experts and those focused on social inclusion.

Resource allocation

- Prioritize funding and staff for initiatives that promote gender equality and social inclusion, such as community-based RE projects that engage both women and men to improve energy access.
- Establish gender-responsive budgeting across all sectors to ensure sufficient financial and human resources to mainstream gender and social inclusion in climate action and resilience-building, including in public services, such as education.

Knowledge and capacity-building

- Ensure that gender-related trainings and capacity-building initiatives include men and highlight men's roles in promoting gender equality and challenging patriarchal structures.
- Mandate gender focal points across ministries and ensure continuous training to build capacities for gender analysis as well as mainstreaming of gender and social issues across sectors.
- Initiate an ASEAN-led regional knowledge-sharing conversation/platform to share experiences and best-practices of progress in integrating gender into national policies such as the NDCs.
- Meaningfully engage with traditionally marginalized groups (e.g., rural women and Indigenous groups) to formulate policies and plans that reflect their knowledge, needs and priorities in the context of climate action.
- Continue to build evidence on the gendered impacts and dimensions of climate change through working with research partners, academia, and affected communities.
- Exchange capacities between ministries to ensure that technical knowledge and gender analysis capacities are streamlined across cross-cutting issues.

Gender data, monitoring and evaluation, and accountability

- Ensure that robust gender analysis underpins climate action plans and sectoral plans, with clear definitions of terms such as "gender equality," and provisions to collect and analyse a broad range of data that are disaggregated by gender, age, race, and other factors.
- Create binding policy documents with clear indicators to enable monitoring and evaluation of gender and social inclusion progresses.
- Develop clearer mechanisms for ASEAN Member States to report on their progress to measure achievements in relation to commitments towards gender equality and climate resilience, including through the collection and use of disaggregated data.



Photo: UN Women/Antoine Raab

1. Introduction



Photo: UN Women/Doan Vu Thao Ly

1.1 Climate change in Southeast Asia

Southeast Asia is widely recognized as one of the regions most affected by climate change, due to its geography, its high concentration of people and economic activities in coastal and other high-risk areas, its large share of natural resource-dependent livelihoods, and other factors. It also faces significant climate-related disaster risks; Myanmar, the Philippines and Thailand rank No. 2, 4 and 9, respectively on the Climate Risk Index for 2000–2019, based on fatalities and economic losses (Eckstein et al. 2021).

Tens of millions of Southeast Asians live at less than 2 metres above sea level, and several million are at or below sea level (Hooijer and Vernimmen 2021). This puts them at high risk of coastal and fluvial floods, which are becoming more frequent and severe with sea-level rise and increases in extreme precipitation. Already, 56% of disasters in the region involve floods (ASEAN 2020). People in the largest cities, several of which are sinking (Maslog 2021), are particularly at risk. By 2060, sea-level rise around Jakarta, Manila, Ho Chi Minh City, Bangkok and other major urban hubs could exceed 50 cm (World Bank 2013), with huge economic and social implications, including the need for mass resettlement.

Agriculture also faces severe climate risks. Crops are already being damaged by storms, floods linked to sea-level rise, and saltwater intrusion – for instance, in the Red River and Mekong deltas in Viet Nam (Pross et al., 2020). Rice yields in Indonesia, the Philippines and Viet Nam can be reduced by half in a year due to various climate change impacts (Prakash 2018; Raghavan et al. 2019). The latest Intergovernmental Panel on Climate Change (IPCC) assessment warns that increasing temperatures, changing precipitation levels, and extreme events such as heat waves, droughts and typhoons will persistently affect crop productivity in the region (Shaw et al. 2022); fisheries and aquaculture are also at risk. All this is of concern both for food security, and for rural livelihoods, especially in Lao PDR, Myanmar, and Viet Nam, where agriculture accounts for 61%, 49% and 37% of employment, respectively.[1]

[1] See World Bank data (based on International Labour Organization estimates): https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=BN-KH-ID-LA-MY-MM-PH-SG-TH-VN. The shares cited are for 2019.

Overall, the IPCC has found that temperatures in the region have risen by 0.14–0.20°C per decade, and annual wet-day rainfall has increased by 22 mm every decade (Hijioka et al. 2014). Without global action to curb climate change, a recent McKinsey study found that by 2050, severe heat and humidity could result in 7–12% of work hours being lost and 8–13% of gross domestic product (GDP) being at risk in the region's emerging economies (Woetzel et al. 2020). This is separate from the toll of climate-related disasters, which already cost Viet Nam an estimated 1.5% of GDP per year (WBG and ADB 2021).

Climate change, coupled with human-driven habitat destruction, also poses grave threats to the region's natural capital, including its biodiversity, as many vulnerable animal and plant species are at risk of extinction (Hughes 2017). Given the drastic changes that are already evident, there is an immediate and urgent need for climate action. Figure 1 shows the relative vulnerability of Southeast Asian countries, as measured by a prominent global index.

Figure 1: Southeast Asian countries' climate vulnerability per the ND-GAIN Index



Source: Notre Dame Global Adaptation Initiative (https://gain.nd.edu/our-work/country-index).

In this context, it is important to recognize that climate change impacts are not equally distributed, globally, within regions, or even within communities. Poor and marginalized people are the most severely affected (Islam and Winkel 2017; OHCHR 2019; Pross et al. 2020; Resurrección et al. 2019). Discrimination and inequalities based on gender, class, ethnicity, caste, citizenship and other factors can deepen vulnerability. For women and girls, for instance, prevailing patriarchal norms and structures can hinder access to the resources and information needed to adapt (OHCHR 2019; Pross et al. 2020). They can also limit women's representation in and influence on decision-making about climate change.

Aiming to support the development of effective, equitable and inclusive policies, this study provides a gender-based analysis of climate change responses in the region, first through a regional analysis of the 10 countries in the Association of Southeast Asian Nations (ASEAN), then looking more closely at four ASEAN countries: Cambodia, Indonesia, the Philippines and Viet Nam. It reflects a growing recognition that gender equality and rights-based approaches are integral parts of effective climate strategies (UN Women 2020). This ethos underpins the ASEAN Community Vision 2025, which strives to build a "more resilient, inclusive, and people-oriented" community where people "enjoy human rights and fundamental freedoms as well as thrive in a just, democratic, harmonious and gender-sensitive environment, people-centred community" (ASEAN 2015, pp.14, 15).

1.2 Understanding of the gendered impacts of climate change

Multiple drivers of inequality and patriarchal structures affect women's agency around climate change across the ASEAN region. Women often make up a significant portion of the workforce in key livelihood sectors, such as agriculture, fisheries, forestry, energy and manufacturing (Nguyen et al. 2019; Pross et al. 2020; Resurrección et al. 2019). Yet due to persistent inequalities, women who work in those sectors – particularly those from marginalized groups – can be particularly vulnerable to climate impacts. For instance, women farmers are likelier than men to face water and land insecurity, which constrains their ability to adapt (Boyland and Johnson 2018; Resurrección et al. 2019).

It is therefore crucial to ensure greater representation and participation of women in the development of climate mitigation and adaptation strategies across the ASEAN region. Not only will this build greater resilience, but it also advance two Sustainable Development Goals: SDG 5, on gender equality, and SDG 10, which aims to reduce inequalities in all their intersecting forms (ADB and UN Women 2018).

Gender is one of many factors that shape inequalities and power dynamics, so a meaningful examination of gender and climate change requires an intersectional approach (Kaijser and Kronsell 2014). This means exploring how gender intersects with race, class, ethnicity, sexual orientation, religion, disability, age, migration status and other factors. For example, wealthier women and members of a dominant ethnic group may have more resources and political agency than women or men who are poor or are members of ethnic minorities. An intersectional lens helps us understand how marginalization affects climate vulnerability and, in turn, how climate change impacts may worsen inequalities and marginalization. Intersectionality can also highlight linkages that facilitate alliances among marginalized groups. Ultimately, "leaving no one behind" requires a holistic set of policies and programmes to challenge the structural and political dynamics that disenfranchise different groups (ADB and UN Women 2018).

1.3 Objectives and research questions

This report builds on a growing sense of urgency, globally and within Southeast Asia, to respond to and combat climate change – and to do so in a manner that upholds human rights, supports socio-economic development and human well-being, and makes societies more equitable and inclusive. It focuses on three key issues in the ASEAN countries' climate response: renewable energy, disaster risk reduction, and agriculture, looking at the ASEAN region as a whole, as well as four individual countries.[2]

The three issues were chosen through a consultative process with UN Women, the United Nations Environment Programme (UNEP) and the ASEAN Secretariat that highlighted:

- The urgent need to transition from fossil fuels to clean energy sources as a mitigation priority;
- The growing toll of climate-related disasters, and the need for preparedness and risk management;
- The prominent role of agriculture in ASEAN Member States' economies, as well as its high sensitivity to climate variability and extreme heat and precipitation.

Each of these issues has gender dimensions, which this report examines with the goal of helping the ASEAN countries to enhance gender equality and mainstream it into sectoral and broader climate policies. This report therefore explores the gendered dimensions of climate impacts in the region, with a focus on the three selected sectors, and analyses how regional and national policies contribute to gender equity – in the implementation of the Paris Agreement and more broadly. The goal is to inform policy-makers at the regional and national levels, so they can better incorporate gender equality considerations in the implementation of Nationally Determined Contributions (NDCs) under the Paris Agreement and in regional policies and initiatives. The report also identifies knowledge gaps that require further research.

1.4 Approach and report structure

This report was prepared by researchers at the Stockholm Environment Institute Asia Centre, in close collaboration with the ASEAN Secretariat and UN Women and UNEP staff in the region. The work aims to support ongoing efforts by ASEAN and its bodies, as well as by national stakeholders. Several consultations with key ASEAN bodies contributed to shaping the report. The ASEAN Secretariat also shared drafts with representatives of the Member States to obtain their feedback. These interactions enabled the authors to validate and refine the findings and identify best practices and how to scale them up across the region.

The study included a literature review; an analysis of regional, national and sectoral policies; and interviews with representatives of ASEAN bodies, such the ASEAN Committee on Women (ACW), as well as sectoral ministries, civil society organizations, and non-governmental organizations. The interviews provided additional data and perspectives that informed the entire report, but especially the discussions of gaps and challenges in Sections 3 and 4. All insights from the interviews have been anonymized.

After a brief overview of the analytical framework used throughout the study, presented at the end of this section, the remainder of the report is structured as follows:

Section 2 summarizes the research literature on the relationship between climate change and gender equality in the ASEAN region, then presents a review of regional policies on renewable energy, disaster risk reduction, and agriculture, as well as of the integration of gender into regional policy documents.

[2] While the agriculture sector, broadly defined, encompasses livestock production and aquaculture, and is often discussed together with fisheries and forestry, for the sake of conciseness, this report focuses only on crop production.

Section 3 delves deeper into each of the three sectors of interest, with a focus on gender equality, including analysis of how policies could be improved to enhance gender mainstreaming.

Section 4 presents case studies of Cambodia, Viet Nam, Indonesia and the Philippines, looking at how gender equality has been mainstreamed in national policies – again focusing on renewable energy, disaster risk reduction, and agriculture. The case studies highlight best practices in terms of policy content, policy-making processes, and/or implementation, while also identifying continued challenges.

Section 5 offers policy recommendations, based on the study findings, to support the integration of inclusive and gender-transformative climate actions in ASEAN and national policies, by transforming normative frameworks, improving coordination and facilitation, allocating resources, and building knowledge and capacities.

1.5 Analytical framework

Despite increasing acceptance of the need to apply a gender lens to climate policies, in practice, gender is often treated as an afterthought, or as a few "women's issues" to consider (Ruiz and Vallejo 2019). This largely reflects a longstanding reluctance in dominant climate discourses to address power dynamics, and thus integrate gender concerns in a more coherent analysis (Barnett 2020; MacGregor 2009). Another common pitfall is to view policies as gender-neutral, and thus of no concern, when in fact many of those policies are gender-blind – and by failing to acknowledge power differentials, they exacerbate inequalities.

This report thus places questions of gender equality in a broader context by grounding the analysis in the revised Drivers–Pressures–State– Impacts–Responses (DPSIR) framework used in the *Global Gender and Environment Outlook* (UNEP 2016), as shown in Figure 2. Developed in the 1990s to model causal relations between the environment and society, the DPSIR framework, as modified, integrates gender throughout the model and highlights the role of knowledge and perceptions in shaping policy responses:

Drivers are the forces that cause change, such as population dynamics, economic growth trajectories, and social and political structures. They can perpetuate inequalities, such as the unequal distribution of resources, but can also be shaped by gender inequalities (see impacts below), such as when restrictions on women's reproductive rights affect population growth.

Pressures are the stresses put on the environment by human activities, such as greenhouse gas emissions, other forms of pollution, and the unsustainable use of resources. They have clear equity implications, as the pressures exerted by wealthier and more powerful groups typically have the most severe consequences for those who are poor, less powerful, and/or marginalized.

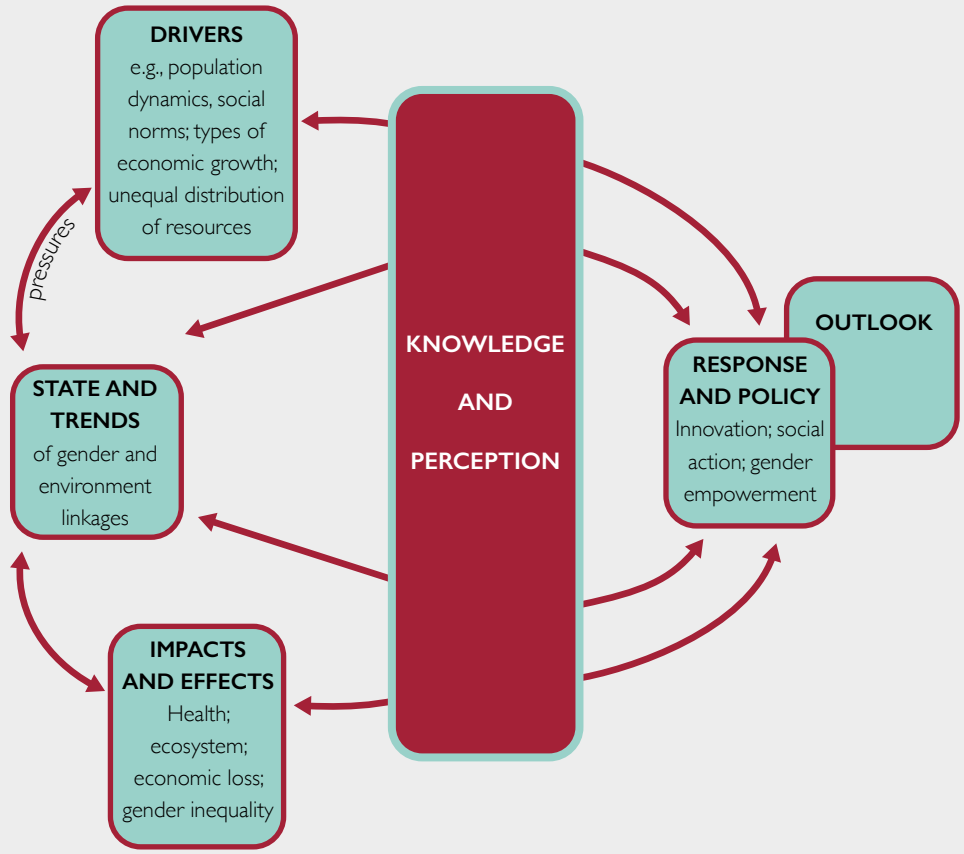
The **state and trends** of gender and environmental linkages define the context for how those pressures translate into gender-differentiated impacts, feed back into the drivers and pressures, and shape how gender considerations are integrated within a sector. For example, if the prevailing gender norms restrict the mobility of women and girls, they may be in greater danger during extreme weather events.

Impacts and effects, in this context, are the immediate and longer-term consequences of climate change on different population groups. Damage from a storm, or a crop failure due to drought, might be an impact, for instance; an effect might be losing one's livelihood or falling into extreme poverty due to climate change impacts. Socio-economic impacts and effects have important gender dimensions, since their intensity is often determined by someone's degree of agency and access to assets and resources.

Responses and policies are actions by the public sector as well as the private sector, civil society and communities. Effective integration of gender and social equity concerns, including in institutional arrangements, is crucial to ensuring fair responses and policies.

Knowledge and perceptions is a key component added in the modified DPSIR framework to reflect the recognition that responses to environmental problems are grounded in different ways of knowing and seeing the world, which are strongly mediated by gender and other social factors. This also highlights the importance of recognizing traditional and Indigenous knowledge.

Figure 2: Modified DPSIR framework mediated through knowledge and perception



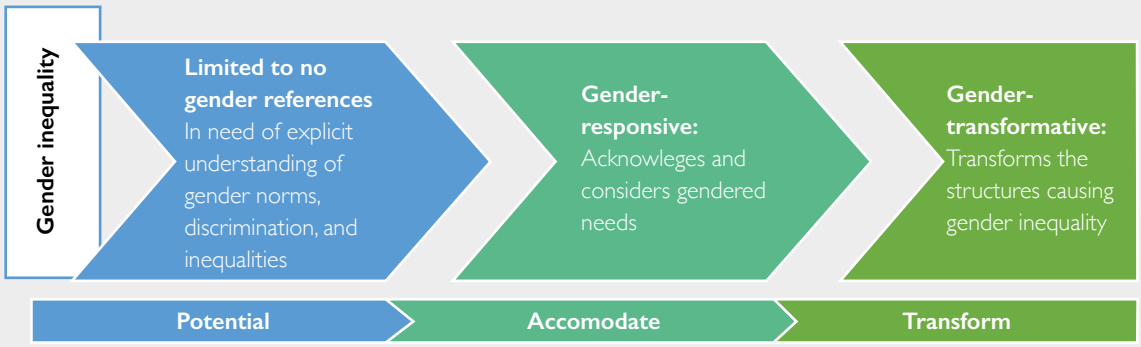
Source: UNEP (2016).



Photo: UNEP/Andrew Ball

In addition, a gender equity and inclusion continuum is used to assess policy tools and instruments, as shown in Figure 3 and described further below.

Figure 3: The gender equity policy continuum



Source: Pross et al. (2020), adapted from UNICEF and UNFPA (2020).

Policies with limited or no gender references do not specifically target women or men, so they may be seen as unbiased and, by extension, gender-inclusive. However, this is often not the case, as they fail to acknowledge the impact of social norms, discrimination and inequalities. Significant support is needed to ensure such policies do not inadvertently exacerbate gender-based vulnerabilities.

Gender-responsive policies acknowledge and consider gendered needs and interests in a specific context. They are an important step towards equality, but they do not address the systemic power imbalances at the root of gender-based disparities. As a result, they do not drive deeper changes in society as a whole.

Gender-transformative policies acknowledge the need to address the structural causes of gender disparities in order to achieve equitable solutions to socio-economic and environmental problems. This approach demands a focus on gender relations (not just on gendered roles and responsibilities) and on power imbalances that limit women's ability to contribute to change and benefit from its outcomes. The resulting policies transform societal structures and institutions, including to provide a greater voice in decision-making and more opportunities for women.



Photo: UN Women/Antoine Raab

2. Climate change, gender and policies in the ASEAN region



Photo: UN Women/Doan Vu Thao Ly

2.1 Gender and climate vulnerability

Southeast Asia is, unquestionably, highly exposed to climate change impacts. The extent to which people across the region will be harmed, however, varies greatly and depends mainly on social, economic and political factors. There are multiple perspectives among scholars and practitioners on how best to define and measure vulnerability to climate change, but there is wide agreement that people's ability to cope with and adapt to climate shocks – their adaptive capacity – is crucial (IPCC 2022).

Existing social inequalities and stratifications within a society affect how climate change affects different people and groups, and those who were already marginalized are particularly vulnerable. They may be more exposed to physical risks, because they live on marginal land, and they may be more sensitive to climate impacts because of their livelihoods, as is the case with farmers. Most important, they lack the resources they need to adapt – or the power to make decisions about how to protect themselves. This is the case for many poor women around the world, who have little economic, political or legal power.

Despite growing evidence of gender disparities in climate change impacts, most policy responses to climate change have been gender-blind (Lambrou and Piana 2006; Huyer et al. 2020). For many years, a lack of sex-disaggregated data made it difficult to document or analyse those disparities. Major international efforts have helped to close those gaps, however, and there is a growing sense of urgency to address gender inequalities in the context of climate change, the environment and disaster risks.

The IPCC's Sixth Assessment Report explicitly recognizes the role of inequity and marginalization linked to gender and ethnicity, among other factors, in exacerbating vulnerability, especially for many Indigenous Peoples and local communities (IPCC 2022). It calls for "inclusive governance that prioritises equity and justice" (p.30), and notes the importance of addressing context-specific inequities to reduce climate risks.

The international community has been moving in the right direction. The Sustainable Development Goals (SDGs) highlighted the cross-cutting challenges of poverty, environmental degradation and socioeconomic inequalities, and included reducing gender inequalities as a specific goal (SDG 5). The Sendai Framework for Disaster Risk Reduction (2015–2030) explicitly addressed gender in its recommendations, underscoring the importance of women's participation in policy-making, planning and programme implementation. The Paris Agreement called for gender-responsive approaches to climate change. The Gender Action Plan under the United Nations Framework Convention on Climate Change (UNFCCC),[3] approved in 2020, provided a roadmap to incorporating gender equality in global climate change action.

This momentum is promising, and some countries have set clear gender equality priorities in their Nationally Determined Contributions (NDCs), as discussed further below. Still, significant work remains to be done to devise and implement gender-transformative policies that not only acknowledge gender disparities, but actively challenge the systems that perpetuate them (Nguyen et al. 2020).

A key shift in recent years has been a recognition of women as agents in climate action, not just victims or beneficiaries of humanitarian aid, stressing the need to integrate women's knowledge and experiences in climate-related planning and decision-making (Resurrección 2013). This is an important step towards a gender-transformative agenda, which entails fundamentally reforming power structures to enable women of all socio-economic backgrounds to fully participate in shaping responses to climate change.

2.2 Climate priorities and gender in the ASEAN region

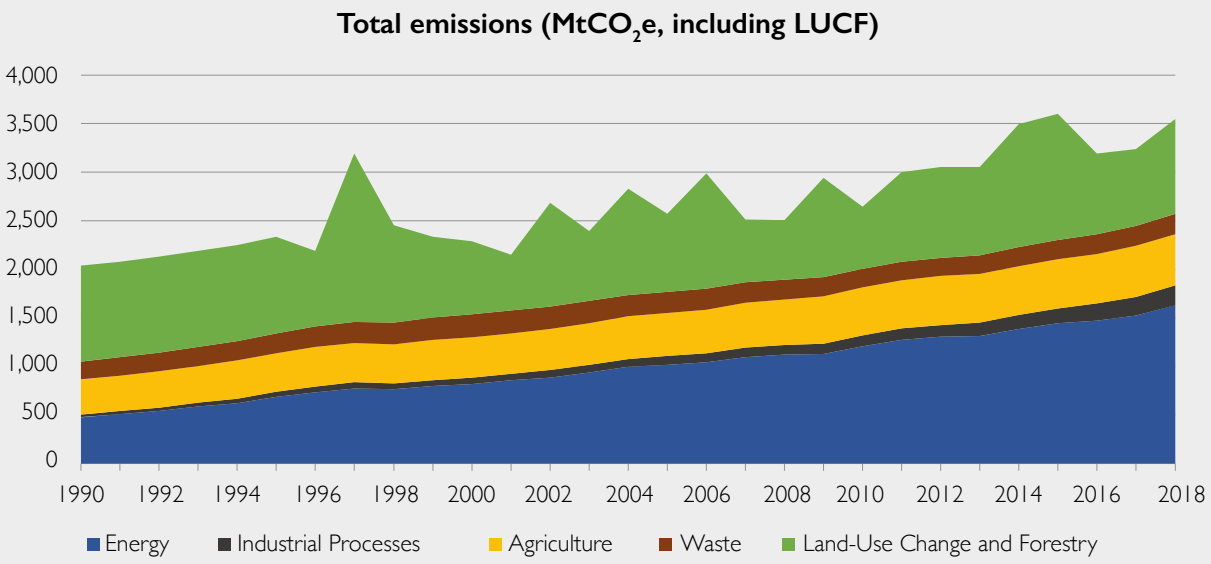
Climate action is crucial to sustainable development and poverty reduction in the ASEAN countries. As noted in the introduction, Southeast Asia is highly exposed to climate change impacts, including rising temperatures, changing precipitation patterns, more frequent and severe extreme weather events, and sea-level rise (Shaw et al. 2022). The implications are particularly dire for the nearly half of the Southeast Asians who live in rural areas,[4] and whose livelihoods depend on natural resources. Moreover, the human and economic costs of climate-related disasters, already substantial, are only expected to grow, making disaster risk reduction an urgent priority.

At the same time, all 10 ASEAN Member States are committed to achieving the SDGs and are signatories to the Paris Agreement, pledging to do their part to reduce global greenhouse gas (GHG) emissions. Yet, as shown in Figure 4, from 2000 to 2018 alone, GHG emissions in the region grew by 55%, and energy emissions doubled. This means that shifting to clean energy sources will be crucial to the region's continued economic growth and development in a decarbonizing global economy.

[3] See https://unfccc.int/topics/gender/workstreams/the-gender-action-plan.

[4] As of 2018, the UN estimated the rural share of the population across the region (the ASEAN countries plus Timor-Leste) to be 51.1%, though by 2022, that share was projected to drop to 48.9%. There are also large differences: 100% of Singapore's population, 77.6% of Brunei Darussalam's, 76% of Malaysia's, and 55.3% of Indonesia's was urban as of 2018, but the rest of the ASEAN countries were majority rural: Cambodia by 76.6%, Myanmar by 69.4%, Lao PDR by 65%, Viet Nam by 64.1%, the Philippines by 53.1%, and Thailand by 50.1%. See UN DESA (2018).

Figure 4: Greenhouse gas emissions in the 10 ASEAN countries, 1990–2018



Data source: Climate Watch (2019).

What follows is a brief overview of each of these three critical sectors in the ASEAN countries, including some of the gender dimensions, which are examined in greater depth in Section 3.

2.2.1 Renewable energy

Economic growth, urbanization and industrialization have driven a rapid rise in energy use in the ASEAN region. Energy demand grew by more than 80% in the past two decades, and it is projected to grow by another 60% by 2040 (IEA 2019). Electricity demand has been growing by an average of 6% per year, one of the fastest rates in the world, and the majority of new energy demand in recent years was met by doubling fossil fuel use. Yet Southeast Asia has very large renewable energy (RE) generation potential, including solar, wind, hydropower and biofuels. Collectively, ASEAN Member States have set a target to secure 23% of their primary energy supply from renewable sources by 2025, which will require rapid progress from the 13.7% share as of 2017 (ACE 2020a).

Clean energy has many benefits, but in practice, RE development, especially in large-scale RE projects, often has inequitable impacts, with poor and marginalized people bearing disproportionate costs. Many projects have led to land loss and displacement, which can threaten local communities' food security and livelihoods (Johnson et al. 2020). Across Southeast Asia, several instances of large-scale land acquisitions with negative impacts on local communities have been recorded: for large-scale solar energy projects (Quek et al. 2018), hydropower (Simpson 2013; Weeratunge et al. 2016; Hill et al. 2017; Lebel et al. 2019) and biofuel crop plantations (Montefrio and Sonnenfeld 2011; Montefrio and Sonnenfeld 2013; Julia and White 2012; Aung et al. 2020). Existing disparities can also limit who benefits from new RE jobs. Thus, it is vital that the policy discussions about RE development go beyond technology choices and consider who will benefit and who may be disadvantaged, and then take steps to ensure a fair and inclusive transition.

Conversely, to the extent that RE deployment increases access to modern energy services, it could particularly benefit women and girls, who bear primary responsibility for domestic work and, especially in rural areas, often spend many hours collecting fuels and cooking on smoky biomass stoves, at a cost to their health and safety. However, the availability of cleaner energy sources may not automatically lead to more equitable outcomes, as existing power hierarchies impact users' ability to participate in certain energy technologies or access programmes (Baruah and Govindan 2015; IRENA 2019). Not only do men dominate energy sector governance, but even within households, women may not be able to gain access new energy sources if the prevailing gender norms give the male household heads all the power to decide whether to purchase or seek financing for innovations such as solar lighting systems (Winther et al. 2017).

2.2.2 Disaster risk reduction

Southeast Asia's geography makes it very susceptible to typhoons, extreme rainfall, earthquakes and other natural hazards, which – given the concentration of vulnerable people and assets in high-risk areas – often result in disasters. In 2018, eight of the world's 10 deadliest calamities occurred in the Asia-Pacific region (ASEAN 2020). The impacts of those disasters can differ significantly by gender. For instance, gender norms can keep women at home, caring for others, when they would be safer evacuating, and this puts them at greater risk of severe injuries and death (Enarson et al. 2018; Abao et al. 2018). When the cyclone Nargis hit Myanmar in 2008, 61% of those who died were women (ADB and UN Women 2018); when the typhoon Haiyan struck the Philippines in 2013, 60% of those killed were female (ADB 2018b).

Economic losses are also unequally distributed. After severe floods in Myanmar in 2015, for example, women in rural areas, who tend to control smaller livestock, such as poultry, suffered greater losses than men, who owned more valuable assets, such as buffalos and



Photo: UNEP/UN Women/Le Van Son

cattle and had more capital to support their recovery (World Bank 2016). Moreover, 57% of women who were casual labourers in the most-affected regions lost their livelihoods as farmland was destroyed. In such situations, gender norms can also limit women's options. Men are likelier to migrate or find alternative work following a disaster, while women have lesser opportunities to do so, as women are expected to stay close to their families.

