

WOMEN AND THE ENVIRONMENT

An Asia-Pacific Snapshot



ACKNOWLEDGMENTS

This brief was written by Sara Duerto Valero, Sneha Kaul and Tsz Yu Chang. Guidance and comments were provided by Jessamyn Encarnacion, Maria Holtsberg and Papa Seck. The views expressed in this publication are those of the authors and do not necessarily represent the views of UN Women, the United Nations or any of its affiliated organizations. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of UN Women concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Women and men, in all their diversities, interact with the environment differently. For instance, evidence shows that climate change has gender differentiated impacts, employment data indicate that women rely on natural resources more than men do, and literature is plentiful on the disproportionate barriers women face to own assets, the absence of which can limit their capacity to cope with disasters. Data on women's representation in government bodies show that they are underrepresented in environmental decision-making, which limits their opportunities to shape environment policy. Examining statistics on the multiple connections between gender and the environment helps to shed light on the gendered impacts of climate change and how women's resources, experiences and knowledge can help shape mitigation and adaptation policies. It highlights the importance of considering this nexus for policymaking, and thus it is key to promoting environmental conservation and sustainable development at large.

This brief makes use of existing data from various sources, ranging from official Sustainable Development Goals (SDG) indicators to microdata from standardized surveys and geospatial information. Where results from statistical tests are presented, such as those obtained from logistic regression or random forest models, these need to be understood as associations and not causations. In such

instances, links to methodology, caveats and other details about the analysis are provided in endnotes.

The range of environmental areas covered in this brief is limited by data availability. The connections between gender and the environment are complex and multidimensional in nature, and groups of women and men are not all affected equally. As, the availability of data on the gender-environment nexus is limited, it is impossible for the analysis to include all these factors. Acknowledging this limitation, this brief does not attempt to provide a comprehensive picture of environmental issues from a gender angle, but rather it offers a snapshot of available data that could inform environmental decision-making.

The structure of this brief aligns with that of the framework proposed in [Mainstreaming gender in environment statistics for the SDGs and beyond: Identifying priorities in Asia and the Pacific](#), which includes internationally agreed indicators structured around six areas (sections A to F), and was developed with the advice of gender and environment data experts through regional and international consultations. For some of the areas where official statistics on the gender-environment nexus remain unavailable, additional analysis has been conducted and this is noted in endnotes.

A. LAND AND BIODIVERSITY

Access to land, forests, oceans and other natural resources are key for maintaining livelihoods, provide resilience

in times of crises and enable women and men to contribute to conservation and sustainable management.

HIGHER PAY AND MANAGERIAL ROLES IN AGRICULTURE, FORESTRY AND FISHING ARE KEY TO ENABLING WOMEN'S CONTRIBUTION TO NATURAL RESOURCE MANAGEMENT

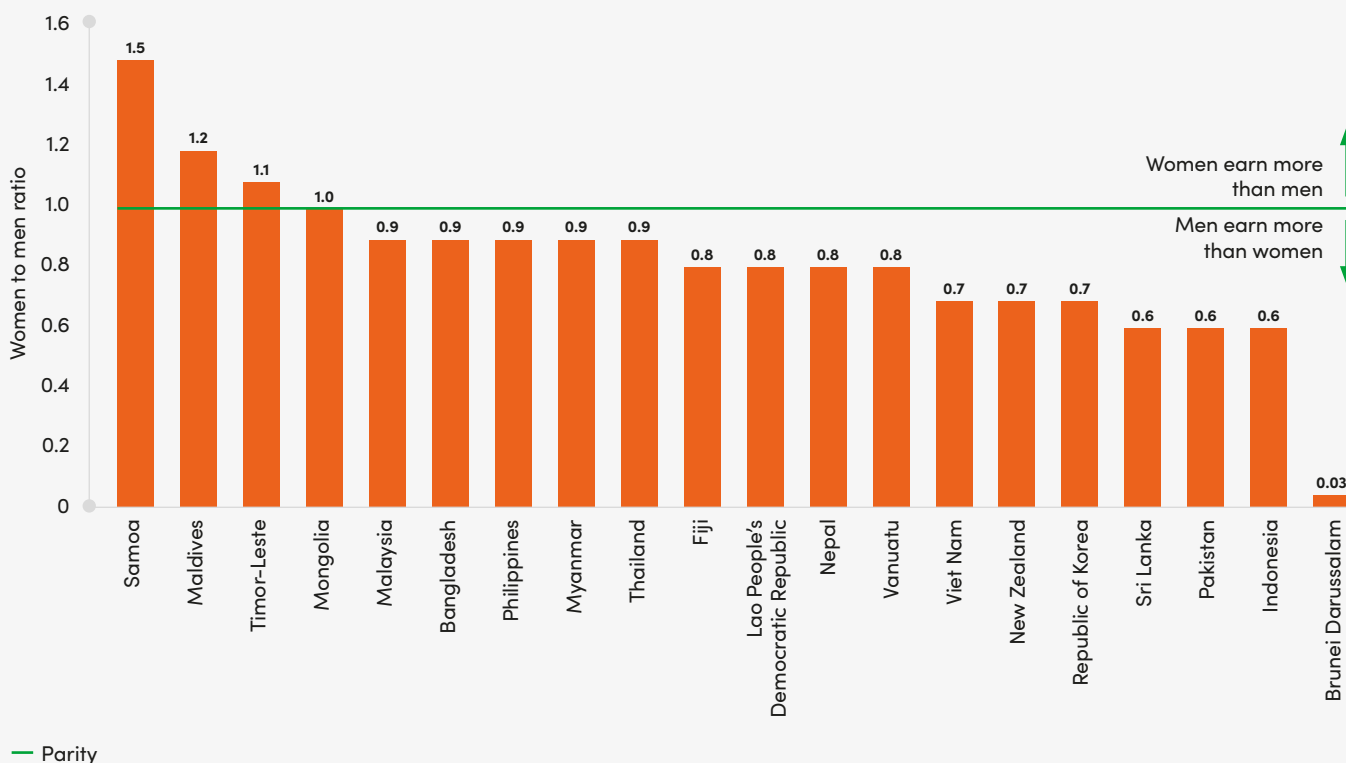
Women make up more than half of the workforce in agriculture, forestry and fishing in Nepal (64 per cent), Papua New Guinea (53 per cent), Cambodia (52 per cent), the Democratic People's Republic of Korea (51 per cent) and the Lao People's Democratic Republic (51 per cent). Still, women remain under-represented in all other countries in Asia and the Pacific, and their participation in these sectors remains strikingly low in Samoa (7 per cent), Maldives (5 per cent) and Tonga (3 per cent). Where women enga-

ge in these jobs, they are consistently underpaid compared to men.¹ Across the region, in 2017, women working in these sectors earned USD 7 for every USD 10 men earned.² The largest gender gaps in this regard take place in Brunei Darussalam, one of the countries with the highest mean nominal monthly earnings for the population who engage in agriculture, forestry and fishing. Pakistan and Indonesia also see very large gaps (figure 1).³ Countries with the smallest gaps are those with less women in these sectors, which

may hold higher positions.⁴ Occupational segregation across agriculture, forestry and fishing is widespread, with fewer women engaging in commercial production and advancing into managerial positions. Raising women's wages and dismantling barriers for their partici-

pation and decision-making in commercial operations, which are more profitable but contribute considerably to environmental degradation, could enable women to maintain their livelihoods and contribute to the sustainable management of these resources.

