



# 13 CLIMATE ACTION



**TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS**

## I. SUMMARY

Climate action in the Asia-Pacific region faces significant challenges. Efforts to update Nationally Determined Contributions (NDCs) fall short of the ambitious targets needed to limit global warming to 1.5°C and achieving net-zero emissions by 2050 (ESCAP *et al.*, 2023). Slow emission-reduction policy roll outs and inaccurate emissions data hinder progress. Prioritizing energy supply is crucial in achieving net-zero pathways and the region's significant untapped renewable energy potential could accelerate the energy transition. Addressing emissions in the transport sector, which produces 23 per cent of energy-related greenhouse gas (GHG) emissions (Lah, 2015), is crucial. However, climate action progress is seen in rising climate finance, with the region receiving US\$183.7 billion from bilateral donors and multilateral development funds from 2016–2021 and \$329 billion between 2016–2023 from foreign direct investors.

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As the most vulnerable region globally, Asia-Pacific needs to boost the development and implementation of National Adaptation Plans (NAPs), with only 14 Asia-Pacific countries submitting their NAPs to the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat.<sup>1</sup> Gender inequalities and disproportionately impacted people living in vulnerable situations impede sustainable development. Effective governance for climate action requires institutional coordination, private sector collaboration, rights-based and the inclusion of diverse groups, such as youth, women, Indigenous peoples and local communities in decision-making.

Increased climate finance and investment combined with targeted and coherent policies like feed-in tariffs have helped many economies in the region drive energy transition efforts. Still, much more is needed to make meaningful progress on SDG 13. In terms of financing and investment, for example, developing countries in Asia-Pacific need US\$1.1 trillion annually to meet mitigation and adaptation ambitions. However, they only receive around US\$333 billion, equating to an annual US\$815 billion funding in gap in the region (IMF, 2024). At the same time, deployment of nature-based solutions for adaptation and mitigation must be accelerated, gender considerations need to be better incorporated into policy and financing/investment vehicles, and increased efforts to collect accurate, timely and gender disaggregated data on the environment are needed.

Overall progress in the region has regressed on SDG 13. While the region is on track for adopting and implementing national disaster risk reduction strategies (indicator 13.1.2), most other targets under Goal 13 have not progressed. Nonetheless, regional aggregates may mask progress at the national level on some targets; several countries may be performing better in those areas than the overall region.

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Though the Asia-Pacific States are doing well in developing their NDCs, their commitments are not ambitious enough to keep global warming within the 1.5°C target. Progress towards SDG 13 is slipping away and government NDCs do not support the regional goal of achieving net-zero emissions by 2050. Countries are also slow to adopt policies supporting ambitious GHG emission-reduction targets. More

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<sup>1</sup> Available at <https://napcentral.org/submitted-NAPs>.

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countries should report emissions levels for all sectors to properly monitor their contribution towards global climate agendas.

Regional progress on Goal 13 is regressing also due to the increase in deaths and missing persons attributed to disasters. While not an SDG indicator, the region also experiences more disaster displacement than any other, accounting for over three-quarters of the global total between 2010 and 2021 (IDMC and Asian Development Bank, 2022). Although the number of people affected by disasters is declining, the increasing trend in some countries may be caused by data reporting modalities in reports on disaster-attributed deaths, including COVID-19-related fatalities. Also, while national adoption of disaster risk reduction strategies is on target, implementation is lagging, with limited subnational action.

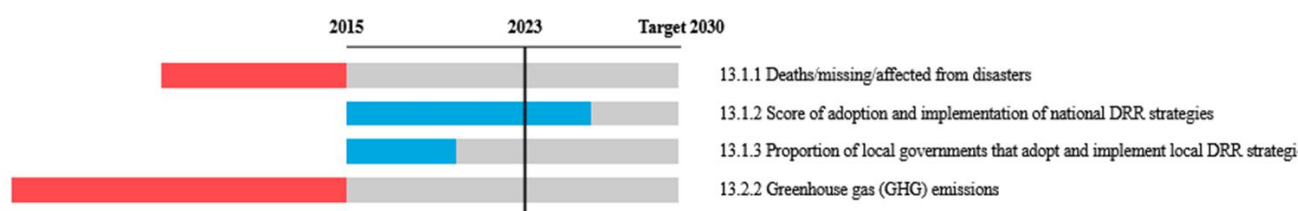


Figure 1 - Progress on Goal 13 indicators towards the 2030 targets.

Source: ESCAP (2024).

### A. AREAS WITH PROGRESS

#### IMPROVED CLIMATE FINANCE AND INVESTMENT FLOWS (TARGET 13.A)

OECD statistics found that Asia and the Pacific received US\$183.7 billion in climate finance between 2016 and 2021 from multilateral development banks, multilateral climate funds and bilateral donors, up from US\$24.2 billion in 2016 (OECD, 2023b). From 2016 to 2021, the strongest growth in climate finance was in adaptation finance, increasing 101 per cent from US\$6.2 billion to US\$12.5 billion. Yet, mitigation-related finance still constitutes about 62 per cent (ESCAP *et al.*, 2023). Multilateral development banks were the main contributors, providing US\$88.3 billion, followed by bilateral donors at US\$86.8 billion, with private philanthropies also adding US\$1.1 billion during this period (ESCAP *et al.*, 2023).

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Regarding financing instruments, 82.8 per cent of the flows during 2016–2021 consisted of debt finance, 15.6 per cent of grants, and 1.6 per cent of other instruments such as equity and mezzanine financing (ESCAP *et al.*, 2023). According to analyses by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), between 2016 and 2021, over 70 per cent of the region's climate finance was allocated to four sectors: transport and storage (29.6 per cent), energy (22.7 per cent), water supply and sanitation (9.9 per cent), and agriculture, forestry, and fishing (8.9 per cent) (ESCAP *et al.*, 2023).

Investment, particularly foreign direct investment (FDI), has also become an important means for financing climate action globally. Since 1993, FDI has been the largest source of development finance to low and middle-income countries globally. It has significantly outpaced both official development assistance (ODA) flows, i.e. donor flows, and debt and equity flows including from multilateral development banks every year since 1996 (World Bank/KNOMAD, 2022). According to ESCAP calculations on climate action capital flows in 2016–2021, greenfield<sup>2</sup> FDI in climate action and mitigation in ESCAP Member States reached US\$198 billion. This indicates that the region received nearly US\$15 billion more in climate FDI than in the traditional finance sources mentioned above. The amount of greenfield FDI invested in climate action is rapidly growing: in 2022 and 2023, the region received a total of US\$136 billion in such flows. Importantly, these figures do not include FDI flows that came into the region through mergers and acquisitions, or non-equity modes like joint ventures. This means that the figure for overall FDI flows into Asia-Pacific both between 2016–2021 and 2022–23 is much higher than the reported US\$198 billion and \$136 billion for these periods, respectively.

Though FDI is the largest source of climate finance to date, it remains overlooked in all conversations and global forums aimed at boosting climate finance. For example, while the participants in the twenty-seventh session of the Conference of the Parties (COP27) to the UNFCCC, held in November 2022, focused on ways to increase climate finance to developing countries, FDI did not feature in the main agenda or into any decision taken. The same was true at COP28 in 2023 in Abu Dhabi. Instead, decisions

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<sup>2</sup> A greenfield investment is a type of FDI in which a parent company creates a subsidiary in a different country, building its operations from the ground up.