Women's health and safety are disproportionately imperilled as well. After the 2016 droughts in Viet Nam, for instance, gynaecological diseases surged due to a lack of clean water (UN Women 2020). Gender-based violence often increases after disasters: following typhoon Pablo in 2012 in the Philippines, about a quarter of women aged 18–24 reported experiencing partner violence (IRC and GWI 2015). An increase in gender-based violence was also documented after the 2018 floods in Lao PDR, linked to family separations; a lack of food, water and electricity; the collapse of community protection systems; and overcrowding and lack of security personnel in camps (Government of Lao PDR 2018). At the same time, women are overrepresented in jobs that are considered "essential services" (UNESCAP and ASEAN Secretariat 2021), and make large contributions to DRR in both paid and unpaid roles. Still, DRR remains a male-dominated field, from decision-making to implementation, and the needs of women and other marginalized groups are often not adequately addressed (Nguyen et al. 2020)

2.2.3 Agriculture

Agriculture is a crucial source of livelihoods across Southeast Asia, employing large shares of the workforce in most of the ASEAN countries,[5] often informally.[6] The sector is also important for international trade, producing 35% of the world's rice exports and 85% of palm oil exports (Takeshima and Joshi 2019). Given its high sensitivity to changes in rainfall, warming temperatures, and extreme events, and its importance for rural livelihoods and food security (Pross et al. 2020), agriculture is a priority for adaptation in the region. At the same time, it is a major contributor to climate change – both through direct emissions (about 15% of the region's total emissions in 2018) and as a driver of land-use change (nearly 29% of the total in 2018, but highly variable from year to year).[7]

Women farmers in Southeast Asia are a diverse group, and their experiences vary significantly, based on their age, marital status, ethnicity, religion, social class, location and other factors (Nguyen et al. 2019). Still, gender-based disparities in access to and control over farm resources are widespread, and women are frequently relegated to the lower levels of the agricultural value chain.

These inequalities affect rural women's ability to adapt to climate change, as they often lack vital resources, such as land, water and forests, or information, financing and technologies for adaptation (Resurrección et al. 2019). They also have limited decision-making power over critical adaptive practices and technologies, such as irrigation (OHCHR and UN Women 2020). Land ownership and land tenure structures across Southeast Asia remain largely patriarchal and patrilineal (Rao 2011). Overall, this means that the impacts of climate change in agrarian communities are determined not only by biophysical processes, however, but also on existing inequalities and marginalization (Dryzek et al. 2011).

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[5] Brunei Darussalam, Malaysia and Singapore are the exceptions, but even in the Philippines, 23% of employment was in agriculture as of 2019, and in Indonesia, 28.5%. The shares were even larger in the other ASEAN countries, topped by Myanmar, at 49%, and Lao PDR, at 61%, as noted in the introduction. See World Bank data: https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=BN-KH-ID-LA-MY-MM-PH-SG-TH-VN.

[6] The high degree of informality means that agricultural employment may be undercounted in official statistics. This is especially true for women, whose many on-farm duties are often regarded as extensions of domestic labour.

[7] Authors' analysis, based on data from Climate Watch (2019).

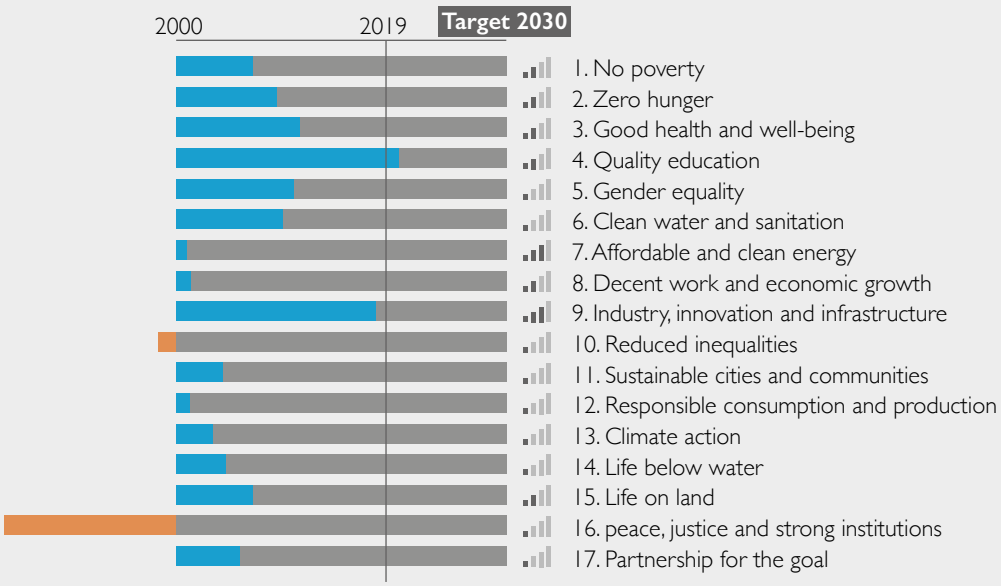


Photo: UNEP/Andrew Ball

2.2.4 Closing gender gaps

As shown in Figure 5, a 2020 UN analysis found that even before the COVID-19 pandemic, Southeast Asia was not making enough progress on several Sustainable Development Goals (SDGs), including on gender equality (SDG 5) and climate action (SDG 13). On reduced inequalities (SDG 10), it had actually lost ground (UNESCAP 2020). The ASEAN countries urgently need to step up their efforts to meet the global goals.

Figure 5: SDG Scorecard for Southeast Asia (ASEAN Member States and Timor-Leste)



Source: UNESCAP (2020) Note: Orange indicates a regression, light blue indicates insufficient indicators, and dark blue indicates progress.

Still, ASEAN Member States – individually and collectively – have shown a growing awareness of the need to address inequalities and make gender an integral component of climate action. The 2021 ASEAN Gender Outlook, a collaboration with UN Women, highlighted the need for gender-disaggregated data to better track progress towards gender equality and all of the SDGs (Duerto-Valero et al. 2021).

All ASEAN Member States are parties to the UNFCCC and to the Paris Agreement, and all have submitted NDCs, updated in 2020 or 2021 (the Philippines submitted its first NDC in 2021). Annex 2 presents an analysis of how each country's NDC addresses gender. Almost all the countries mention gender equality and the need for women's participation in policy processes. This is a promising trend that reflects the countries' willingness to develop inclusive policy documents.

However, there is room for improvement to advance from gender-responsive to gender-transformative approaches, particularly in terms of delineating structural inequalities that impede gender and social inclusion and setting specific goals to address them. For example, although the NDCs of Brunei Darussalam, Malaysia, the Philippines, Singapore and Thailand all mention gender-responsiveness and inclusivity goals in their documents, they do not describe specific strategies to achieve those goals.


Photo: UN Women/Antoine Raab

Indonesia and Viet Nam are farther along in integrating gender in their NDCs, with good examples of gender-responsive policies. The updated NDC for Indonesia promotes gender participation and recognizes the specific gender needs that are to be addressed in the context of climate change. Viet Nam's updated NDC recognizes that disasters affect women and men differently, and it highlights reasons why women are particularly vulnerable to climate change. The Philippines, Thailand and Lao PDR highlight gender-responsiveness as a driving principles, but still need to address the root causes of inequalities in their respective contexts and mainstream gender in order to make their policies fully gender-responsive.

Cambodia has taken a gender-transformative approach to its NDC by not only recognizing the gendered impacts of climate change, but also identifying gender as a cross-cutting theme that has linkages in all the mitigation sectors. It also describes actionable solutions to reduce the gender gap.

Myanmar's NDC includes gender equality and women's empowerment as one of nine guiding principles, and it also considers gender issues in its sub-sectors such as renewable energy and agriculture. For instance, Myanmar calls for an actions to raise awareness about gender-inclusive agricultural production platforms. This could be an example for other ASEAN countries to follow, recognizing women's contributions in agriculture and the impact of climate change on women in agrarian societies.

2.3 Gender inclusion in existing ASEAN policies and frameworks

The ASEAN Member States recognize regional cooperation as a powerful tool to advance their sustainable development goals. Their joint commitments and shared knowledge and expertise help shape national-level policies and programmes, including on climate and gender equity. This section provides a brief overview of ASEAN-level declarations, guidelines, frameworks and agreements on gender, renewable energy, disaster risk reduction and agriculture. In line with the approach described in Section 1.5 and summarized in Figure 3, the policies are classified as gender-transformative, gender-responsive, or having no or limited gender references ("gender-blind"). Annex 1 presents a table summarizing the policies and their degree of gender commitments, categorized by sector.

2.3.1 Gender inclusion

ASEAN made a high-level political commitment to gender and social-inclusion through the 1988 Declaration of the Advancement of Women in the ASEAN Region.[8] It incorporates and advocates for higher participation of women across all areas of governance, with the aim of mainstreaming gender equality through gender-responsive budgeting; they also encourage active participation of men and boys in fulfilling the agenda.

The 2010 Ha Noi Declaration on the Enhancement of Welfare and Development of the ASEAN Women and Children[9] and the ASEAN Socio-Cultural Community Blueprint 2025, approved in 2016,[10] take a rights-based approach, identifying women's rights to education, hygiene, resources, etc., while promoting gender equality and women's empowerment. The Blueprint does this through several provisions, including a specific clause (D4) which calls for strengthened social protection for women, children, youth, elders, people with disabilities, ethnic minority groups, migrant workers, and other vulnerable and marginalized populations.

The ASEAN Community Vision 2025,[11] approved in 2015, also effectively includes gender and inclusion as a key objective; the next step is to outline concrete actions to address inequalities. The 2017 ASEAN Declaration on the Gender-Responsive Implementation of the ASEAN Community Vision 2025 and Sustainable Development Goals[12] provides valuable guidance in that regard. Future policies could aim for transformative outcomes by finding entry points to address the root causes of gender inequality, which would enable more inclusive, just and holistic development and climate action.

In this vein, a promising initiative is the ASEAN Gender Mainstreaming Strategic Framework (2021–2025), launched in January 2022.[13] It is designed to guide the three ASEAN pillars – the ASEAN Security Community, ASEAN Economic Community and the ASEAN Socio-cultural Community – in integrating gender in their respective work streams. The Framework comprehensively outlines ASEAN's vision, objectives, and monitoring and evaluation plans for integrating gender and social inclusion considerations in ASEAN policies and institutions.

Regional plans such as the Plan of Action to Implement the Joint Declaration on Comprehensive Partnership between ASEAN and the United Nations (2021–2025), approved in 2020,[14] also highlight the need to develop a strategy and ensure support for mainstreaming gender perspectives across relevant areas of work. That work can be informed by a framework for action linking the ASEAN Community Vision 2025 and the SDGs developed jointly by ASEAN and the UN (UNESCAP and ASEAN 2017), which highlights the needs of women and other vulnerable groups and promotes women's economic empowerment.

[8] See https://asean.org/declaration-of-the-advancement-of-women-in-the-asean-region-bangkok-thailand-5-july-1988/.
[9] See https://asean.org/ha-noi-declaration-on-the-enhancement-of-welfare-and-development-of-asean-women-and-children-2/.
[10] See https://asean.org/book/asean-socio-cultural-community-blueprint-2025/.
[11] See https://www.asean.org/wp-content/uploads/images/2015/November/aec-page/ASEAN-Community-Vision-2025.pdf.
[12] See https://asean.org/asean-declaration-on-the-gender-responsive-implementation-of-the-asean-community-vision-2025-and-sustainable-development-goals/.
[13] See https://asean.org/book/asean-gender-mainstreaming-strategic-framework-2021-2025/.
[14] See https://asean.org/plan-of-action-to-implement-the-joint-declaration-on-comprehensive-partnership-between-asean-and-the-united-nations-2021-2025/.

2.3.2 Renewable energy

Key ASEAN energy policy documents, including both phases of the ASEAN Plan of Action for Energy Cooperation (APAEC) 2016–2025[15] and the 6th ASEAN Energy Outlook 2017–2040 (ACE 2020a) do not discuss gender; the latter only mentions it in the context of biomass use for cooking, for instance. The same approach is taken in countries' own energy policy documents, as discussed more in Section 3. The lack of attention to gender is of concern because, as noted above, gender disparities and other forms of inequality and marginalization often determine who benefits from renewable technologies, and who is excluded or even harmed. Moving forward, adopting a more holistic approach would offer more positive environmental and social outcomes in the ASEAN region.

2.3.3 Disaster risk reduction

ASEAN's DRR policies have yet to fully integrate a gender-transformative approach. Indeed, neither the ASEAN Agreement on Disaster Management and Emergency Response, approved in 2005,[16] nor the 2015 Declaration on the Institutionalizing the Resilience of ASEAN and its Communities and Peoples to Disasters and Climate Change,[17] include any references to gender. At the same time, significant progress has been made in recognizing the gendered nature of disasters and the need for gender integration and women's empowerment – for instance, in the ASEAN Vision 2025 on Disaster Management, approved in 2017.[18]

The most recent ASEAN-UN Joint Strategic Plan of Action on Disaster Management 2021–2025, published in 2020,[19] consistently mainstreams gender and social inclusion, encouraging disaggregated data collection and use for better-informed planning and programming at all stages of DRR. The ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Work Programme (2021–2025) shows a commitment to increase gender mainstreaming in DRR. Most of the elements mentioned are gender-responsive: they identify critical issues and offer a set of measures to respond to them, such as including gender in needs assessments and collecting sex-disaggregated data. The next step is to further integrate gender into resilience building efforts, such as through increased and easier access to social security, as well as provisions to ensure women's meaningful participation to DRR decision-making.

The ASEAN Regional Framework on Protection, Gender and Inclusion in Disaster Management 2021–2025,[20] developed to support the implementation of the AADMER Work Programme 2021–2025, addresses some of these gaps. It identifies targeted actions and indicators for progress towards inclusive disaster management; identifies entry points for collaboration between national disaster management offices and entities working on gender and social inclusion; and provides support for Member States in setting priorities, indicators, targets and baselines to measure progress at the national and regional levels.

The targeted actions include research to support evidence-based strategies, guidelines and policies, as well as capacity-building, partnerships and national actions with the objective of "institutionalizing the leadership of women, children, youth, elderly, the poor and people with disabilities in disaster preparedness, response, and recovery, and promote full and equal participation in decision-making" (ASEAN 2021b, p. 13). This framework also demonstrates an understanding of intersectionality and a commitment to target not only women, but also people with disabilities, children and youth, and older persons.

[15] See https://aseanenergy.org/2016-2025-asean-plan-of-action-for-energy-cooperation-apaec/ for Phase I (2016–2020) and https://aseanenergy.org/asean-plan-of-action-and-energy-cooperation-apaec-phase-ii-2021-2025/ for Phase II (2021–2025).
[16] See https://asean.org/asean-agreement-on-disaster-management-and-emergency-response-vientiane/.
[17] See https://asean.org/wp-content/uploads/2012/05/26th-DECLARATION-ON-INSTITUTIONALISING-Final.pdf.
[18] See https://asean.org/book/asean-vision-2025-on-disaster-management/.
[19] See https://asean.org/book/asean-un-joint-strategic-plan-of-action-on-disaster-management-iv-2021-2025/.
[20] See https://asean.org/book/asean-regional-framework-on-protection-gender-and-inclusion-in-disaster-management-2021-2025-arf-pgi/.

While the framework has a strong focus on protecting vulnerable groups, it also takes a transformative stance by promoting a "rights-based/needs-based and life-cycle approach" to "eliminate all forms of maltreatment on the basis of old age and gender" (ASEAN 2021b, p.13).

Similarly, the ASEAN Comprehensive Recovery Framework, published in 2020,[21] underscores the need to adopt "a transformative mindset" to proactively address the needs of vulnerable groups (p.41). It not only highlights the gendered effects of disasters and their root causes, but also emphasizes the need to invest in gender-responsive public and social infrastructure, also noting that "decision-making should be inclusive, incorporating women and other relevant stakeholders in the process" (p.46).

2.3.4 Agriculture

Some ASEAN documents on agriculture show promising efforts towards gender mainstreaming. For instance, the ASEAN Regional Guidelines on Food Security and Nutrition Policy, adopted in 2017,[22] recognize how nutrition and food insecurity can be gendered, and how efforts towards food security and gender equality can support each other. Highlighting the co-benefits of integrating gender considerations into agriculture policies can be a promising approach for Member States to increase collaboration between stakeholders. The ASEAN Multi-sectoral Framework for Climate Change: Agriculture and Forestry Contributing to Food and Nutrition Security and Achievement of SDGs, adopted in 2018,[23] integrates gender under Action 2, which encourages the establishment of institutional arrangements and support systems "to effectively formulate, implement and monitor and evaluate climate-smart, rights-based and gender-sensitive policies, programs, plans and investments" in agriculture, forestry and other relevant sectors (p.3).

The ASEAN Ministers on Agriculture and Forestry (AMAF) Approach to Gender Mainstreaming in the Food, Agriculture and Forestry Sector, published in 2018,[24] recommend policies and programmes to ensure that women working in these sectors are empowered, and is aligned with the UNFCCC Gender Action Plan. The document recognizes that inequalities in the sector are linked to power imbalances and stresses the need for targeted policies to enable equal opportunities. The recommendations indicate promising steps towards a gender-transformative lens in ASEAN agriculture policies – for instance, by ensuring that adaptation and mitigation measures address the sources of gender-based vulnerability, inequality and poverty, and by emphasizing women and girls' access to resources, education, capacity-building and participation in decision-making, which can be facilitated by leadership training.

Some policies in the sector, however, pay far less attention to gender issues. For example, the ASEAN Regional Guidelines for Promoting Climate Smart Agriculture Practices, adopted in 2015,[25] only mention that gender-specific risks from climate impacts shall be looked at, and research on the roles of women in rice cultivation will be promoted. Similarly, the ASEAN Integrated Food Security Framework and Strategic Plan of Action on Food Security in the ASEAN Region 2021-2025, issued in 2020, only calls for conducting a study on long-term implications of demographic change on food security that includes gender. There is potential for guidelines such as these to support the development of gender-responsive policies and actions by highlighting the different needs of men and women in agrarian communities and identifying specific ways to promote gender equality.

[21] See https://asean.org/book/asean-comprehensive-recovery-framework/.
[22] See https://asean.org/wp-content/uploads/2021/08/ASEAN-Regional-Guidelines-on-Food-Security-and-Nutrition-Policy.pdf.
[23] See https://asean.org/wp-content/uploads/2012/05/ASEAN-Multisectoral-Framework-for-climate-change.pdf.
[24] See https://asean-crn.org/amafs-approach-to-gender-mainstreaming-in-the-food-agriculture-and-forestry-sectors/.
[25] See https://asean.org/wp-content/uploads/images/2015/October/ASEAN-Regional-Guidelines-on-Promoting-CSA-Practices/ASEAN%20Regional%20Guidelines%20on%20Promoting%20CSA%20Practices-endorsed%2037th%20AMAF.pdf.

2.3.5 Turning challenges into opportunities

In recent years, ASEAN has made high-level commitments to advancing gender equality, but more work remains to be done to translate those commitments into clear policies and programme interventions. One of the key entry points would be to enhance coherence across policies and sectors to clearly identify underlying gender and social inequalities and mainstream transformative approaches that will facilitate positive environmental and social outcomes. As described above, documents such as the ASEAN Socio-Cultural Community Blueprint and the AMAF Approach to Gender Mainstreaming in Food Agriculture and Forestry Sector are promising examples of how this can be done. Documents such as the AADMER Work Programme 2021–2025 and the ASEAN Declaration on Gender-Responsive Implementation of the ASEAN Community Vision have also been useful in helping Member States to mainstream gender in their policies.

In addition, all project proposals submitted by NGOs, research institutes and other partners to the ASEAN Secretariat are now mandated to follow a template that incorporates gender issues into implementation plans. This reflects ASEAN's strong willingness to go beyond the prescribed methods by including a gender lens across its own projects as well as proposals handed in by external implementing partners.

While the documents reviewed showed increasing efforts to address women's issues in various sectors, more efforts are needed to enhance definitions and the framing of gender and gender equality, and to integrate gender and broader equity and inclusion concerns in policies that have limited or no gender references. Moving forward, a more intentional and clearer integration of gender guidance can act as a critical driver to achieve development objectives.

Lastly, while the progress towards gender mainstreaming in policies is evident, the monitoring and evaluation of commitments needs to be strengthened. As most of the documents reviewed are not binding, there is room to find mechanisms for Member States to report on their progress. Governments can also collaborate with non-governmental organizations (NGOs) and civil society organizations (CSOs) to ensure the quality of programme implementation and track achievements in relation to commitments towards gender equality and climate resilience.



Photo: UN Women and UNEP/Prashanthi Subramaniam

3. Gender integration in priority sectors



Photo: UN Women/Ariel de Raid

This section delves deeper into the three sectors to shed light on the gendered impacts of climate change, barriers to the full inclusion of women in mitigation and adaptation activities, policy responses at the regional and national levels, and opportunities for greater gender integration and transformative change. In line with the DPSIR framework described in Section 1.5, each sectoral analysis has four parts, focusing on the sector and trends, drivers and pressures, impacts and effects, and responses and policies.

3.1 Renewable energy

3.1.1 State and trends

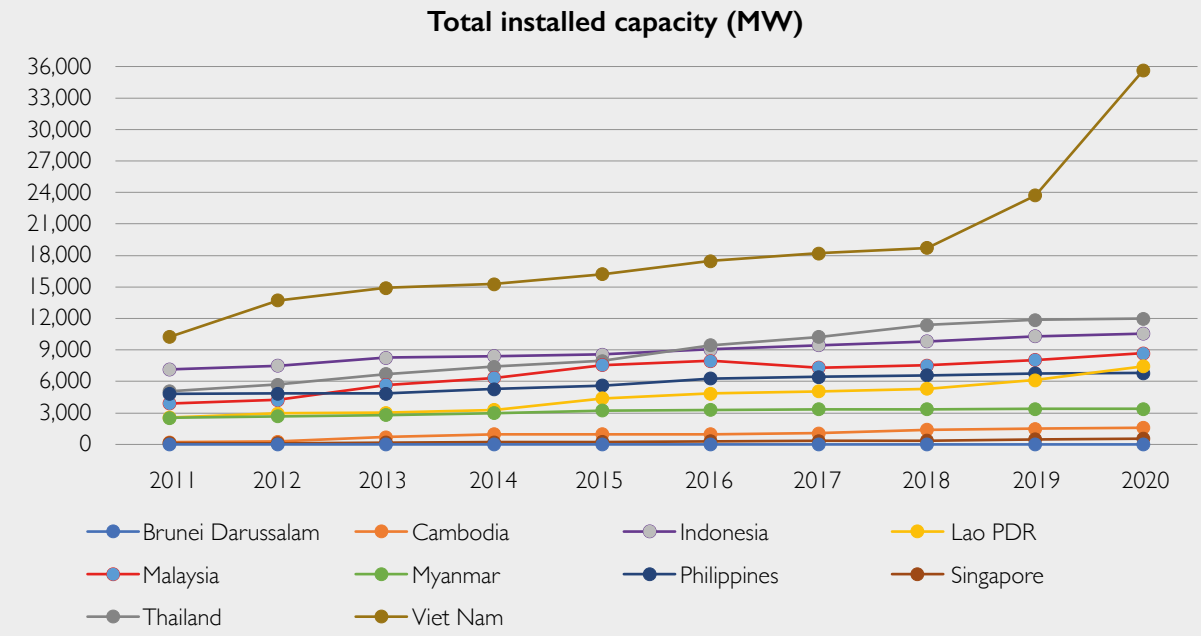
ASEAN Member States have committed to significantly increasing the share of renewables in their energy mix. Phase II of the ASEAN Plan for Action for Energy Cooperation (APAEC), for 2021–2025, reaffirms the countries' aspirational targets of a 23% RE share in the total primary energy supply (up from 13.7% in 2017) and a 32% energy intensity reduction from 2005 levels, both by 2025 (ACE 2020b). Achieving these targets is seen as a way to enhance the region's energy security, accessibility, affordability and sustainability. All seven programme areas of APAEC[26] support that vision, as well as a goal to strengthen energy resilience.

[26] The APAEC seven programme areas are ASEAN Power Grid, Trans-ASEAN Gas Pipeline, Coal and Clean Coal Technology, Energy Efficiency and Conservation, Renewable Energy, Regional Energy Policy and Planning, and Civilian Nuclear Energy

The 6th ASEAN Energy Outlook notes that accelerating RE deployment would not only reduce GHG emissions, but also open up new opportunities to create jobs and reduce poverty, and reduce the social cost of energy by more than 700 billion USD by 2040 (ACE 2020a). Among the ASEAN countries, Viet Nam has been the most ambitious in expanding RE, growing solar capacity from 105 MW in 2018, to 4.9 GW in 2019 and 16.5 GW in 2020 (IRENA 2021), which put it among the top 10 countries globally. Thailand has the second-highest installed solar capacity in ASEAN, with 3.0 GW, followed by Malaysia, at 1.5 GW (the latter a 69% increase from 2019), and Thailand, at 1.0 GW. The rest still have very little solar or wind power, though hydropower is well established in the region, and has continued to grow significantly in the region over the past decade. Some – particularly Indonesia and Thailand – have prioritized biofuels to replace petroleum products in the transport sector (ACE 2020a, p.56).

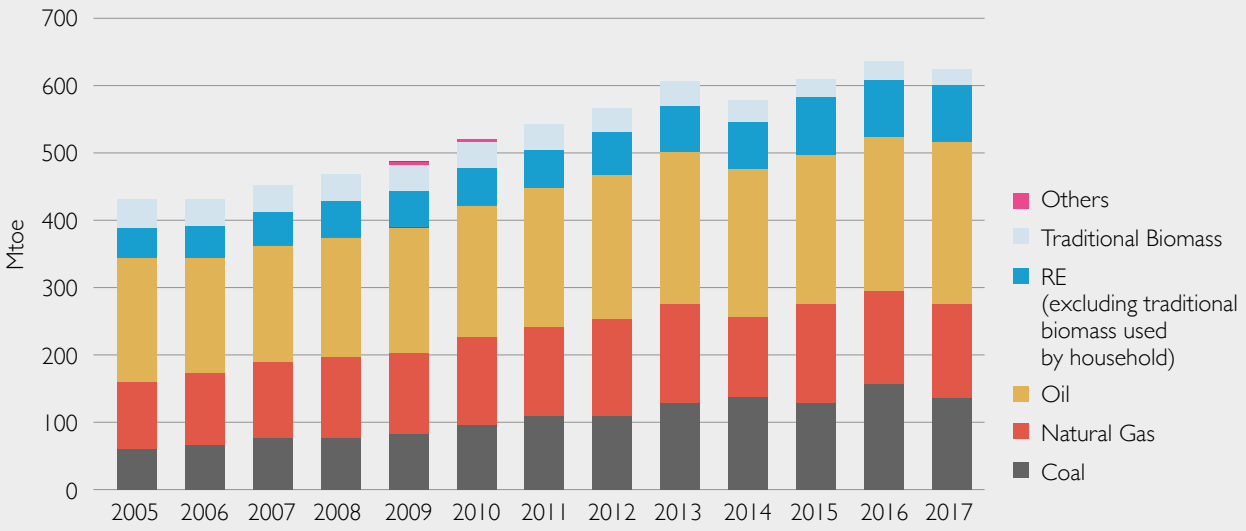
Realizing the ASEAN countries' RE ambitions – and continuing to expand clean energy sources to meet the SDGs and decarbonize the region's energy systems – entails considerable challenges. First, as noted above, despite Southeast Asia's large RE potential, less than 15% of the primary energy supply now comes from renewables (excluding the traditional use of solid biomass). Indeed, the International Energy Agency has found that fossil fuel use in the region has doubled since 2000 (IEA 2019). The COVID-19 has also stalled progress on RE deployment, as several projects were halted in countries such as the Philippines and Malaysia due to supply chain and workforce disruptions (ACE 2021; Shani and Yurnaidi 2021).

Figure 6: Renewable energy capacity in the ASEAN countries (including hydropower)



Data source: IRENA (2021, pp.2–3).

Figure 7: ASEAN countries' total primary energy supply, by fuel, 2005–2017



Source: Reproduced from ACE (2020a), Figure 3.
Note: Mtoe is million tonnes of oil equivalent, one of the standard measures for primary energy supply.

Beyond the need to significantly accelerate renewable energy growth, the ASEAN countries have to grapple with the profound social implications of energy transitions. Globally, inequalities in energy access based on race, ethnicity, gender, class, geography and other factors are well documented (Johnson et al. 2020). Energy sector governance is male-dominated, and so is the workforce (ENERGIA 2019). Without appropriate interventions, those disparities can be replicated or even deepened by the transition to RE.

In the absence of gender-disaggregated data, it is not possible to quantify disparities in energy access in the ASEAN countries. There has also been limited attention to date to the potential for gender-differentiated outcomes in energy projects in the region, in terms of displacement, new opportunities, or access to new technologies (Pross et al. 2020). More information is thus needed to build a robust understanding of inequalities in this sector and their root causes, so they can be addressed.

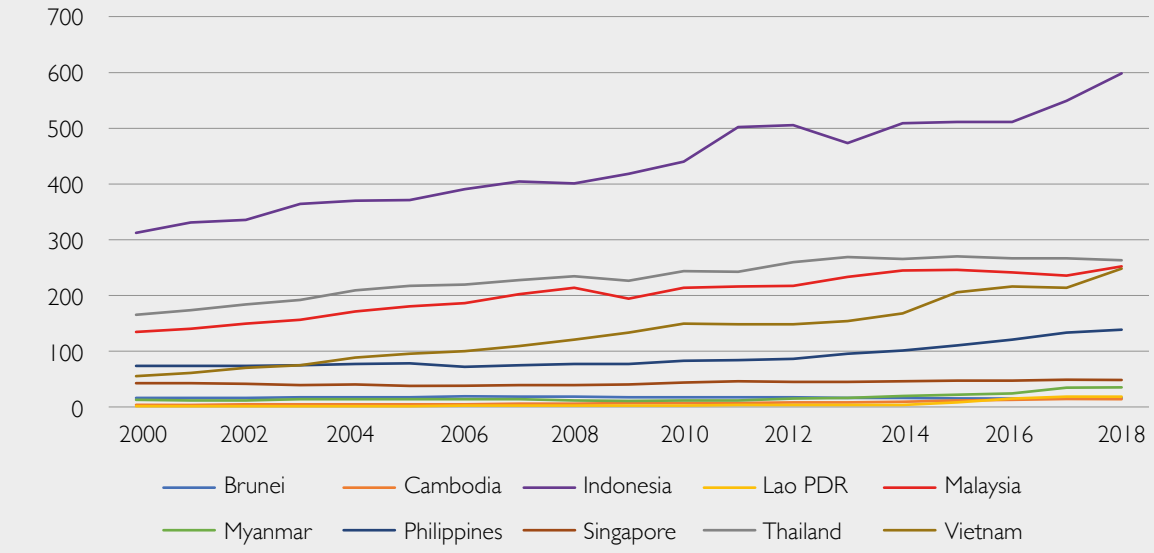
3.1.2 Drivers and pressures

Driven by rapid economic growth, industrialization and rising living standards, energy demand in the ASEAN countries is expected to grow by almost 40% between 2017 and 2025, and more than double by 2040 (ACE 2020a).[27] The largest share of demand comes from industry, followed by transport, and the energy use of both is expected to keep growing rapidly. Urbanization is another key driver of energy demand growth; in Cambodia, for instance, which is urbanizing by about 4% per year, construction and infrastructure growth have led to growing electricity demand and fuel consumption (Monin et al. 2021).