Figure 1: Gender gap for mean nominal monthly earnings of employees in agriculture, forestry and fishing (women to men ratio), latest available year

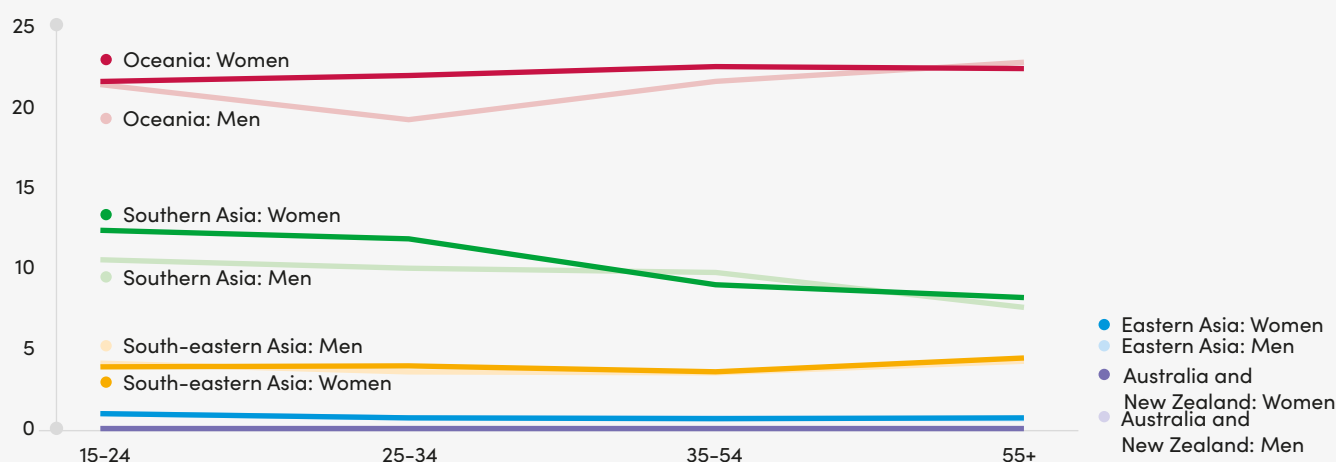


Note: UN Women calculations using data from [ILOSTAT database](#). All countries with available data have been included in this analysis. Data refer to the latest available estimate, except for countries where disaggregation by sex was not available for the most recent year.

WOMEN'S CAPACITY TO COPE WITH CRISES IS HAMPERED BY THEIR LIMITED ACCESS TO LAND AND OTHER ASSETS

Women in the Asia-Pacific region are likelier than men to live in extreme poverty, especially women aged 25–34, who, more than other women, tend to bear and care for young children (figure 2).⁵ Further, they are less likely than men to be able to access credit (only 68 per cent of women have access to a bank account or other financial services, compared to 75 per cent of men) (infographic 1), and to own or have secure rights over agricultural land (figure 3) – an asset that could be used as collateral for

loans to overcome crises. The lack of assets, coupled with women's higher likelihood to engage in informal employment⁶, greatly reduces women's capacity to cope with the effects of climate change and other crises. Worse still, where national laws do not ensure women's inheritance rights, natural hazards can lead not only to the loss of life of family members, but also to the loss of productive assets owned by the deceased, putting women at further risk of poverty and lost livelihoods.

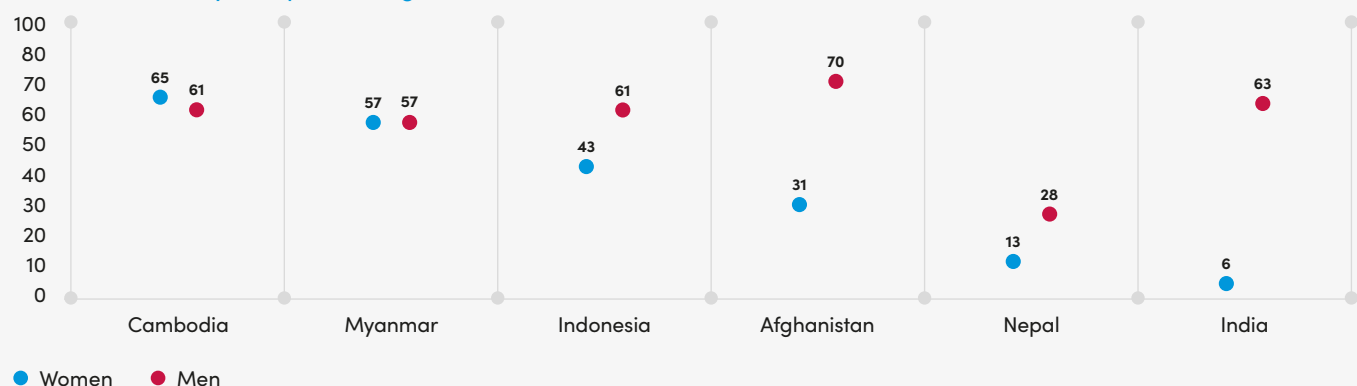
Figure 2: Proportion of population in extreme poverty, by sex and region, 2021 (percentage)

Source: UN Women (2021). From insights to action: gender equality in the wake of COVID-19.

Note: Australia and New Zealand are excluded from the Oceania sub-regional group. Regional groups included follow UN Women's Asia-Pacific sub-regions, which may differ from SDG groupings in some cases.

Infographic 1: Proportion of women and men with access to a bank account or financial services in the Asia-Pacific region, 2017 (percentage)

Source: UN Women calculations using data from the World Bank's [Global Findex database](#) for 35 countries, and population estimates from [World Population Prospects](#) (2020).

Figure 3: Proportion of agricultural population with ownership or secure rights over agricultural land, by sex, latest available year (percentage)

Source: [Global SDG Indicators database](#).

Note: All countries with available data have been included in the analysis.