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at these forums solely focused on scaling up public grants through ODA and funds from multilateral development banks.

Considering the scale of investment required in Asia-Pacific to enable progress on SDG 13, it is essential that both traditional sources of climate finance are maximized, along with other sources that have been overlooked, including FDI. This means working with donors and multilateral banks to more efficiently allocate at scale; working with relevant government ministries and agencies to develop investable projects; and proactively attracting foreign direct investors for these and other climate adaptation and mitigation projects.

During day one of COP28, draft decisions to action the Loss and Damage Fund was adopted with the understanding that all contributions announced during COP28 would be incorporated by the Secretariat. The Natural Resources Defence Council has developed a COP28 Climate Funds Pledge Tracker, outlining total pledges to the fund and comparing them with other recent climate-related funds.

### **IMPROVED EDUCATION, AWARENESS-RAISING AND HUMAN AND INSTITUTIONAL CAPACITY ON CLIMATE CHANGE MITIGATION, ADAPTATION, IMPACT REDUCTION AND EARLY WARNING (TARGET 13.3)**

Some significant initiatives have been undertaken to promote education and awareness-raising in the region. The ASEAN Climate Resilience Network and its Negotiating Group for Agriculture are involved in the United Nations climate change processes to enhance food system resilience. They provide policy guidelines for climate-smart agriculture, public-private collaborations and gender mainstreaming in agriculture. This network could be a prototype for other subregions for advocating specific priorities in international food system negotiation processes.

It is crucial to boost public understanding of climate change to tackle it. UN Asia-Pacific has collaboratively designed resources to improve climate literacy. These materials explain the link between climate change and socioeconomic matters, such as poverty, hunger, health, gender, and inequality (UN Asia-Pacific, 2022). In addition, the Women's International Network in Disaster Risk Reduction (WIN DRR) in Asia-Pacific empowers women in leadership and decision-making on climate adaptation

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and disaster risk reduction. Their knowledge products and annual awards showcase regional champions (UNDRR, 2023b).

### B. AREAS REQUIRING ATTENTION AND ASSOCIATED KEY CHALLENGES

Across countries in special situations, as in the Asia-Pacific region overall, performance on climate action (Goal 13) is unequivocally worse than on any other goal, as detailed in the 2023 Review of Climate Ambition in Asia and the Pacific (ESCAP *et al.*, 2023).

#### SCALING UP COHERENT EFFORTS TO FOSTER RESILIENCE AND REDUCE EMISSIONS (TARGET 13.2)

While the Asia-Pacific region has made strides in certain areas, overall GHG emissions increased by 22.33 per cent between 2010 and 2019 (ESCAP *et al.*, 2023), indicating a need for more effective and integrated climate strategies. Despite considerable efforts to increase the renewable energy share and efficiency in the building and transport sectors, only 8 of 39 Member States with carbon neutrality pledges, strategies and laws have NDC commitments aligning with the 1.5°C pathway by 2030. The temporary reduction in emissions during COVID-19 shows potential for change, yet current efforts are insufficient for the 1.5°C goal.

Between 2019 and 2021, GHG emissions reduced in some areas but varied across the region (ESCAP *et al.*, 2023). For small island developing states (SIDS), three out of 14 countries experienced emission reductions, with the highest in Timor-Leste (12.4 per cent), followed by Nauru (6.6 per cent), and Tuvalu (4.0 per cent). In contrast, other SIDS saw emissions increase by magnitudes from 22.7 per cent in Papua New Guinea to 2.4 per cent in Vanuatu (ESCAP *et al.*, 2023). Among the 11 countries in the G20+ Group, Brunei Darussalam, Australia, New Zealand, Japan and Republic of Korea reduced emissions by between 12.8 per cent (Brunei Darussalam) and 2.7 per cent (Republic of Korea) (ESCAP *et al.*, 2023). Others saw increases ranging from 7.1 per cent (Türkiye) to 3.1 per cent (India).

In Least Developed Countries (LDCs) and Landlocked Developing Countries (LLDCs), emissions reduced in 4 of 15 countries, with DPR Korea showing the highest reduction

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(16 per cent) and Uzbekistan the lowest (1.3 per cent). Other countries' increases ranged from 6.3 per cent in Mongolia to 1.6 per cent in Nepal (ESCAP *et al.*, 2023).

Finally, the emerging and other developing countries had the highest number of countries whose emission levels reduced between 2019 and 2021. Malaysia experienced the highest reduction rate (5.7 per cent). Yet, three States in this group experienced an increase, including the Islamic Republic of Iran (9.5 per cent), with the highest rate (ESCAP *et al.*, 2023).

### IMPROVING CLIMATE FINANCE AND INVESTMENT FLOWS (TARGET 13.A)

Asia-Pacific economies must urgently boost climate financing to counter future GDP losses under a high-emissions scenario, with such losses predicted to reach 24 per cent in developing Asia, 30 per cent in Southeast Asia, and 24 per cent in the rest of South Asia by 2100 (Asian Development Bank, 2023a). Recent estimates suggest there is an \$815 billion annual gap in financing in Asia and the Pacific (IMF 2024). Systemic changes are essential to address the climate financing gap, hindered by economic vulnerabilities and increased indebtedness in developing countries (IPCC, 2023). Clear signalling, government support and public finance alignment are necessary to reduce regulatory costs, market barriers and perceived risks and enhance the risk-return profile of private and public investments. In addition to this, governments, through their investment promotion agencies, should proactively target more FDI into climate mitigation and adaptation.

Regional countries have begun applying their NDCs by integrating climate initiatives into national strategies, establishing an institutional framework, securing resources and using transparency procedures to oversee climate action. Despite these efforts, increased funding is urgently needed to meet ambitious NDC goals. As of 2022, out of 51 Asian-Pacific countries party to the UNFCCC, only 17 reported financial requirements in their latest NDCs, with just 7 providing detailed breakdowns (ESCAP *et al.*, 2023). Accelerating systematic efforts to develop comprehensive financing strategies aligned with NDCs is necessary. Policymakers must draft comprehensive financing plans, implement gender-responsive NDC targets and seek vital international support.

SIDS in the Pacific subregion, and LDCs face disproportionate struggles accessing and scaling up climate finance despite emitting minimal GHGs. They are particularly

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vulnerable to climate change-related extreme weather events and increasing global macroeconomic uncertainties. The current level of climate finance in Asia-Pacific, is not enough to keep global warming below 1.5°C (Asian Development Bank, 2023b). Key challenges include inadequate climate adaptation efforts, heavy reliance on fossil fuels, insufficient and disproportionate climate finance flows, institutional capacity gaps and incomplete climate finance tracking and reporting leading to inaccurate assessments of effectiveness and impact.