[27] In a business-as-usual scenario, the 6th ASEAN Energy Outlook projects 38% growth from 2017 to 2025, and 146% by 2040; in a scenario in which the ASEAN Member States fully achieve their energy efficiency goals, the corresponding increases in demand would be 26% and 90%. See ACE (2020a).

On current trends, electricity demand in the ASEAN region is projected to grow by 5% per year to 2040 (ACE 2020a).[28] As countries have rushed to expand power generation capacity, they have relied heavily on coal power, especially if they have domestic coal reserves. Even now, Southeast Asia is also one of the few regions in the world where coal power continues to expand, especially in Indonesia, Viet Nam and the Philippines (IEA 2020). The combination of soaring energy use and heavy reliance on fossil fuels has driven a rapid rise in energy-related GHG emissions: a 59% jump in Thailand from 2000 to 2018, 89% in the Philippines, and 349% in Viet Nam, for instance (Figure 8).

Figure 8: ASEAN countries' energy-related GHG emissions ($MtCO_2e$)



Data source: Climate Watch (2019).

Against the backdrop of macro pressures such as increasing energy demands, the transition to and upscaling of RE is urgent, yet multiple systemic barriers act as drivers of inequalities within the sector:

Women have little representation in energy sector leadership. The share of women on energy company boards across Southeast Asia varies widely, from a low of 10.7% in Thailand, to 11.3% in Indonesia, 13.6% in the Philippines, 18.4% in Singapore, 28.6% in Malaysia and 29.7% in Viet Nam (ENERGIA 2019). Women are also significantly underrepresented in policy-making positions (IRENA 2019; see also ISPONRE 2021). Globally and in Southeast Asia, senior-level posts in energy policy and planning, including decision-making around energy generation, transmission and distribution, are mainly led by men (IRENA 2013).

Men hold the vast majority of energy (and RE) jobs. As of 2018, globally, women made up an average of 32% of the RE workforce – better than the 22% average in the oil and gas sector, but still far from parity (IRENA 2019). Women are also far more heavily

[28] Like the overall demand growth rate, this corresponds to the business-as-usual scenario; if national efficiency goals are achieved, the compound annual growth rate for electricity in 2017–2040 is projected to be 4.1%. See ACE (2020a)

represented in administrative jobs in RE (45%) than in technical jobs (35%) and science, technology, engineering and mathematics (STEM) jobs (28%). Corresponding data for Southeast Asia are sparse, but UN data show that only an estimated 19% of engineering and technology researchers in Cambodia are female, for instance; the Philippines and Malaysia are closer to parity, at 43% and 47%, respectively, while Myanmar, an estimated 76% are female.[29] Globally, the lack of gender parity in the energy sector has been linked to gender norms that identify some types of work as masculine or feminine. Many jobs in the sector, even in RE, are in construction, manufacturing and engineering – fields in which women are underrepresented in Southeast Asia (Mortensen and Boyland 2019). Women and girls also tend to lack capital to access education, particularly in science and technology sphere, which creates a systemic barrier against women acquiring the necessary skills, knowledge, and networks to enter the sector. Within the workplace, gender-biased hiring and promotion practices may also prevent women from advancing to leadership positions.

Gender norms and roles limit women's meaningful participation in energy decision-making. Not only are women underrepresented in the energy sector, but across the ASEAN region, their voice and participation in public spaces is often restricted. This often limits the extent to which their knowledge, needs and preferences are considered (or even heard) in energy infrastructure development processes, including in RE. For example, during the construction of the Truong Son hydropower project in Viet Nam, social norms around women's public behaviour limited their influence on decisions about the dam (Resurrección et al. 2016). Women from ethnic minority groups were further marginalized in the process due to their lack of Vietnamese language skills.

Gender inequalities are also visible at the household level. Gender hierarchies influence technology and information use and can keep women from being able to access clean energy options, even if they are the main users of household energy. Often male household heads control the finances, and thus make any decisions about purchasing or seeking financing for energy systems, such as solar lighting (Winther et al. 2017). This means that even when RE technologies are physically available, women and other marginalized people may not be able to use them. Along with disparities in decision-making power, other key barriers include a structural lack of financial inclusion, information, education and/or training (Dutta et al. 2017).

Centralized energy systems tend to overlook small-scale energy users, which are disproportionately poorer households in rural areas. Decentralized RE systems such as solar mini-grids can be crucial for modern energy access in rural areas, but interviews for this report with stakeholders in the Philippines, Indonesia and Viet Nam indicated that RE policies across ASEAN tend to remain largely business-centred. RE transitions often focus on largely male-dominated sectors, such as commercial agriculture, industry and construction, while household energy needs tend to be sidelined. Electricity access is near-universal (above 99%) in half the ASEAN countries and not far behind in Indonesia, Lao PDR and the Philippines, but as of 2017, an estimated 17.7 million households in the region still lacked electricity (ACE 2020a), with the largest gaps in Cambodia and especially Myanmar.[30] In general, the majority of people without electricity are in rural regions (SEforALL 2017). In some countries – for example, Cambodia – female-headed households are also likelier to lack access to electricity than male-headed ones (Dave et al. 2018).

[29] See Science, Technology and Innovation dataset at http://data.uis.unesco.org. The share of women researchers across all fields and sectors is larger: 27% in Cambodia, 50% in Malaysia and 55% in Thailand; in Myanmar, it is 75%. For that indicator, data are also available for Indonesia, where 45% of researchers were female as of 2018. The data also show that women are more heavily represented in research jobs in the public sector than in the private sector.

[30] World Bank data suggest higher rates of electrification, with only 7% of households in Cambodia and 31% in Myanmar shown as lacking access as of 2018. See https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=BN-KH-ID-LA-MY-MM-PH-SG-TH-VN.

3.1.3 Impacts and effects

Fossil fuel use is not only driving up GHG emissions, but also causing severe outdoor air pollution, with dire consequences for public health. A Greenpeace-led project estimates that just since January 2021, PM2.5 air pollution has cost 4,100 lives in Bangkok and 3,200 in Jakarta, for instance.[31] At the same time, as of 2017, an estimated 138.7 million people across the ASEAN region were still using traditional biomass for cooking (ACE 2020a), a major cause of indoor air pollution that disproportionately affects women, as discussed further below. In 2016, an estimated 2.4 million deaths across Southeast Asia were linked to household and ambient air pollution combined – a mortality rate of 85 per 100,000 residents.[32] Along with a wide range of health impacts that affect both men and women, air pollution is harmful to pregnant women, as it can lead to lower birth weight or pre-term birth (Padula et al. 2018; Poirier et al. 2015).

Lack of access to clean energy, including from RE, also affects the economic opportunities and even personal safety of women and girls, who are typically responsible for collecting biomass fuels. When they have to spend large amounts of time gathering fuel, they have less time for education, paid work, or other income-generating opportunities. They can also be exposed to violence (ACE 2020a). As resources become scarcer due to climate change and environmental degradation caused by unsustainable development patterns, the length of fuel collection journeys may increase (ISPONRE 2021).

When decision-making processes around RE are not equitable, on the other hand, even community-led RE projects may perpetuate existing gender disparities (Aung et al., 2020; Dutta et al., 2017). For example, a micro-hydro project in a village in the South Solok District, Indonesia, was generally supported by local people, with users citing energy affordability, job opportunities and the way the community was being engaged. However, as reported by Aung et al. (2020), women were often excluded from meetings and other decision-making processes. Without strong efforts to ensure the meaningful participation of women and other marginalized groups, the benefits of RE will not reach everyone, and the projects could even deepen inequalities, as those with the new technologies will be much better off than those left behind.

Large-scale RE projects can also have more hidden and indirect gender implications. There is increasing evidence that the development of large-scale RE projects may lead to land loss and displacement, which can threaten local communities' food security and livelihoods (Johnson et al. 2020). Across Southeast Asia, many instances have been recorded of extensive land acquisitions for RE development with impacts on local communities, involving solar power (Quek et al. 2018), hydropower (Simpson 2013; Weeratunge et al. 2016; Hill et al. 2017; Lebel et al. 2019) and biofuel plantations (Montefrio and Sonnenfeld 2011; Montefrio and Sonnenfeld 2013; Julia and White 2012; Aung et al. 2020).

For example, in the Philippines, studies of Jatropha production for biofuel have examined the potential negative consequences that contract farming arrangements with parastatal and private firms can have on Indigenous smallholder farmers (Montefrio and Sonnenfeld 2013; 2011). The transition of Indigenous farmers from traditional crop management styles to agro-industrial practices, which may temporarily create jobs and alleviate poverty, may compromise local livelihood options and capacity in the long run due to the resource impacts it has on land-use change.

In another case of biofuel production, the growing oil-palm industry in West Kalimantan, Indonesia, led Indigenous lands to be converted to large-scale plantations. The contract farming systems were especially been damaging to women's social positions, land rights

[31] See https://www.greenpeace.org/international/campaign/tracking-cost-air-pollution/. The results cited are as shown on 27 April 2022.

[32] See World Health Organization summary: https://www.who.int/southeastasia/health-topics/air-pollution and the UN SDG Indicators Database (Indicator 3.9.1): https://unstats.un.org/sdgs/dataportal/database. The latter shows large variations across ASEAN countries, with 9 deaths per 100,000 residents in Brunei Darussalam, 35 in Singapore and 39 in Malaysia, but 110 per 100,000 in Lao PDR, 116 in Myanmar and 117 in the Philippines.


Photo: UNEP/Andrew Ball

and livelihoods, as they lacked land tenure, and it was mainly the men who were employed in the new farming systems (Dewi et al. 2018; Julia and White 2012). This shows that when the perspectives and needs of local people (in this case, Indigenous communities), including both men and women, are not fully taken into account, RE projects can cause long-term harm even if while advancing the energy transition.

Similar patterns can be observed in large-scale hydropower development. Across the region, hydropower output has grown fourfold since 2000 (IEA 2019). It is a critical issue in the Lower Mekong subregion, as the Mekong has great hydropower potential, and many governments see large-scale hydro as central to the region's socioeconomic progress (Resurrección and Boyland 2017). However, large-scale hydropower development will have critical implications for agriculture, aquaculture and fisheries, potentially affecting the livelihoods of millions of people in the ASEAN region. For example, a study of hydropower development in Laos and Viet Nam found that communities displaced by large-scale projects were resettled on lands that are unsuitable for agriculture, thus compelling much of the displaced population into informal wage labour or, at times, irregular work (Hill et al. 2017). Women are further challenged when looking for jobs in the market economy due to persistent gender biases. Thus, both the environmental and social impacts of these projects must be considered to ensure a just transition to alternative energy sources.

3.1.4 Responses and policies

ASEAN and its Member States have detailed plans and policies to shape energy sector development, including RE. However, as highlighted by the discussion above, even a more sustainable energy system will not automatically translate into equal social outcomes. Studies have shown that if marginalized groups are excluded from decision-making around energy, the inequalities embedded in carbon-intensive energy systems may simply be transferred to their replacements (Ahlborg 2017; ENERGIA 2019). To avoid this, it is imperative for energy policies to acknowledge and address socially differentiated needs and conditions.

Yet as noted in Section 2.3, and detailed in Table 1, key ASEAN energy policy documents and plans make little or no mention of gender, though some efforts have been made to start addressing gender issues in energy planning. Adopting a more holistic approach would yield more positive environmental and social outcomes for the ASEAN region.

Table 1: Key ASEAN policy documents on renewable energy

Policy document	Issuing body	Gender integration
ASEAN Plan of Action for Energy Cooperation (APAEC) 2016–2025	ASEAN Plan of Action for Energy Cooperation (APAEC)	No gender references
ASEAN Plan of Action and Energy Cooperation (APAEC) Phase II: 2021 – 2025	ASEAN Plan of Action for Energy Cooperation (APAEC)	No gender references
The 6th ASEAN Energy Outlook 2017–2040	ASEAN Centre for Energy (ACE)	Only one brief gender reference, in section on household energy

Some ASEAN countries have taken important steps to battle gender inequalities in the energy sector that could inform policy-making across the region. For example, Cambodia's National Climate Change Strategic Plan 2014–2023, while not speaking directly to the energy sector, notes the need to expand women's involvement in climate-related policy-making. Lao PDR's National Socioeconomic Development Plan (NSEDP) 2016–2020 identifies women's development as a cross-cutting priority, with gender equality targets in key economic sectors, including energy.

In the Philippines, meanwhile, the Department of Energy has dedicated policies and programmes to address gender within RE, and it has created a Gender and Development Focal Point System (GFPS; see Section 4.4.1 for more details). The GFPS is responsible for leading mainstreaming gender across energy policies, plans and programmes; setting up appropriate systems and mechanisms for collecting and processing sex-disaggregated data; and coordinating efforts between different divisions to promote gender integration.

Governance for more equitable and inclusive RE transitions

Energy transitions are sociotechnical endeavours. They are shaped not only by new technologies and economics, but also by political and social dynamics (Johnson et al. 2020; Marquardt and Delina 2019). Since fossil fuels now dominate energy systems, globally and in ASEAN countries, actors in the fossil fuel industry have substantial influence over energy policies, investment choices, subsidies, trade – even climate policies (Evans and Phelan 2016; Marquardt 2018; Phelan et al. 2015). Top-down governance is the norm, with little space for input from local communities, especially marginalized groups. If the RE transition does not explicitly challenge those power dynamics, it is likely to replicate them in low-carbon energy systems, privileging the interests of powerful sectoral actors over those of communities.

Recognizing how large a toll the energy transition could take on some communities, particularly in coal-producing areas, many policy actors have called for a "just transition" to clean energy – though interpretations of the term vary. Some focus mainly on supporting fossil fuel-dependent countries and communities to shift into new economic activities.[33] Some are advocating more broadly for equity and inclusion in a variety of sustainability transitions.[34] Climate justice activists, meanwhile, are pushing for transformational changes to end structural inequities, with particular attention to the needs of communities that have been disproportionately harmed by existing systems and practices.[35] In practice, to date, efforts to achieve a "just transition" to RE have yielded mixed results.[36]

[33] See, for example, the World Bank's Just Transition for All initiative, focused on coal-producing countries: https://www.worldbank.org/en/topic/extractiveindustries/justtransition.

[34] See, for example, the Just Transition Initiative, co-led by the Climate Investment Funds: https://justtransitioninitiative.org.

[35] See, for example, the Climate Justice Alliance's perspective: https://climatejusticealliance.org/just-transition/.

[36] See, for example, the World Resources Institute's collection of 31 case studies, published in 2021: https://www.wri.org/insights/just-transition-zero-carbon-world-possible-heres-how. It includes a case study from the Philippines: https://www.wri.org/update/philippines-whole-government-approach-creating-green-jobs.

In the context of RE development, a key aspect of just transitions is to secure the rights of individuals and ensure equal participation in the decision-making processes. A key precondition to this is to ensure that decision-making processes at all levels are more inclusive and transparent, with meaningful public participation and deliberate efforts to understand the distributional impacts of projects, as well as pre-existing structural inequalities. Closed decision-making processes, by contrast, are far likelier to result in unjust transitions – ones in which poor and marginalized people bear disproportionate costs, including displacement and/or the loss of their livelihoods (Hill et al. 2017; Johnson et al. 2020).

Inclusive processes not only ensure that communities are well represented in decision-making, but also provide vital insights to inform policy responses and investment choices. Community members, including women and other marginalized groups, have different knowledge and perceptions around energy that may be critical in designing socially and environmentally sustainable RE solutions. This is why diverse, globally connected social movements are so important in challenging established energy governance structures and ensuring a just transition (Evans and Phelan 2016; Marquardt and Delina 2019).

Energy governance in Southeast Asia today is highly technocratic, but policy-making and planning around RE require a more holistic approach to avoid reinforcing structural inequalities. They need to consider questions around access, use, distribution, and who may be advantaged or disadvantaged – which, in turn, requires drawing on the knowledge and perceptions of local communities. Combined with efforts to close the gender gap in energy sector leadership, this can go a long way towards ensuring a just transition.

3.2 Disaster risk reduction

3.2.1 State and trends

In 2021, EM-DAT, the International Disaster Database, recorded 71 disasters linked to natural hazards in the ASEAN countries, affecting 15.7 million people, with 1,195 fatalities and US$4.1 billion in economic damages.[37] It was a particularly bad year for floods, with torrential rains causing 43 severe floods across the region; 17 tropical cyclones also struck the region, and there were earthquakes and volcanic eruptions.

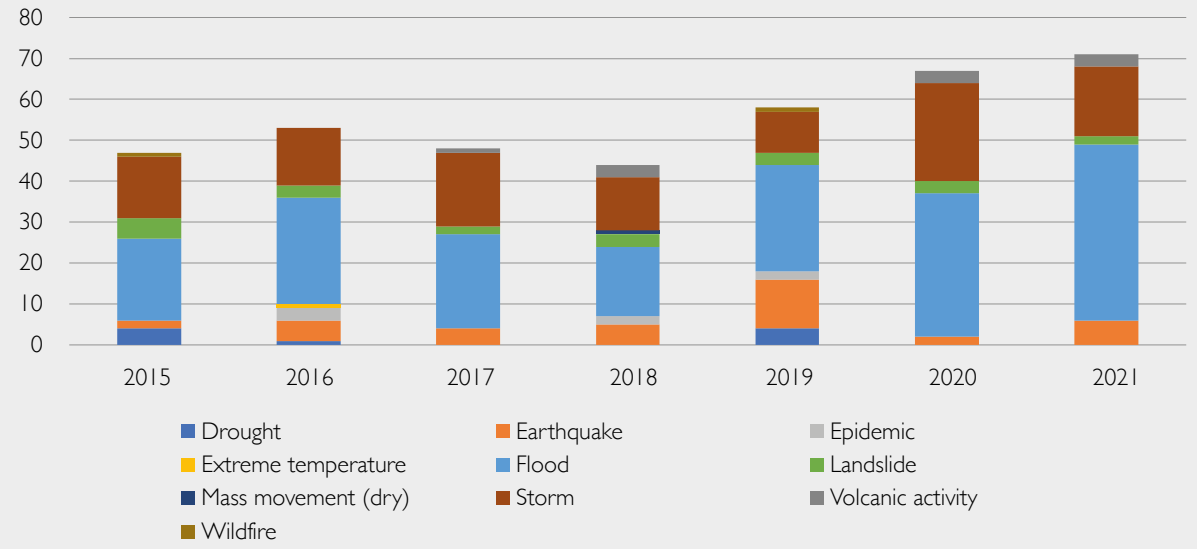
As shown in Figure 9, 2021 stood out for the large number of disasters – but in Southeast Asia, every year brings several extreme events, some deadlier and more destructive than others, but all with major human and economic impacts. The region's significant vulnerability, combined with intensifying climate change, "points to the mounting pressure on Southeast Asia to further strengthen disaster management and resilience to ensure a prosperous future," the 2021 ASEAN Disaster Resilience Outlook notes, adding: "The significant disruptions caused by the COVID-19 pandemic since 2020 have again highlighted the importance and difficulty in building disaster resilience, as the world faces increasing risks of concurrent or complex disasters (ASEAN Secretariat 2021, p.5).

[37] Authors' calculation based on EM-DAT data: https://public.emdat.be.



Photo: UN Women/Staton Winter

Figure 9: Disasters linked to natural hazards in the ASEAN countries, 2015–2021



Data source: EM-DAT (https://public.emdat.be).

With climate change, disaster risks are intensifying, making disaster resilience a top priority for the region – a point stressed repeatedly in the IPCC's latest assessment (Shaw et al. 2022). In that context, the IPCC stresses, it is crucial to understand that women's vulnerability during and after disasters is increased by poverty, social discrimination, insufficient disaster education, inadequate protection measures, and cultural issues that affect their security and their access to aid and health care.

The 2021 ASEAN Gender Outlook shows stark differences between women and men that affect their relative vulnerability to disasters. For instance, while only 13% of young men are neither employed nor pursuing an education, that is the case for 24% of young women in the region (Duerto-Valero et al. 2021). Only 56% of women participate in the labour force, compared with 79% of men, and an estimated two-thirds of working women are in the informal sector, which limits their access to social protection that can be crucial for disaster resilience.

Women in Southeast Asia are also significantly underrepresented in government, including in DRR decision-making roles, which can result in governance systems that do not recognize the lived experiences of women and girls or address their needs. Across the ASEAN region, only 20% of parliament seats are occupied by women, well below the 25% global average and only minimally better than their 19% share in 2010 (Duerto-Valero et al. 2021). The Philippines and Lao PDR have the highest female representation in their parliaments, 28%, followed by Viet Nam, at 27%; Brunei Darussalam and Myanmar have the lowest, at 9% and 11%, respectively. Women also make up only 26% of the ASEAN Emergency Response and Assessment team, and 28% of trainers (ASEAN Secretariat 2021). This means that national and regional governance systems lack crucial perspectives and insights needed for effective, inclusive DRR.

3.2.2 Drivers and pressures

A key reason why DRR governance in Southeast Asia – and globally – so often fails to address gendered vulnerabilities is that for a long time, the discourse around disasters has focused on physical hazards, such as floods, earthquakes and cyclones (Cutter 1995; Burton et al. 1993; Kates 1971). Social scientists, however, especially political ecologists, emphasize the human aspects of disasters: how power imbalances and structural socio-economic inequalities cause *vulnerabilities* that turn hazards into disasters (Ribot 2014). For instance, torrential rains in an area with robust infrastructure, safe evacuation routes and good warning systems will do damage, but they are far less likely to kill people or completely destroy homes than in an informal settlement, where waterborne diseases may then cause even more suffering.

Governments are not blind to these differences, but in practice, research has shown that policy-makers tend to favour the hazard paradigm, which depoliticizes disasters (Gaillard 2010; Ramalho 2020). This shapes how DRR policies are designed and implemented: typically through top-down decisions focused on hazard mitigation and physical protection strategies (Bondesson 2019). The knowledge, skills and professions that are most relevant to that approach are male-dominated: for instance, environmental scientists guiding for disaster mitigation, and military forces mobilized for disaster response (Fordham and Meyreles 2013; Resurrección and Elmhirst 2012).

In other words, the way in which disasters and DRR are framed inherently result in approaches that address the *symptoms* of vulnerability (injuries and fatalities, displacement, property destruction) through the knowledge and roles of men, rather addressing the socio-economic *root causes* of that vulnerability (MacGregor 2009). To the extent that the experiences of women and girls are discussed in these contexts, they are typically stereotyped as weak, helpless victims, without acknowledging the reasons for their vulnerability, or how their agency could contribute to better DRR (Enarson et al. 2018).

This is a critical gap in DRR, as marginalized people who are highly vulnerable to disasters, including women, have important knowledge and skills to mitigate, predict and respond to natural hazards (Wisner et al. 2012). Women have strong experience in subsistence agriculture, for instance, and Indigenous Peoples' traditional ways of life, including their cultures and identities, are grounded in deep knowledge of the environment (Rai and Khawas 2019; Sembiring 2016). Yet institutionalized DRR approaches often fail to integrate this knowledge with scientific approaches, as they often lack the resources and capacities to do so (Balay-As et al. 2018). Similarly, inadequate resources for gender mainstreaming within DRR agencies and a lack of effective cooperation with gender-focused agencies hamper efforts to fully involve women in institutionalized DRR efforts (Nguyen et al. 2020).

Even at the community level, disaster preparedness activities such as early warning systems and disaster information campaign – which require some education (at least literacy), or are scheduled at times that conflict with domestic work – are likely to exclude women and other vulnerable groups (Sembiring 2016). This adds another layer of marginalisation and perpetuates vulnerabilities.


Photo: UNEP/Andrew Ball

3.2.3 Impacts and effects

While it is now well known that there are gender-based differences in mortality from disasters, this remains hard to quantify (Bradshaw and Fordham 2013; Cutter 2017), as sex-disaggregated data remain lacking in the region. However, previous research found that across the globe, disasters disproportionately affect the life expectancy of women, especially those with low socio-economic status (Neumayer and Plümper 2007).

Women also tend to suffer from the impacts of disasters for a longer time. For instance, in many cultures, including some in the ASEAN region, men's nutrition is prioritized over women's, so women are likelier to suffer from malnutrition in times of food scarcity following disasters (Cutter 2017). In addition, women's livelihoods tend to be more affected by disasters than men's, as they rely more on natural resources and so often work in the informal sector, as noted above (Bradshaw and Fordham 2015).

At the same time, women's traditional role as caregivers can hinder their own ability to recover from disasters. In Cambodia, for example, a study found that an outbreak of disease after a flood kept women at home tending to the sick, instead of earning an income and building their own resilience (Uniacke 2018). Women spend far more time on unpaid are and domestic work in general (about four times as much in Thailand, for instance), and that burden increases during disasters, as seen during the COVID-19 pandemic, when at least 30% of women in the ASEAN countries noted increases in the intensity of domestic work, compared with only 16% of men (Duerto-Valero et al. 2021).

It is important to understand these disparities to ensure that promoting women's engagement in DRR initiatives does not overburden them even more while perpetuating gender inequalities (Gaillard et al. 2017). The COVID-19 pandemic also highlighted the role that women play at the forefront of disaster response, as they are make up a large share of the health care workforce (UNESCAP and ASEAN Secretariat 2021). Thus, it is imperative that a gender-transformative approach to DRR recognizes the outsize roles women play in post-disaster care and valuing them appropriately, to ensure that DRR improves the lives of women, rather than making them more difficult.

Another impact that needs to be acknowledged is the increase in violence against women after disasters (Enarson 2012), though in the ASEAN region, more data are needed to quantify the problem and inform effective policy responses. For example, three months after Typhoon Haiyan struck in the Philippines, there were still no data on gender-based violence, which shows a critical gap in response, as post-disaster needs assessment could collect such data and ensure assistance and support for survivors (Valerio 2016). It is also important to recognize that some women are more vulnerable than others, due to their socio-economic status, age, ethnicity and other social identities (Resurrección 2013). At the same time, there are broad societal costs: for instance, a UN Women study found that domestic violence costs Viet Nam about 3% of its gross domestic product (GDP), due to lost productivity and other opportunity costs (UN Women 2013).

More broadly, addressing the vulnerability of women and marginalized groups would help the ASEAN region to further reduce the impacts of disasters, building on the gains made in recent years (Nguyen et al. 2020). While gender inequalities are human rights issues and need to be addressed as such, all of society stands to gain. Reducing women's vulnerability to disaster and building their resilience can help create more resilient communities overall and support sustainable development (Drolet et al. 2015).

3.2.4 Responses and policies

There is clearly a significant scope for improvement in DRR policies, globally and in Southeast Asia. As observed in a review of gender-responsiveness integration into national DRR strategies, Asian countries still seem to prioritize disaster response measures over mitigation, preparedness and resilience-building (Nguyen et al. 2020). Consequently, too little attention is paid to ensuring diverse and meaningful participation in decision-making in all stages of DRR planning and implementation, as well as gender-responsive disaster financing, resulting is lost opportunities for DRR to be transformative. In recent years, however, there have been several positive developments.

On a global scale, the 2015–2030 Sendai Framework for Disaster Risk Reduction draws attention to the importance of incorporating gender concerns into disaster preparedness, mitigation, response, recovery, rehabilitation and reconstruction. The goal to mainstream gender in DRR includes the collection and use of gender and disaster data; the assessment of gendered vulnerabilities; the analysis of gender-specific needs and concerns; as well as prioritizing women's inclusion in disaster preparedness, response and recovery processes (Sembiring 2016).

Since the adoption of the Sendai Framework, important progress has been made in terms of mainstreaming a gender-responsive and disability-inclusive approach to DRR policies and practices. A study measuring progress against these goals, including in four ASEAN countries (Myanmar, the Philippines, Thailand and Viet Nam), found that all four had made policy commitments to more inclusive DRR and were actively working towards their translation into practice (Nguyen et al. 2020). For instance, Myanmar committed to consult and involve women and people with disabilities in DRR decision-making processes, the Philippines has used gender-responsive budgeting to ensure enough resources are allocated to these goals; Thailand has committed to gender-responsive infrastructure that delivers equal treatment to women; and Viet Nam has taken a community-based, participatory approach to DRR.

In ASEAN, the key regional policy document guiding ongoing DRR efforts is the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Work Programme 2021–2025 (ASEAN 2020). It highlights the links between climate change adaptation and DRR, as well as the imminent risks that extreme weather events will increase the intensity and frequency of disasters. It also takes a promising step towards inclusion by integrating gender considerations for the first time. Table 2 provides an overview of regional policies related to DRR and their degree of gender integration.



Photo: UNEP/Andrew Ball

Table 2: Overview of ASEAN key policy documents on DRR

Policy document	Issuing bodies	Gender in policies
ASEAN Agreement on Disaster Management and Emergency Response (AADMER) 2005	The ASEAN Committee on Disaster Management (ACDM)	No gender references
Declaration on Institutionalising the Resilience of ASEAN and its Communities and Peoples to Disasters and Climate Change 2015	ACDM	No gender references
ASEAN Declaration on One ASEAN, One Response 2016	ACDM	No gender references
ASEAN Vision 2025 on Disaster Management (2017)	ACDM	Limited to no gender references, with only one mention, in the introduction: "ASEAN will ensure gender equality and the empowerment of women and girls, the youth and children so that they can act as agents of their own response".
ASEAN Comprehensive Recovery Framework 2020	ASEAN	Gender-transformative: Gender considerations are appropriately mainstreamed throughout the policy, recognizing some of the root causes of differentiated vulnerability to COVID-19 and other disasters and identifying targeted measures to address them. These include facilitating women's access to technology, finance, social safety nets, and addressing unpaid and domestic work. The framework also aims to increase investment in gender-responsive public and social infrastructure, and recognizes the need for more inclusive governance systems. Furthermore, the Broad Strategy 5, "advancing towards a more sustainable and resilient future", links the challenges of COVID-19 with those of other disasters and climate change. The document recognizes that the pandemic has highlighted pre-existing vulnerabilities of the economy and society and "underscored the need to take on a strategic and holistic approach to manage disasters and emergencies in the future". Lastly, the Framework underscores the need to adopt a "transformative mindset towards a more proactive and preventative approach to future shocks that address the different needs of vulnerable groups" (para. 116).