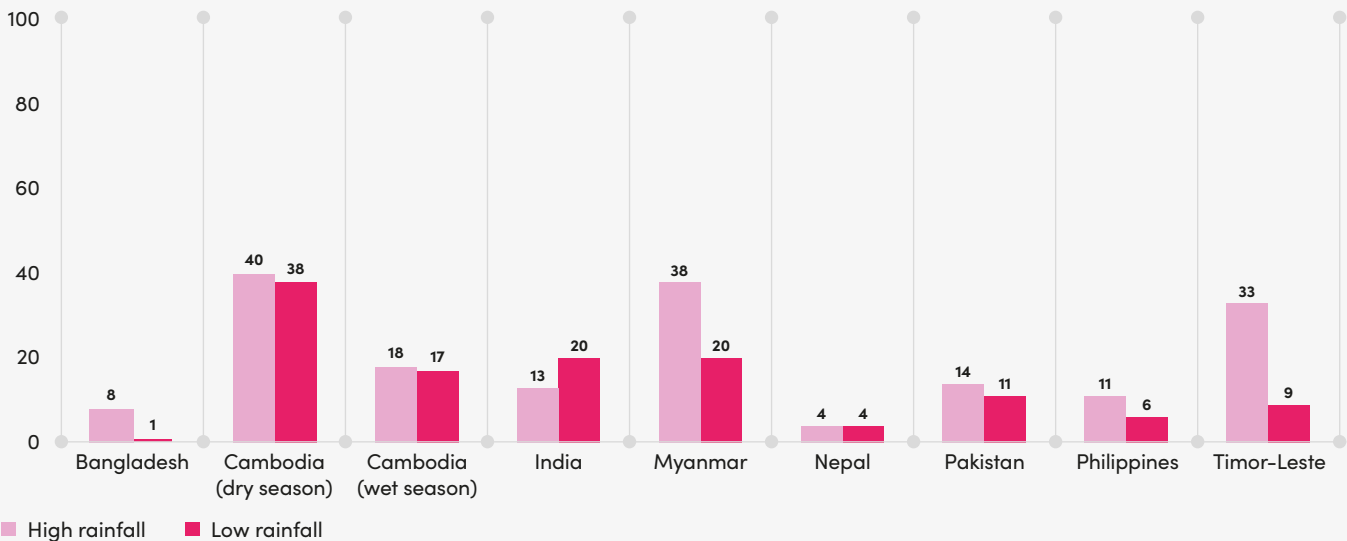
B. NATURAL RESOURCES, INCLUDING FOOD, ENERGY AND WATER

Clean water, energy and food are essential for people's health and wellbeing. Their availability in homes also contributes to reducing unpaid work burdens, particularly for women, who are disproportionately in charge of fuel and water collection, cleaning, and cooking.

CHANGES IN RAINFALL PATTERNS MAY PUT ACCESS TO SAFE DRINKING WATER AT STAKE

Inadequate water infrastructure puts many at risk of water-borne disease. Where tap water is not available, women are often in charge of fetching it from various sources. Analysis of geospatial data⁷ shows that women living in areas with more rainfall are more likely to encounter difficulties accessing basic drinking water sources (e.g., improved sources within a 30-minute round trip of their homes) (figure 4), partly because reliance on rainwater among those unable to access tap water may be increasingly at stake. In Cambodia, for instance, while people living in areas with low rainfall are used to rely on sources such as tube wells, boreholes, and bottled water, many who live in rainier areas rely on rainwater during wet periods and turn to unprotected water sources, such as streams and lakes during dry seasons. As climate change continues altering rainfall patterns, reliance on rain may be hindered and has the potential to worsen the burdens for water collection and treatment that fall on women.

Figure 4: Proportion of women ages 18–49 who lack access to basic water services, by level of rainfall, latest available year (percentage)



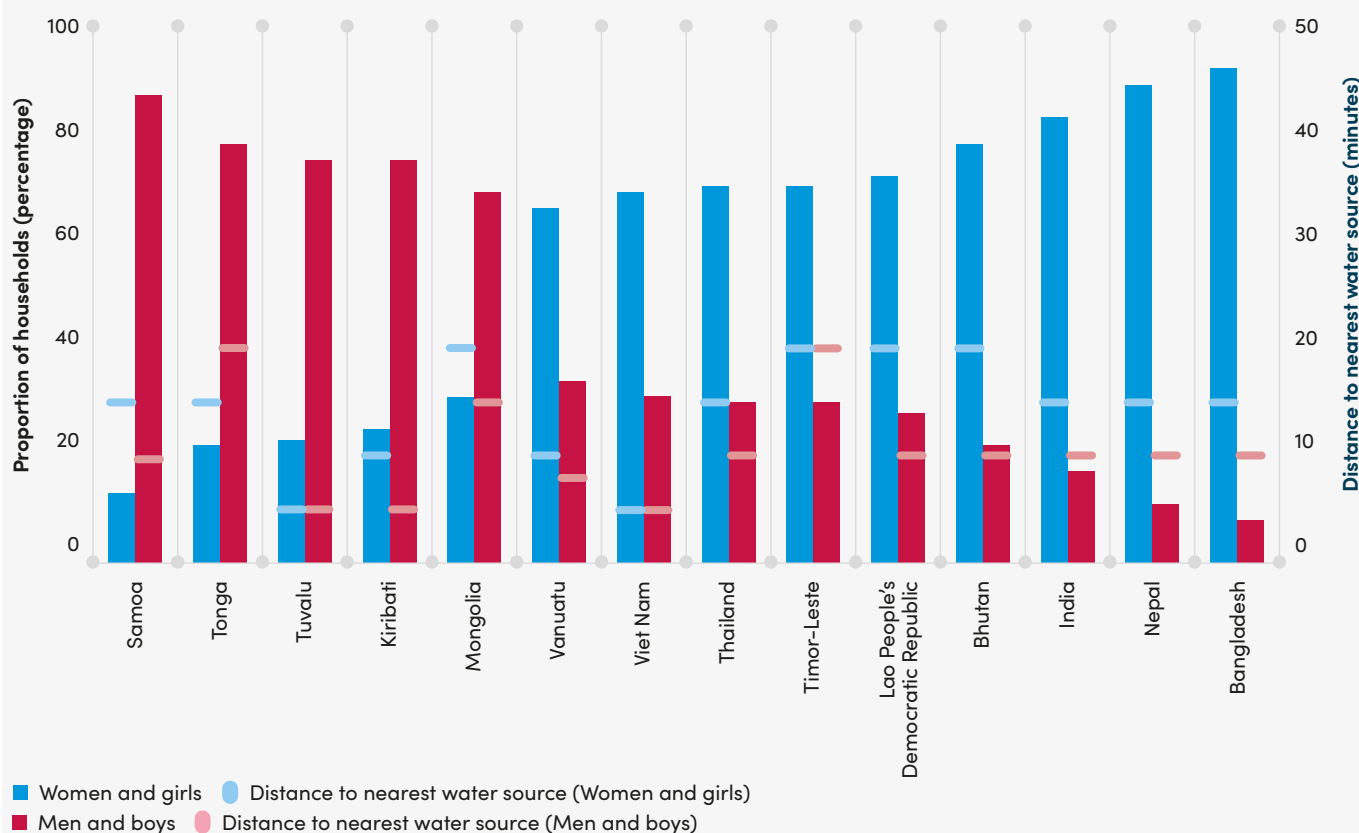
Source: UN Women calculations based on DHS data and geospatial data from DHS Geocovariates for 2015. Latest available DHS data were used for all countries except Bangladesh, where DHS 2014 was the latest source that included complete information on distance to water source.