In terms of climate FDI, investment promotion agencies at the national and subnational level must work to attract new investors into climate mitigation and adaptation projects, and encourage existing investors to meet net zero targets. In terms of targeting new investors, this requires such agencies identifying and prioritizing climate projects to pitch to investors; targeting investors that are committed to climate action to ensure FDI that is not specifically climate-focused does not detract from overall country climate ambitions; identifying potential foreign direct investors for climate specific projects; developing and pitching climate FDI projects at relevant industry forums, and climate and sustainable development finance forums; and working with national Ministries of Finance at a policy advocacy level to develop and implement better incentives for climate FDI. As re-investment typically accounts for 50 per cent of all FDI into a country annually, it is also important that investment promotion agencies work with existing investors through their aftercare work to encourage them to contribute to national climate priorities. This could mean encouraging FDI investors in the manufacturing sector to upgrade their facilities to run on renewable energy. In this scenario, the investment promotion agency could help investors receive relevant incentives to upgrade their facilities and work with electricity providers to ensure an adequate, stable supply of renewable energy.

### **SCALING UP ACTION ON ADAPTATION (TARGET 13.1)**

Centring nature, people, lives and livelihoods in climate action is critical. Investing in our people and in nature to address adaptation needs in the face of climate change should be a priority for building resilience and promoting sustainable development. This calls for scaling up of gender-responsive adaptation finance.

Only 14 countries in Asia-Pacific have submitted their NAPs to the UNFCCC. Some 11 countries submitted their updated National Adaptation Plans (NAPs) in 2023. The



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development and prioritization of NAPs are essential to enhance resilience to changing climate, particularly in the context of the recently adopted global goal on adaptation.

The global goal on adaptation reinforced by the efforts and commitments made at COP28, underscores the urgency of developing NAPs. These are crucial for identifying adaptation needs, securing funding for their implementation, and ultimately enhancing the resilience of vulnerable communities to the adverse effects of climate change.

Person in vulnerable situations, particularly women, children and the elderly, are more exposed to climate-related disasters. In Mongolia in 2021, rural, lower-income households faced three times higher disaster risk (21 per cent) than the general population (7 per cent), with wealthier urban households with tertiary education the least at risk (under 2 per cent).<sup>3</sup> This disparity requires policy actions, including inclusive social protection systems.

Recent leader-level declarations on food systems, agriculture and health reflect growing focus on food security and health challenges, heightened by extreme weather events. Strategies like climate-resilient crops, sustainable water management in agriculture, and strengthened public health systems are crucial and need incorporating into national policies.

Growing climate challenges that further exacerbates existing gender inequalities calls for gender-responsive, human rights-based adaptation measures and inclusive social protection mechanisms. In Asia-Pacific, expanding initiatives like the Early Warnings for All (EW4All) will improve resilience and gender equality by reaching vulnerable communities including women.

Increased investment in nature-based solutions (NBS) can reduce the net-CO<sub>2</sub>-zero gap and enhance carbon absorption in Asia-Pacific by up to 5.6 GtCO<sub>2</sub>e by 2050 (ESCAP, UNEP, and UNCF, 2022). Through carbon sequestration, forests will play a significant role in achieving net-zero emissions by 2050. As such, Member States should enhance investment in restoring forest, coastal, marine and other ecosystems to maximize their capacity as carbon sinks. Lastly, preserving culture and incorporating Indigenous traditional knowledge is crucial in climate change solutions.

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<sup>3</sup> ESCAP elaborations based on the Mongolia Household Socioeconomic Survey (2021).

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Informed by cultural practices, resilient infrastructure can safeguard cultural sites and heritage.

### **SCALING UP EFFORTS TO FOSTER RESILIENCE AND REDUCE EMISSIONS (TARGET 13.2) IN THE TRANSPORT SECTOR**

The transport sector is pivotal in reducing CO<sub>2</sub> emissions but often overlooked in climate change policies. It needs emission-reduction targets that align with national climate strategies and greater cohesion among transport, environment and other ministries. Stronger multi-stakeholder engagement, including private sector involvement across all transport modes, is key. This engagement between equipment manufacturers, infrastructure providers, transport companies and policymakers can bolster decarbonization efforts. Nations require more comprehensive analysis and assistance for a zero-carbon transport transition. Using data, disaggregated by sex, age and disability ensures inclusivity in transport infrastructure and services.

The Paris Declaration on Electro-Mobility and Climate Change underscores the need for an integrated electro-mobility ecosystem in various transport modes, while increasing active mobility, to limit global temperature rise to below 2°C. It highlights global rail transport electrification and the goal for 20 per cent of global road transport vehicles to be electric by 2030, making an expedited transition to electric mobility vital.

The freight transport modal split, i.e. the portion of freight moved by various transport methods, significantly varies across countries, influenced by geographical, economic and infrastructure factors. In Asia-Pacific, road transport is generally favoured over more sustainable methods like rail or waterway, with a decline in rail freight from 42 per cent to 30 per cent from 2000 to 2020, mainly due to inadequate intermodal infrastructure and inefficient operations. Road infrastructure has expanded at almost double the rate of railways since 2000. Without strong interventions, the preference for road freight transport, driven by demand for reliable and efficient services, will likely continue. Regional initiatives led by ESCAP such as the Asia Pacific Initiative on Electric Mobility and the Regional Cooperation Mechanism on Low Carbon Transport have created platforms for policy dialogues, knowledge-sharing and capacity building for more than 30 Member States to date.

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### MAINSTREAMING NATURE-BASED SOLUTIONS TO CLIMATE CHANGE ADAPTATION AND MITIGATION

NBSs are a proven, cost-efficient means to manage and alleviate climate change impacts. Their incorporation into countries' NDCs enables integrated adaptation and mitigation strategies. Ecosystems such as wetlands, peatlands and forests facilitate both these processes via carbon uptake and decreased carbon dioxide and methane emissions. By integrating NBS into national and regional disaster risk management conversations, financing for scaling up NBS can be secured. Considering the high vulnerability to climate-related disasters in many regions, NBS can significantly mitigate risks, especially for coastal communities and flood-prone areas (UNEP, 2022).

### C. AVAILABILITY OF DATA

Although SDG data availability has doubled since 2017, 51 out of 169 targets still lack sufficient data. Data gaps are unevenly distributed across Asia-Pacific, with SIDS having notably lower data availability than LDCs and LLDCs, though data availability has gradually improved (Figure 2).