Policy document	Issuing bodies	Gender in policies
AADMER Work Programme 2021–2025	ACDM	Gender-responsive – gender and social inclusion are one of the seven guiding principles: "To inculcate a whole-of-society approach in disaster management that leaves no one behind by recognizing the key roles and unique needs of the communities, especially those that are most affected during disasters including women, children, youth, elderly, the poor and people with disabilities as well as other vulnerable groups". However, the work programme does not directly aim to address the root causes of inequalities. Gender mainstreaming provisions include vulnerability assessments; the collection and use of disaggregated data, improved access to services (including social security); capacity-building for women and vulnerable groups; and participation in recovery. The work programme also aims to enhance cross-sectoral and multi-stakeholder collaboration for better inclusion of gender equality considerations into ASEAN's DRR work, including through institutional capacity-building and knowledge production.
ASEAN Regional Framework on Protection, Gender and Inclusion in Disaster Management 2021–2025	ACDM	Mostly gender-responsive, with gender-transformative elements: The framework identifies concrete entry points to mainstream protection, gender and inclusion in DRR and establishes targets with indicators to monitor progress at the national and regional levels. It also aims to institutionalize the leadership of women, children, youth, the elderly, the poor and people with disabilities in disaster preparedness, response and recovery, and promotes their full and equal participation in decision-making. It also aims to address some of the root causes of gendered vulnerability by removing some forms of structural discrimination.
ASEAN-UN Joint Strategic Plan of Action on Disaster Management IV. 2021–2025 (JSPADM IV)	ACDM and UN	Gender-responsive, with potential for gender-transformative implementation, if there is greater emphasis on meaningful participation and leadership of women and other groups in decision-making.
ASEAN Regional Plan of Action for Adaptation to Drought (ARPA-AD) 2021–2025	ACDM and the UNESCAP	Gender-responsive: Gender and social inclusion is one of the guiding principles in the ARPA-AD, which advocates for addressing the differentiated needs of women and other vulnerable groups. It calls for collecting and using disaggregated data, and for carrying out gender analyses in drought preparedness, national and regional policy-making, and disaster recovery interventions.

Policy document	Issuing bodies	Gender in policies
AHA Centre Work Plan 2025, 2021	ASEAN Coordinating Centre for Humanitarian Assistance on disaster management	Close to gender-responsive: While the Plan does not recognize the gender differentiated impacts of women, It suggest ways to make policies more gender-inclusive. For instance, it calls for trainings and workshops to include gender in the risk and vulnerability assessment guidelines, and also calls for addressing gender gaps in regional plans.

The ASEAN Regional Framework on Protection, Gender, and Inclusion in Disaster Management 2021–2025 (ASEAN 2021b) provides guidance for a gender-responsive and, to some extent, gender-transformative implementation of the AADMER Work Programme. Its development was led by the Technical Working Group on Protection, Gender and Inclusion, created in 2021 with representatives of the ASEAN Committee on Disaster Management, the ASEAN Committee on Women, the Senior Officials Meeting on Social Welfare and Development, and the ASEAN Coordinating Centre for Humanitarian Assistance.

Because the AADMER is legally binding, it serves as a crucial entry point for supporting ASEAN Member States in implementing gender-responsive DRR and humanitarian action. Despite some progress, a recent review found that countries have not yet fully adopted nor implemented the commitments to gender inclusion in DRR that are mentioned in international and regional DRR frameworks (Nguyen et al. 2020).

The fact that several recent policy documents have called for the collection and use of sex-disaggregated data is promising – but it is important not to stop there, but also investigate why women and other groups are vulnerable. This can only be done by complementing quantitative data with gender and social analyses (Nguyen et al. 2020), which requires investing in social science research. Another critical gap to address is to ensure the meaningful representation and participation of various social groups in DRR decision-making, including women and Indigenous Peoples. The goal should be not only to recognize and address their differentiated needs, but also to acknowledge their contributions to environmental protection and DRR and integrate them into institutionalized DRR approaches.

More broadly, addressing gendered vulnerabilities requires a holistic and long-term vision for DRR. This means that DRR efforts are not only immediately linked to disaster preparedness and response, but also to broader development efforts, such as access to education and other social services and infrastructure, resilient livelihoods, meaningful participation in decision-making and overall climate change action.

ASEAN is already connecting DRR with adaptation – for instance, through new guidelines on integrating climate projections into flood and landslide risk assessments.[38] ASEAN Member States are also encouraged to follow the ASEAN Declaration on the Strengthening of Adaptation to Drought, which aims to build networks and a community of practice to continuously improve drought risk management, incorporating local and traditional knowledge and practices. This more inclusive approach is embodied in the ASEAN Declaration on Culture of Prevention for a Peaceful, Inclusive, Resilient, Healthy and Harmonious Society, a section of which aims to "promote people's care for the environment, and to prepare for emergencies as a means to prevent risks of natural, human-induced disasters and environmental degradation". These policies and initiatives demonstrate strong commitments from ASEAN and set the basis for inclusive DRR efforts to be led by Member States.

[38] See https://asean.org/book/guideline-on-integrating-climate-change-projection-into-landslide-risk-assessments-and-mapping-at-the-river-basin-level/ and https://asean.org/book/guideline-on-integrating-climate-change-projection-into-flood-risk-at-the-river-basin-level/.



Photo: UN Women/Pham Thi Kim Oanh

Finally, ASEAN's COVID-19 response offers a good model for an inclusive, multi-sectoral approach. The ASEAN Comprehensive Recovery Framework takes a gender-transformative approach, which shows impressive progress at the regional level and provides valuable guidance for Member States. This policy can also serve as reference point for future DRR policies that coherently integrate gender equality and aim to address the root causes of vulnerability to disasters.

3.3 Agriculture

3.3.1 State and trends

Agriculture is a key economic dominant sector in Southeast Asia, particularly critical to the food security and livelihoods of rural people. It is also an important source of export revenue for several countries (Mizik 2021), particularly for Myanmar (24.3% of exports by value in 2019), Indonesia (19.2%) and Thailand (15.2%). Overall, the region had a US$39.2 billion agricultural trade surplus in 2019.[39] Although urbanization and industrialization have changed employment patterns in the region, almost a third of Southeast Asian workers were still employed in agriculture as of 2016 (Liu et al. 2020). As noted in the introduction, agricultural employment is still particularly high in Lao PDR, Myanmar, and Viet Nam, accounting for 61%, 49% and 37% of workers, respectively.[40]

Moreover, 26.7% of all working women in the region are employed in agriculture (OECD 2021), and it is estimated that almost half of all farmers are women (Siddiqi 2015) – though official counts often miss women working without pay, informally or at home (Chen 2001). Women are also underrepresented in leadership in and decision-making across processes in the sector, including around climate.

[39] There are significant differences across ASEAN countries, however: Thailand's agricultural trade surplus exceeded US$20 billion in 2019, and Indonesia's was nearly US$14 billion, but Brunei Darussalam, Cambodia, Lao PDR and the Philippines import more than they export (Mizik 2021).

[40] See World Bank data (based on International Labour Organization estimates): https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=BN-KH-ID-LA-MY-MM-PH-SG-TH-VN. The shares cited are for 2019.

Climate change poses a grave threat to crop production in Southeast Asia, as the sector is very sensitive to changes in temperatures and precipitation, extreme heat and cold, droughts and storms. As noted in the introduction, the latest IPCC assessment warns that several serious climate change impacts are likely to persistently affect crop production in the region (Shaw et al. 2022), as well as fisheries and aquaculture. Some of the biggest concerns involve an increase in the frequency of droughts (Amnuaylojaroen and Chanvichit 2019) – just in the past six years, droughts have been recorded nine times in ASEAN countries[41] – and extreme precipitation in most of the monsoon areas (ADB 2021b). Sea-level rise is another major threat, especially in very low-lying areas, where flooding and saline intrusion are growing problems.

As climate change leads to reduced yields and crop failures, especially for farmers who lack the resources to adapt, it creates ever-worse hardships in agrarian communities (Pross et al. 2020). A recent World Bank analysis found that climate change impacts could force as many as 6.3 million people in the Lower Mekong Region alone to migrate by 2050, due in great part to the loss of agricultural livelihoods (Clement et al. 2021). Many of those migrants would likely end up in areas facing different, but also severe climate change impacts, including disaster risks, while those too poor to migrate would be even more impoverished. This means tackling rural poverty, inequality and marginalization is an urgent adaptation priority.

Despite women's significant involvement in the sector regionally and their vital contribution to global food security, gender norms and structural inequalities put them at a significant disadvantage in adapting to climate change (Nguyen et al. 2019). As with energy and DRR, women are often excluded from decision-making – in their communities and at the national and regional levels. They are also far likelier than men to lack crucial resources for adaptation, especially reliable access to land (Pross et al. 2020). For instance, as of 2013, 73% of the land in Cambodia was held by men (Leapheng 2019), and in Indonesia, only 24.2% of land is registered under female ownership (Astri et al. 2020).

3.3.2 Drivers and pressures

While the agriculture sector is a major employer in many economies across the region, there has been a steady decline in workforce over the years. Across Southeast Asia, the rural share of the population is projected to decline from about 50% in 2021 to under 40% by 2050 (ADB 2021a). Migration to urban areas is already common, driven by the growing difficulties faced by farmers such as stagnation of agricultural growth, environmental stress, lack of rural credit, as well as the appeal of higher-paying jobs in manufacturing and services (Simelton et al. 2021). Men in particular have migrated in large numbers to urban areas and internationally. This trend has made the agricultural sector increasingly reliant on women for labour, especially in countries such as Cambodia and Lao PDR, where women now make up more than half the agricultural workforce (ADB 2021a). The feminization of agriculture can leave women doubly burdened, responsible for both domestic and wage-earning labour (Bacud et al. 2021).

Behind these disparities and vulnerabilities are structural inequalities. For example, women tend to have limited access to and control over agricultural land because in much of Southeast Asia, land tenure structures remain largely patrilineal (Kusakabe et al. 2015). In addition, gendered divisions of labour around livelihood practices can also result in women being disproportionately affected by climate and conservation policies. For example, it is common for rural women to collect and sell non-timber forest products, and policies that restrict access to those resources would limit or eliminate that source of income (Carr and Hartl 2008).

[41] The most recent droughts were in 2019, in Lao PDR, the Philippines, Thailand and Viet Nam. See https://public.emdat.be.

Rural women in the Southeast Asia are also often marginalized in decision-making processes, as noted above. For example, a study in Kalimantan, Indonesia, found that when villagers started protesting against the expansion of palm oil plantations in 2018, only men were consulted for possible compensation, even though women farmers were the most affected by the loss of livelihoods (Nnoko-Mewanu 2021). A study in Cambodia found women had minimal influence on decision-making around forest management because of their low membership in elected committees, even though they possessed crucial knowledge (Nhem and Jin Lee 2019).

Furthermore, women farmers often have limited access to tools and information that they participate in community-level decision-making, or to implement adaptation measures of their own. In Cambodia, for example, the high illiteracy rate among women, coupled with patriarchal norms that frequently assign asset ownership to men, result in unawareness about joint ownership and equal rights to inherit land (Nguyen et al. 2019). Therefore, lack of education can restrict women's ability to make use of vital information that is necessary not only for their security but also economic empowerment.

More generally, the scope and methods of institutional services do not usually consider sociocultural or educational factors that make it difficult for women to obtain information and technical skills that would enable them to make more efficient use of resources. These include weather forecasts and market information, new techniques for reducing losses during post-harvest and processing activities, improved inputs, or the introduction of new, climate-resistant crops (UNESCAP 2017). An OECD analysis found deeply embedded gender gaps limit women's access to market information, technological knowledge and resources, which also, in turn, limits their representation in decision-making processes (OECD 2021).

A study in Viet Nam found that technical information and access to technologies was often given to men despite the fact that it was the women were adapting by diversifying crops, obtaining more resistant varieties, or engaging in new cash-oriented livelihoods — and thus could have used the knowledge (Pham et al. 2016). However, because of embedded inequalities, even tools that are technically available to all can benefit men far more than women. Work in Ninh Thuan province, Viet Nam, showed that even though women were given equal access to a drought forecasting tool, in practice they had limited opportunities to take advantage of it (Pross et al. 2020; SERVIR 2018). It is therefore crucial to understand the context of women farmers' lives and the particular limitations they face, while also recognizing that, with the right support, women can be powerful agents of change, drawing on their knowledge and skills (MCCA n.d.).

3.3.3 Impacts and effects

With climate change, both men and women are having to work harder and longer in agricultural production, but the relative impact on women is greater, as they also shoulder domestic responsibilities (Paris and Rola-Rubzen 2019). Women have to secure enough food for the household, and also often collect water and fuel for daily needs. This means when these resources become scarcer, women feel the impacts first, and need to spend even more time on these tasks (Saputro 2021). Social norms that give priority to men when food is in short supply also make women likelier to forgo meals.

Pre-existing livelihood precarity can make women particularly vulnerable to climate change. For instance, a study conducted in Bac Lieu province of Viet Nam found that female-headed households were likelier than men to work as seasonal hired labour on farms (Paris and Rola-Rubzen 2019). This means that in the events of floods or droughts, women who holds sporadic forms of employment may be more susceptible to loss of income. In the context of food and income insecurity, sexual exploitation also becomes more common (Slavchevska, Kaaria, and Taivalmaa 2016), as is selling of assets to potentially help their family recover from financial loss (Erman et al. 2021).



Photo: UN Women/Antoine Raab

These gendered impacts and effects need to be effectively addressed to overcome the barriers that women, especially those who are part of the poorer strata in rural societies, continue to face. Without challenging the economic, political and cultural structures of inequality that grant privileged status to particular groups (of men) at multiple scales, the power imbalances that marginalize women – especially rural, ethnic, or poor women – will not change (Nguyen et al. 2019). Agricultural policies and interventions need to be developed inclusive and participatory processes to ensure more equitable outcomes.

3.3.4. Responses and policies

ASEAN has demonstrated a strong commitment in mainstreaming gender in the agricultural sector, through policies such as the ASEAN Regional Guidelines on Food Security and Nutrition Policy; AMAF's Approach to Gender Mainstreaming in the Food, Agriculture and Forestry Sector; the 2018 ASEAN Guidelines on Promoting Responsible Investment in Food, Agriculture and Forestry and, to an extent, the ASEAN Regional Guidelines for Promoting Climate Smart Agriculture Practices as well.

Addressing gender in agriculture also requires a multi-dimensional approach that goes beyond sector-specific bodies. ASEAN has also made strides in this regard – for instance, through its support and endorsement of the report "Strengthening Women's Entrepreneurship in Agriculture in ASEAN Countries" that was launched by the ASEAN Coordinating Committee on Micro, Small and Medium Enterprises, with technical assistance from the Organisation for Economic Co-operation and Development (OECD) and inputs from the ACW and the Senior Official Meeting of the ASEAN Ministers on Agriculture and Forestry (ASEAN 2021a).

Table 3 provides a snapshot of ASEAN policies relevant to agriculture and climate change.



Photo: UNEP/Andrew Ball

Table 3: Key ASEAN policy documents on agriculture and climate change

Policy document	Issuing body	Gender in policies
ASEAN Regional Guidelines for Promoting Climate Smart Agriculture Practices, 2015	ASEAN Ministers on Agriculture and Forestry (AMAF)	Gender-responsive: Some mentions of gender in a sub-section on climate risk management and gender inclusion.
ASEAN Regional Guidelines on Food Security and Nutrition Policy, 2017	AMAF	Gender-responsive: Recognizes how nutrition and food insecurity can be gendered, how gender equality can contribute to nutrition and food security, and how efforts for nutrition and food security can also contribute to gender equality.
The ASEAN Guidelines on Promoting Responsible Investment in Food, Agriculture and Forestry-2018	AMAF	Gender-responsive: Guideline 3 thoroughly addresses the need for responsible investment to address gender inequality.
ASEAN multi-sectoral framework for climate change: agriculture and forestry towards food and nutrition security and achievement of SDGs, 2018	AMAF	Only one mention of "gender sensitive policies" in one of the 8 strategic thrusts. This shows potential for gender integration.
2018 AMAF's Approach to Gender Mainstreaming in The Food, Agriculture and Forestry Sector	AMAF	Gender-responsive/ transformative: Provides a set of recommendations for policies and programmes to ensure women working in the food, agriculture and forestry sectors in ASEAN are empowered. Not a binding statement.
The ASEAN Guidelines on Promoting Responsible Investment in Food, Agriculture and Forestry-2018	AMAF	Gender-responsive: Guideline 3 thoroughly addresses the need for responsible investment to address gender inequality.
ASEAN Integrated Food Security Framework and Strategic Plan of action on Food Security in the ASEAN Region 2021–2025, 2020	AMAF	Limited to no gender references: One reference to a study on long-term implications of structural demographic change (including gender) on food security in ASEAN.

These initiatives highlight a strong commitment to mainstream gender in policies related to agriculture and climate change in ASEAN. With positive steps in including gender concerns and issues at the regional levels, ASEAN has the potential to pave the way for formulating and implementing gender-inclusive climate policies that will contribute to a more gender-equal society.

To further accelerate the process of gender integration at the regional level, stakeholders interviewed for this report said sharing best practices among the ASEAN Member States would help them implement policies and plans more efficiently, especially since the countries welcome the idea of gender integration.



Photo: UNEP/Andrew Ball

4. Country spotlights

Cambodia
Viet Nam
Indonesia
The Philippines



Photo: UNEP/Andrew Ball

This section delves deeper into renewable energy, disaster risk reduction and agriculture in the context of climate change in Cambodia, Viet Nam, Indonesia and the Philippines, and identifies examples of good practices in gender mainstreaming that are consistent with regional and national policies.

4.1 Cambodia



4.1.1 Renewable energy

National background

Electricity demand in Cambodia is projected to increase 7.5 times between 2015 and 2040, making clean and affordable energy sources more important than ever (ERIA 2019). Cambodia has significant potential for hydropower, solar, biomass and wind, and, as shown in Figure 6 above, renewable generation capacity grew sevenfold from 2011 to 2020 (IRENA 2021). Still, total renewable capacity at the end of 2020 was just under 1.6 GW, far too little to fulfil the country's electricity needs. The Royal Government of Cambodia has recognized energy and climate commitments as priorities in the fourth phase of its Rectangular Strategy for Growth, Employment, Equity and Efficiency (2018).

The Rural Electrification Master Plan of 2006 formally kick-started Cambodia's RE sector, followed by the National Policy on Rural Electrification by Renewable Energy in 2007. The main objective of the policy is to provide energy security in rural areas. RE does not just hold the potential to improve access to modern energy services – it also has key implications for public health.

Cooking fuel makes up about half of Cambodia's total energy consumption (UNDP 2019), and the latest national census, in 2019, found that traditional biomass remains the main fuel for cooking; 60.9% of households in the country rely on it. Not only does this practice contribute to forest degradation, but stakeholders from NGOs interviewed for this report noted that it also exposes users to smoke, with serious health effects that fall disproportionately on women and young girls.

While the government has set a goal to achieving universal electricity access by 2023, in practice, equal energy access across socioeconomic and gender lines is not guaranteed (Monin et al. 2021). Moreover, unlike several of its ASEAN neighbours, Cambodia has yet to set any specific targets for the share of RE in the energy mix. Efforts to mainstream gender into energy transitions have also progressed slowly. Stakeholders from both the government and NGOs said in interviews that the lack of human and financial support and capacity are among the main reason for the slow progress. Table 4 presents an overview of key nation policies relevant to RE in Cambodia.

Table 4: Key policy documents on renewable energy in Cambodia

Year	Policy document	Issuing body	Implementation period	Gender in policies
2006	Master Plan Study of Rural Electrification by Renewable Energy in the Kingdom of Cambodia	Ministry of Industry, Mines and Energy	N/A	No gender references
2013	Cambodia Climate Change Strategic Plan (CCCSP)	National Climate Change Committee	2014–2023	Gender-responsive
2013	National Policy, Strategy and Action Plan on Energy Efficiency in Cambodia	Ministry of Industry, Mines and Energy	N/A	No gender references
2015	Climate Change Action Plan for the Mines and Energy Sectors 2015–2018	Ministry of Industry, Mines and Energy	2015–2018	Gender-responsive
2019	National Energy Efficiency Policy 2018–2035	Royal Government of Cambodia	2018–2035	No gender references
2019	Cambodia Basic Energy Plan	Ministry of Mines and Energy	N/A	No gender references
2020	Climate Change Action Plan for the Energy Sector 2021–2023	Climate Change Working Group for the Mines and Energy Sector	2021–2023	Gender-responsive

Source: Adapted from Monin et al. (2021).

As shown in Table 4, most RE-related policies and plans in Cambodia make no reference to gender, though a few indicate gender awareness. Notably, Cambodia's updated NDC recognizes gender as a cross-cutting issue and mentions the gendered impacts of climate change. It further acknowledges the importance of a gender perspective in all mitigation areas (see Annex 2 for more details).

The Climate Change Strategic Plan for the Mines Industry and Energy (2014–2023) identifies gender as a cross-cutting issue, with strategic objectives. It also considers gender mainstreaming as a target in action plans and programmes. In the Climate Change Action Plan for the Mines and Energy Sector (2015–2018), reducing gender vulnerability and health risks related to the effects of climate change is one of the planned actions. Similarly, the Climate Change Action Plan for the Energy Sector (2021–2023) has incorporated gender and climate change concerns in its Strategic Objective 2, which focuses on the reduction of sectoral, regional and gender vulnerability and health risks related to impacts of climate change. However, although the plan discusses the significant contribution that RE can make to a low-carbon future for Cambodia, there is no discussion of the potential gendered implications of RE.



Photo: UNEP/Andrew Ball

Key gaps and challenges

The terms "gender" and "gender equality" remain poorly understood in Cambodia, both in the policy sphere and among those implementing programmes. Stakeholders noted in interviews that there is no direct translation of the word "gender" in the Khmer language. Furthermore, the subject of climate change and gender is rarefied, as it is often presented in academic terms, which quickly turns the issue into an abstraction.

In a similar vein, on a societal level, stakeholders pointed out that the interlinkages between gender equality and RE are a novel concept, and related discussions are largely confined to the academic or research sphere. Thus, there is a need for advocacy and knowledge dissemination for both public awareness and action, as well as for operational policy drafting. Since the concept of gender equality within the RE sector is currently still vague, it is critical to align policies with clearly established gender indicators that can be clearly explained, implemented, enforced and monitored. Interviewees from the government suggested that such indicators need to also be easily accessible and visualized by government officials and the private sector.

Another key challenge is that gender-disaggregated data remain scarce, so it is difficult to quantify gender (in)equality related to RE access, use and distribution in Cambodia. Coupled with limited capacity to conduct gender analyses, this makes it difficult to identify gaps that require policy interventions. There are no also official indicators or milestones for tracking gender progress, so gender-related outcomes are not captured by official monitoring and evaluation frameworks (Monin et al. 2021).

Furthermore, there is a gap in RE policy implementation between the central government and local governments. Not only is there no national target for RE penetration, interviewees noted, but there is no streamlined government information or support for promoting RE in rural communities, especially to vulnerable groups such as poor households, women-led households, and people living with a disability.

There is a need for advance knowledge and capacity-building around energy costs and usage, both at the policy level and at the consumer level. While policy-makers need to be aware of the different dimensions of energy costs and usage that may act as barriers to consumers' RE uptake, energy consumers need to be well informed about the implications of their energy choices.

An interviewee provided the following example: If a family invests in chargeable car batteries (widely used, especially in rural areas) for the household's electricity supply, yet the battery needs to be charged every few days, this can create a significant cost burden over time, as it is expensive to charge batteries at diesel-powered charging stations. Consumers would thus benefit from information campaigns and increased transparency in energy costs.

A final concern raised by interviewees is the lack of Indigenous representation in RE decision-making. Cambodia is home to 24 different Indigenous groups, who make up about 2–3% of the population and occupy about 25% of the land, typically forested plateaus and highlands (IWGIA 2021). While expanding affordable and reliable RE can improve energy access, an interviewee has said RE projects should not encroach on Indigenous lands without free, prior and informed consent,[42] especially when those projects may have negative implications for local livelihoods.

[42] Indeed, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) formally recognizes Indigenous communities' right to give or withhold consent with regard to any project that may affect them or their territories. See this brief explainer from the UN Food and Agriculture Organization: https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/.

There are also barriers to extending RE to rural Indigenous groups, who are often marginalized geographically, socially, economically and politically. Indigenous women are even more likely to be sidelined in energy issues due to multiple, intersecting layers of discrimination and norms that impede participation. Insights from stakeholder interviews suggest that these inequalities have implications not only for energy access, but also for Indigenous representation in RE decision-making, particularly at the national level. Language barriers pose an additional challenge.

BOX 1:

Best practices: The Smoke Free Village approach

In Cambodia, the Clean and Improved Cooking programme, executed by the Netherlands Development Organization (SNV) with the global energy access partnership EnDev, has been implemented in 22 communes. The Smoke Free Village approach was rolled out in 2020, with four key components:

1. Policy intervention: Strengthen public policy and institutional capacities;
2. Private sector: Engage with the private sector to secure financing;
3. Behavioural change and awareness: Address cultural norms, decision-making power structures and gender inequalities; and
4. Demand creation: Promote the adoption of improved and clean cookstoves.

As part of the programme, SNV worked closely with local authorities such as the Commune Council for Women and Children, which facilitates consultative processes to ensure that women's leadership is recognized at all levels. Working on improving capacities of local institutions is a crucial step towards strengthening gendered public policies aligned with Cambodia's evolving national objectives on RE.

Importantly, the programme actively engaged with and promoted women-led energy enterprises, such as local cookstove suppliers and distributers. It also involved both men and women in developing solutions for a cleaner cooking environment via information dissemination and campaigns. The goal is that through these positive steps towards gender-balanced engagement, long-term behaviour changes can be initiated to distribute domestic tasks more evenly.

4.1.2 Disaster risk reduction

National background

Cambodia is highly vulnerable to disasters due to its physical exposure to hazards such as floods, storms, tropical cyclones and landslides, and to its socio-economic vulnerability (UNDRR 2019a). In interviews, stakeholders noted that many people live on public land without land tenure, so they are not protected from eviction. This brings uncertainty to their capacity to secure livelihoods and social networks, which could make them more resilient to disasters.

Previous research has unpacked how land concessions to agribusiness or extractive industries can lead to environmental destruction and increase disaster risks, while forest conservation efforts sometimes also result in displacement and the loss of livelihoods (Vigil 2019). The combination of economic dependency on land and barriers to accessing and controlling this land has particularly large impacts on women, increasing their vulnerability to disasters (Kusakabe et al. 2017).

Interviewees also highlighted how international cooperation and development support have enabled more inclusive DRR in Cambodia. As an example, they noted the support of UN Women and the United Nations Development Programme (UNDP) in advocating for gender-responsive climate policies, and their engagement in capacity-building with the government.

Table 5 provides an overview of key policies on DRR in Cambodia.

Table 5: Key policy documents on disaster risk reduction in Cambodia

Year	Policy document	Issuing body	Implementation period	Gender in policies
2006	National Adaptation Programme of Action to Climate Change	Ministry of Environment	N/A	No gender references
2013	Cambodia Climate Change Strategic Plan	Royal Government of Cambodia	2014–2023	Gender-responsive – clearly identifies gender issues in climate change and the need to address differentiated vulnerabilities through DRR
2015	Law on Disaster Management	Royal Government of Cambodia	N/A	Little or no gender reference – only calls on authorities to "pay high attention to the needs of women" and other groups after disasters
2018	Master Plan on Gender and Climate Change	Ministry of Women's Affairs	2018–2030	Gender-responsive – aims to institutionalize gender mainstreaming
2019(?)	Strategic National Action Plan for DRR	Royal Government of Cambodia	2019–2023	Not reviewed, as unavailable online
2021	Guideline for Mainstreaming Gender in Inclusive Disaster Management	National Committee for Disaster Management	N/A	Gender-responsive

The policy review shows growing attention to gender integration in both adaptation and DRR. Unfortunately, the text of the Strategic National Action Plan for DRR could not be obtained online (or in English) for review, but interviewees said the draft included a section on gender mainstreaming. The Master Plan on Gender and Climate Change (2018–2030) explicitly seeks to institutionalize gender mainstreaming across climate and DRR policies, strategies, programmes and projects in Cambodia. Still, it is gender-responsive, not transformative, as it acknowledges gender inequalities and aim to address them, but do not tackle their root causes. The 2021 Guideline for Mainstreaming Gender in Inclusive Disaster Management offers guidance in line with the Master Plan, including a helpful checklist.

Key gaps and challenges

Cambodia has taken important steps to integrate gender into adaptation and DRR, but stakeholders interviewed for this study identified several gaps and challenges that still need to be addressed:

Lack of women's participation in DRR decision-making: Decision-making spheres remain mostly male dominated in Cambodia, especially at the local level (Tanyag and True, 2019). Women are less likely to be participate in commune or sangkat decision-making, and when they attend, they seldom participate meaningfully. This means they have little influence on DRR plans and budgets, which can lead to neglect of gendered vulnerabilities and missed opportunities to address their root causes. This is partly due to social norms, but interviewees also said efforts to address tend not to take an intersectional approach, so privileged women's voices are heard more than poor, Indigenous, or other marginalized women.

Inadequate resources and coordination: While Cambodia has promising policies, civil society stakeholders said the responsibilities and budget to implement commitments on gender are not clearly defined. For instance, the Ministry of Women's Affairs developed the gender mainstreaming guideline, but it is not in charge of implementing it, nor does it have budget to follow up with other agencies. This echoes concerns raised in previous research about budgeting for DDR policy implementation (Jeon et al. 2021). At the local level, limited budget allocated to DRR mean that communes spend most of their resources on disaster response, rather than in preparedness and risk mitigation, where gender inequalities could better be addressed (Tanyag and True 2019). Resource constraints also affects capacities to gather gender-disaggregated data to inform evidence-based DRR policies and programming. Moreover, while most ministries and the National Committee for Disaster Management have gender focal points, their influence remains limited, as it requires cooperation from other agencies. Coordination gaps among national institutions and between the national and local levels also result in low accountability.