Note: All countries where both types of data were available are included in this analysis. The difference across low and high rainfall areas are statistically significant ($p < 0.01$) for all countries considered, except Nepal ($p = 0.48$). High rainfall refers to the top 25 per cent of cluster level rainfall, and low rainfall refers to the bottom 25 per cent of cluster level rainfall. For visual brevity, the graph omits the central values of the distribution for rainfall. According to the World Health Organization/United Nations Children's Fund Joint Monitoring Programme for Water Supply, Sanitation and Hygiene, access to basic water services is defined as being able to access an improved water source within a short distance from residence (i.e., 30 minutes or less in collection time, round trip). Improved water sources include water piped into dwelling or yard, public standpipe, tube well or borehole, protected well, rainwater, and bottled water. Data for India may showcase the effects of ethnicity on access to water sources. Ethnicity information was not available to control for these effects at the time of analysis.

Across the region, women are disproportionately in charge of water collection, and spend, on average, somewhere between 5 and 20 minutes per trip (figure 5). This may impinge on the time they can allocate to paid work or leisure, and water collection can pose health risks – not

only from transporting heavy weights for long distances, but also by increasing exposure to violence during their travel. However, in some countries, men may be stepping up to collect water in households where the water source is far, as indicated by higher median times.

Figure 5: Proportion of households by person in charge of fetching water, and median distance to water source for households without water on premises, latest available year (percentage, minutes)



Source: Analysis carried out by UN Women utilizing data from Multiple Indicator Cluster Surveys (MICS) and DHS data.

Note: All countries with available data for years 2000 and onwards on the MICS and DHS repositories have been included in the analysis.

FUEL-RELATED AIR POLLUTION HAS GENDERED CONSEQUENCES

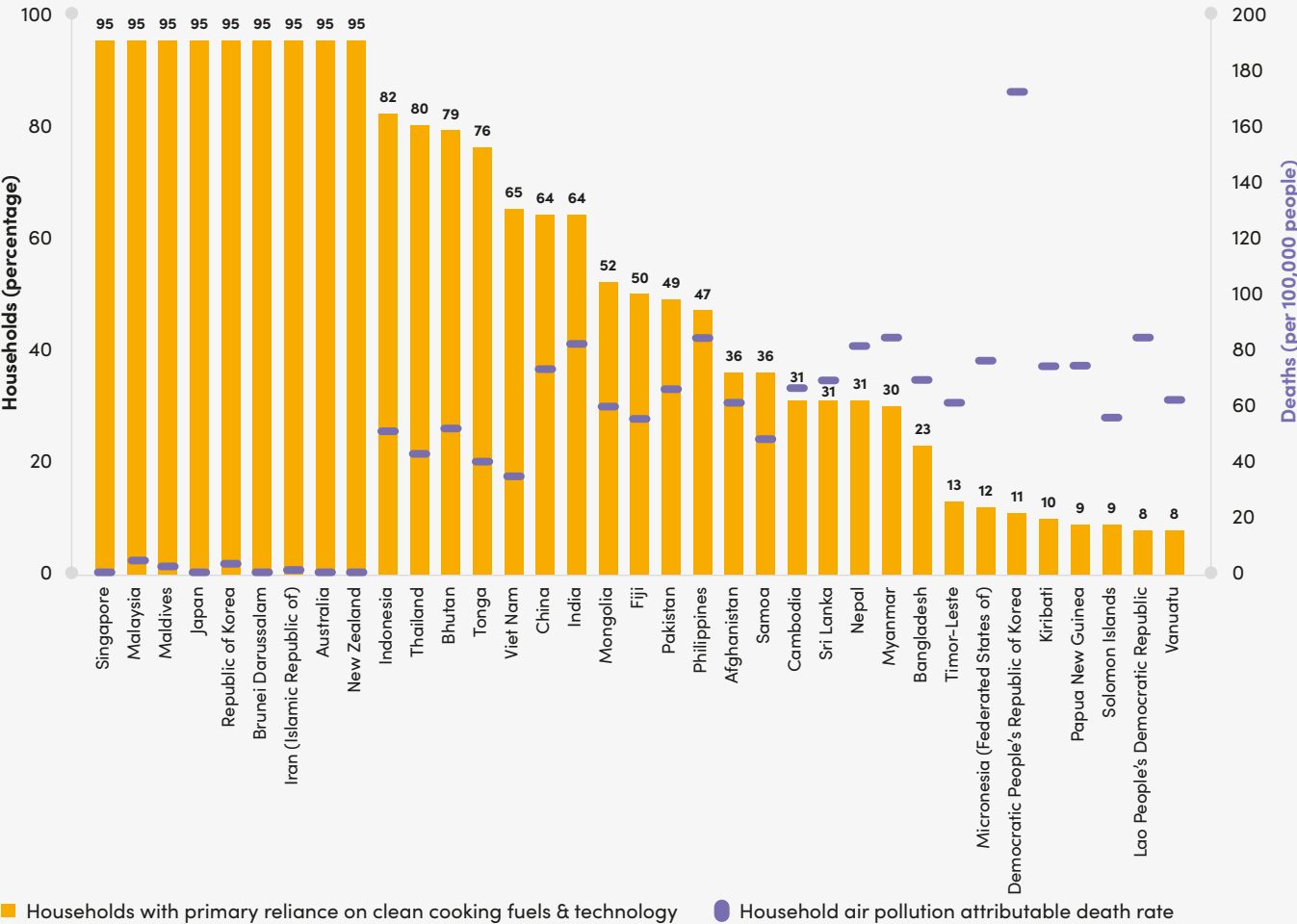
The use of unclean cooking fuels has direct effects on indoor air quality, and women – who usually spend more time cooking and inside households than men do – are disproportionately exposed. Cross-country data on deaths attributed solely to household air pollution show that these are, overall, inversely correlated with the use of clean cooking fuels: in countries where households are more likely to use clean fuels, death rates attributable to air pollution tend to be lower (figure 6). Data, however,

shows a small gender gap, with men at a disadvantage (an estimated 67 women and 70 men per 100,000 died in the Asia-Pacific region in 2016 as a result of indoor air pollution⁸). The higher death rates among men are largely due to related risk factors. For instance, the World Health Organization (WHO) estimates that women exposed to high levels of indoor smoke are more than twice as likely to suffer from chronic obstructive pulmonary disease than women using cleaner fuels, but among men exposed the

risk nearly doubles due to behavioral factors such as higher rates of smoking⁹. Similarly, mortality from lung cancer, ischemic heart disease and stroke, which worsen with indoor air pollution, is affected by high blood pressure, unhealthy diets and smoking. For women, gendered he-

alth risks include increased incidence of musculoskeletal damage, risk of injury and violence associated with fuel collection, increased risk of lung cancer due to exposure during food preparation, pre-term births and low birth weight¹⁰, among others.

Figure 6: Proportion of households with primary reliance on clean cooking fuels and technologies; and household air pollution attributable death rate, latest available year (percentage, deaths per 100,000 people)



Source: [Global SDG Indicators database](#), and [WHO Global Health Observatory](#)

Note: All countries with available data are included in the analysis. Estimates for Singapore, Malaysia, Maldives, Japan, Republic of Korea, Brunei Darussalam, Iran (Islamic Republic of), Australia, and New Zealand are greater than 95 per cent (>95).