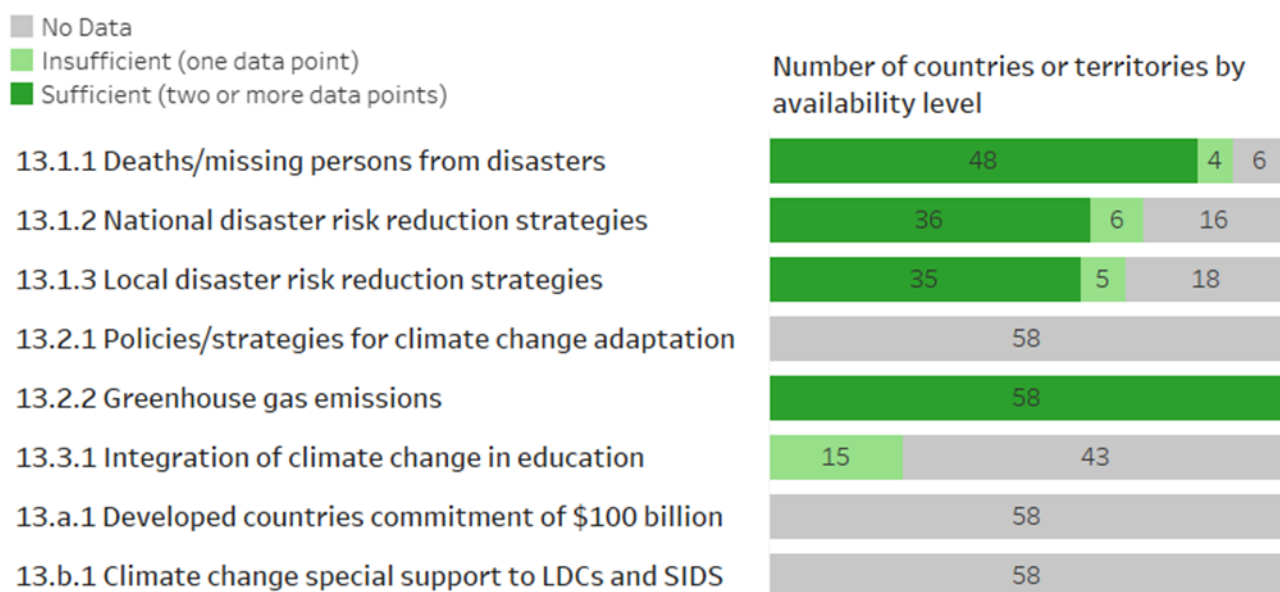


Figure 2 - Data availability of indicators in Goal 13.

Source: ESCAP (2024).

## III. HUMAN RIGHTS AND GENDER EQUALITY CONSIDERATIONS

The United Nations General Assembly passed a resolution declaring the human right to a clean, sustainable environment. (A/RES/76/300). It recognized that climate change obstructs this right, affirming that environmental damage directly and indirectly affects human rights.

Those in vulnerable situations often face heightened exposure and susceptibility to adverse impacts of extreme weather events, and climate-related harm to human rights. Climate crises does not inherently discriminate; however, persistent gender inequality and systemic biases disproportionately affect women and other marginalized groups - disabled individuals, Indigenous communities, the poor, migrants, children, the elderly and residents of SIDS and least developed nations. Continued climate change threatens to undo sustainable development achievements and exacerbate inequality. It is estimated that nearly 160 million girls and women could be pushed into poverty by 2050 as a direct result of climate change. Food insecurity caused by climate change is also projected to increase by close to 240 million women and girls versus 131 million men and boys. Asia-Pacific (APAC) will be the worst affected region. Under the current climate change scenario, the region will face severe spikes in extreme poverty, outpacing global rates. By 2030, extreme poverty in APAC will rise by 18 per cent (approx. 21 million people), compared to 11 per cent worldwide. In a worsening climate change scenario, by 2050, climate-induced extreme poverty in APAC will soar by 192 per cent (around 52.5 million individuals), massively exceeding the global increase of 66 per cent (Frederick S. Pardee Center for International Futures and UN Women, 2023).

Efforts to address the gendered impacts of climate change are on the rise. Of the 24 nations that have updated their NDCs since 2021, 19 specifically mention gender. Interestingly, it is the first time nine among these 19 countries have incorporated gender in their NDCs (UN Women, 2023a). Certain countries particularly excel with their comprehensive gender-responsive climate commitments and several acknowledge the disproportionate impacts women experience due to climate change. Pakistan, for example, has a comprehensive action plan for enhancing women's

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participation in key sectors like agriculture, forestry, land-use change, water, energy, disaster management and waste. The Sri Lankan NDC highlights the need to invest in gender-responsive training and entrepreneurial skills for women and enhance their access to technology and finance. Kyrgyzstan's updated NDC recognizes gender imbalance in decision-making as a key gender-based issue.

Women across the Asia-Pacific region play crucial roles in climate-sensitive sectors such as agriculture, fisheries and forestry which are key to the region's food security (ESCAP, 2022). Due to the substantial outmigration of men to cities, the increasing feminization of agriculture has increased rural women's paid and unpaid workload. Women in the region engage in up to four times more unpaid care work than men, which goes unrecognised and much of which increases in the context of climate-related disasters and due to slow-onset climatic change. Yet, they often lack equal access to and ownership of resources essential for their livelihoods and are overlooked in decision-making processes and adaptation measures. UN Women's recent statistical survey (2023d) in Bangladesh, Cambodia, Nepal, the Philippines, and Timor-Leste highlighted women's increased struggle to collect fuel and water due to climate factors such as relative aridity, temperature increases, flood risks and frequent droughts. This study also discovered strong correlations between these climate variables and child marriage and adolescent births, with milder associations with intimate partner violence varying from country to country.

The 8th Asia-Pacific Climate Change Adaptation Network Forum (APAN) 2023 underscored the significance of gender and social inclusion in fostering regional resilience. However, despite the enhanced focus on the relationship between gender equality, human rights and climate change, concrete steps and financing for gender-responsive climate initiatives remain insufficient (UNEP, APAN, and UNDP, 2023).

Furthermore, existing transport infrastructures and services are not fully inclusive. Unique travel needs and preferences of various user groups, such as low-income families, the elderly, women, and persons with disabilities, underscore the need for more inclusive transport policies.

Enhancing gender equality in Asia-Pacific's transport sector, for users, decision makers and workers, where women comprise just 8 per cent of this sector, is vital. Barriers include gender norms, discrimination, financial and digital barriers, inadequate labour policies, health and safety concerns and sexual harassment. It is important to note that some of the interventions to reduce greenhouse gas

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emissions, like forest-based mitigation, hydroelectric dams, the placement of wind turbines, and mining-related pollution for materials used in climate solutions can have significant human rights implications. Climate actions, policies and programming must follow a human rights-based, gender-responsive and intersectional approach that leaves no one behind, ensuring participation, access to information, justice and effective remedy. As recognized by the IPCC, “adaptation and mitigation actions that prioritise equity, social justice, climate justice, rights-based approaches and inclusivity, lead to more sustainable outcomes.”

## IV. PROMISING INNOVATIONS AND PRACTICES

### INNOVATIVE CLIMATE FINANCE TOOLS AND BEST FDI PRACTICES

Trends in the region indicate increasing policy momentum, a positive sign for accelerated and more substantial climate finance.

Countries in the region are increasingly financing climate action and sustainable development through sovereign and corporate bonds. These Green, social, sustainability, and other labelled (GSS+) bonds, which tie capital to environmental and social commitments, are bringing systemic change to finance. The Asian and Pacific GSS+ bonds market, covering corporate, sovereign and other public sector issuances, surged to approximately US\$206 billion by 2022's end – a threefold increase since 2019 (ESCAP, 2023).

By December 2022, 22 Asia-Pacific countries had issued GSS+ bonds, showing a growing interest from governments (ESCAP, 2023). Of these, China, Japan, and South Korea dominate with 78 per cent of the GSS+ bond issuances in the Asia region. Nevertheless, developing countries like India, Singapore, Indonesia, Philippines, and Thailand achieved over US\$50 billion in GSS+ issuances from 2015 to 2022 (ESCAP, 2023). Countries with less developed financial systems have also progressed in mobilizing sustainable finance markets. In the last two years, initial GSS+ bonds have been successfully issued in developing Asia-Pacific countries like Bangladesh, Pakistan, Uzbekistan, Viet Nam, Cambodia, Mongolia and Kyrgyzstan. This indicates the burgeoning and enduring strength of regional sustainable finance markets. An uptick in local currency issuances of GSS+ bonds further reveal the growing interest of local investors in these sustainable bonds (ESCAP, 2023).