Unmet capacity-building needs: Stakeholders identified several areas where capacities need to be built at all levels, including knowledge of DRR that goes beyond the technical approach, such as understanding linkages with agriculture and other sectors. More training is also needed to raise awareness of the value of women's participation and empowerment for the country's overall development, which would facilitate gender-responsive planning, budgeting and service delivery in the context of DRR. However, interviewees said existing capacity-building efforts have limited impact, because participants are only expected to apply the knowledge in their work, rather than training their colleagues. This means that when human resources are subjected to turnover, the knowledge and skills developed are lost.



Photo: UNEP/Andrew Ball

BOX 2:

Best practices: Training women as champions for gender-transformative DRR

ActionAid Cambodia is leveraging women's leadership potential to advance gender-transformative DRR. The NGO works closely with civil society and community-based groups to recruit women at the grassroots level and train them to become DRR champions. They learn key DRR skills, such as how to assess hazards, needs and capacities, as well as community-based disaster risk management. They are also offered small grants and trained on how to manage them, which allows them to develop their own projects. In addition, they developing lobbying skills to become local advocates for inclusive and transformative DRR.

At the same time, ActionAid Cambodia engages with women already in decision-making positions, such as commune councillors and district administration officers. These women have specific areas of expertise, such as education or fisheries, and are trained to take a more inclusive and holistic approach to DRR. The NGO then helps them engage with national policy-makers to influence DRR.

Altogether, about 100 women champions to date. ActionAid engages with the Ministry of Women's Affairs and the National Committee for Disaster Management to select participants and to acknowledge their contributions at the district and provincial levels. This contributes to more participatory decision-making processes and empowers women as they develop their leadership capacities.

One of the main barriers to this initiative has been the limited time that women have available, especially at the grassroots level, as they have both income-earning work, and domestic responsibilities. Their engagement is limited to about two days per month, so the capacity-building process takes time. In this context, the NGO observed that family support is crucial, and it also engages with husbands, on their own and in mixed groups, to help them understand each other's perspectives. This also allows to challenge traditional gender norms within the household, which is a critical step of social transformation.

4.1.3 Agriculture

National background

Three-quarters of Cambodians live in rural areas (UN DESA 2018), and despite a sharp drop in farm-based employment in the past two decades, about 35% of the labour force still worked in agriculture, fisheries and forestry as of 2019.[43] This means agriculture remains crucial to rural livelihoods and food security.

Climate change and related disasters already have significantly impacts on the sector, particularly through floods and droughts (UNDRR 2019a). Rice farming is heavily affected, with lower yields and resulting drops in socio-economic development (Sok et al. 2021). Though farmers overall are deemed vulnerable to climate impacts, female-headed farming households are disproportionately at risk, due to social norms, limited economic options and income, and higher poverty rates (ADB 2018a).

When it comes to adaptation, stakeholders interviewed for this report said women face challenges in implementing climate-smart agriculture, because of lack of literacy and limited access to finance and other resources. As a result, they rely on mainly ad hoc responses, such as shifting planting dates, taking off-farm jobs, or migrating, instead of planned adaptation measures such as adopting new technologies, building irrigation canals or using water pumps, that could be more reliable (Monin et al. 2021).

The government is working to address some of these challenges through efforts to mainstream gender into policies on climate and agriculture, and civil society groups and international organizations are advocating to accelerate the process. Table 6 presents an overview of key policy documents.

[43] See World Bank data: https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=BN-KH-ID-LA-MY-MM-PH-SG-TH-VN. In 2000, the share was 75%, and in 2010, 57%.

Table 6: Key policy documents on agriculture and climate change in Cambodia

Year	Name of document	Issuing body	Implementation period	Gender in policies
2006	Agriculture Sector Strategy Development Plan 2006–2010	Ministry of Agriculture, Forestry and Fisheries	2006–2010	Gender-responsive – recognizes women's limited roles in decision-making, and seeks to mainstream gender by increasing awareness, integrating gender analysis and sex-disaggregated data, and providing more opportunities in leadership roles
2013	National Strategic Plan on Green Growth 2013–2020	National Council on Green Growth	2013–2020	Limited or no gender references – mentions improving welfare for women and other groups, but does discuss gender-differentiated needs
2014	Gender and Climate Change Action Plan 2014–2018	Gender and Climate Change Committee and Ministry of Women's Affairs	2014–2018	Gender-responsive – recognizes gender differences in access to key resources, and aims to strengthen institutional capacity and knowledge of women's roles in adaptation and mitigation
2014	Cambodia Climate Change Strategic Plan 2014 – 2023	National Climate Change Committee	2014–2023	Gender-responsive
2015	Gender Mainstreaming Policy and Strategic Framework in Agriculture 2016–2020	Ministry of Agriculture, Forestry and Fisheries	2016–2020	Gender-transformative

Year	Name of document	Issuing body	Implementation period	Gender in policies
2016	Master Plan for Crop Production in Cambodia by 2030	Ministry of Agriculture, Forestry and Fisheries	2016–2030	Gender-responsive

Overall, existing agricultural policy and strategies of Cambodia have adopted a gender-responsive approach, recognizing the roles of women in the sector, gender differences in access to resources, and the gendered effects of climate change, but usually not addressing the root causes of those inequalities.

For instance, the Cambodia Climate Change Strategic Plan 2014–2023 prioritizes reducing gender vulnerabilities and recognizes the vulnerability of poor rural women to climate change. It also seeks to integrate and mainstream gender in key processes. Similarly, the Master Plan for Crop Production in Cambodia by 2030 identifies challenges, such as the lack of sex-disaggregated data and women's limited access to training, credit and income generation opportunities, and seeks to address them.

The Gender Mainstreaming Policy and Strategic Framework in Agriculture 2016–2020 goes farther, becoming gender-transformative. It not only recognizes Cambodian women's contributions in the sector, but defines climate change as a crosscutting issue that is not gender-neutral. It also aims to promote women's economic empowerment, increase equal gender representation, and strengthen capacities and resources to further mainstream gender in the agriculture sector.

Key gaps and challenges

Stakeholders identified several key challenges that need to be addressed in the agriculture sector:

Barriers to accessing information on adaptation techniques and disasters: There is a need to build the adaptive capacity of rural women, especially those who are most marginalized and lack key resources, such as land and water. Yet women farmers are usually unaware of opportunities to get information and training on conservation and protection of natural resources and environment, specifically water use and allocation (Monin et al. 2021). Interviewees also said that crucial information about disasters such as droughts and severe rainfall is not even shared with women, which limits their ability to take action and thus imperils their safety.

Gender gaps in technology adoption and financial resources: Women tend to have less opportunities than their male counterparts to be access and finance climate-related agricultural technologies. For example, interviewees mentioned that male-headed households are more likely than female-headed households to secure investments in technologies that may increase their adaptive capacities to climate change.

Limited capacity-building and awareness around gender and climate change: Institutions that make key decisions about agriculture and climate lack the capacities needed for in-depth gender analysis, advocacy and gender mainstreaming, which poses a huge challenge to efficiently integrate gender in policies and plans (Monin et al. 2021). Though many agricultural policies have started to address gender inequality, interviewees said implementation has lagged because provincial staff lack the capacity to turn policies into actionable plans.



Photo: UNEP/Andrew Ball

BOX 3:

Best practices: The Cambodia Horticulture Advancing Income and Nutrition (CHAIN) Project

Launched in 2014 by the Swiss Agency for Development Cooperation (SDC), and implemented by SNV–Netherlands Development Organization, CHAIN is an 8-year project to improve the food security and climate resilience of the low-income smallholder farmers. It was implemented with the Ministry of Agriculture, Forestry and Fisheries, the Ministry of Women's Affairs, NGOs and private sector partners.

The project is focused on four provinces in Cambodia: Preah Vihear, Stung Treng, Kratie and Oddar Meanchey. To date, it has reached 10,000 households in 400 farmer groups, with a strong focus on women, who make up 70% of the cohort.[44]

The project adopted a gender-transformative approach that focused on improving sustainable income growth while strengthening household food security. It includes strategies to reduce women's workloads, make time for their training, increase women's decision-making powers at the household levels, develop gender-responsive service delivery among stakeholders, and consolidate women's businesses. Each team was equipped with a gender specialist, and team members were provided with gender training.

Phase I of the project involved motivating the farmers to intensity their production along with increasing their awareness and access to technologies like raised beds, trellises, quality seeds and drip irrigation. Phase II focused on promoting and gradually increasing the cultivation of locally grown vegetables to raise the standards of quality along with increasing productivity. Finally, Phase III aimed to introduce smart water solutions and climate-resilient water resource management and support the development of national horticulture practices along with strategies for vegetable production.

[44] See https://snv.org/project/cambodia-horticulture-advancing-income-and-nutrition-chain.

4.2 Viet Nam



4.2.1 Renewable energy

National background

As noted in the introduction, Viet Nam has been the most ambitious country in ASEAN in terms of RE development, with very rapid growth in solar power especially – from 105 MW in 2018, to 4.9 GW in 2019 and 16.5 GW in 2020 (IRENA 2021) – that has put it among the top 10 countries globally. In October 2020, Southeast Asia's largest solar farm to date began operations in Ninh Thuan province (Nguyen 2020).

Viet Nam committed to RE expansion in its 2017 National Action Plan and also included it as a key mitigation strategy in its NDC.[45] The government's Power Development Plan 8 (PDP 8), which is to guide electricity supply growth 2021 to 2030 (it was still being finalized as of this writing, however), still relies mainly on fossil fuels, but it emphasizes wind and solar capacity expansion, as well as grid infrastructure upgrades to integrate more RE.

Just over half of Viet Nam's installed renewable capacity as of 2021 was hydropower (IRENA 2021), but although the country has several large rivers, hydropower is considered increasingly unreliable, as it is susceptible to droughts and water shortages – an issue that will become more common with climate change. As such, developing non-hydro RE is seen as a key way to reduce Viet Nam's reliance on coal while also meeting the country's fast-growing electricity needs (EIA 2021).

In addition to the expansion of wind and solar energy, over 250,000 domestic biogas digesters have been deployed in Viet Nam as of 2019, benefiting up to 1.2 million people (ISPONRE 2021). Government departments such as the provincial Women's Union and the provincial People's Party have developed plans for women's entrepreneurship within RE in order to align with sectors identified in commitments such as the NDC, the Green Growth Action Plan, and the SDGs. These initiatives signal Viet Nam's strong willingness to increase women's meaningful participation in the RE sector.

Table 7 provides an overview of key policies on renewable energy in Viet Nam.



Photo: UNEP/Maxwell Gutteridge

[45] See https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Viet%20Nam%20First/Viet%20Nam_NDC_2020_Eng.pdf.

Table 7: Key policy documents on renewable energy in Viet Nam

Year	Policy document	Issuing body	Implementation period	Gender in policies
2004	Law No. 28/2004/QH11 Electricity Law	National Assembly	2005- Present	No gender references
2006	Decision of the Prime Minister No. 79/2006/QD-TTg of 2006 Approving the National Strategic Program on Energy Saving and Effective Use	The Prime Minister of Government	2006–2015	No gender references
2007	Decision No. 1855/QD-TTg, approving Viet Nam's National energy development strategy up to 2020, with 2050 vision	Ministry of Industry and Trade (MOIT)	2007–2050	No gender references
2012	Decision No. 1427/QD-TTg on Approval of National Targeted Program on Energy Efficiency and Conservation Phase 2012–2015	MOIT and Ministry of Planning and Investment (MPI)	2012–2015	No gender-references, but the role of the Women's Union in implementation in mentioned
2012	Law No. 24/2012/QH13 Electricity Law	National Assembly	2013–Present	No gender references
2013	Resolution No. 24-NQ/TW, active in response to climate change, improvement of natural resources management and environmental protection	National Assembly	2013–Present	No gender references
2014	Resolution 08/NQ-CP, promulgating the Government's Action Program on implementation of Resolution No. 24-2015NQ/TW of the 11th Central Committee of the Party Central Committee on responding to climate change, strengthening natural resources management and environmental protection	Ministry of Natural Resources and Environment (MONRE)	2014–Present	No gender references
2015	Decision No. 2068/QD-TTg, approving the development strategy of renewable energy of Viet Nam by 2030 with a vision to 2050	Prime Minister	2015–2030	No gender references

Year	Policy document	Issuing body	Implementation period	Gender in policies
2016	Decision No. 90/QD-TTg, approving Master Plan for natural resources and environment monitoring for 2016–2025, with a vision to 2030	MONRE	2016–Present	No gender references
2017	Decision No. 11/QD-TTg on the Mechanism for Encouragement of the Development of Solar Power Projects in Viet Nam	Prime Minister	2017–2019	No gender references
2018	Law No. 03/2018/VBHN-VPQH Electricity Law	National Assembly	2019–Present	No gender references
2019	Decision No. 1264/QD-TTg on Approval for the National Power Development Plan for 2021–2030 period with vision towards 2045	MOIT	2019–Present	No gender references
2020	Resolution No. 55-NQ/TW on the orientation of Viet Nam's National Energy Development Strategy to 2030, with a vision to 2045	Politburo of the Communist Party of Viet Nam	2020	No gender references
2020	Decision No. 08/2020/QD-TTg on Adjustment of Decision No. 24/2014/QD-TTg on support mechanism for the development of biomass power projects in Viet Nam	MOIT/Prime Minister	2020	No gender references
2020	Decision No. 13/2020/QD-TTg on Mechanisms to Promote the Development of Solar Power Projects in Viet Nam	MOIT/Prime Minister	2020	No gender references
2020	Directive Document No. 7088/BCT-DL on the mechanism for the development of rooftop solar power	MOIT	2020	No gender references

Source: Adapted from ISPONRE (2021, pp.92–93).

A key insight from the policy review is that Viet Nam still has a long way to go to integrate gender meaningfully in its national RE policies. Only one document, Decision No. 1427/QD-TTg (2012), which approved the National Target Program on economical and efficient use of energy between 2012 and 2015, mentioned gender even tangentially – identifying the Women's Union as an implementation partner.

Key gaps and challenges

Renewable energy is an important growth sector in Viet Nam, but several challenges need to be addressed to ensure that RE development meets women's needs, and that women can fully benefit from the new opportunities being created:

No explicit integration of gender in RE policies: Although women have a growing presence in the RE sector, including some leadership positions, Viet Nam's RE policies remain largely technocentric, with no consideration of gender, as shown in Table 7. Even the NDC, which does mention gender, does so only in the context of adaptation and resilience-building, not mitigation. Interviews with stakeholders suggest that there is no clear agenda for achieving gender-equal outcomes within the sector.

Lack of guidelines for gender mainstreaming, or mechanisms for monitoring and evaluation: There are currently no clear guidelines on how to mainstream gender in policy implementation at the provincial and the communal levels in Viet Nam (ISPONRE 2021). This leads to the exclusion of gender as an integrated component in RE-related programmes or projects.

Dominance of large-scale projects: Decentralized RE systems (such as solar mini-grids) play a critical role in household energy security, particularly at the rural level, but Viet Nam's policies and financing schemes tend to prioritize large-scale RE initiatives. As interviewees noted, rural households that are not connected to the grid often cannot to access the energy provided by those projects. This barrier to access has gendered impacts, as poor, rural women tend to be disproportionality impacted when there is inadequate household energy supply. At the same time, interviewees suggested that the large-scale RE projects mainly create job opportunities for men, as related sectors such as construction, manufacturing and technology development are male-dominated.

Scarce disaggregated data: Disaggregated data are crucial for tracking differences between men and women, and between various population groups, in access to and use of RE technologies, as well as in representation in the RE workforce, leadership, planning processes and decision-making bodies. They are also crucial for tracking progress towards gender equality and broader inclusion goals. However, no such disaggregated data exist yet in Viet Nam (ISPONRE 2021).

BOX 4:

Best practices: Local energy planning in Tân Hưng Đông Commune

The Green Innovation and Development Center (GreenID) of Viet Nam has pioneered the Local Energy Planning (LEP) programme as a participatory method to enable more sustainable and efficient energy use through a bottom-up and participatory approach. Since 2014, GreenID has worked closely with the Cà Mau Women's Union to introduce LEP in Tân Hưng Đông commune, Cà Mau province. Government agencies such as the Department of Agriculture and Rural Development, Department of Industry and Trade, and Department of Science Technology has also been engaged.

When the programme started, about 40% of households in the commune lacked access to the power grid, and some purchased electricity from their neighbours at an inflated price, causing economic difficulties. The lack of energy also limited access to technology, information, education and job opportunities. The impacts on poor women or women-headed households were even more pronounced when compounded with existing gendered inequalities.

The LEP spearheaded various sustainable energy solutions, including establishing a local technician team in charge of advancing alternative energy sources such as biogas, improved cookstoves and LED lightbulbs. As of 2019, more than 323 households had benefited, and two public facilities (including a primary school) had actively applied different sustainable energy solutions.

Increasing uptake of RE led to specific gendered benefits, such as better health and well-being (through a decrease in indoor air pollution thanks to improved cookstoves), a decrease in manual labour and drudgery for women, and improved educational outcomes for children, who can study better with reliable electricity. Furthermore, the bottom-up and participatory approach of the LEP allowed members of the community to gain a sense of ownership around their energy future.



Photo: UNEP/Maxwell Gutteridge

4.2.2 Disaster risk reduction

National background

Viet Nam is frequently exposed to floods, droughts, typhoons, storms and landslides. These hazards disproportionately affect women, along with ethnic minorities and rural populations (Phan et al. 2019). Recognizing this, Viet Nam has increasingly integrated gender into its DRR policies and initiatives. Interviewees from civil society said pressure and support from the international community have been key to achieving policy change at the national level – for instance by aligning with international commitments made under the UNFCCC and the Sendai Framework.

Table 8 provides an overview of key policies on DRR and their degree of gender integration.

Table 8: Key policy documents on disaster risk reduction in Viet Nam

Year	Policy document	Issuing bodies	Implementation period	Gender in policies
2009	Community Awareness Raising and Community-Based Disaster Risk Management (guidelines)	The Prime Minister	N/A	Gender-responsive
2013	Law on Natural Disaster Prevention and Control	National Assembly	N/A	No gender references
2021	National Strategy on Natural Disaster Prevention through 2030	The Prime Minister	2021–2030	N/A

The Law on Natural Disaster Prevention and Control, and the previous National Strategy for Natural Disaster Prevention, Response and Mitigation (until 2020) mainly focused on capacity-building in search and rescue, early warning technologies and other community-level support, but neither mentions nor addresses gender issues. The updated version of the National Strategy was not available online and in English to be assessed. Moreover, the labelling of disasters as "natural" in the main policy frameworks suggests that the underlying socio-economic vulnerabilities that turn natural hazards into disasters are not adequately recognized.

The Community Awareness Raising and Community-Based Disaster Risk Management framework promotes the inclusion of women and marginalized groups, and there are specific guidelines on integrating gender into these activities. The guidelines set quotas in terms of women's participation in DRR as well as capacity-building goals, but do not necessarily provide guidance on how to ensure meaningful participation, or on how to address the structural root causes of vulnerability.

In addition, interviewees said that international organizations and NGOs had been involved in the revisions of Viet Nam's gender strategy with the Ministry of Labour, Invalids and Social Affairs, which was meant to include a strategy focusing on gender and climate change. However, they noted that the gender strategy for climate action was not included in the final document.

Key gaps and challenges

Stakeholders interviewed for this report said Viet Nam's climate and DRR policies show promise for integrating gender equality, but important challenges remain:

Gaps between policies and implementation: While gender equality is often referred to as a key principle in policy documents, gender analyses are still needed to understand the causes of gender disparities, as well as concrete steps to address them. There is also a lack of gender indicators to enable the monitoring and evaluation of gender equality outcomes in climate change and DRR policies.

Limited capacity-building for gender mainstreaming: Interviewees said often only junior staff attend such trainings – and, because there is a higher turnover in such positions, the skills acquired are not necessary retained by the organization. Furthermore, junior staff tend to have less power to influence organizational practices as compared with more senior staff.

Gender issues are treated in silos: Viet Nam has adopted gender mainstreaming in many policies, but the advocacy to achieve policy change and the task to implement commitments tends to fall on focal organizations, such as the Ministry of Labour, Invalids and Social Affairs (MOLISA – also in charge of gender equality), or the Viet Nam Women's Union. Interviewees also said that, while local NGOs are usually open to integrate gender equality into their work, they do not have adequate capacity to do so, and also consider it the responsibility of the Viet Nam Women's Union to work on these issues.



Photo: UNEP/Maxwell Gutteridge

BOX 5:

Best practices: The Information for Action in Viet Nam (InfoAct) Initiative

Through InfoAct, CARE International is working to strengthen the livelihoods and resilience of poor ethnic minority women and men in rural Viet Nam in the face of climate change and disasters.

One of the main components of the project is to enable relevant local stakeholders and vulnerable rural communities to produce, interpret and apply climate information, which combines scientific and Indigenous knowledge, therefore taking a holistic approach to DRR that does not overlook the science from below, and bridges different approaches to disaster mitigation and preparedness. An interviewee said women acquired more decision-making power through this component, as their knowledge was recognized and complimented. Through this work, they were able to make informed decisions about resilient farming practices, which are traditionally men's responsibility.

The climate information system, along with corresponding actionable advisories on farming techniques, were actually designed to meet the needs of women, with their input, but men were also engaged, to ensure their support. By organizing community dialogues with men, and with men and women together, the NGO helped them to better understand each other, and men realized that they tend to make wrong assumptions about women's needs. These dialogues, as well as communication for behavioural change conducted by CARE and a communication agency, also aimed to change gender norms, including around domestic chores that could limit women's opportunities to use the climate information system.

At the same time, InfoAct worked on improving social protection and climate risk insurance coverage for the target communities, though Village Savings and Loan Associations (VSLAs) and a pilot of a community risk-sharing model association. The VSLAs gather the savings from households and turn them into small loans that are entirely managed by women, with only capacity-building support from CARE. The loans are used to develop new and resilient livelihoods for women and contribute to their economic empowerment. VSLA meetings were also found to provide women with a safe space to share their challenges and learn from one another, facilitating collective action to challenge gender norms at the community level.

InfoAct built communities' capacities to better articulate their climate information needs to local authorities as well. This bottom-up approach helped empower people who experience intersecting discriminations due to their gender, ethnicity, geographic location and poverty. With CARE's support in reaching out to decision-makers, they have been able to overcome key barriers to their participation in the public sphere, all while demanding the tools to achieve resilient livelihoods for themselves.

CARE's extensive experience with gender issues and organizational commitment to gender equality has been central to the project's success. All projects include gender indicators, and gender-responsive budgeting is also implemented to allocate dedicated resources to gender activities; partners are encouraged to do the same. CARE has also collaborated on policy advocacy with the Viet Nam Women's Union, which is part of the national DRR committee, and with like-minded NGOs and with UN agencies.

4.2.3 Agriculture

National background

Agriculture is second-largest contributor to GHG emissions in Viet Nam, second only to the energy sector (ISPONRE 2021). At the same time, Viet Nam is also one of the five developing coastal countries most affected by climate change in the world (World Bank 2021). Sea-level rise is a particularly serious threat: from 1993 to 2018, recorded sea levels rose by an average of 3.0 mm per year – or about 7.5 cm in just 25 years (Socialist Republic of Vietnam 2020). This increases flood risks and saltwater intrusion.

Agriculture and fisheries are particularly vulnerable, and Viet Nam's most fertile area, the Mekong Delta, is very low-lying and thus expected to be inundated more and more, which is expected to imperil livelihoods and force many people to leave the region (Clement et al. 2021).

In rural Viet Nam, gendered vulnerabilities to climate change is exacerbated by women's greater concentration in the agricultural sector, notably in subsistence agriculture, and in the informal economy (FAO 2019). Underlying societal and patriarchal structures lead to women having lower capacity and fewer resources to become resilient in the face of climate change.

The trend of feminization in agriculture is also especially large in Viet Nam, where it is more common for men to migrate to urban areas in search of work while leaving women – especially older women – behind to raise the children and continue farming (ISPONRE 2021). This double burden can also result in time poverty, which limits women's opportunities to participate in political or even leisure activities. Furthermore, restricted opportunities, mobility, and accessibility for acquiring knowledge about climate change and its associated risks hinders their adaptation potential.

Therefore, it is essential that gender is effectively mainstreamed into development and climate policies to build adaptation and mitigation capacities in Viet Nam's agriculture sector. Table 9 provides an overview of relevant policies in Viet Nam.



Photo: UNEP/Maxwell Gutteridge

Table 9: Key policy documents on agriculture and climate change in Viet Nam

Year	Policy document	Issuing body	Implementation period	Gender indicators
2001	Gender Strategy for Agriculture & Rural Development	Ministry of Agriculture & Rural Development	2001–2010	Gender-responsive
2010	National Target Programme on New Rural Development	Government of Viet Nam	2010–2020	Gender-responsive
2011	National Strategy on Climate Change	Prime Minister	N/A	Limited to no gender references – gender is mentioned, but without context
2012	National Strategy on Gender Equality	Government of Viet Nam	2011–2020	Gender-transformative
2020	National Strategy on Environment Protection to 2020 with Visions to 2030	Prime Minister	2020–2030	No gender references
2021	Decision No. 1658/QD-TTg on approving the National Strategy on Green Growth in the 2021–2030 Period, with a Vision to 2050	Government of Viet Nam	2020–2030	Limited to no gender references

As shown in Table 9, several key climate and sustainable development-related documents in recent years have made little or no mention of gender. The National Strategy on Climate Change, for instance, mentions gender equality as a specific target, but it does so without context. The National Strategy on Environment Protection to 2020 with Visions to 2030 does not mention gender at all. Decision No. 1658/QD-TTg calls for improving the capacity of women to access green financing sources, and for equal access to opportunities, information and resources to "disadvantaged groups", including women.

Agriculture sector policy documents have integrated gender equality far more. The Gender Strategy for Agriculture & Rural Development calls for empowering women through equality in training, increased representation in leadership roles, and the mainstreaming of gender in policies and programmes – all reflecting a gender-responsive approach. The same is true of the National Target Programme on New Rural Development 2010–2020, which included gender inequality as a sub-theme, recognizing the need to address "gender inequality and domestic violence prevention and control".

Finally, the National Strategy on Gender Equality 2011–2020 recognizes the need to increase women's participation in agricultural product processing and consumer goods production, along with attracting women to extension activities in agriculture, fisheries and forestry. Overall, it takes a gender-transformative approach, seeking to increase women's participation in every sector and arguing that gender equality is a basic element of a good living standard.

Key gaps and challenges

Stakeholders interviewed for this report identified several areas that need attention to achieve greater gender integration in agriculture:

General lack of awareness and capacity around gender issues: This is often true even of the people who are implementing projects. Without the sufficient knowledge and awareness, it can become difficult to not only foresee gender issues, but also to find ways to overcome the complex problems they raise. Apart from lack of capacity among implementing staff, interviewees mentioned that rural women in the communities where projects are being implemented tend to also be undereducated compared with men, which puts them at a disadvantage in terms of capacity-building.

Need for more meaningful participation in political processes: In recent years, women's representation in decision-making processes has improved, but interviewees said that at the national and sub-national levels, often the gains have been more about the number or share of female participants than about the substance of their participation. There is evidence that despite their growing numbers, women in the decision-making sphere have not felt sufficiently empowered or supported to actually apply what they learned during their trainings, for instance (FAO 2019).

Persistent social and gender norms act as barriers to gender equality: Stakeholders highlighted that the pre-defined household roles and responsibilities that are commonplace in rural Viet Nam often relegate women to domestic caregiving work, while business, income and family decisions are typically controlled by men. Moreover, household responsibilities overburden women and limit their ability to attend to initiatives outside the house. This poses a challenge in accessing resources, networks and knowledge (including technological know-how) on climate-sensitive practices.

BOX 6:

Best practices: Agroforestry for Livelihoods (AFLi)

The Agroforestry for Livelihoods (AFLi) project, led by the World Agroforestry Centre (ICRAF), has promoted the adoption of agroforestry as a way to combat soil degradation and adapt to decreasing water availability. The project's second phase focused on women and ethnic minorities in north-western Viet Nam, supporting them in the development of market-based agroforestry and in forest rehabilitation.

The project provided training on agroforestry system establishment and management, which 70% of women in the pilot community participated in. A majority were even willing to share their newly acquired knowledge on tree management techniques, fertilizer application, watering and grafting techniques, and pest management. As women belonging to the H'mong ethnic community in Viet Nam have lower education and literacy rates than the majority population, ICRAF developed training videos for them.

There were several challenges, including language barriers and social and gender norms. An interviewee said men usually held the power as heads of households, and often more men than women attended the trainings and social events, as women had time restrictions. Many women could only come in the mornings or the afternoons, or else the men would be upset, as they perceived them to be neglecting their household duties.

The initiative worked with both women and men by providing in-field training sessions with individuals and ensuring that project material was accessible to all. Though hierarchical decision-making and patriarchal social structures posed a hindrance to access the agricultural training, the outcome of project activities did indicate a positive impact on women's social confidence and capital. Interestingly, young H'mong men perceived a decline in their power and freedom, whereas the young H'mong women perceived a substantial improvement in theirs over the five-year period. Moreover, more than a quarter of women farmers recorded an improvement in their decision-making, public speaking and teamwork skills.

This project is an example of not only increased resilience and income for farmers, but also improved capacity for implementing gender-responsive projects planning by the Department of Agriculture and Rural Development and the Department of Natural Resources and Environment.



Photo: UNEP/Maxwell Gutteridge

4.3 Indonesia



4.3.1 Renewable energy

National background

Indonesia's rapid economic growth has driven a huge rise in energy demand, which until now has been met mainly with fossil fuels.[46] As a result, energy-related GHG emissions nearly doubled from 2000 to 2018 (see Figure 8 in Section 3.1), and in 2018, 2019 and 2020, Indonesia ranked among the world's top 10 CO_2 emitters from fuel combustion.[47] Indonesia is also the world's fifth largest producer of coal and generates substantial revenues from its coal exports (BP 2019).

Indonesia also has a wealth of renewable energy potential (IRENA 2017), however, and as part of a broader effort to transition to a low-carbon economy, it is working to develop it. The government has set a target of 23% RE in the primary energy supply by 2025 and has been scaling up increased wind, bioenergy and geothermal power generation, enabling Indonesia to produce 17% of its electricity from renewables in 2020.[48] Total installed capacity remains modest, however: 10.6 GW at the end of 2020, 6.2 GW of which was hydropower (IRENA 2021). Solar power uptake has been stagnant, and though several major plans to produce solar power and equipment have been announced recently, all are for export to Singapore (Murtaugh 2022).