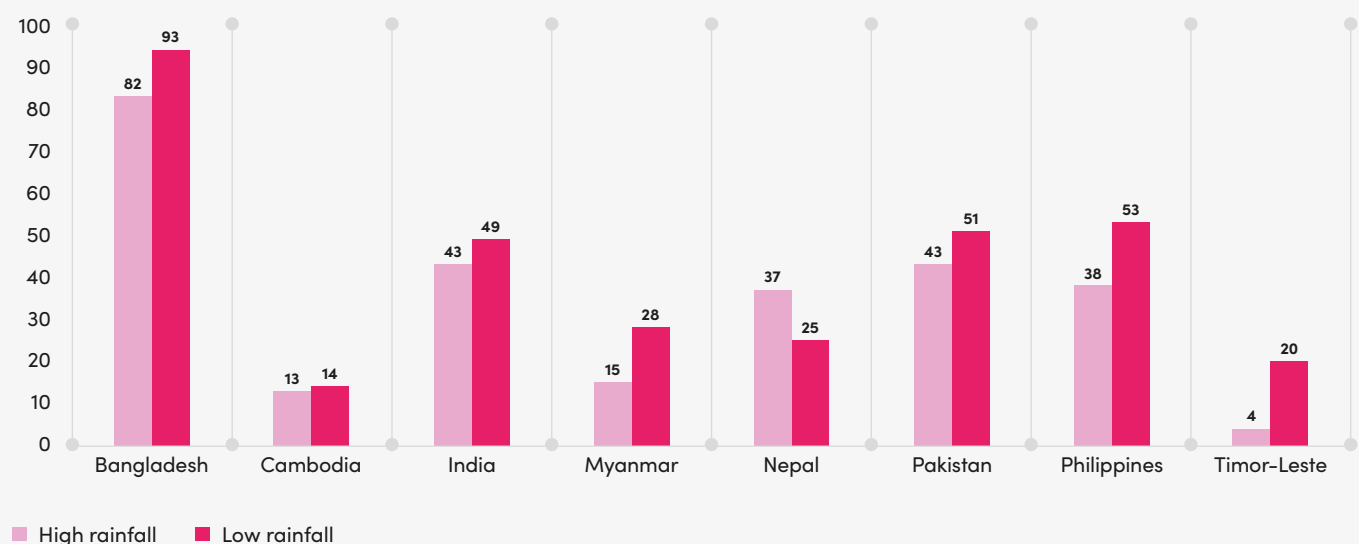
Climate change may aggravate some of these effects. Across countries, people living in rainier areas are more likely to use clean cooking fuels (figure 7).¹¹ Although factors such as the availability of infrastructure may determine clean fuel use, fuel prices also play a role.

For populations that rely on agriculture and other natural resources, sustained rainfall typically protects livelihoods, which makes more expensive clean fuels affordable. Conversely, data also show that those more frequently exposed to floods and drought episodes, see their like-

likelihood of accessing clean fuels reduced.¹² As climate change continues intensifying the severity and frequency

of droughts and floods, and the unpredictability of rains, barriers to using clean cooking fuels may increase.

Figure 7: Proportion of women ages 18–49 who lack access to clean fuels, by level of rainfall, latest available year (percentage)



Source: UN Women calculations based on DHS and geospatial data from DHS Geocovariates for 2015.

Note: All countries where both types of data were available are included in the analysis. The differences across low and high rainfall areas are statistically significant ($p < 0.01$) for all countries considered except Pakistan ($p = 0.38$) and Cambodia ($p = 0.02$). High rainfall refers to the top 25 per cent values, and low rainfall refers to the bottom 25 per cent values of cluster level rainfall. For visual brevity, the central values for the rainfall distribution are not shown. Clean fuels typically include electricity, liquified petroleum gas, natural gas, and biogas, while unclean fuels include kerosene, charcoal, wood, straw/shrubs/grass, agricultural crop, or animal dung. In Nepal, further analysis (not shown) indicates that cultural practices associated with ethnicity may be driving the fuel outcomes showcased.

C. CLIMATE CHANGE AND DISASTERS

Climate change risks amplifying existing inequalities. Women, who are less likely to own assets and access finance, and often engage in informal employment,

face more barriers to cope. In addition, their disproportionate unpaid care and domestic work burdens are exacerbated by disasters and other crises.

THE INTERNET IS A KEY SOURCE OF EARLY WARNING INFORMATION, BUT WOMEN ARE LESS LIKELY TO HAVE ACCESS

The availability of multi-hazard early warning systems, which address several simultaneous or consecutive hazards and take into account potentially interrelated effects¹³, remains insufficient across the region (with a total possible score of 1, indicating that these systems

are comprehensively implemented, the region scored 0.52 in 2020, compared to 0.35 in 2015)¹⁴. Early warning systems could be life-saving, particularly when warnings are followed with pre-emptive evacuation. If early warning information is not provided through

other means, people can find timely hazard-related guidance in support of preparedness on the Internet. However, only 54 per cent of women and 59 per cent of men in the Asia-Pacific region have Internet access¹⁵. Data for the coronavirus disease (COVID-19) crisis in-

dicade that the Internet was a key source of information for those who were able to access it (figure 8). Providing access to the Internet to the 977 million women in Asia and the Pacific who still lack access can thus contribute substantially to disaster prevention.

Infographic 2: Access to early warning information systems in Asia and the Pacific, 2020