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Climate budget tagging, i.e. identifying, measuring and monitoring climate-relevant expenditures, is slowly increasing. More countries are exploring the viability of debt-for-climate or debt-for-nature swaps, such as Sri Lanka (Costa, 2023), especially in situations of potential debt distress. Several countries employ Integrated National Financing Frameworks (INFFs) to enhance planning processes and promote sustainable financing. For instance, the Maldives' INFF was the first to directly link to its NDCs within the Paris Agreement (Maldives Ministry of Finance and UNDP, 2023).

Multilateral climate funds (MCFs), including the Adaptation Fund, the Global Environment Fund, and the Green Climate Fund, are key financing resources. Although insufficient to bridge the financing gap, MCFs are vital. As per the OECD (2023a), funds from MCFs provided more than US\$1.2 billion to Asia-Pacific countries. However, many developing countries in the region, especially LDC and SIDS, face challenges in applying for and meeting the financing requirements of these funds.

Regional regulators are actively steering capital towards sustainability in alignment with the SDGs and NDCs. Many countries use tools like sustainable finance road maps and green bond frameworks, directing investments towards green priorities and outlining future market trajectories.

Promising strategies, such as the EmPower: Women for Climate-Resilient Societies programme, are advancing women's financial access in Asia-Pacific countries like Bangladesh, Cambodia, Indonesia, Philippines and Vietnam. EmPower spearheads an initiative to establish a regional investment facility, supports access to funds for economically feasible, women-led renewable energy businesses and offers a de-risking grant to spark additional investment in the sector.

Turning to FDI, there are several good, recent regional examples of greenfield FDI as sources of climate mitigation and adaptation action:

- Legos invested US\$1 billion into building a new manufacturing facility in Vietnam that runs fully on solar energy.
- Cleantech Solar of Singapore invested US\$225.5 million in a new solar plant in India.
- Indorama (Thailand) invested US\$50 million as a part of a US\$150 million cross-border investment to establish PET recycling facilities across India. Each recycling site will be powered by onsite solar units.

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- BYD (China) invested US\$412 million into the Republic of Korea to supply KG Mobility CO Ltd. with a stable supply of lithium-iron-phosphate batteries for its electric vehicles.
- GLC Recycle (Singapore) invested US\$124 million in Lao PDR to open a battery recycling plant. Annually, the facility can produce 24,000 tonnes annually of recycled nickel and cobalt hydroxide, and 4,500 tonnes of recycled, lithium carbonate. The facility will use recycled 'black mass' as a raw material and plans to increase the plant's capacity up to 80,000 tonnes annually by 2028.
- Bridgestone (Japan) invested US\$73 million to decarbonize its tyre manufacturing plant in India and expand its capacity. The facility produces more than 4 reduce its carbon footprint in India by 94 per cent.
- Ocior Energy (UAE) invested US\$4.85 billion to build a green hydrogen and ammonia production facility in India that can produce 1 million tonnes of green hydrogen and ammonia annually.
- Daewoo E&C invested US\$104 million in Turkmenistan to build the first plant producing blue ammonia in Central Asia. The plant will produce carbamide-ammonia fertilizers – derivatives of blue ammonia – and will provide ample opportunities for exporting environmentally friendly products to Europe.

The investments above were made in 2023, and represent some of the 146 greenfield climate-action FDI projects that year. Since 2003, nearly 2,000 greenfield FDI projects have been undertaken across the region, underlining FDI's role as an essential means of climate action finance.

### NBS FOR CLIMATE CHANGE

Several countries are trying to address climate change through NBS (UNEP, 2022), detailed below.

#### **Fiji - Embedding NBS in national adaptation planning**

Fiji is integrating traditional soil conservation methods and NBS approaches used for coastal protection in the 1950s into modern adaptation plans. Vetiver grass, known for its deep roots and resilience, has long been used to secure slopes and riverbanks. Additionally, the grass purifies fresh water, offers multipurpose materials for livestock



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feed, rooftop thatching and handicraft production. These benefits are now utilized in the fight against climate change.

### **Thailand - Building Bangkok's climate change resilience through NBS**

Bangkok, a Southeast Asian megacity, is grappling with the impacts of climate change. To counter this vulnerability, the city is undertaking initiatives to green its urban spaces. The plan includes developing urban forests, green parks, roof gardens and urban wetlands for carbon sequestration. These steps will advance water infiltration, public health and urban climate adaptability, decreasing the heat island effect.

### **Vietnam - Integrating NBS and adaptation targets in NDCs**

The Vietnamese NDC targets a 42 per cent increase in forest cover by 2030, maintaining stability through 2050. It lists measures to secure, conserve and restore forests and enhance related policies. The NDC recognizes climate change's current and imminent impacts on various sectors and highlights the loss and damage. It comprehensively reviews the country's adaptation efforts, their shortcomings, and contributions in the latest NDC update (ESCAP *et al.*, 2023).

## **INTEGRATING A JUST TRANSITION IN NDCS**

The Sharm-El-Sheikh Implementation Plan, established at UNFCCC COP27, recognizes the importance of social solidarity and protection tools in mitigating the impacts of the transition to clean, renewable energy. The Intergovernmental Panel on Climate Change's (IPCC) latest assessment report agrees, highlighting social protection's capacity to bolster resilience against climate change. Similarly, the 2023 Review of Climate Ambition in Asia-Pacific underscored good practices towards regional net-zero climate-resilient development:

In Asia-Pacific, countries are enacting laws and initiatives for a fair and just transition towards carbon neutrality. In the Republic of Korea, the 2021 Carbon Neutrality Act supports vulnerable communities and fosters economic opportunities in high-risk areas, backed by the Korea Climate Action Fund. In the Philippines, the Green Jobs Act focuses on creating sustainable jobs, offering social protection and promoting skill development in environmentally beneficial sectors. In Australia, the Clean Energy Future Package includes labour-market programmes and public-private partnerships to support workers in carbon-intensive industries, demonstrated by the effective

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response to the closure of the automobile industry. New Zealand has established the Just Transition Unit to guide the shift to a sustainable economy, prioritizing equitable and inclusive approaches, particularly in response to the country's resolution to issue no more offshore oil and gas exploration permits. Additionally, countries like Indonesia, Japan, Pakistan, Sri Lanka and Vietnam are incorporating just transition and social protection strategies into their NDCs.

### PROMOTING THE PRODUCTION, ACCESSIBILITY AND USE OF GENDER AND ENVIRONMENT DATA

The official COP28 session, "Counting on a Sustainable Future," highlighted the need to create and use data on the gender-environment nexus to inform environmental decisions. Resulting from the COP28 discussions, a Call to Action (UN Women, 2023b) was released for all parties and other participants to advance this work. The document advocates for boosting gender and environment data production, promoting its use for decision-making, enhancing funding for these data aspects, and ensuring inclusivity in these processes through expanded partnerships (detailed in section V below).