Indonesia's efforts to chart a path towards a sustainable future, including clean energy, are built around its Low Carbon Development Initiative, a collaboration between Bappenas (the Ministry of National Development Planning), other key ministries, development partners, research institutes and NGOs launched in 2019.[49] The country has pledged to reach net zero emissions by 2060 and, in line with that goal, the 2021–2030 Electricity Procurement Plan (RUPTL) aims to have 51.6% of new generation capacity come to 2030 from renewables (Ministry of Energy and Mineral Resources 2021; Valentina et al. 2022).

Along with its importance for achieving climate goals, RE could play a key role in meeting Indonesia's particular needs as an archipelago (Reber et al. 2016). Although a large share of Indonesia's more than 273 million residents are concentrated on the islands of Sumatra and Java, the rest are spread across more than 1,000 islands, requiring an estimated 900 isolated grids, many of which are powered by inefficient diesel generators. RE could provide a cleaner, affordable and resilient alternative.

A key question then is whether Indonesia is ready to ensure that RE deployment is truly inclusive, with equal benefits for women and men. Table 10 provides an overview of key policy documents on RE.

[46] See International Energy Agency overview: https://www.iea.org/countries/indonesia.
[47] See Enerdata statistics: https://yearbook.enerdata.net/co2/emissions-co2-data-from-fuel-combustion.html.
[48] See International Energy Agency overview: https://www.iea.org/countries/indonesia.
[49] See https://lcdi-indonesia.id.

Table 10: Key policy documents on renewable energy in Indonesia

Year	Policy document	Issuing body	Implementation period	Gender in policies
2005	National Long-Term Development Plan (RPJPN)	Ministry of National Development Planning	2005–2025	Limited gender references
2007	Energy Law	Government of Indonesia	N/A	No gender references
2014	National Energy Policy (KEN)	National Energy Council	2014–2050	No gender references
2017	National Energy General Plan (RUEN) (Presidential Regulation No. 22/2017 of 2017)	Government of Indonesia	2017–2050	No gender references
2020	The National Medium-Term Development Plan (RPJMN)	Ministry of National Development Planning	2020–2024	Limited gender references
2021	2021–2030 Electricity Supply Business Plan (RUPTL)	Ministry of Energy and Mineral Resources and PLN (State Electricity Company)	2021–2030	No gender references

Indonesia has no specific RE policies, but rather includes RE targets and plans under broader energy policies, strategies and plans – and, as shown in Table 10, they do not address gender. That, combined with the lack of a formal dedicated RE plan, means that although discourses around gender and RE have advanced, significant work still needs to be done to integrate gender and other social equity concerns.

Notably, in interviews, stakeholders said the Ministry of Women Empowerment and Child Protection (MoWECP) has taken steps to integrate gender considerations into the sector. For example, in 2016, MoWECP and the Institute for Essential Services Reform (IESR) conducted a study and collected good practices on gender and RE in the country. In the following year, the MoWECP and IESR, with support from the Ministry of Energy, created a Gender Mainstreaming Guideline for accessing a special allocation fund (also known as *dana alokasi khusus*, or DAK) for small-scale energy usage.

Key gaps and challenges

The policy review and stakeholder interviews identified several issues that require attention:

There are no specific RE policies, and existing energy policies are largely technocentric: While gender mainstreaming has been encouraged through different general development regulations, such as the National Medium-Term Development Plan 2020–2024 (RPJMN) and the Presidential Instruction (INPRES) Number 9 Year 2000 on Gender Mainstreaming in National Development, stakeholders said there is still room to explicitly integrate gender considerations in RE policy documents. They also noted that even when gender is mentioned in energy policy discussions, it is typically brought up as a formality or on a theoretical level. Gender-related measures are not yet being implemented.


Photo: UN Women/Staton Winter

Ministries working in silos: Interviewees said there is a general understanding that RE has implications across a broad range of issues. While MoWECP, which has a mandate to address gender equality, should address the issue of gender and access to energy, it may lack the technical capacity to understand the specifics of the RE sector. Similarly, the Ministry of Energy may lack gender expertise to fully grasp and integrate gender equality concerns in the sector. During 2018–2020, an energy forum was initiated by the MoWECP and NGOs to discuss gender in energy related programmes and policies. However, interviewees said initiatives to enhance coordination and cross-learning for gender integration between ministries remain limited. Furthermore, while the MoWECP can engage in advocacy, it cannot mandate or enforce gender mainstreaming efforts across other ministries, which could limit the extent of meaningful gender uptake across policies or programmes.

Capacity-building needs across all levels of governance for gender integration and mainstreaming: Stakeholders highlighted the importance of taking into consideration the governance structure of Indonesia when envisioning capacity-building initiatives – since policies are set at both the national and provincial levels, capacity-building for gender integration needs to happen at both levels, and also locally. They said the village level is ultimately where funds are allocated for smaller-scale, local RE initiatives (via the Dana Desa, or Village Funds), mainly focused on infrastructure and hardware allocation. If the leadership does not have awareness of or capacities to recognize gender dimensions, then it is unlikely that the funds will sufficiently address gender equality or the needs of marginalized groups. There are only limited opportunities for Village Funds to be used for capacity-building, however, so provincial budget allocations are crucial to support training on topics such as gender awareness, entrepreneurship, productive energy use and financial literacy.

Development of RE initiatives for the household level remains limited: Interviewees pointed out that the development of RE in Indonesia is largely corporate-driven, meaning that initiatives to develop RE in the country are largely focused on large-scale RE developments. In comparison, smaller-scale RE for household use, such as micro-grids, receives much more limited funding. This imbalance has gender implications, since women tend to be managers of household energy use in rural contexts, and the lack of reliable and affordable energy sources may exacerbate existing gendered inequalities.

BOX 7:

Best practices: The Sumba Iconic Island Project

Energy access is limited in rural areas of Indonesia, particularly on the remote islands. Sumba, one of the most remote and disadvantaged islands in the archipelago, in East Nusa Tenggara province, faces several challenges due to energy poverty. Since 2010, the Sumba Iconic Island Project (SII), implemented by Hivos, has set out to provide access to reliable, 100% renewable energy by 2025 for the 750,000 inhabitants.

The SII is promoting access to RE through a bottom-up collaboration between government bodies (at the national, regional and local level), the state electricity company (PLN), private sector enterprises, CSOs, international donors and energy access projects.

In addition to providing energy access, a key goal of the SII is to support gender-equal development and economic activities. It adopted the Gender Action Learning System (GALS) approach,[50] a widely used, community-led methodology consisting of participatory processes with a key focus on educating communities about addressing gendered power dimensions and differentiated energy needs. As a result of the SII, the electrification rate of Sumba Island has already increased to 42.6%, from 24.5% in 2010, with almost 17% of the electricity being generated from renewable sources.

The increase in RE generation has significantly reduced women's domestic workload, freeing up time to engage in social activities, entrepreneurship and other income-generating activities, an interviewee said. A 2014 report also found that 5% of biogas users, including women, had improved their incomes by selling bioslurry as fertilizer (BIRU 2014). Access to biogas and clean cooking technologies has also reduced indoor air pollution, which has long-term implications for households' health and well-being.

Given that, in the absence of structural changes, access to RE may not result in more equitable outcomes for women, it is notable that the SII also includes initiatives that challenge gender power structures, through the GALS approach. This is a promising step in shifting unequal gendered norms. Furthermore, the increase of women's presence in the RE sector, particularly in entrepreneurship initiatives, positively impacts community perceptions of women's capacities and roles, which can increase opportunities for women in the public sphere.

4.3.2 Disaster risk reduction

National background

As an archipelago in the tropics, with significant volcanic activity, Indonesia is frequently exposed to both slow- and sudden-onset hazards. An estimated 97% of the population lives in a disaster-prone area (UNDRR 2020). Gaps in terms of land tenure, urban planning and safe housing intersect with exposure to hazards to increase disaster risks (Resosudarmo et al. 2019). Stakeholders noted in interviews that pre-existing gender and social inequalities worsen in the context of climate change and disasters, especially when it comes to gender-based violence, child marriage, and discrimination in access to public services.

In this context, DRR is vital to protect communities, and can be instrumental in transforming unequal power dynamics. Stakeholders noted that national and local DRR efforts have been increasingly gender-responsive, in line with the Sendai Framework and supported by the international community. Table 11 provides an overview of relevant policy documents in Indonesia.

[50] For more information, see the Social and Gender Inclusion in Renewable Energy Development: Gender Action Learning for Sustainability (GALS) Module: https://hsi.foundation/assets/2020/11/Hivos_Book_GALS_2019_07spread.pdf.

Table 11: Key policy documents on disaster risk reduction in Indonesia

Year	Policy document	Issuing body	Implementation period	Gender in policies
2007	Law No. 24/2007 Concerning Disaster Management	National Disaster Management Agency	N/A	No gender references
2012	National Action Plan for Climate Change Adaptation	Ministry of National Development Planning	2013–2025	No gender references

The Law No. 24 Concerning Disaster Management in Indonesia only refers to women once in a list of vulnerable groups. While Indonesia previously had National Disaster Management Plans, the latest version available online in English only covers the period 2012–2014. The National Action Plan for Climate Change Adaptation touches upon DRR, but does not integrate gender-responsive provisions.

Stakeholders mentioned that the National Disaster Management Agency developed a policy titled Gender Mainstreaming in Disaster Management (Perka No. 13 Year 2014), and that MoWECP also developed guidelines on DRR, but these documents were not available online and in English, so they could not be reviewed for this report.

Key gaps and challenges

Stakeholders identified several issues to be addressed to integrate gender equality in DRR:

Approaches to DRR tend to be reactive rather than proactive: Interviewees stressed that, unlike climate change frameworks, which are implemented on a running basis and monitored yearly, DRR frameworks tend to be created after disasters occur. This points at gaps in planning processes, as in the absence of disasters, DRR efforts could emphasize preparedness and resilience-building.

There is a need to better bridge DRR and climate change: Stakeholders stressed the need to enhance collaboration across sectors to streamline efforts for gender mainstreaming in DRR, especially breaking down the silos between DRR and climate change adaptation and mitigation efforts. While not all disasters in Indonesia are linked to climate change (there are also volcanic eruptions and earthquakes), bridging DRR with climate action can enable a more holistic approach to disasters, as those vulnerable to climate change are also the most vulnerable to disasters.

There is a general lack of women participating in DRR planning: Interviewees pointed to important gaps in terms of diverse representation on DRR planning, not only between genders, but also from women with different backgrounds. This issue has been observed at all levels of DRR planning, but is considered to be more important at the village level. However, they observed that this is slowly changing, as development planning deliberations at the village level are now also open to women's participation, providing them with a space to voice their needs and opinions. This is helping to challenge the inequalities that contribute to vulnerability in the face of disaster.

There is a need to better institutionalize gender mainstreaming in DRR: Indonesia institutionalized gender mainstreaming through the Presidential Instruction on Gender Mainstreaming (INPRES No. 9/2000) in 2000, requiring all governments agencies at the national and local levels to mainstream gender into planning, implementation, monitoring and evaluation of all policies and programmes, and the Ministry of Home Affairs Regulation No. 15/2008 provides guidelines for gender mainstreaming implementation at the provincial and district level. Gender focal points are also nominated

in each ministry, tasked with promoting gender mainstreaming and raising awareness among government officials at the provincial and district levels (World Bank et al. 2011). Despite this promising institutional framework, interviewees from civil society described gaps in effectively institutionalizing gender mainstreaming in DRR due to the time it takes to change mindsets to create an enabling environment.

Capacity-building and multi-stakeholder cooperation need strengthening: Previous research observed that local governments have limited capacities for gender mainstreaming in DRR, due to a lack of technical knowledge and commitment, as well as a lack of gender data to help them understand the issue and inform evidence-based actions (Siahaan and Tambunan 2016). Interviewees from civil society said policies to mainstream gender in DRR are promising, but the implementation remains lacking. According to them, this is happening because of capacity gaps at all levels, which require technical assistance and trainings from NGOs and CSOs. Civil society also stressed how they can complement state and technical efforts by providing more context and their knowledge of the vulnerabilities that people experience on the ground.



Photo: UN Women/Pathumporn Thongking

BOX 8:

Best practices: IDEA and YAPPIKA-ActionAid's approaches to empowering women in DRR

IDEA, a Jogjakarta-based CSO, provides training and assistance to marginalized women to identify gender issues and address them through DRR. The programme targets various aspects of women's empowerment and resilience – for instance, by providing small grants and loans so they can develop micro-enterprises and secure their livelihoods. At the same time, women are trained to influence DRR planning and budgeting at the village level. Through this process, they develop their confidence and leadership skills, and obtain social recognition when their demands are met by decision-makers.

The programme is strongly rooted in local realities thanks to the involvement of local CBOs and CSOs: together with the community, they identify potential women leaders, have individual discussions with them, and then present the candidates at village meetings. The meetings introduce key concepts around gender equality and invite the whole community to reflect on the gender issues they experience and how they want to tackle them. The last step is then to institutionalize the process, defining roles and next steps.

One challenge for this initiative is that its success depends on the continuous support of political leaders, who may change after elections. This highlights the need to couple women's empowerment with policy advocacy to change mindsets. Local CSOs also approach husbands and invite them to the village meetings, so that they fully understand women's concerns and how they are being supported to achieve results that will eventually benefit all in the community.

One key strength of this project is that IDEA has built lasting relationships with the women in the villages. It maintains informal communication with beneficiaries and holds at least one meeting per year to discuss their challenges and new strategies to address them. This approach is facilitated by the strategic planning of IDEA itself, which puts community empowerment at the core of its mission and emphasizes long-term engagement beyond project cycles, allocating resources to maintain these networks. Local field officers play a key role, maintaining contact with women and ensuring that their empowerment is institutionalized in their community. This approach is key to sustainably transform the unequal power dynamics that shape vulnerability to disasters, and to enable women to influence inclusive DRR and resilience-building.

YAPPIKA-ActionAid Indonesia takes a similar approach to women's empowerment at the local level, by training women across the country to jointly develop action points on DRR and involving them in broader development planning. It also engages with local and traditional religious leaders to ensure community acceptance and ownership of the initiative. Through their work with communities, staff said, they have observed that some households changed the allocation of domestic chores to be more equitable, which shows an important shift in mindsets.

At the same time, YAPPIKA-ActionAid Indonesia works to strengthen community-based protection systems led by women, including by ensuring women's access to public services, social protection, justice and decision-making. These DRR activities are coupled with support for local livelihoods trough sustainable natural resource management, so women see the direct benefits of their engagement in their programmes. Staff also stressed the importance of producing knowledge products to showcase women's leadership in disaster response and disaster mitigation through various case studies.

Both organizations shared that close cooperation with other stakeholders is necessary to enable the integration of gender equality into DRR. IDEA mentioned being part of a Knowledge Hub in which they contribute to information-sharing and capacity-building on gender and DRR, while YAPPIKA-ActionAid Indonesia is part of a Gender Working Group conducting similar activities. Both platforms gather NGOs, CSOs and decision-makers.

Both organizations also shared that they have been consulted on the development of national DRR regulations, which shows the success of their advocacy efforts and the State's support to their work on the ground, and offers hope for inclusive and transformative DRR planning.

4.3.3 Agriculture

National background

Agriculture is critical to Indonesia, for food production and rural livelihoods, as well as for exports and bioenergy. As noted in Section 3.3, in 2019, agricultural products made up 19.2% of Indonesia's exports by value (Mizik 2021), the largest share for any ASEAN country except Myanmar. About 29% of the workforce was employed in agriculture as of 2019, down from 43% in 2000, but still substantial[51] – and the share is far larger outside Indonesia's major urban areas.

This means climate change impacts on agriculture raise serious concerns. Key threats include more frequent and severe floods (there were 25 disaster-scale floods in Indonesia in 2019, and 18 in 2020),[52] droughts and changing precipitation patterns, rising temperatures, and sea-level rise, which brings both flooding and saline intrusion.[53] Rice production is particularly affected (Rondhi et al. 2019).

With decreasing crop productivity, poor farming communities are among the hardest-hit, and poor women are even more vulnerable. According to the 2018 Agriculture Census, women farmers make up roughly 49% of farming households in Indonesia. Despite their involvement in most farming activities and covering critical functions, women's work is often undervalued or overlooked (Agung 2020). The reduced availability of clean water, coupled with the shift in wet and dry season patterns, has exacerbated women's food insecurity and the risk of poverty in recent years (Nellemann et al. 2011). Stakeholders interviewed for this report also noted that women are usually the first ones to get laid off from agricultural businesses in the event of droughts or floods.

Against this backdrop, it is crucial to ensure that policies and actions to address climate change in the context of agriculture recognize and address gendered vulnerabilities. Table 12 provides an overview of key policies shaping climate action in the sector, which do not generally consider gender issues.

Table 12: Key policy documents on agriculture and climate change in Indonesia

Year	Name of document	Issuing body	Implementation period	Gender in policies
2005	National Long-Term Development Plan (RPJPN)	Ministry of National Development Planning	2005–2025	Limited gender references
2015	Agricultural Development Master Strategy 2015–2045	Bureau of Planning: Secretariat General of the Ministry of Agriculture	2015–2045	No gender references
2019	National Adaptation Plan	Minister of National Development Planning	2019–Present	No gender references
2020	The National Medium-Term Development Plan (RPJMN)	Ministry of National Development Planning	2020–2024	Limited gender references

[51] See World Bank data (based on International Labour Organization estimates): https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=ID.
[52] See https://public.emdat.be.
[53] For an overview, see the World Bank's Climate Change Knowledge Portal: https://climateknowledgeportal.worldbank.org/country/indonesia.

Some of the documents mention gender, but not in the context of agriculture in particular. That is the case with the National Adaptation Plan 2019, for instance. It states that the four clusters – marine and coastal, water, agriculture and health – "need to consider (embedded) gender sensitivity" (p.12). However, there is still a need to recognize gender-differentiated needs and acknowledge the root causes of gender inequality, which would help in making the policies gender-responsive.

Key gaps and challenges

Stakeholders interviewed for this report identified several challenges that need to be addressed:

Persistent cultural and gender norms limit women's access to knowledge and capacity-building: In some areas, stakeholders said, women are not able to participate in training programmes related to adaptation because their time is used up in performing daily household chores, such as cooking and cleaning. Similarly, patriarchal restrictions limit women's ability to attend relevant meetings and trainings.

Limited access to land restricts women's decision-making power: Indonesian women are half as likely as men to own land, which makes it difficult for them to be involved with or lead decision-making processes pertaining to agricultural land (Kieran et al. 2015). For instance, stakeholders said that women are typically excluded from discussions about whether to sell off land to be converted to oil palm plantations.

Government-sponsored trainings on technology adoption are often not accessible to women: Interviewees said trainings on climate-smart agriculture, including the use of technical equipment, usually target men. This suggests lower capacity-building opportunities for women and a lack of explicit intention to incorporate women into the technical trainings. Stakeholders also said that gender integration was often treated as a formality by the partners who were engaged in project planning and implementation.

BOX 9:

Best practices: The Gayo Women Coffee Cooperative

Koperasi Kopi Wanita Gayo, established in Aceh in 2014, is the first women-led coffee cooperative in Indonesia. It currently has 567 members from seven villages, who work in the production of "100% Organic Gayo Sumatra Origin Arabica" coffee for domestic consumption and export to markets including the United States, Europe, Japan and Australia, with funding from the government.

The aim of the cooperative was to help women increase their incomes to benefit their families while improving their own financial management skills through agriculture and coffee trade. An interviewee for this report said the cooperative has greatly helped in improving its members' quality of life.

The cooperative was a remarkably successful: it sharpened women's capacities in coffee production techniques, including coffee tasting, and increased their knowledge of how to enhance soil fertility. This drastically increased their confidence with regard to owning and running a business successfully. It also increased women's land ownership, as owning land was a precondition for membership in the cooperative. The women are also recognized as managers of their families' coffee farms.

Although women lead the cooperative, men are also involved, working with their wives to produce and sell the coffee. Cooperative members are also actively involved in environmental campaigns to build flood resilience by planting trees.



Photo: UN Women/Krista Seddon

4.4 The Philippines



4.4.1 Renewable energy

National background

As in most ASEAN countries, the Philippines' energy supply comes from fossil fuels – 42.9% from oil, 41.8% from coal and 7.9% from gas in 2020, and just 3.7% from non-hydro renewables.[54] As energy demand has risen sharply, it has been met mainly with coal – more than 1 GW of coal capacity was added in 2019 alone[55] – so the share of renewables in the energy mix has actually declined (see also IEA 2019). From 2000 to 2018, energy-related GHG emissions rose by almost 89% (Climate Watch 2019).

The government's stated priorities include ensuring a reliable and affordable energy supply, improving access to electricity, and providing transparency to energy governance (La Viña et al. 2018). Growing RE capacity is part of that vision, guided by the Renewable Energy Act 2008, which aims to attract RE developers through fiscal incentives and favourable policies. The latest draft of the National Renewable Energy Program (NREP), covering the period 2020–2040, aims for RE to make up 35% of the power generation mix by 2030 – up from the current 21%, but just slightly more than the 34% it was when the Renewable Energy Act was passed (Philippine News Agency 2021).

By 2040, the Clean Energy Scenario in the new Philippine Energy Plan (PEP) 2020–2040, published in early 2022, aims for a 50% RE share, with installed capacity rising to 46.1 GW of solar, 11.8 GW of wind and 20.1 GW of hydro.[56] That would be a massive increase from the Philippines' combined 1.5 GW in installed solar and wind capacity and 3.8 GW of hydropower as of 2020 (IRENA 2021).

The Department of Energy (DOE)'s Energy Policy Planning Bureau developed the PEP and is also tasked with drafting complementary local energy plans. The bureau is also responsible for monitoring and evaluation of the sector's performance against PEP targets and the sector priorities in the Philippine Development Plan and Regional Development Plans. The National Power Corporation, meanwhile, supports the DOE's active engagement in advancing gender-responsive planning and budgeting across energy infrastructure, technology and services. Key issues include tackling gendered differences in opportunities to access, participate in, and control resources and benefits of RE.

Table 13 provides an overview of relevant policy documents.

[54] See "Energy consumption by source" data in Our World in Data (based on BP Statistical Review data): https://ourworldindata.org/energy/country/philippines.
[55] See overview from the U.S. Energy Information Administration: https://www.eia.gov/international/analysis/country/PHL.
[56] See https://www.doe.gov.ph/pep.

Table 13: Key policy documents on renewable energy in the Philippines

Year	Policy document	Issuing body	Implementation period	Gender in policies
2001	Electric Power Industry Reform Act of 2001 (EPIRA)	Congress of the Philippines	N/A	No gender references
2006	The Biofuels Act of 2006	Congress of the Philippines	N/A	No gender references
2008	Renewable Energy Act	Department of Energy (DOE)	N/A	No gender references
2010	National Framework Strategy on Climate Change 2010–2022	Climate Change Commission	2010–2022	No gender references
2011	National Climate Change Action Plan 2011–2028	Climate Change Commission	2011–2028	Gender-responsive
2011	Renewable Energy Outlook under the National Renewable Energy Program (NREP)	DOE	2011–2030	No gender references
2016	Power Development Plan	DOE	2016–2040	No gender references
2016	Philippines Energy Plan (PEP)[57]	DOE	2016–2030	No gender references
2019	Gender Equality and Women's Empowerment Plan 2019 – 2025	Philippine Commission on Women	2019–2025	Gender-transformative

As shown in Table 13, RE-related policies in the Philippines have not generally integrated gender issues. However, the Gender Equality and Women's Empowerment Plan, though not specifically an RE policy, contains a significant chapter on gender in the energy sector.

Several key steps have also been taken towards gender inclusion, actually making the Philippines a standout in this regard. The Philippines has been proactive in gender mainstreaming efforts within the policy sphere in general, guided by the Philippine Plan for Gender-Responsive Development (PPGD) 1995–2025,[58] which requires, among other things, that agencies include gender programmes in their projects.

In the energy sector, the DOE's Energy Policy Planning Bureau, serving as the technical secretariat of the Project Review Committee (PRC), is mandated to ensure gender and development goals are mainstreamed into the plans and programmes. A gender dimension is also incorporated into project proposals – funded domestically and with foreign assistance – that are reviewed by the PRC.

[57] Note: The new PEP 2020–2040 was issued too late to be included in the policy analysis for this report. However, a search of the plan text found only one instance each of the words "gender" and "women", both in broader descriptions of specific bodies involved in energy matters in the Philippines. See https://www.doe.gov.ph/pep.
[58] See https://emb.gov.ph/wp-content/uploads/2021/06/Philippine-Plan-fot-Gender-Responsive-Development-1995-2025.pdf.


Photo: UNEP/Andrew Ball

In addition, the DOE has established a Gender and Development Focal Point System.[59] Focal points' responsibilities include leading gender mainstreaming across DOE policies, plans, and programmes; setting up appropriate systems and mechanisms for collecting and processing sex-disaggregated data; and coordinating efforts among different divisions and offices to promote the integration of gender perspectives in systems. A case study at the end of this section highlights related work at the DOE.

Key gaps and challenges

While the Philippines' policies and institutions have explicitly addressed gender mainstreaming, including in RE, stakeholders interviewed for this reports said that related activities often lack adequate and sustained budget support. They also noted that the integration of gender into RE policies remains limited and, more broadly, RE development in the Philippines is not necessary geared to meeting the needs of women and other marginalized groups:

RE policies remain largely business-centred, with limited scope for prioritizing gender and social inclusion: Stakeholders said that most of the RE programmes in the Philippines cater to the needs of businesses and are often designed to attract major investors, not small developers with less capital. This may result in unequal access across regions and communities.

Women are underrepresented in problem identification and policy formulation processes: Interviewees said there is still room to enhance inclusion in the policy-making process. Several noted the important role of civil society in promoting gender visibility in RE, through activism and awareness-raising campaigns. Recognizing that civil society plays a significant role in shaping narratives around gender equality within the national discourse, bolstering the capacities and resources for CSOs may be an effective entry point in advancing gender and social-inclusive RE agendas and awareness.

[59] The system is mandated in the Philippines under Republic Act No. 9710, also known as the Magna Carta of Women. Section 36 mandates all government departments, including their attached agencies, offices, bureaus, state universities and colleges, government-owned and -controlled corporations, local government units and all other government instrumentalities to adopt gender mainstreaming as a strategy to promote women's human rights and eliminate gender discrimination in their systems, structures, policies, programmes , processes and procedures.

BOX 10:

Best practices: The development of the Department of Energy (DOE) Gender Toolkit

In line with the requirements of the Magna Carta of Women, the DOE set out to make its programming more inclusive in addressing the gendered energy concerns of women and men. The DOE Gender Toolkit (2016) aims to provide the DOE, its bureaus, related agencies and offices with comprehensive guidelines on how to meaningful integrate gender into their programmes and operations. Drawing on the Philippine Commission on Women's Gender Mainstreaming Evaluation Framework, the toolkit includes:

1. The GAD strategic framework for the DOE, which highlights the DOE's commitment to promoting the rights of women and men to equal opportunities and participation in the energy sector. The framework also presents gender mainstreaming as an overarching strategy for realizing DOE's mission and vision.
2. Guidelines to integrating gender equality and women's empowerment in energy sector policies, plans, programmes and projects. They cover how to integrate gender into the main components of project and/or program development, including stakeholder consultation, defining the energy sector development problem, and how to design an appropriate intervention.
3. A checklist that captures the key components of Step 2 in order to ensure gender-responsiveness in the designs of the relevant projects.
4. The integration of gender and development goals in the DOE's main operations, including the activities of its related bureaus, agencies and offices.

While the presence of the Toolkit alone does not guarantee gender-transformative change in the RE sector, it shows a significant recognition and commitment to gender at the national policy level. Considering how male-dominated the energy sector is, the presence of such a toolkit serves as a promising step towards making gender integration the norm in all stages of program design and planning.[60]

4.4.2 Disaster risk reduction

National background

The Philippines' geography makes it highly susceptible to natural hazards, including earthquakes, volcanic eruptions, and extreme weather events such as cyclones (typhoons), floods and landslides (UNDRR 2019b). Climate change is increasing the frequency and severity of those events, and creating further pressures due to droughts, sea-level rise and saltwater intrusion.

The concentration of human settlements and economic activities in high-risk areas means that many of these events become disasters with high human and economic tolls. In 2019–2021 alone, the country logged 20 disasters due to cyclones, eight major earthquakes, and several floods.[61] By far the worst was Super Typhoon Odette, in December 2021, which was reported to have killed 457 people and affected 10.6 million, more than 40,000 of whom were still displaced as of March 2022.[62]

Some disaster risks are directly related to human activities. For instance, mining can increase the risks of earthquakes and is also linked to deforestation, which increases risks of floods and landslides (Holden and Jacobson 2012). At the same time, effective adaptation and DRR measures can sharply reduce disaster risks by ensuring that people are alert to hazards and adequately prepared to face them. However, underlying socio-economic inequalities make some groups, including poor women, more vulnerable.

The Philippines has a very well-established structure to manage disaster risks, including legal frameworks that had incorporated gender considerations even before the Sendai Framework. This shows the proactive approach taken by the multiple actors involved in DRR in the Philippines, and a commitment to ensure inclusive management of disaster risks. Table 14 provides an overview of relevant policies.

[60] The full toolkit is available at https://www.apec.org/docs/default-source/Publications/2017/5/Guidelines-to-Develop-Energy-Resiliency-in-APEC-Off-Grid-Areas/TOC/Annex-8-Philippines-DOE-Gender-Toolkit.pdf.

[61] See https://public.emdat.be.

[62] The displacement figures are from the UN Refugee Agency; see https://www.unhcr.org/ph/typhoon-rai-odette.

Table 14: Key policy documents on disaster risk reduction in the Philippines

Year	Policy document	Issuing body	Implementation period	Gender in policies
1995	Philippine Plan for Gender-Responsive Development (PPGD) 1995–2025	Philippine Commission on Women	1995–2025	Gender-transformative
2008	The Magna Carta of Women, Republic Act 9710	President of the Philippines	N/A	Gender-transformative
2009	Climate Change Act	Republic of the Philippines	N/A	Gender-responsive
2010	Disaster Risk Reduction and Management Act	Republic of the Philippines	N/A	Gender-responsive
2010	National Framework Strategy on Climate Change 2010–2022	Climate Change Commission	2010–2022	No gender references
2011	National Climate Change Action Plan 2011–2028	Climate Change Commission	2011–2028	Gender-responsive
2019	Gender Equality and Women's Empowerment Plan 2019–2025	Philippine Commission on Women	2019–2025	Gender-transformative
2020	National Disaster Risk Reduction and Management Plan	National Disaster Risk Reduction and Management Council	2020–2030	Gender-transformative

The Climate Change Act of 2009 coherently links disasters with climate change, while underscoring the State's responsibility to "incorporate a gender-sensitive, pro-children and pro-poor perspective in all climate change […] efforts, plans and programmes" (p. 2).