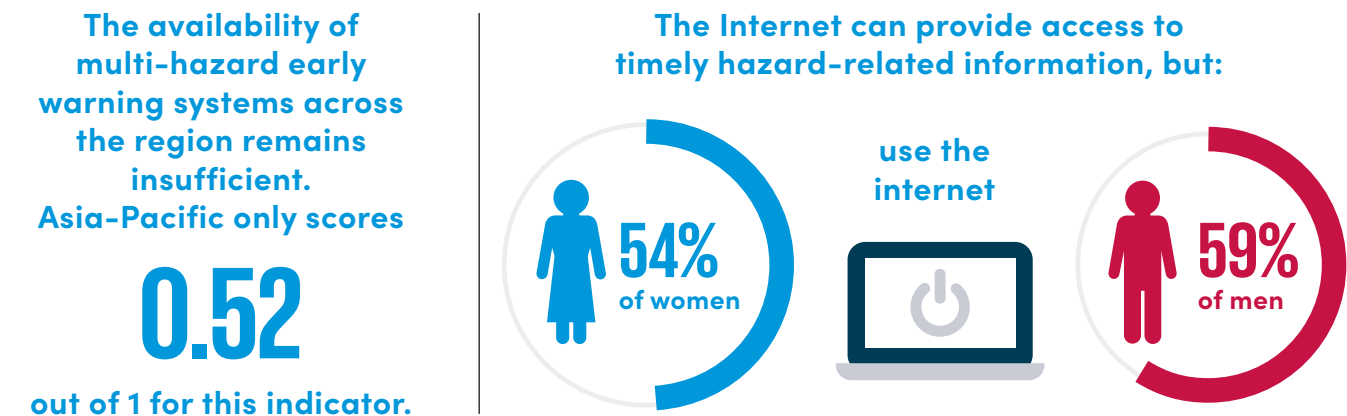
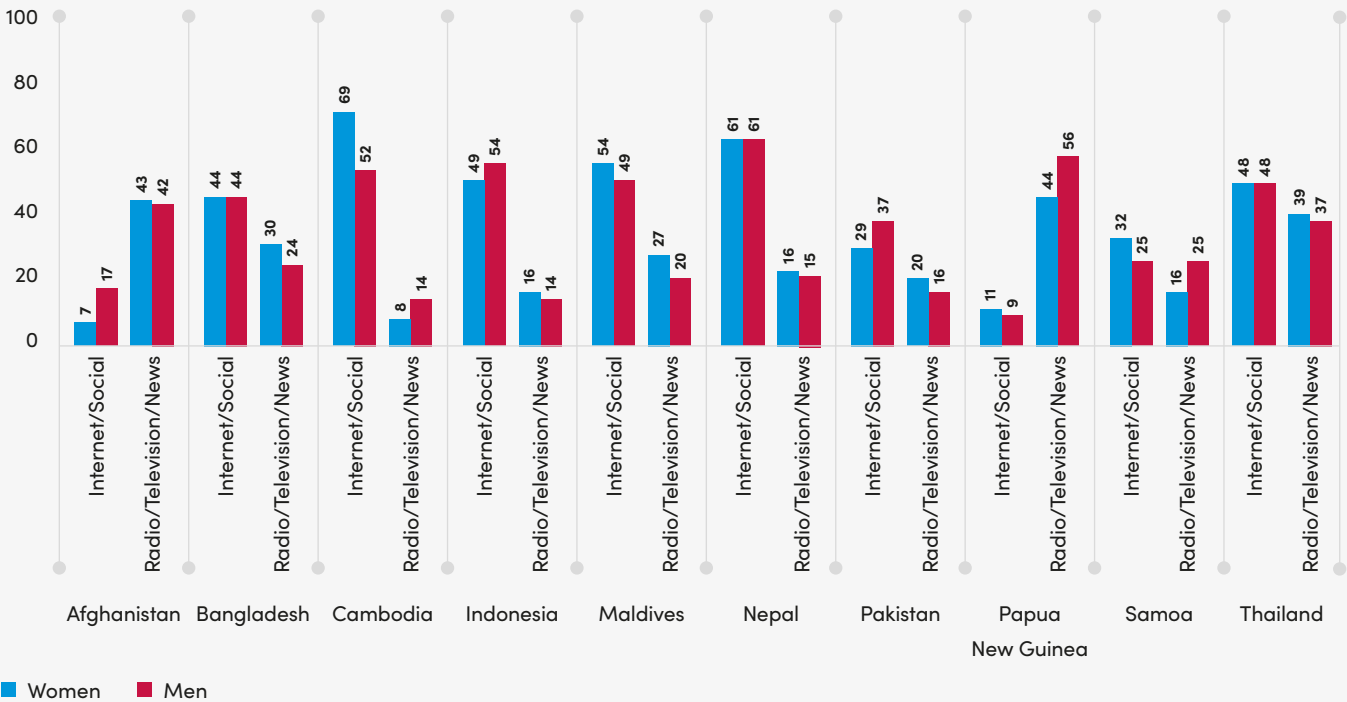


Figure 8: Main source of information on COVID-19 by sex, latest available year (percentage)



Source: UN Women (2020): [Unlocking the Lockdown](#) and UN Women, (forthcoming) Rapid Assessment Surveys on the Consequences of COVID-19 in Asia and the Pacific.

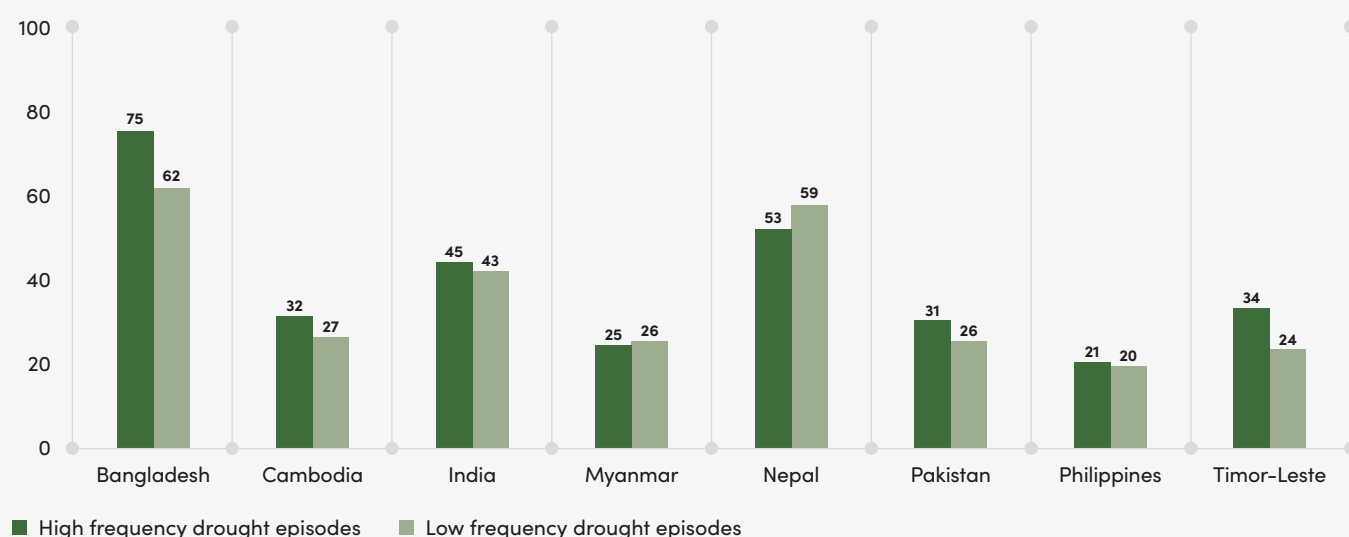
Note: All countries for which rapid gender assessment data were available for this indicator have been included in this analysis. Two survey rounds have been considered (2020 and 2022, depending on the country). Data on the proportion of people who used other sources of information are not included in the figure.