Significant strides are being made in Asia and the Pacific to produce and use gender and environment data. Under the Women Count programme, UN Women collaborates with partners like national statistics offices to generate nationally representative, high-quality data on the gender and environment nexus, including through implementation of National Surveys, for which methodological tools have been developed to promote estimates' quality and comparability among countries (UN Women, 2022a, 2023c, 2023d). Moreover, by utilizing existing data sources, gender and environment estimates have been generated in several countries, specifically through combining geospatial and survey data (Duerto-Valero and Kaul, 2023). Administrative data can be reprocessed to generate gender and environment estimates, in collaboration with national governments and private sector. For example, in the Pacific, an analysis of national power utility data yielded estimates on women's energy-related decision-making (UN Women, 2022b). Finally, big data and unconventional data sources can help fill data gaps. In disaster scenarios, where specialized violence surveys are difficult, online posts and Google searches have been used to analyse trends in violence against women related help-seeking (UN Women, 2023e). ESCAP also collaborates with national statistics offices, using big data and geospatial analysis to

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## IV. PROMISING INNOVATIONS AND PRACTICES

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examine the gender-environment nexus, focusing on electricity access and slum demographics. This highlights the need for diverse data sources and methods to address data gaps on the broader gender-environment nexus.

### **PROMOTE STRATEGIES TO ENHANCE CLIMATE CHANGE AWARENESS AND MANAGEMENT SKILLS IN LEAST DEVELOPED AND SMALL ISLAND DEVELOPING COUNTRIES, WITH A FOCUS ON WOMEN, YOUTH, AND MARGINALIZED COMMUNITIES (TARGET 13.B).**

Women-led civil society organizations (CSOs) are collaborating with international NGOs and scientific groups to empower women. In Vanuatu, the Women I Tok Tok Tugeta network, in partnership with ActionAid Australia, conducted disaster preparedness trainings for women, thus increasing their awareness about risk factors and vulnerabilities (UNDRR, 2023a).

In terms of promoting locally-led climate solutions, since 2002, the Chambok Community-based Ecotourism (CBET) site in Kampong Speu's southwest has offered sustainable livelihoods for locals in Cambodia while conserving local wildlife and a community forest of approximately 3400 hectares. The Chambok CBET homestays have empowered local women economically, earning them the ASEAN Homestay Standard Award in 2016.

## V. PRIORITY ACTIONS

### V. PRIORITY ACTIONS

To expedite SDG 13 progress and counter current regression, the following priority actions are recommended:

#### **PRIORITY 1: INCREASE AMBITION IN NDCS**

Current NDC commitments, even with the most recent updates of Asia-Pacific "pace-setters",<sup>4</sup> leave regional GHG emissions off-track. Asia-Pacific Member States should use the forthcoming NDC update cycle to align their emission-reduction trajectories with the latest IPCC (2023) recommendations: 43 per cent, 60 per cent, 84 per cent reductions from 2019 levels by 2030, 2035 and 2050 respectively, to guarantee net-zero CO<sub>2</sub> emissions by 2050 (ESCAP *et al.*, 2023). Asia-Pacific countries are encouraged to evaluate their NDCs and communicate more ambitious targets to shift the current trajectory and keep the 1.5°C goal alive. In addition, NDC implementation pathways that integrate capacity and finance gaps will need developing, along with appropriate regional and local targets that align with national goals. Promoting knowledge sharing and peer learning on innovative approaches to increase ambitions is also important.

#### **PRIORITY 2: SCALE UP THE MOBILIZATION AND ALIGNMENT OF FINANCE AND INVESTMENT FOR CLIMATE MITIGATION AND ADAPTATION ACTION**

- Member States and development partners are encouraged to implement several COP 28 decisions:
  - Strengthening policy guidance, incentives, regulations and enabling conditions to reach the investment scale needed to achieve low GHG emissions and climate-resilient development
  - The need for governments, central banks, commercial banks, institutional investors and other financial actors to improve the assessment and management of climate-related financial risks

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<sup>4</sup> Twelve Asia-Pacific Member States have submitted from two to four NDC updates: Australia, Bangladesh, Indonesia, Japan, Marshal Islands, Pakistan, Republic of Korea, Singapore, Sri Lanka, Thailand, Vanuatu, and Vietnam.

## V. PRIORITY ACTIONS

- The need to accelerate the ongoing establishment of new and innovative sources of finance, including taxation, for implementing climate action, enabling the scaling down of harmful incentives
  - Supporting country-driven strategies to mobilize climate finance and investment taking into account the needs and priorities of developing countries and urban climate action strategies
  - Scaling up financial resources for adaptation and making those available to the most vulnerable communities
  - Increased targeting of FDI a source of climate action investment; working through national and subnational investment promotion agencies to promote and facilitate more FDI into key priority climate sectors; encouraging existing foreign direct investors to re-invest and expand their facilities while meeting their country's climate ambitions
- Policy and regulation consistency is crucial. Unsynchronized policymaking between climate and financial sector mandates hinders sustainable finance flow and quality.
  - Clear NDC financing strategies should be established with interim targets, led by authorities with defined mandates. Such strategies should include resource mobilization plans to ensure investor, business and developer confidence in governmental commitment.
  - Boosting investments in energy efficiency and renewable energy is vital. The region's reliance on fossil fuels can shift with the development of green projects that appeal to MCFs, development banks and private investors in terms of scale and risk-return balance. Involving investors early, despite increasing coordination costs, can aid in this complex issue.
  - Ensuring comprehensive support to adaptation efforts through enhancing cooperation, leveraging innovative financing mechanisms, focusing on well-being of people, protection of livelihoods, economies, nature preservation and regeneration.

### **PRIORITY 3: IMPROVE THE PRODUCTION, ACCESSIBILITY AND UTILIZATION OF GENDER AND ENVIRONMENT DATA**

Promote the production, accessibility and use of gender and environment data including sex, age and disability disaggregated data. Nationally representative quality data will enable the design, implementation and monitoring of robust climate and

## V. PRIORITY ACTIONS

disaster risk reduction policies, plans and programmes that are tailored to the specific contexts and realities of different segments of population. In line with the Call to Action on Gender and Environment Data designed during COP28 by parties and other stakeholders, key priorities to advance the production and use of gender and environment data include the following:

- Promoting and prioritizing the production of gender and environment data, including sector-specific data, ethically and transparently
- Accelerating the use, uptake, and innovative dissemination of gender-environment data for decision-making, programme development, monitoring, research, advocacy, and communication
- Financing and investing in gender-environment data production and use
- Ensuring global, regional and national statistical and data governance processes are inclusive and locally-led
- Creating and strengthening multi-stakeholder partnerships and integrating an intersectoral approach for gender and environment data

To enhance gender and environmental data production, various sources and approaches should be used to address the specific data gaps in this expansive field. In particular, the following approaches can be followed:

- Conducting gender and environment surveys with standard methodologies, e.g., the Model Questionnaire on Gender and the Environment (UN Women, 2022b)
- Attaching gender and environment modules to other on-going data collection initiatives, assuming the sampling strategy and survey operations of the parent survey are conducive to generating quality gender estimates, such as, for instance, avoiding proxy respondents or following an inclusive sampling strategy (UN Women, 2023c)
- Integrating existing data, like geospatial and survey data, and data from direct foreign investment (FDI) projects for new gender-environment insights (UN Women, 2023f)
- Reprocessing administrative data for gender-environment estimates, such as national power utilities (UN Women, 2022a) and government payroll and labour data
- Leveraging big data, digital innovations, and non-traditional data sources, including citizen-generated data, to fill data gaps. It is important to acknowledge that digital technologies have the potential to reinforce current gender inequalities and discrimination if effective safeguards and oversight are not in place, including the algorithms used in artificial intelligence (AI).