The Disaster Risk Reduction and Management Act of 2010, meanwhile, aims to ensure that DRR and climate measures are gender-responsive and include "early recovery and post-disaster needs assessments institutionalizing gender analyses". It also mandates the establishment of a Gender and Development Office in local disaster management committees. This shows strong commitment to gender equality in DRR efforts and clearly defines tools and responsibility to achieve the set goals. The Gender Equality and Women's Empowerment Plan also has a dedicated strategic goal on gender and DRR.

The National Disaster Risk Reduction and Management Plan itself calls for "adequate capacity building and education" to be provided "to allow women and men, girls and boys' transformative role as agents of change in disaster risk reduction and management". It notes the need to recognize and foster women's and girls' leadership, empowerment and engagement in DRR decision-making, design, planning, budgeting and implementation, as well as in monitoring to ensure gender-responsiveness and inclusion. To overcome systemic barriers to inclusion, it calls for "building knowledge and skills, changing attitudes and beliefs systems, and promoting inclusive governance".

To realize these commitments, gender equality is mainstreamed throughout the document, including the goals, objectives, outcomes and activities. These cover aspects of gender-specific needs and services in the context of disaster, disaggregated data collection, inclusive participation in planning DRR activities, vulnerability and risk assessments, and gender-responsive infrastructure.

Key gaps and challenges

While the Philippines' DRR framework and governance are well established and promote inclusivity, stakeholders interviewed for this report identified some gaps and challenges that still need attention:

Lack of sex-, age- and disability-disaggregated data: The Philippine Commission on Women and other stakeholders involved in DRR activities in the Philippines stressed how the lack of disaggregated data limits the ability to address gendered vulnerabilities and monitor progress towards the commitments made in DRR policies. Data are collected by many stakeholders involved in DRR, but sometimes with a limited geographic coverage, and using definitions that are not standardized. Cooperation gaps between actors also result in inefficiency, as available data are often not centralized (Nguyen et al. 2020).

Insufficient qualitative data on socio-economic vulnerability: While disaggregated data allow for the identification of the most vulnerable in times of disasters, they are not sufficient for understanding why they are vulnerable. For instance, interviews with DRR stakeholders have highlighted that risk assessments tend to focus on physical exposure to hazards, rather than on socio-economic vulnerability (Nguyen et al. 2020). This type of information can be found through qualitative gender analyses, but the capacity to collect and use this type of data is often lacking.

DRR focused mainly on disaster response: The agency in charge of DRR in the Philippines is the Office of Civil Defence, with military corps playing an important role in disaster response operations (Nguyen et al. 2020). These agencies are male-dominated and adopt a rather technical approach to DRR, which can hinder women's participation, especially in activities that are traditionally framed as masculine, such as search and rescue. DRR in the Philippines also tends to prioritize disaster response, rather than preparedness and long-term resilience-building. However, it is the latter that has the greatest potential to transform underlying socio-economic vulnerabilities, and to incorporate more empirical types of knowledge and traditional practices that contribute to DRR and resilience (Sumaylo-Pearlman 2022). At the same time, disaster risk financing remains limited by narrow understandings of what constitutes risk, and a compartmentalization of DRR as separate from climate change adaptation, overlooking the broader spectrum of possible actions that would redress gender inequalities and differentiated vulnerability (Alqaseer et al. 2021).

Decentralization means DRR relies heavily on local governments: Decentralization has many benefits, particularly in enabling more informed measures that are rooted in local contexts. However, it means the effectiveness of DRR depends on the capacities, resources and competing priorities of local governments, including for the integration of gender considerations across all phases of the DRR cycle and development planning. This can lead to large differences in outcomes across geographies (Alqaseer et al. 2021). Moreover, although decentralized DRR governance should, in theory, allow for greater participation, women remain less represented and active in activities such as risk mapping and monitoring hazards, preparedness activities and recovery, and overall in decision-making and implementation. This points to a need to address barriers to diverse and meaningful participation – for instance, by debunking stereotypes about men being stronger and thus more suited to search and rescue operations, and by allocating domestic work more equitably, so women have more time to take part in DRR activities.



Photo: UN Women/Stefanie Simcox

BOX 11:

Best practices: Mainstreaming gender across DRR policies in the Philippines

The Philippines has adopted many promising practices to ensure gender mainstreaming in DRR at all levels. The first crucial commitments were made in the National DRR frameworks and in the Magna Carta of Women (2009), the national policy on gender equality. The Magna Carta refers to DRR in the context of protection, security and gender-based violence. It also makes provisions for women's resilience, including through livelihood support, education and comprehensive health services. In addition, the Magna Carta of Women institutionalizes gender mainstreaming across all policy sectors, including DRR, by allocating dedicated resources to this goal.

Gender-responsive budgeting is institutionalized across all policy sectors in the Philippines, including DRR. This entails gender focal points in each government agency, but also gender-responsive budgeting, which reserves at least 5% of an agency's budget to gender mainstreaming. The Office of Civil Defence uses this budget to incorporate gender considerations in operational guidelines and procedures, and to provide trainings on community-based DRR, customized to the needs of women and marginalized groups (Nguyen et al. 2020).

In addition, multi-stakeholder collaboration is institutionalized in DRR activities. For instance, members of the Philippines Commission on Women are tasked to represent the interests of women at the national and sub-national disaster management committees. The head of the Gender and Development Office is also mandated to be part of the local DRR council and is responsible to ensure gender mainstreaming. Similarly, the head of the barangay (the local village or district) must facilitate the participation of at least two local civil society organizations in DRR governance, which should represent marginalized groups.

Altogether, these measures ensure that promising policies are being implemented on the ground, by allocating the necessary financial and human resources to meet policy commitments, and by institutionalizing cooperation among stakeholders so that the interests of the most marginalized are represented in DRR governance.

4.4.3 Agriculture

National background

As noted above, climate change is already being felt in the Philippines, including in the form of worsening extreme weather events. Between 2006 and 2013, more than 6 million hectares of crops were damaged by 78 such events, at a cost of US$3.8 billion (UNDP 2019). Climate change has also further exacerbated the underlying social and gender inequalities that adversely affect marginalized communities, especially rural women. Customary roles and patriarchal traditions have resulted in significant discrimination in climate action and DRR in rural areas.

Yet an active approach is being taken to effectively integrate gender and gender concerns in climate change policies, especially related to the agriculture sector. This change can be attributed to the presence and support of active national and international civil society organizations that have contributed to raising gender concerns to the policy-making processes at the national level. The Philippine government has introduced several policies on agriculture and climate change that effectively integrate gender. Table 15 provides an overview.

Table 15: Key policy documents on agriculture and climate change in the Philippines

Year	Policy document	Issuing body	Implementation period	Gender in policies
1995	Philippine Plan for Gender-Responsive Development (PPGD) 1995–2025	Philippine Commission on Women	1995–2025	Gender -transformative
2008	The Magna Carta of Women, Republic Act 9710	President of the Philippines	N/A	Gender-transformative
2010	National Framework Strategy on Climate Change 2010–2022	Climate Change Commission	2010–2022	Limited or no gender references
2011	National Climate Change Action Plan 2011–2028	Climate Change Commission	2011–2028	Gender-responsive
2016	Philippine Master Plan for Climate Resilient Forestry Recovery	Forest Management Bureau	N/A	Limited to no gender references
2017	Philippine Development Plan 2017–2022	National Economic and Development Authority	2017–2022	Gender-responsive
2019	Gender Equality and Women's Empowerment Plan 2019–2025	Philippine Commission on Women	2019–2025	Gender-transformative



Photo: UN Women and UNEP/Prashanthi Subramaniam

The Philippine Plan for Gender-Responsive Development 1995–2025, which has had an impact across multiple sectors, is gender-transformative. It recognizes and seeks to promote gender equality by raising awareness, providing equal employment opportunities and, most importantly, enabling women and men to see each other as equal partners in agricultural activities. The Magna Carta of Women is also gender-transformative, condemning discrimination against women and affirming women's rights. In the agriculture sector, it specifically calls for gender equality in land titling and also supports equal rights to land, infrastructure and technological assistance. In addition, the Gender Equality and Women's Empowerment Plan includes a dedicated chapter on gender and agriculture, fisheries and forestry.

The National Climate Change Action Plan 2011–2028, meanwhile, takes a gender-responsive approach. It recognizes the vital role of women in agriculture, highlights gender-differentiated needs, and calls for women's increased participation in decision-making processes, but does not address the root causes of gender inequality. The National Framework Strategy on Climate Change 2010–2022's mentions of gender are even more limited, only noting that "special attention must be given to ensure equal and equitable protection of women" and that gender issues should be taken into consideration in climate change communications, education, training and awareness-raising.

The Philippine Master Plan for Climate Resilient Forestry Recovery mentions the promotion of gender equality and women empowerment as a priority, but does not say how, nor does it acknowledge gender-differentiated climate change impacts. Similarly, although the Philippine Development Plan 2017–2022 as whole is largely gender-responsive, its chapter on agriculture, fisheries and forestry only loosely mentions gender, noting that that expanding economic opportunities "will be beneficial to existing producers and marginalized farmers and fisher folk, including women, elderly and indigenous peoples".

Key gaps and challenges

As with energy and DRR, the Philippines is ahead of many of its neighbours in integrating gender in climate action in the agricultural sector, but several issues remain:

There is a gap between policy ambitions and meaningful implementation: Stakeholders interviewed for this report said there are challenges in gender mainstreaming and integration in climate action. Limited gender issues have been taken into consideration in policy processes because of limited awareness of women's legal rights, including that they are entitled to membership in decision-making bodies. This is a broader issue, but particularly visible in agriculture (Ani and Casasola 2020). Such challenges are also greater in rural areas than in cities, as the process of gender integration there is slower.

Persistent gender norms hinder effective gender integration: Interviewees said women's contributions to rice farming or fisheries are often regarded as an extension of their domestic tasks and thus rendered invisible. Furthermore, due to predefined gender roles, women have limited opportunities to participate in skills training or decision-making in the communities. They also mentioned that women are considered "weak" and hence obstructed from participating in more technical activities, such as developing irrigation systems. Many see women as caregivers and housewives rather than as farmers and fisherfolk.

Lack of awareness and capacity around integration of gender issues: Those norms can also lead to general unawareness about integrating gender in climate change, within implementing agencies and at the community level. As one interviewee pointed out, in the communities there is little awareness about the harm done by gender stereotypes, because they have been present for centuries. From a policy perspective, an interviewee said those responsible for implementing projects do not always recognize the need to integrate gender in every project and programme.

BOX 12:

Best practices: The Fisheries, Coastal Resources and Livelihood Project (FishCORAL)

This project, implemented by the International Fund for Agricultural Development (IFAD), sought to reduce rural poverty, build the capacity of local communities and administrators, and improve food security through inclusive growth. It mainstreamed gender through the Gender Mainstreaming Strategic Focus of IFAD Projects approach developed by the IFAD-Philippine Gender Network.

The project developers were aware from the start that there was a lack of participation of women in the FishCORAL project areas, so they interviewed women to understand the barriers and opportunities for their presence. This is a challenge, given that the fisheries sector is largely male-dominated, and women's participation is not usually highlighted. Another challenge of the project was the lack of women's voices in law enforcement in fisheries and resource management. The project helped considerably not only to build women's capacities, but also to encourage them to actively take part in law enforcement mechanisms.

Furthermore, given the government mandate of a 5% budget allocation to gender mainstreaming, the project did not face any budget restrictions during its implementation. Collaboration with government agencies such as the Department of Trade and Industry, Department of Social Welfare and Development, Department of Labour and Employment and the National Economic Development Authority, among others, greatly helped in the successful implementation of the project at all levels as well.

IFAD also engaged in the Integrated Natural Resources and Environmental Management Programme, which engaged with upland farmers and Indigenous People on watershed management to develop water facilities, and on sustainable agroforestry to generate more income. Through the project, it became mandatory for women to hold 20–30% of leadership positions. The ideas were eventually embraced by both women and men, facilitating change at the grassroots level. These changes have since influenced other previously male-dominated farming organizations, leading to women's voices being heard more.

However, prevailing gender stereotypes such as fisheries and farming being "men's jobs" has led to the underrepresentation of women's labour, which is either undervalued or unpaid. At the same time, the project received support from various government agencies, with a special emphasis on mainstreaming gender, which gives hope and paves the way for better gender integration in the agrarian sector in the Philippines.



Photo: UN Women/Antoine Raab



Photo: UN Women/Lai Dien Dam

5. Conclusion and policy recommendations

Climate change has profound implications for Southeast Asia, making both adaptation and mitigation urgent priorities. In crafting policy responses, the ASEAN countries need to recognize that how climate change is felt across the region is not only a matter of biophysical changes, but a function of existing social, economic and political structures. Intersecting forms of discrimination and inequality – based on gender, class, ethnicity, citizenship, migration status, age, disability, and other characteristics – create differentiated vulnerabilities and limit people's ability to benefit from climate action.

The 10 ASEAN Member States have made climate commitments under the Paris Agreement as well as the ASEAN Community Vision 2025. In major policy documents in recent years, they have also made increasingly strong commitments to gender equality and broader social inclusion. Aiming to inform ongoing efforts to fully integrate gender concerns in climate-related policies, this report has provided an in-depth gender analysis of three key sectors – renewable energy, disaster risk reduction and agriculture – and case studies of four ASEAN countries, with example of best practices in gender integration.

A key takeaway is that significant work remains to be done to achieve the Member States' vision of "a people-oriented and people-centered ASEAN where all women and girls are able to reach the fullest of their potentials" (ASEAN 2017, p.2), and "an inclusive community that promotes high quality of life, equitable access to opportunities for all and promotes and protects human rights" (ASEAN 2015, p.16). Some of the greatest progress has been made in DRR, and some ASEAN countries have made important strides in RE and agriculture as well. The task now is to move towards gender-transformative policies and initiatives, with strong institutional support to enable fair and equitable responses, address existing inequalities, and prevent the creation of new forms of exclusion.

The sectoral analysis points to a **need to better understand the root causes of vulnerability,** a basic precondition for being able to address those root causes in a holistic and cross-sectoral manner. As **robust and consistent gender-disaggregated data** and related analyses are still in short supply, policy-makers lack crucial information on gendered needs and cannot identify entry points for structural transformation. The lack of data also limits **monitoring and evaluation** of the implementation of promising regional and national policies with commitments to gender equality.

Those challenges are due in part to a **lack of dedicated funding and staff** for gender mainstreaming at all levels and across sectors. Moreover, and despite increasing efforts to encourage diverse participation in decision-making, women and marginalized groups still face formal and informal **barriers to meaningfully influencing policies and practices**. They include gender norms that make care and domestic work a mainly female responsibility; unequal access to knowledge, including tools and information to support climate adaptation; and a significant tendency to undervalue empirical knowledge and traditional adaptation and mitigation practices in favour of more technical and technocratic, male-dominated approaches.

Finally, the policy analysis shows **significant differences across ASEAN policies** – not to mention across countries – in the degree to which gender disparities and broader structural inequalities are recognized and addressed. If the ambitions for equity and inclusion expressed in the ASEAN Community Vision 2025 are to be realized, they need to be reflected more consistently across policies and sectors. This means clearly identifying disparities and their root causes, mainstreaming a transformative approach that tackles structural inequalities and power dynamics. That, in turn, requires valuing the knowledge and experiences of women and empowering them to participate fully in decision-making around climate action.

Based on those insights, this report concludes with recommendations for policy-makers to support gender-transformative responses to climate change in line with the ASEAN Community Vision 2025. They are organized around four themes, and include short- and medium-term measures that can be adopted rapidly to enhance gender-responsiveness, as well as long-term strategies for transformative change. The recommendations are regional in scope, so they should be tailored to different national and local contexts, with meaningful participation from relevant stakeholders.

5.1 Transforming normative frameworks

Short- and medium-term strategies:

- Promote policies and programmes aimed at enabling equal and fair access to and control of resources for those who have traditionally been marginalized. Overcoming intersecting inequalities (e.g. low income, migrant status, ethnic background, age, disability) enhances individuals' and communities' opportunities and their capacities to respond to climate change.
- Ensure that gender is meaningfully and thoughtfully integrated into regional and national policies, plans, and declarations (including COVID-19 recovery frameworks, when applicable to the sectors), clearly addressing the underpinning factors that lead to gender inequalities in various sectoral contexts in order to maximize their gender-transformative potential.
    - **RE:** Adopt a "just transition" framework in RE policy documents and plans, including gendered dimensions of energy use and access by integrating clear gender and equity components.
    - **DRR:** Adopt, contextualize and implement the Ha Noi Recommendations on Gender and Disaster Risk Reduction (updated in 2021) at the national and sub-national levels.
    - **Agriculture:** Adopt a framework that highlights the roles of women in agriculture and mandates equal ownership of resources, and organize and facilitate climate-sensitive trainings for women to effectively adapt to the changing climate.

Long-term strategies:

- Develop clear plans on how gender-transformative goals will be operationalized, including synchronizing and cross-referencing such plans across policy documents (see also Section 5.5).
    - **RE:** Implement and mandate gender and social impact assessments for RE development plans.
    - **DRR:** Systematize the use of vulnerability and capacity assessments to develop evidence-based DRR plans with the meaningful involvement of women and marginalized groups in disaster mitigation, preparedness, response and recovery/resilience-building.
    - **Agriculture:** Create clear guidelines and monitoring tools to ensure the adoption of gender goals in the frameworks.

5.2 Coordination and facilitation

Short- and medium-term strategies:

- Clarify and prioritize leadership roles within ASEAN's governance to spearhead and oversee gender integration across sectors, both at the regional and country level, and ensure the presence of gender equality champions across all areas of governance.
- Develop platforms that encourage gender-transformative, multi-stakeholder dialogues on climate change and response options, including the participation of women and men from communities that have typically been sidelined in policy-making processes,

such as Indigenous Peoples, residents of rural and/or remote areas, and impoverished communities.

- **RE:** Initiate and maintain a network of stakeholders on gender equality within the RE sector, in order to bolster engagement and leadership presence. In addition, ensure that financial resources are harnessed to expand small- to medium-sized RE businesses, and connect women RE entrepreneurs with relevant resources, such as RE specialists and financial advisory services.
- **DRR:** Support and engage with civil society-led platforms to scale up good practices for inclusive and transformative DRR. The case studies in Cambodia, Indonesia and Viet Nam highlight initiatives with promising results in terms of enabling social transformation at the local level. They adopted a whole-of-community approach that allowed for the meaningful participation of commonly marginalized groups, while also engaging with local decision-makers to trigger transformational change.
- **Agriculture:** Promote multi-stakeholder engagement (such as through collaborations between governmental agencies and the private sector) for an interdisciplinary approach to women's empowerment. The Indonesian case study highlights the contribution of the private sector in fostering inclusive practices by treating women's participation in agriculture as an important objective.

Long-term strategies:

- Enhance cooperation between ministries in charge of climate-related sectors (such as energy, DRR and agriculture) and ministries in charge of women's affairs. More broadly, it is important to facilitate the exchange of knowledge between those with more technical expertise (for instance, in RE) and those focused on social inclusion (of women and other marginalized groups).
  - **RE:** Break down barriers between ministries to achieve more meaningful integration of gender into policies. Many ministries tend to work in silos, within clear-cut domains of expertise, yet issues related to equitable RE access, use and production are cross-cutting.
  - **DRR:** Better address disaster risk by strengthening inter-ministerial cooperation for gender mainstreaming in all phases of DRR. As the root causes of vulnerability to disasters lie in pre-existing socio-economic inequalities, DRR planning should not be the sole responsibility of national disaster management offices. Instead, synergies should be created across sectors to address gender and social inequalities around education, employment, land tenure, social security, infrastructure and climate change. This can be achieved with the support of ASEAN Technical Working Group on Gender, Protection and Inclusion.
  - **Agriculture:** Ensure that mandates for gender-transformative policies are pushed across governmental ministries and NGOs, and not only through women's ministries. Agricultural, rural development, regional organizations and networks should also introduce practices that challenge social norms.

5.3 Resource allocation

Short- and medium-term strategies:

- Prioritize resource allocation (such as funding and staff) to initiatives that promote gender equality and social inclusion.
  - **RE:** Secure funding and investments for small-scale, community-based RE projects, which have been demonstrated to provide improve energy access for people in remote and/or rural areas.

- **DRR:** Prioritize activities that engage with women and men to critically question gender and social roles generally, and within a DRR context. This would ensure that short-term initiatives aiming to increase women's participation in DRR activities do not reproduce and increase the existing gendered disparities in care and domestic work, but instead pave the way for transformative change.
- **Agriculture:** Earmark sufficient financial and human resources for improved gender integration in agriculture. As the analysis has shown, gender mainstreaming can be facilitated during project implementation if the budget specifically allocates resources to gender-related work.

Long-term strategies:

- Establish gender-responsive budgeting across all sectors to ensure sufficient financial and human resources to mainstream gender and social inclusion in climate action and resilience-building, including in public services, such as education.
  - **RE:** Allocate resources to promote gender equal engagement and participation in energy sector leadership and in the workforce. In terms of leadership, this includes increasing meaningful participation of women within the sphere of policy formulation at both the national and local levels. In terms of employment, this includes promoting women's engagement by improving relevant skills and higher education in fields such as technology and engineering, which have traditionally been male-dominated.
  - **DRR:** Allocate financial resources for gender mainstreaming in DRR agencies and ministries, and prioritize investments for long-term DRR strategies. This should apply at both the national and local levels, to address disaster risk in a holistic and transformative manner.
  - **Agriculture:** Gradually earmark more financial and human resources for gender integration by involving other ministries. To mainstream gender in projects more efficiently, it is crucial that other ministries and departments, such as those of agriculture, environment, small and medium enterprises, and rural development, also allocate resources to mainstream gender in their respective agendas and programmes.

5.4 Knowledge and capacity-building

Short- and medium-term strategies:

- Ensure that gender-related trainings and capacity-building initiatives include men and highlight men's roles in promoting gender equality and challenging patriarchal structures.
- Mandate gender focal points across ministries, and ensure continuous training on mainstreaming gender and social issues across sectors.
- Initiate a regional knowledge-sharing conversation/platform, spearheaded by ASEAN, to share experiences and best-practices of progress in integrating gender into national policies (for example, NDCs).
  - **RE:** Enhance knowledge around energy costs and usage at both the policy and consumer level. Policy-makers need to understand dimensions of energy costs and usage that may act as barriers to consumers' RE uptake. Consumers, in turn, need better information (through campaigns and/or more transparent sales materials) to learn about the implications of their energy choices, such as long-term costs or benefits. In tandem, it is important to educate government officials and private companies about the needs of marginalized groups – preferably by engaging directly with them.

- **DRR:** Ensure that national and sub-national governments have the capacities to mainstream gender and social issues in all stages of DRR planning and implementation. The case studies revealed that conflicting priorities at the local level, combined with limited capacities, trainings that do not reach senior officials, and the prioritization of disaster response, hinder the implementation of gender mainstreaming in DRR.
- **Agriculture:** Involve men in capacity development and activities designed for increasing gender sensitivity and awareness. The positive result is twofold: it increases awareness about the need for women's inclusion, and it contributes to breaking away from patriarchal social norms. The Viet Nam case study, for instance, shows that involving men in provincial-level on gender integration can facilitate implementation, as it helps to counter entrenched gender norms that are often prevalent in agrarian societies. In addition, it is equally important to increase knowledge and build capacity about implementing time-sensitive projects for women, as their routines are heavily loaded by their household and farming jobs. This will help in increasing their participation and build their capacity to effectively adapt to the changing climate.

Long-term strategies:

- Meaningfully engage with traditionally marginalized groups to formulate policies and plans that reflect their knowledge, needs and priorities in the context of climate action.
- Continue to build evidence on the gendered impacts and dimensions of climate change through working with research partners, academia and affected communities.
- Exchange capacities between ministries to ensure that technical knowledge and gender analysis capacities are streamlined across cross-cutting issues.
  - **RE:** Prioritize community energy models and acknowledge the energy needs of end users. Currently, the majority of RE programmes are centred on the needs of businesses and often overlooks smaller-scale models that deliver RE at the community or household level, for instance. This bias has gendered implications, as women are often the decision-makers around household energy use in rural contexts, and the lack of affordable access to these sources may increase women's burdens.
  - **DRR:** Acknowledge and build on lived experiences and knowledge of disasters and DRR. This means meaningfully engaging with the most vulnerable and with those with a strong knowledge of their natural environment. Indigenous Peoples, peasants and women are at the frontlines of environmental protection through traditional practices (including agriculture), but also tend to be excluded from formal DRR and broader decision-making spheres. Integrating their empirical knowledge and traditional practices and DRR with more science-based approaches will not only reduce their vulnerability, but also allow for more efficient and holistic DRR.
  - **Agriculture:** Ensure access to continuous learning and upskilling for rural communities, particularly women, as part of climate projects, to ensure equal opportunities to adopt new crop varieties, implement soil management and water conservation techniques, and other valuable measures. This can be translated into building cadres of female agricultural workers who can provide support and training to other women farmers, while building the capacities of their male counterparts and take the agenda of building climate resilience in agriculture forward.

5.5 Gender data, monitoring and evaluation, and accountability

Short- and medium term strategies:

- Ensure that robust gender analysis contributes to the development of climate action plans and include guidance on agreed terminology on gender equality.
    - Clearly define what "gender integration" and "gender equality" entail within the policy sphere and in programme implementation.
    - Facilitate the collection and use of disaggregated data to inform plans and actions.
    - Use gender analyses as an instrument for critical reflection and but also for dialogue with researchers, policy makers, and stakeholders to identify strategies in the pursuit of transformative action.
    - **RE:** Prioritize the collection of data disaggregated by gender and other factors, well beyond employment statistics (e.g. share of women in RE jobs). For instance, disaggregated data are needed on RE users, to determine who is and is not benefiting from specific RE sources and how RE access is distributed across population groups.
    - **DRR:** Collect qualitative gender data through capacity and vulnerability assessments and post-disaster needs assessments. Such data are crucial to provide immediate support to the most vulnerable in the context of disasters, but also provide baselines for designing transformative, long-term actions, including in disaster mitigation, preparedness and resilience-building.
    - **Agriculture:** Gather sex-disaggregated data regarding the role of women in agricultural value chains. It is critical to collect data that clearly define the varied roles performed by women in agrarian societies, as women's unpaid household and care work is often effectively invisible.

Long-term strategies:

- Create binding policy documents with clear indicators to enable monitoring and evaluation of gender and social inclusion progresses.
- Develop clearer mechanisms for ASEAN Member States to report on their progress to measure achievements in relation to commitments towards gender equality and climate resilience. This includes strengthening commitments to collect and use gender and other disaggregated data to better inform, monitor and evaluate policies and planning across sectors.
    - **RE:** Create and implement monitoring and evaluation frameworks to capture gender-related outcomes in RE to report alongside national commitments on mitigation in NDCs. For example, this can be done through creating official indicators or milestones that track gender progress in RE access, usage, distribution and production.
    - **DRR:** Increase efforts and coordination to systematically collect, use and manage sex-, age- and disability-disaggregated data to inform all stages of DRR programming and implementation towards greater inclusion. The AADMER and the AADMER Work Programme 2021–2025 already encourage Member States to do this, and the Technical Working Group on Gender, Protection and Inclusion can provide valuable support.
    - **Agriculture:** Communicate data to various stakeholders for better policy-making. After the collection of sex-disaggregated data, it is essential to provide it to stakeholders, so that the government, the private sector and farmers can address gender gaps and mainstream gender in agricultural value chains by formulating gender-relevant policies.

Annexes

Annex 1: Gender review of regional climate-change and gender-related policy documents in the ASEAN

Documents selected: Regional declarations, blueprints, frameworks and agreements issued by the ASEAN in relation to climate change, gender equality, DRR, RE, and/or agriculture.

Documents excluded:

- ASEAN sectoral body workplans (e.g., the ACW workplan 2021–2025)
- Gender policies that do not include relevant sections about climate change, agriculture, RE or DRR (e.g., ASEAN Guidelines on Gender Mainstreaming into Labour and Employment Policies Towards Decent Work for All).
- National development policies that are not directly in relations to climate change, gender, DRR, RE, and/or agriculture.

Policy document	Gender in policies	Summary of commitments
GENERAL VISION		
ASEAN Community Vision 2025 Issued 2015	**Limited to no gender references:** while there are sparse mentioning of gender in this document (mostly under the ASCC pillar), the gender component is currently being further developed in the ASCC blueprint and ASEAN Declaration on Gender-Responsive Implementation of the ASEAN Community Vision 2025.	The Vision aims for a sustainable community that promotes inclusive social development and environmental protection, as well as adaptive to vulnerabilities, disasters, climate change and other threats. The three pillars for these goals are: (i) ASEAN political-Security Community; (ii) ASEAN Economic Community; (iii) ASEAN Socio-Cultural Community. The latter section of the document is the only part mentioning gender through the inclusion of vulnerable groups, and touches upon environmental protection and resilience. However, there are no references to specific gender needs.
ASEAN Socio-Cultural Community Blueprint (ASCC) 2025 Issued 2015	Has **gender-transformative** potential: the Blueprint adopts a rights-based approach that has specific references to gender. It also aims for more inclusion and engagement from the ASEAN community to enable sustainability and resilience.	The second objective of the ASCC is to enable "an inclusive community that promotes high quality of life, equitable access to opportunities for all and promotes and protects human rights of women, children, youth, the elderly/older persons, persons with disabilities, migrant workers and vulnerable and marginalized groups." The ASCC's core elements include: • Engagement with ASEAN stakeholders and strengthen institutions to ensure social inclusion. This includes a strategic measure to "work towards achieving greater gender equality and the empowerment of all women and girls" (p.5) • Promote equitable opportunities for engagement and participation in the development and implementation of ASEAN policies and programmes, as well as developing regional strategies and enhancing institutional capacity for gender mainstreaming in ASEAN policies, programmes and budgets across sectors.