CHILD MARRIAGE AND ADOLESCENT BIRTHS INCREASE WITH ARIDITY AND DROUGHTS

The rapidly intensifying effects of climate change are having profound impact on the lives of women, men, girls and boys. Empirical analysis reveals that child marriage is more prevalent in more arid areas and in locations where drought episodes are more frequent (figures 9 and 10)¹⁶. Contributing factors, among others, may include families using this practice as a coping strategy in dry situations when agricultural yield is lower, food prices increase and economic strains grow.¹⁷ It is

important to note, however, that increases in aridity and drought episodes only appear to correlate with increases in child marriage in areas where the practice is culturally prevalent, and many other socio-cultural drivers affect the prevalence of child marriage in the countries with available data. The analysis also indicates that adolescent birth rates are higher in arid areas across most countries, an outcome likely connected to higher child marriage rates (figure 11).¹⁸

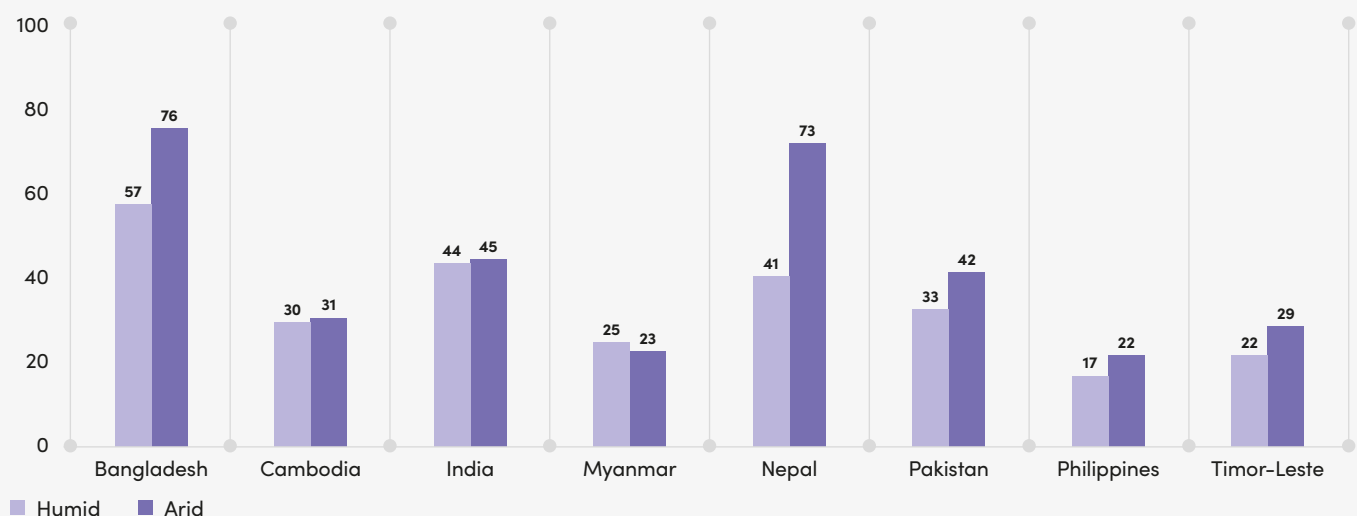
Figure 9: Proportion of women ages 18–49 who were married before age 18, by frequency of drought episodes, latest available year (percentage)



Source: UN Women calculations based on Demographic and Health Survey (DHS) data and geospatial data from DHS Geocovariates for 1980–2000.

Note: All countries where both types of data were available have been considered for the analysis. The differences across high and low drought areas are statistically significant ($p < 0.01$) for all countries considered. Drought episodes times when the amount of monthly precipitation is less than or equal to 50 per cent of its long-term median value for three or more consecutive months. High frequency drought episodes refer to the top 25 per cent values, and low frequency drought episodes to the bottom 25 per cent values of cluster level drought episodes. For visual brevity, the central values of the drought episodes distribution are not shown. The official Sustainable Development Goals (SDG) indicator 5.3.1 on child marriage refers to women ages 20–24, yet this age group yielded an insufficient sample size for the analysis. In Nepal, further analysis (not shown) indicates that cultural practices associated with ethnicity may be driving the child marriage outcomes showcased.

Figure 10: Proportion of women ages 18–49 who were married before age 18, by aridity index, latest available year (percentage)

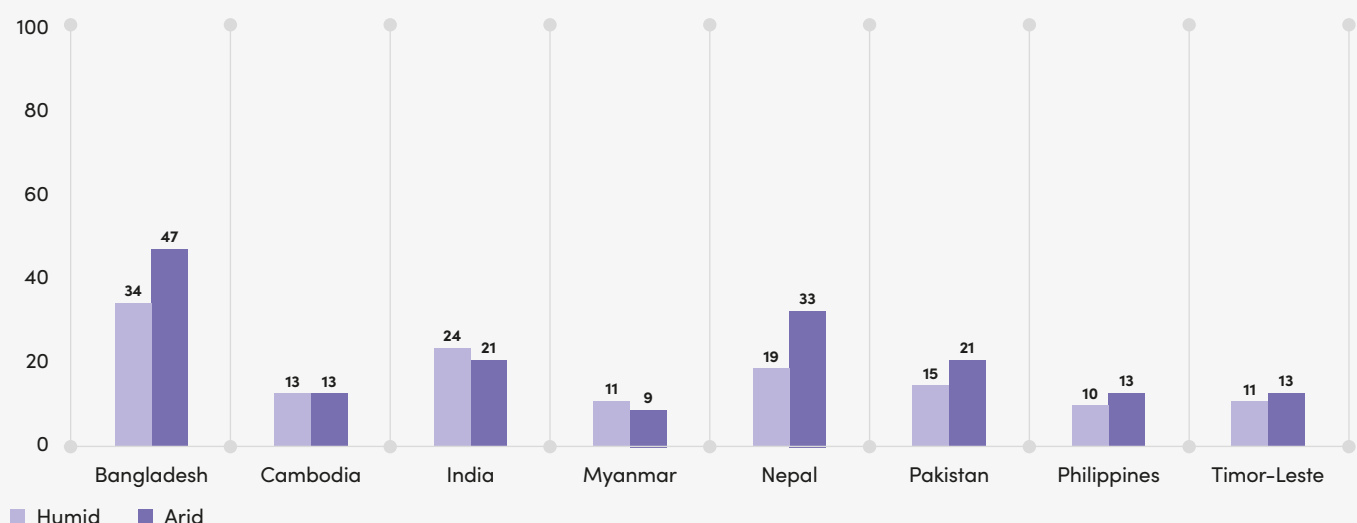


Source: UN Women calculations based on DHS data and geospatial data from DHS Geocovariates for 2015.

Note: All countries where both types of data were available are included in the analysis. The differences across arid and humid areas are significant ($p < 0.01$) for all countries considered, with the exception of Myanmar ($p = 0.49$) and Philippines ($p = 0.25$).

The aridity index represents the average yearly precipitation divided by average yearly potential evapotranspiration – a measure of the drying power of the atmosphere to remove water from land surfaces by evaporation (e.g., from the soil and plant canopy) and via plant transpiration. Humid refers to the top 25 per cent values, and arid to the bottom 25 per cent values of cluster level aridity. For visual brevity, the central values of the aridity distribution are not shown. Although the official SDG indicator 5.3.1 on child marriage refers to women ages 20–24, this age group would yield an insufficient sample size for this analysis and thus ages 18–49 was used instead.

Figure 11: Proportion of women ages 18–49 who gave their first birth before age 18, by aridity index, latest available year (percentage)



Source: UN Women calculations based on DHS and geospatial data from DHS Geocovariates from 2015.

Note: All countries where both types of data were available are included in the analysis. The differences are statistically significant ($p < 0.01$) for all countries considered, except Myanmar ($p = 0.39$) and Philippines ($p = 0.25$).