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- Using official statistics on gender and the environment to produce models forecasting the effects of climate change on specific groups, such as informal economy workers (Frederick S. Pardee Center for International Futures and UN Women, 2023)
- Using various data sources to generate gender-sensitive satellite accounts that include a gender perspective to the System of Economic and Environmental Accounts
- Streamlining diverse datasets and reporting mechanisms to optimize the use of gender and environment data, including enhancing uptake in Voluntary National Reviews (VNRs)

It is crucial to promote the use of gender and environment data in policymaking, monitoring and research. This can be done by promoting user-producer data dialogues, both pre and post data-collection, and by involving gender statisticians in policy committees when producing national reports that inform policy decisions.

### **PRIORITY 4. LEAVE NO ONE BEHIND IN CLIMATE ACTION**

Climate actions must ensure that rights holders, including children, youth, women, persons with disabilities, Indigenous Peoples, local communities, and migrants, are meaningfully included. Governments need to align climate change and social protection policies urgently. They should integrate measures for those affected by climate change and measures to address its impact, including the transition to net-zero economies, into NDCs and NAPs. This involves encouraging stakeholders to participate in climate initiatives, such as green and blue economies, providing them with green skills training, and guaranteeing fair wages and conditions for equitable green jobs. A just transition should focus on stakeholders' inclusion and equitable benefits in low-carbon economies. Supporting women, youth, and Indigenous People-led micro, small and medium enterprises (MSMEs) with traditional and innovative financing, tailored to their needs, will encourage entrepreneurship in low-carbon technologies and climate-adaptive livelihoods. This will help to address the challenges of MSME lending costs and risks. All workers, including men, women, and all populations, will require reskilling, upskilling, retraining, and guaranteed labour rights for sectors that will undergo significant transformation.

## V. PRIORITY ACTIONS

### **PRIORITY 5: INCORPORATE THE TRANSPORT SECTOR INTO CLIMATE CHANGE STRATEGIES**

A key GHG emitter, the transport sector must be incorporated into existing climate change strategies. Greater cooperation between environmental and related ministries is vital. Member States require more institutional, technical and financial support to execute national transport decarbonization plans. The transition to electric mobility, including the coupling of renewable and alternative energy sources, such as green hydrogen, and investments in active mobility and public transport systems are key to create a sustainable and inclusive low-carbon transport sector. Advocating for gender equality and supporting vulnerable groups in transport solutions and the workforce must be promoted.

### **PRIORITY 6: GUARANTEE ACCESS TO CLIMATE CHANGE INFORMATION, PARTICIPATION IN CLIMATE-RELATED DECISIONS AND JUSTICE ACCESS FOR VULNERABLE GROUPS, CSOS AND ENVIRONMENTAL HUMAN RIGHTS DEFENDERS**

Climate action should use the experiences and expertise of front-line communities to promote human rights and climate justice. Member States should do the following: (i) strengthen climate education, circulate and simplify climate change and disaster information, including early warnings, Indigenous and traditional knowledge in local, universally understandable languages and culturally appropriate formats; ensure that every person globally is protected by early warning systems by 2027, following the principles of the EW4All initiative; (ii) involve peoples in vulnerable situation in meaningful climate policy planning and implementation; (iii) promote access to information in environmental matters, ensuring access to effective remedy by ensuring the access to court facilities, interpreters and culturally appropriate services as needed.

### **PRIORITY 7: PROMOTE ACTIVE YOUTH INVOLVEMENT IN CLIMATE ACTION.**

Youth involvement in climate action is recommended in the ESCAP report on Meaningful Youth Engagement in Climate Action in Asia and the Pacific. Strategies for youth engagement include (i) incorporating climate education into schools and



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## V. PRIORITY ACTIONS

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engaging the youth in research; (ii) involving youth in climate awareness campaigns and skill-building events; (iii) ensuring transparency in environmental policy information; (iv) involving youth in environmental data-collection, review and monitoring; (v) including youth consultation in climate policy design and implementation; (vi) inviting youth participation in political and decision-making processes related to climate change, and adding them to delegations; (vii) encouraging and facilitating youth solutions, including linking young innovators to finance; (viii) encouraging hands-on involvement in community activities like ecosystem preservation; and (ix) reducing the stigma attached to youth engagement through public campaigns and training of elder leaders.

## VI. CREDITS AND REFERENCES

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# VI. CREDITS AND REFERENCES

## REFERENCES

- Asian Development Bank (2023a). *Asia in the Global Transition to Net Zero: Asian Development Outlook 2023 Thematic Report (April 2023)*. Available at: <https://reliefweb.int/report/afghanistan/asia-global-transition-net-zero-asian-development-outlook-2023-thematic-report-april-2023>.
- . (2023b). *Climate Finance Landscape of Asia and the Pacific*. Asian Development Bank. Available at: <https://www.adb.org/publications/climate-finance-landscape-asia-pacific>.
- Costa, M. (2023). 'Sri Lanka Becomes Latest Country to Consider Debt-for-Nature Swaps', *Green Central Banking*, 5 May. Accessed 12 January 2024. Available at: <https://greencentralbanking.com/2023/05/05/sri-lanka-debt-for-nature-swaps/>.
- Duerto-Valero, S. and Kaul, S. (2023). *Why Climate Change Matters for Women*. UN Women. Accessed 12 January 2024. Available at: <https://data.unwomen.org/features/why-climate-change-matters-women>.
- ESCAP (United Nations Economic and Social Commission for Asia and the Pacific) (2022). *Gender Equality and Climate Change*. Available at: <https://www.unescap.org/kp/2022/gender-equality-and-climate-change>.
- ESCAP *et al.* (2023). *2023 Review of Climate Ambition in Asia and the Pacific: Just Transition Towards Regional Net-Zero Climate Resilient Development*. ESCAP. Available at: <https://www.unescap.org/kp/2023/2023-review-climate-ambition-asia-and-pacific-just-transition-towards-regional-net-zero>.
- . (2023). *Sustainable Finance: Bridging the Gap in Asia and the Pacific*. Accessed 15 January 2024. Available at: <https://www.unescap.org/kp/2023/sustainable-finance-bridging-gap-asia-and-pacific>.
- . (2024). *Asia and the Pacific SDG Progress Report*. Accessed 15 January 2024. Available at: <https://www.unescap.org/kp/2024/asia-and-pacific-sdg-progress-report-2024>.
- ESCAP, UNEP, and UNCF (United Nations Economic and Social Commission for Asia and the Pacific, United Nations Environment Programme, and United Nations Children's Fund) (2022). *2022 Review of Climate Ambition in Asia and the Pacific: Raising NDC Targets with Enhanced Nature-Based Solutions*. Available at: <https://www.unicef.org/eap/media/12896/file/ESCAP-2022-RP-2022-Review-Climate-Ambition-Asia-Pacific.pdf>.
- Frederick S. Pardee Center for International Futures and UN Women (2023). *Gendered Analysis of the Impact of Climate Change on Poverty, Productivity and Food Insecurity*. Available at: <https://data.unwomen.org/publications/gendered-analysis-impact-climate-change-poverty-productivity-and-food-insecurity>.
- IDMC (Internal Displacement Monitoring Centre) and Asian Development Bank (2022). *Disaster Displacement in Asia and the Pacific: A Business Case for Investment in Prevention and Solutions*.