Policy document	Gender in policies	Summary of commitments
		• Enhance SADD data collection and use • Enable sustainability through conservation and sustainable management of biodiversity and natural resources; environmentally sustainable cities; sustainable climate and sustainable consumption and production. However, gender references is lacking in this section. The ASCC also focuses on building resilience, with a section (D.4) on social protection for vulnerable groups in times of climate change-related crisis, disasters and other environmental changes. This includes strengthening risk and vulnerability assessments to develop evidence-based measures that ensure targeted responses.
Complementarities between the ASEAN Community Vision 2025 and the UN 2030 Agenda for Sustainable Development: a Framework for Action Issued 2017	**Gender-responsive:** Gender is integrated in the framework but not developed enough to clearly outline its approach. Gender equality is framed as instrumental to broader development goals.	One of the main complementarities between both Agendas is its "leave no one behind" principle, which pays special attention to women and vulnerable groups. Another complementarity related to gender is about dynamism and innovation, where women's economic empowerment is seen as essential for broader economic and social change. The recommendations include a flagship programme on improving nutrition and reducing stunting across the ASEAN MS that would enhance the ability of women, children and vulnerable groups to lead healthy lives, while strengthening their resilience and that of their communities.
Plan of Action to Implement the Joint Declaration on Comprehensive Partnership between ASEAN and the United Nations (2021–2025) Issued 2020	**Gender-responsive** with potential for **gender-transformative:** The Plan promotes active participation of women at various levels and advocates for raising awareness on gender equality. However, it does not directly identify the causes of gender inequality.	Gender considerations are present in the "political-security cooperation" section of the Plan. The Plan makes references to support women's participation in economic activities in the ASEAN for sustainable economic growth, as well as supporting ASEAN in promoting women-led entrepreneurship and financing gender equality. There are no gender considerations in the section on energy. Under the section on "Socio-cultural cooperation," gender considerations can be found under: - The section on DRRM to "promote a culture of prevention by supporting and working together in responding to rapid- and slow-onset events and enhancing coordination on DRRM and considering gender-responsiveness". However, the rest of the section, as well as the sub-section on "environment and climate action" do not include gender considerations.

Policy document	Gender in policies	Summary of commitments
		- The sub section on "gender mainstreaming" mentions commitment to collecting gender data to monitor SDGs implementation in the region, gender-responsive climate action, women's resilience and participation in RE, and promotion of best practices, capacity building, elimination of violence and discriminations. This includes the protection of rights, raising awareness and increasing access to services and opportunities of vulnerable groups.
ASEAN Joint Statement on Climate Change to the 23rd Session of the Conference of the Parties to the UNFCCC (COP23) 2017	**Limited to no gender references:** the document only refers to "vulnerable and marginalized groups" vaguely.	The statement re-emphasizes the ASEAN's commitments to the UNFCCC. It highlights the actions taken by the MS and calls for developed countries and the Global Climate Fund to provide adequate funding to enhance capacities related to building resilience, sustainable technologies, and adaptation and mitigation strategies. However, it does not call for action in the realm of gender equality and only mentions "vulnerable groups" vaguely (p.2).
GENDER SPECIFIC		
Declaration on the Advancement of Women in the ASEAN Region, 1988	**Gender-responsive:** The Declaration does not directly address the root causes of gender inequality but encourages gender mainstreaming across ASEAN's work.	The Declaration states commitments to promote and implement women's participation in all fields. Key elements include commitment to gender mainstreaming in national plans, encouraging the participation of women's organizations in national and regional resilience, and strengthening solidarity between regional and global women's groups.
Ha Noi Declaration on the Enhancement of Welfare and Development of the ASEAN Women and Children, 2010	Has **gender-transformative potential:** The Declaration covers all the elements of a rights-based approach. It aims to enhance core substantive rights and procedural rights through increased access to information and improved governance.	The Declaration states a commitment to gender mainstreaming, building capacities of MS and encouraging regional cooperation to strengthen gender-responsive policymaking. It also aims to enhance accountability towards international commitments and improve governance mechanisms. Furthermore, it encourages knowledge production and sharing "to reduce the negative impacts of economic and environmental changes, including climate change, on women and children" (point 5). Additionally, the Declaration aims to increase women and children's resilience to environmental and climate changes, as well as to increase participation in decision-making in climate-related processes.

Policy document	Gender in policies	Summary of commitments
ASEAN Gender Mainstreaming Strategic Framework (2021–2025)	**Gender-transformative:** The document adopts a transformative approach by addressing social norms and daily practices that lead to gender inequality. It seeks to mainstream gender in ASEAN at multiple levels.	The document proposes a framework for the ASEAN MS to adopt a rights-based approach to integrating gender at all levels of activities planning, implementation and monitoring, stating the need to include the involvement of men and boys. The Framework includes, but are not limited to, the following: - Developing cross-cutting monitoring and evaluating frameworks for gender mainstreaming - Providing ASEAN staff with sex disaggregated data - Building the capacity of ASEAN staff and officials through gender mainstreaming tools and communications (e.g., providing toolkits and other resources) - Involving CSOs in consultation processes around gender inclusion With regards to climate change, the document acknowledges that women and girls are disproportionately affected by disasters due to pre-existing inequalities. Furthermore, it promotes women's leadership not only in sectors directly related to climate change, but also in health, finance, education, etc.
ASEAN Declaration on Gender-Responsive Implementation of the ASEAN Community Vision 2025 Issued 2017	**Gender-responsive:** the Declaration includes general commitments to mainstreaming gender considerations in the ASEAN Community Vision.	The Declaration is mindful that sustainable development and gender equality require multi-sectoral interventions and multi-stakeholder approaches at different levels. It commits to: - Collecting and using SADD data to monitor progresses towards SDGs and ASEAN blueprints - Monitoring and evaluating existing commitments to gender equality - Mainstreaming gender equality via gender-responsive budgeting, targeted interventions and investments for gender equality - Promoting equitable participation in decision-making - Promoting engagement of men and boys in gender equality efforts - Mainstreaming gender concerns across sectoral bodies in the 3 ASEAN pillars

Policy document	Gender in policies	Summary of commitments
Renewable energy		
ASEAN Plan of Action for Energy Cooperation (APAEC) 2016–2025 Issued 2015	No gender references.	No mention of gender, women, or men.
ASEAN Plan of Action and Energy Cooperation (APAEC) Phase II: 2021 – 2025 Issued 2020	No gender references.	No mention of gender, women, or men.
6th ASEAN Energy Outlook 2017–2040 Issued 2020	Limited to no gender references.	Only one brief gender reference, in section on household energy.
Disaster risk reduction		
ASEAN Agreement on Disaster Management and Emergency Response 2005	No gender references.	No mention of gender, women, or men.
Declaration on Institutionalizing the Resilience of ASEAN and its Communities and Peoples to Disasters and Climate Change 2015	No gender references.	No mention of gender, women, or men.
AADMER Work Programme 2021–2025	**Gender-responsive:** The document promotes a "whole-of-society approach in disaster management that leaves no one behind by recognizing the key roles and unique needs of the communities, especially those that are most affected during disasters including women, children, youth, elderly, the poor and people with disabilities as well as other vulnerable groups." However, root causes of inequality are not clearly addressed.	Gender considerations can be found in the following activities: • Assessing the vulnerability of women and marginalized groups to support the implementation of more inclusive social security measures, including identifying relief items to meet the needs of impacted groups. • Collecting and using SADD data in performance indicators for reducing number of losses due to disasters. • Capacity-building activities for vulnerable groups during disaster recovery. • Enhancing cross-sectoral and multi-stakeholder collaboration for better inclusion of gender equality considerations into ASEAN DRR work. • Mainstreaming gender and social equality into ASEAN disaster management capacity including knowledge production and institutional capacity-building.

Policy document	Gender in policies	Summary of commitments
		• Enhancing women's leadership capacities for inclusive resilience, including within ASEAN bodies and working groups. • Encouraging the documentation of good leadership practices by women and other vulnerable groups.
ASEAN Regional Framework on Protection, Gender and Inclusion in Disaster Management 2021–2025	**Gender-responsive** with **gender-transformative elements:** The Framework recognizes the differentiated impacts of disasters on women and men while highlighting the need for women in leadership roles in DRR. While it promotes gender equality in general, it does not directly address the root causes of gender inequality.	The Framework provides guidance and support to the MS through: • Creating targeted actions and indicators for progress towards inclusive disaster management; • Identifying entry points for collaboration between National Disaster Management Offices and other organizations working on gender and social inclusion; and • Supporting MS in setting priorities, indicators, targets and baselines to measure progress towards protection, gender and inclusion at the national and regional levels. The target actions under this framework encompass research and assessments to better understand and address vulnerabilities through evidence-based strategies, guidelines and policies, as well as capacity building, partnerships and national provisions. The cross-cutting objective is to "institutionaliz[e] the leadership of women, children, youth, elderly, the poor and people with disabilities in disaster preparedness, response, and recovery, and promote full and equal participation in decision-making" (p.13). The Framework takes a transformative stance by promoting "rights-based/needs-based and life-cycle approach and eliminate all forms of maltreatment on the basis of old age and gender through equitable access to services, income generation, health care services, and essential information, as well as preventive measures, legal protection, and effective support systems in disasters" (p.13).
ASEAN Regional Plan of Action for Adaptation to Drought (ARPA-AD) 2021–2025	**Gender-responsive:** The Plan recognizes gender differentiated needs while providing means to make the Plan more inclusive and gender sensitive.	Gender and social inclusion is one of the guiding principles in the ARPA-AD, which advocates for the gender differentiated needs of women and other vulnerable groups. The Plan calls for the meaningful usage of SADD data and gender analysis. The Plan also proposes that gender analysis should be carried out in drought preparedness, preparation and development of policies at the national and regional level, along with post-disaster recovery interventions.

Policy document	Gender in policies	Summary of commitments
ASEAN Vision 2025 on Disaster Management	Limited gender references.	While the Vision mentions that the ASEAN "will ensure gender equality and the empowerment of women and girls, the youth and children so that they can act as agents of their own response" (p.5), gender considerations are not integrated throughout the document.
ASEAN-UN Joint Strategic Plan of Action on Disaster Management IV. 2021–2025 (JSPADM IV)	**Gender-responsive** with potential for **gender-transformative:** the Plan demonstrates examples of implementation with emphasis on ensuring meaningful participation and leadership of women in decision-making processes.	Aligning with the AADMER Work Programme 2021–2025, programmes and projects under the JSPADM IV will: • Be informed by gender analyses and the collection and use of SADD data; • Ensure that gender and protection are mainstreamed throughout all programming, while also developing targeted programming to meet the specific needs and support the key capacities of women, girls, persons with disabilities, and other marginalized groups; and • Promote meaningful engagement of those most affected by disasters, including women, children, persons with disabilities, the elderly, and other marginalized groups, in planning, implementation, and monitoring of interventions. Gender and social inclusion indicators are cross-cutting to the Plan's monitoring and evaluation framework.
ASEAN Comprehensive Recovery Framework 2020	**Gender-responsive** with potential for **gender-transformative:** Gender considerations are mainstreamed throughout the policy. The Framework recognizes some of the root causes of differentiated vulnerabilities to COVID-19 and other disasters, while highlighting targeted measures. However, those measures are mostly focused on innovation and technological solutions, rather than challenging the socioeconomic systems that cause gender inequalities.	The Framework states that "gender mainstreaming and gender-responsiveness must be considered across ASEAN's body of work towards recovery" (p.25). The document pays specific attention to women's empowerment for recovery, especially economic empowerment through digital and financial inclusion while addressing unpaid care and domestic work. It also stresses the need for better access to social safety nets, social assistance and social insurance programmes, and increased investment in gender-responsive public and social infrastructure. The Broad strategy 5 aims at "advancing towards a more sustainable and resilient future" and links the challenges of COVID-19 with those of other disasters and climate change. The document recognizes that the pandemic has highlighted pre-existing vulnerabilities within society and "underscored the need to take on a strategic and holistic approach to manage disasters and emergencies in the future". Climate action remains a priority, with strong emphasis on low carbon initiatives and RE. Agriculture is also mentioned in the same section, with the focus on increasing the productivity and resilience

Policy document	Gender in policies	Summary of commitments
		of the sector through climate-smart solutions. Gender is not mentioned in the sub-sections. Moreover, footnote 14 (p.37) under Broad Strategy 5 recognizes the importance of mainstreaming biodiversity across relevant sectors, while encouraging individuals, including women and girls, and communities to become biodiversity-aware and adopt behaviour that can prevent future pandemics.
Declaration on Institutionalizing the Resilience of ASEAN and its Communities and Peoples to Disasters and Climate Change 2015	No gender references.	No mention of gender, women, or men.
ASEAN Declaration on One ASEAN, One Response 2016	No gender references.	No mention of gender, women or men.
AHA Centre Work Plan 2025	**Close to gender-responsive:** While the Plan does not explicitly recognize gender differentiated impacts, it suggests ways to make policies more gender inclusive.	The Plan calls for trainings and workshops to include gender in the Risk and Vulnerability Assessment Guidelines. It also calls for addressing gender gaps in regional plans.
AGRICULTURE		
ASEAN Multi-sectoral Framework for Climate Change: Agriculture and Forestry Towards Food and Nutrition Security and Achievement of SDGs 2018	**Limited to no gender references:** "Gender sensitive policies" is briefly mentioned in one of the eight strategic thrusts.	Gender is mentioned in the first strategic thrust, with an action plan to "establish appropriate institutional arrangements and support systems to effectively formulate, implement and monitor and evaluate climate-smart, rights-based and gender sensitive policies, programs, plans and investments in the FAF and other relevant sectors" (p.3).
AMAF's Approach to Gender Mainstreaming in The Food, Agriculture and Forestry Sector 2018	**Gender-responsive** with potential for **gender-transformative:** The document includes a set of recommendations for policies and programmes to ensure empowerment of women working in the food, agriculture and forestry sectors.	The document is aligned with the UNFCCC Gender Action Plan and ASCC Blueprint 2025. It recognizes that inequalities are linked to power imbalances and stresses the need for targeted policies to enable equal opportunities. Overall, the recommendations are: • To advocate for gender equality in food, agriculture and forestry policies, programmes, systems and structures at the regional and national levels. This includes collaboration between ASEAN bodies for gender mainstreaming and use and collection of SADDD to design and monitor projects.

Policy document	Gender in policies	Summary of commitments
		• To strengthen the capacity of policy makers, field workers and farmers on appropriate approaches to integrating gender into agriculture and climate change. This includes consultation and participation in decision-making and capacity building activities, leadership trainings, access to education. • To promote gender-aware research supporting climate-smart agricultural technologies. • To provide women with opportunities to access financial services. • To ensure adaptation and mitigation measures address sources of gender-based vulnerability, inequality, and poverty.
ASEAN Integrated Food Security Framework and Strategic Plan of action on Food Security in the ASEAN Region 2021–2025 Issued 2020	Limited to no gender references.	There is only one gender reference to a study on long term applications of structural demographic change on food security in ASEAN.
ASEAN Regional Guidelines on Food Security and Nutrition Policy, 2017	**Gender-responsive:** The document recognizes how nutrition and food insecurity have gendered dimensions.	The Guidelines state that the empowerment of poor women can contribute to improved nutrition and food security, with examples on how education for girls and women can have positive effects on these aspects. Furthermore, the document establishes linkages between population growth and food insecurity which can be addressed though education for girls and women, sex education and policies strengthening their social and economic position. The Guideline recognizes gender dynamics as an important factor when designing appropriate activities to address the types and causes of malnutrition. Furthermore, it highlights women's protection and empowerment as important factors for food security and nutrition, which should be considered in legislations and guidelines. Additionally, the guidelines use sex disaggregated data to measure food security and nutrition at the national and regional level.
ASEAN Regional Guidelines for Promoting Climate Smart Agriculture Practices, 2015	**Gender-responsive:** Some of the guidelines consider specific gender needs.	The document mentions the need for gender analyses to understand women's roles and vulnerabilities in agriculture (mentioned in relation to rice cultivation). It also mentions the role of gender impact assessments to inform and implement adaptation and mitigation strategies. Finally, it recognizes that women should be involved in the creation of national adaptation programmes and projects.

Policy document	Gender in policies	Summary of commitments
The ASEAN Guidelines on Promoting Responsible Investment in Food, Agriculture and Forestry 2018	**Gender-responsive:** Guideline 3 thoroughly addresses the need for responsible investment to address gender inequality.	The document focuses on addressing the issue of growing food insecurity in the region. It specifies the need for responsible and sustainable investment in food, agriculture and forestry. One of the guidelines advocate for gender equality and empowerment. It acknowledges contributions made by women in the food, agriculture, and forestry sectors and calls for equitable access to resources and participation in decision-making roles.

Annex 2: Gender review of the ASEAN countries' NDCs

Country	Policy document	Gender in policy: close to gender-responsive
The Philippines	Nationally Determined Contribution Communicated to the UNFCCC 2021	The document "upholds the importance of meaningful participation of women, children, youth, persons with diverse sexual orientation and gender identity, differently abled, indigenous peoples, elderly, local communities, civil society, faith-based organizations, and the private sector, and recognizes the indispensable value of inclusion and collaborative participation of local governments in implementing climate actions." While the NDC boldly recognizes the need to integrate diverse people groups in climate action, the policy can become a fully gender-responsive one if it takes one step further to elaborate on methods to incorporate diverse groups or addressing gendered impacts of climate change.
		Sector(s) with gender mentioned: *none*
		• The document focuses on the impacts of disasters, especially typhoons, on agriculture and energy infrastructure. • It aims to curb emissions from the agriculture and energy sector. • Committed reduction and avoidance of 75% of GHG emissions where 2.71% is unconditional and 72.29% is conditional. • Gender is not mentioned in the sectoral approaches.
Indonesia	Updated Nationally Determined Contribution Republic of Indonesia 2021	Gender in policy: *gender-responsive*
		The document states gender equality goals will be a part of the NDC implementation programme in its long-term strategy on low carbon and climate resilience. The capacity building programme focuses on gender and inter-generational needs of vulnerable groups. The NDC seeks to promote gender participation in developing social and livelihood resilience. Furthermore, it also seeks to develop understanding of gender issues in the context of climate change.
		Sector(s) with gender mentioned: *none*
		• Indonesia has set the target of reducing 29% emissions unconditionally, and 41% conditionally. • The country's mitigation efforts are focused on reducing emissions from the forest-and-land and energy sector. • In the primary energy supply mix, new and renewable energy will be at least 23% in 2025 and a minimum of 31% by 2050.

Country	Policy document	Gender in policy: close to gender-responsive
		• As part of its adaptation efforts, it focuses on three areas of resilience: economic, social and livelihood, and ecosystem and landscape resilience. The sectors include agriculture and water among others. • Gender is included in the sectoral approaches but only in building social and livelihood resilience.
Viet Nam	Updated Nationally Determined Contribution 2020	Gender in policy: gender-responsive
		The NDC includes details on achieving SDGs that include gender equality and risk reduction for "vulnerable groups such as women." It also recognizes poor women's lack of access to education, finances, information and limited opportunities in "non-farm employment", which makes them more vulnerable to climate impacts. The NDC also acknowledges the varied impacts of disasters on women and men. It addresses how women's lack of decision-making power, along with limited access to resources, makes them more vulnerable to climate change and its impacts.
		Sector(s) with gender mentioned: *none*
		• Viet Nam aims to reduce 8% of its GHG emissions compared to the BAU scenario and it can increase to 25% with the help of the international community. • Viet Nam's mitigation efforts revolve around reducing emissions from the energy and agriculture sectors among others. • In the RE sector, mitigation measures include developing RE, improving energy efficiency of transport vehicles, using energy-saving construction material, etc. • In the agriculture sector, mitigation measures include adopting management and technological solutions in animal husbandry, improving animal diets, shifting structures of crop production, reusing by-products and waste in agriculture through technology, etc. • Adaptation techniques to reduce disaster risk includes strengthening research, updating early warning systems capacity, ensuring clean water supply, implementing flood-prevention systems, expanding flood drainage canals, etc. • Gender is not included in the sectoral approaches.

Country	Policy document	Gender in policy: close to gender-responsive
Cambodia	Cambodia's Updated Nationally Determined Contribution 2020	Gender in policy: gender-transformative
		Cambodia recognizes gender as a cross-cutting issue and the gendered impacts of climate change. The Ministry of Women's Affairs set up a Gender and Climate Change Committee, which not only gathers information about the impact of climate change on women but has also integrated climate change and DRR into its National Policy on Gender Equality and Women's Empowerment. The document acknowledges that gender has linkages in all the mitigation sectors. Furthermore, the adaptation measures recognize the need to provide women with equal access to technology and information. The document suggests pathways for gender equality in its NDC implementation processes. This includes integrating gender-responsiveness in adaptation plans, enhancing monitoring and evaluation systems to track gender outcomes and managing sex-disaggregated data, enforcing gender-responsive budgeting, etc.
		Sector(s) with gender mentioned: *none*
		• Mitigation measures in the energy sector includes achieving 25% of RE in the energy mix, along with creating bio-digesters to reduce emissions. Cambodia has also committed to reduce 42% of its emissions by 2030. • In the agriculture sector, it includes increasing effectiveness and fostering sustainability in land management techniques, promoting manure management through compost making process, adopting deep placement fertilizer technique, horticulture, industry crops, fostering research for enhancing agricultural productivity, developing new technologies, integrating DRR and climate change adaptation measures into recovery in the livestock sector and promoting aquaculture production systems, etc. • Adaptation measures also involve conducting climate risk analysis for electricity infrastructure and climate proofing existing and future solar and hydropower infrastructure. • Gender is not included in the sectoral approaches. However, both adaptation and mitigation commitments have gender-sensitive targets. In terms of mitigation measures, the NDC highlights the linkages between gender equality, social inclusion, and climate change. In terms of adaptation, the NDC recognizes the potential to increase women's income and simultaneously decrease their burden of work via technologies. However, potential barriers to access are not addressed.

Country	Policy document	Gender in policy: close to gender-responsive
Singapore	Singapore's Update of its First Nationally Determined Contribution (NDC) and Accompanying Information 2020	Gender in policy: limited to no gender references
		The document has limited gender references, with gender-responsiveness (including engagement with Indigenous peoples) only briefly being mentioned under the Planning Process.
		Sector(s) with gender mentioned: none
		• The NDC aims to achieve a 36% reduction in emissions intensity by 2030. • Energy and agriculture are included as key sectors for mitigation, but there is no mention of gender in the adaptation or mitigation efforts. • The document focuses heavily on the energy sector by laying out some solutions that the country has adopted in the realm of energy efficiency. • Adaptation efforts revolve around protecting the country from sea-level rise and minimizing the chances of floods through restoring mangroves, building sea-walls, adopting nature-based solutions, etc. • Gender is not included in the sectoral approaches.
Thailand	Thailand's Updated Nationally Determined Contribution 2020	Gender in policy: close to gender-responsive
		The document includes gender-responsiveness as a principle that will be taken into account to formulate the National Adaptation Plan. It also aims to include assessments on "gender sensitivity" in subsequent NDCs. The document can adopt a gender-responsive approach by specifying specific methods towards assessing "gender sensitivity."
		Sector(s) with gender mentioned: *none*
		• Thailand plans to reduce its emissions by around 20% from the projected BAU by 2030. • The energy sector is the largest contributor to emissions forming 73% of the total emissions. Therefore, the document mentions key challenges to RE development such as the lack of domestic technological resources, finances, and technical capacities, etc. • As part of its mitigation strategy, the document suggests development of RE technology, such as establishing smart grid environment and exploring the potential for off-shore renewable power generation systems, etc. • Agriculture is one of the key sectors that will be focused on in Thailand's adaptation plans and the document calls for improving crop/livestock varieties and management systems. • Gender is not included in the sectoral approaches.

Country	Policy document	Gender in policy: close to gender-responsive
Brunei Darussalam	Brunei Darussalam Nationally Determined Contribution (NDC) 2020	Gender in policy: limited to no gender references
		The document only briefly mentions gender once.
		Sector(s) with gender mentioned: None
		• Energy and agriculture are included as key sectors for mitigation. • The country aims to increase its total share of RE to 30% by 2035, mostly through solar PV. • Gender is not included in the sectoral approaches.
Lao PDR	Lao PDR's Nationally Determined Contribution (NDC) 2021	Gender in policy: close to gender-responsive
		The NDC highlights how gender is integrated into other national strategies like the Mekong Climate Change Adaptation Strategy and Action Plan as well as the Basin Development Strategy 2021–2030. It also states that the 2010 National Strategy on Climate Change is being revised to include gender-responsive climate actions, which highlights the country's willingness to develop more gender-responsive policies in the future.
		Sector(s) with gender mentioned: *None*
		• Agriculture, energy, land-use change, and forestry have been mentioned as the main sectors to contribute to baseline emissions. • DRR has not been mentioned in the document. • Gender is not included in the sectoral approaches.
Myanmar	Myanmar's Nationally Determined Contributions 2021	Gender in policy: *gender-responsive*
		Myanmar Climate Change Policy (MCCP) involves nine guiding principles, including one principle involving gender equality and women's empowerment. In terms of adaptation, the document calls for sustainable management of natural resources while including gender considerations in the process of enforcing management policies, rules, and regulations. Furthermore, gender considerations are to be a part of the recovery process from climate change-induced impacts. The document advocates for equal participation of women and men and gender-responsive programs to build resilience against climate change. The document can benefit from outlining the methods by which the above can be achieved.

Country	Policy document	Gender in policy: close to gender-responsive
		Sector(s) with gender mentioned: *Agriculture and DRR*
		• The agriculture sector calls for international assistance in order meet the targets of developing gender inclusive production systems. • The presence of international support can also enhance the engagement with women's groups in DRR processes.
Malaysia	Malaysia's Update of its First Nationally Determined Contributions 2021	Gender in policy: limited to no gender references
		While gender-responsiveness is listed as part of the planning processes, there is a need for the document to identify and elaborate on the causes of gender inequality and the methods to mainstream gender.
		Sector(s) with gender mentioned: *DRR*
		• Malaysia aims to reduce its carbon intensity by 45% by 2030 compared to the 2005 levels. • Energy and agriculture are crucial sectors for reducing carbon intensity, but gender is not included in the sector-specific policies. • In the DRR processes, it aims to become more inclusive by mainstreaming gender and other vulnerable groups.

Annex 3: Stakeholder (key informant) interviews

ASEAN Sectoral Bodies

ASEAN Center for Biodiversity (2021). Nosrat Ravichandran, Kris Baleva, Mira Mei Lontoc, Allan Pormento and Marilyn Santiago, ACB Gender and Biodiversity Committee. Interview conducted by Jenny Yi-Chen Han, 21 October 2021, online.

ASEAN Center for Energy (2021). Monika Merdekawati, ACCEPT. Interview conducted by Jenny Yi-Chen Han, 4 November 2021, online.

Food, Agriculture, and Forestry Division (2021). Gemilang Haifa Khairinissa, Forestry Officer. Interview conducted by Jenny Yi-Chen Han and Rashi Agarwal, 17 September 2021, online.

ASEAN Committee on Women

Anonymous (2021). Interview conducted by Jenny Yi-Chen Han, 12 November, 2021, online.

Gender and Climate Change Committee (2021). Khorn Dinravy, Advisor to the Ministry of Women Affairs. Interview conducted by Jenny Yi-Chen Han and Rashi Agarwal, 18 October 2021, online.

Philippine Commission on Women (2021). Michelle Ann A. Ruiz, Avery Arevalo, Sectoral Coordination Division. Interview conducted by Jenny Yi-Chen Han, 4 November 2021, online.

NGOS

Grow Asia[63] (2021). Erin Sweeney, Lead (Sustainable Investment & Inclusion), Ranthi Whesi Umbarani, Cherry Mae Tadeo- Cunanan, Chy Bormey and Phat Lida, members of Grow Asia network. Interview conducted by Rashi Agarwal on 10 December 2021, online.

Cambodia

ActionAid Cambodia (2021). Hong Reaksmey, country director. Interview conducted by Camille Pross, 27 October 2021, online.

Energia (2021). Somma Dutta. Interview conducted by Jenny Yi-Chen Han, 4 November 2021, online.

SNV Cambodia (2021). Mealea Em, gender advisor, and Bastiaan Teune, energy sector leader. Interview conducted by Jenny Yi-Chen Han, 19 October 2021, online.

SNV Cambodia (2021). Alexandra Mandelbaum, country director. Interview conducted by Rashi Agarwal, 27 November 2021, online.

Viet Nam

Care International Viet Nam (2021). Yen, Nguyen Thi. Interview conducted by Camille Pross, 20 October 2021, online.

Consortium of International Agricultural Research Centres (2021). Mai Phuong, Ngyuen. Interview conducted by Rashi Agarwal on 12 November 2021, online.

GreenID (2021). Anonymous. Interview conducted by Jenny Yi-Chen Han and Rashi Agarwal, 18 October 2021, online.

Indonesia

Hivos (2021). Sandra Winarsa, Programme Development Manager. Interview conducted by Jenny Yi-Chen Han, 15 November 2021, online.

Hivos (2021). Miranda, Project Manager. Interview conducted by Rashi Agarwal on 18 November 2021, online.

IDEA (2021). Tenti Kurniawati. Interview conducted by Camille Pross, 1 November 2021, online.

Indonesia Research Institute for Decarbonization (IRID) (2021). Henriette Imelda. Interview conducted by Jenny Yi-Chen Han, 4 November 2021, online.

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[63] Interview included representatives and perspectives from Cambodia, the Philippines, and Indonesia.

Institute for Essential Service Reform (IESR) (2021). Arimbi Heroepoetri. Interview conducted by Jenny Yi-Chen Han, 4 November 2021, online.

YAPPIKA – ActionAid Indonesia (2021). Indira Hapsari. Interview conducted by Camille Pross, 27 October 2021, online.

The Philippines

Center for Energy, Ecology, and Development (CEED) (2021). Aryanne Shirene de Ocampo, Program Head. Interview conducted by Jenny Yi-Chen Han, 27 October 2021, online.

The CentRE (2021). Marie Estella Cardenas, Executive Director. Interview conducted by Jenny Yi-Chen Han, 27 October 2021, online.

International Fund for Agricultural Development (2021). Jennevy Cabiza, Rhine Joy Lesigues and Leo Gallelo, members of the IFAD-Philippines Gender Network (IPGN). Interview conducted by Rashi Agarwal on 9 November 2021, online.

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