## VI. CREDITS AND REFERENCES

Asian Development Bank. Available at: <https://www.adb.org/publications/disaster-displacement-asia-pacific>.

IPCC (Intergovernmental Panel on Climate Change) (2023). *Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]*. First. Geneva, Switzerland: Intergovernmental Panel on Climate Change (IPCC). Available at: <https://doi.org/10.59327/IPCC/AR6-9789291691647>.

IMF (International Monetary Fund) (2024). *Explainer: How Asia Can Unlock \$800 Billion of Climate Financing*. Available at: <https://www.imf.org/en/Blogs/Articles/2024/01/29/explainer-how-asia-can-unlock-800-billion-of-climate-financing#:~:text=Asia's%20emerging%20market%20and%20developing,sources%20contribute%20more%20than%20half>.

Lah, O. (2015). 'The Barriers to Low-Carbon Land-Transport and Policies to Overcome Them', *European Transport Research Review*, 7(1), pp. 1–11. Available at: <https://doi.org/10.1007/s12544-014-0151-3>.

Maldives Ministry of Finance and UNDP (United Nations Development Programme) (2023). *Maldives Integrated National Financing Framework (INFF): Gender-Responsive Climate Financing Strategy*. Accessed: 12 January 2024. Available at: <https://inff.org/resource/maldives-integrated-national-financing-framework-inff-gender-responsive-climate-financing-strategy>.

OECD (Organisation for Economic Co-operation and Development) (2023a). *Climate Change: OECD DAC External Development Finance Statistics - OCDE*. Available at: <https://www.oecd.org/fr/developpement/stats/climate-change.htm>.

—. (2023b). *Development Finance for Climate and Environment*. Available at: <https://www.oecd.org/development/financing-sustainable-development/development-finance-topics/climate-change.htm>.

UN Asia-Pacific (2022). *Climate Science Literacy in Asia and the Pacific, Asia Pacific Knowledge Management Hub*. Available at: <http://knowledge.unasiapacific.org/our-work/knowledge-resources/climate-science-literacy-asia-and-pacific>.

UN Women (2022a). *Gender Equality and Sustainable Energy: Lessons from Pacific Island Countries and Territories*. Available at: <https://data.unwomen.org/publications/gender-equality-sustainable-energy-pacific>.

—. (2022b). *Model Questionnaire: Measuring the Nexus Between Gender and Environment*. Available at: <https://data.unwomen.org/publications/model-questionnaire-measuring-nexus-between-gender-and-environment>. *Gender Equality and Sustainable Energy: Lessons from Pacific Island Countries and Territories*. Available at: <https://data.unwomen.org/publications/gender-equality-sustainable-energy-pacific>.

## VI. CREDITS AND REFERENCES

- . (2023a). *Unpacking Gender Integration in Nationally Determined Contributions (NDCs) of Asia-Pacific Countries*. Available at: <https://asiapacific.unwomen.org/en/digital-library/publications/2023/11/unpacking-gender-integration-in-nationally-determined-contributions-ndcs-of-asia-pacific-countries>.
- . (2023b). *Call to Action: Counting on a Sustainable Future for All Through Gender and Environment Data*. Available at: <https://data.unwomen.org/publications/call-action-counting-sustainable-future-all-through-gender-and-environment-data>.
- . (2023c). 'Sampling Methods and Survey Operations: Measuring the Nexus Between Gender and the Environment', *UN Women Data Hub*, 5 September. Available at: <https://data.unwomen.org/publications/sampling-methods-and-survey-operations-measuring-nexus-between-gender-and-environment>.
- . (2023d). *Enumerator Manual: Measuring the Nexus Between Gender and the Environment*. Available at: <https://data.unwomen.org/publications/enumerator-manual-measuring-nexus-between-gender-and-environment> (Accessed: 12 January 2024).
- . (2023e). *Disasters, Crises and Violence Against Women: Evidence from Big Data Analysis. Lessons from Kiribati, Samoa, Solomon Islands and Tonga*. Available at: <https://data.unwomen.org/publications/disasters-crises-and-violence-against-women-evidence-big-data-analysis>.
- . (2023f). *Gendered Impacts of Climate Change: Evidence from Asia*. Available at: <https://data.unwomen.org/publications/gendered-impacts-climate-change-evidence-asia>.
- UNDRR (United Nations Office for Disaster Risk Reduction) (2023a). *Thematic Report on Gender Equality and Social Inclusion in Disaster Risk Reduction in the Pacific*. Available at: <http://www.undrr.org/publication/thematic-report-gender-equality-and-social-inclusion-disaster-risk-reduction-pacific>.
- . (2023b). *Women's International Network for Disaster Risk Reduction (WIN DRR)*. Available at: <http://www.undrr.org/organization/womens-international-network-disaster-risk-reduction-win-drr>.
- UNEP (United Nations Environment Programme) (2022). *CTCN Knowledge Brief. Nature-Based Solutions to Emerging Water Management Challenges in the Asia-Pacific Region*. Nairobi. Available at: [https://unepdhi.org/wp-content/uploads/sites/2/2022/10/CTCN\\_Brief\\_AsiaPacific.pdf](https://unepdhi.org/wp-content/uploads/sites/2/2022/10/CTCN_Brief_AsiaPacific.pdf).
- UNEP, APAN, and UNDP (United Nations Environment Programme, Asia Pacific Advanced Network, and United Nations Development Programme) (2023). *8th Asia-Pacific Climate Change Adaptation Forum - Resilience of Communities*. Available at: <https://wedocs.unep.org/xmlui/handle/20.500.11822/43201>.
- UNFCCC (United Nations Framework Convention on Climate Change) (2022). *Technical Assessment of Climate Finance in South-East Asia: Annex to the South-East Asia Climate Finance Mobilization and*

## VI. CREDITS AND REFERENCES

*Access Strategy. Available at:*  
[https://unfccc.int/sites/default/files/resource/UNFCCC\\_NBF\\_TA\\_SEA\\_final\\_082022.pdf](https://unfccc.int/sites/default/files/resource/UNFCCC_NBF_TA_SEA_final_082022.pdf).

World Bank/KNOMAD (2022). *Remittances Brave Global Headwinds - Special Focus: Climate Migration*  
Available at: [https://www.knomad.org/sites/default/files/2022-11/migration\\_and\\_development\\_brief\\_37\\_nov\\_2022.pdf](https://www.knomad.org/sites/default/files/2022-11/migration_and_development_brief_37_nov_2022.pdf)