The aridity index represents the average yearly precipitation divided by average yearly potential evapotranspiration – a measure of the drying power of the atmosphere to remove water from land surfaces by evaporation (e.g., from the soil and plant canopy) and via plant transpiration. Humid refers to the top 25 per cent values, and arid to the bottom 25 per cent values of cluster level aridity. For visual brevity, the central values of the aridity distribution are not shown. This indicator refers to women ages 18–49 who reported having had a child before the age of 18. As such, this indicator differs from the official SDG indicator 3.7.2 (adolescent birth rate), which focuses on women and girls who delivered a child between ages 10–14 and 15–19, as the SDG indicator did not yield a large enough sample size for this analysis.

D. SUSTAINABLE CONSUMPTION, PRODUCTION AND WASTE

Due to cultural norms and occupational differences, women and men have differentiated consumption and production patterns¹⁹. While men are more likely to engage in industrial activities, women have disproportionate control over daily household pur-

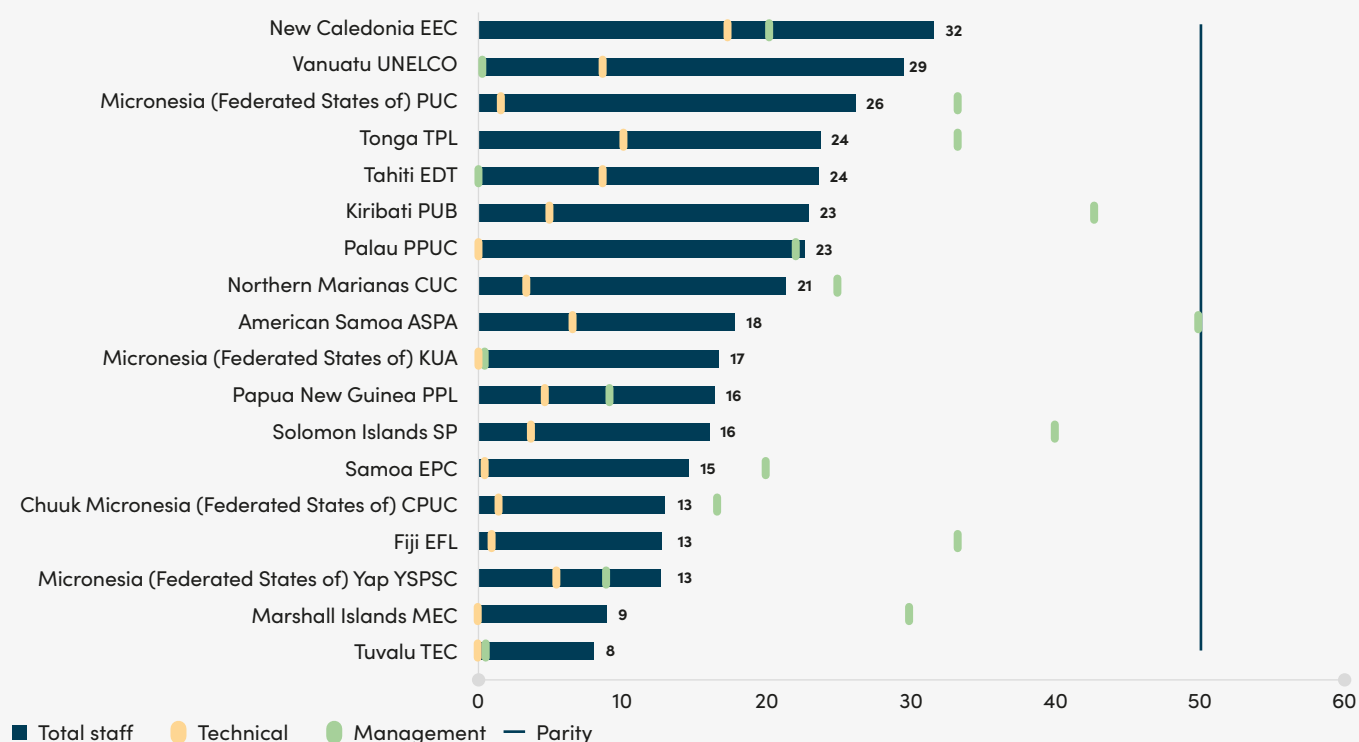
chases. They also contribute to waste management differently, both at work and in their daily lives. Their different degree of engagement in managerial positions at work also determines their contributions to sustainable production.

WOMEN ARE RARELY IN CHARGE OF MAKING DECISIONS IN THE ENERGY SECTOR, A HIGH-EMISSION INDUSTRY

According to the Intergovernmental Panel on Climate Change (IPCC)¹⁹, global greenhouse gas emissions are largely driven by industry, transportation, energy production, agriculture and other land use. Insufficient data exists to examine how decisions affecting environmental

conservation and degradation are made within these industries, as well as the roles women and men play on these. Data from Pacific power utility firms helps shed light on some of the contributions women and men make to the energy sector.

Figure 12: Proportion of staff in Pacific power utilities that are women, by job category, 2018 (percentage)



Source: Provided by the Pacific Power Authority. Represents underlying data for the 2018 Pacific Power Utilities Benchmarking Reports. Available at www.ppa.org.fj/publications/.

Acronyms: New Caledonia EEC: New Caledonia EEC ENGIE ; Vanuatu UNELCO: Vanuatu Union Electrique du Vanuatu; Micronesia (Federated States of) PUC: Federated States of Micronesia Pohnpei Utilities Corporation; Tonga TPL: Tonga Power Limited; Tahiti EDT: Electricite De Tahiti; Kiribati PUB: Kiribati Public Utilities Board; Palau PPUC: Palau Public Utilities Corporation; Northern Marianas Islands CUC: Northern Marianas Commonwealth Utilities Corporation; American Samoa ASPA: American Samoa Power Authority; Micronesia (Federated States of) KUA: Federated States of Micronesia Kosrae Utilities Authority; Papua New Guinea PPL: PNG Power Limited; Solomon Islands: Solomon Islands Solomon Power; Samoa EPC: Samoa Electric Power Corporation; Chuuk Micronesia (Federated States of) CPUC: Chuuk (Federated States of Micronesia) Chuuk Public Utility Corporation; Fiji EFL: Fiji Energy Fiji Limited; Micronesia (Federated States of) Yap YSPSC: Federated States of Micronesia Yap State Public Service Corporation; Marshall Islands MEC: Marshall Islands Marshalls Energy Company; Tuvalu TEC: Tuvalu Electricity Corporation.

Across countries, women are underrepresented in high-level positions in these industries, limiting their decision-making power for the management of natural resources. Particularly in the Pacific, where women are key holders of traditional environmental knowledge²⁰, their participation could promote transformation and conservation. Of the 19 CEO positions for which data were available, only one was filled by a woman (in Papua

New Guinea), and the same is true for second-in-charge positions (in Samoa). Furthermore, across these firms, women held only 24 per cent of all managerial positions and 5 per cent of all technical staff positions²¹. These data suggest that additional career pathways are needed for women, including to support their transition into management of Pacific utility firms, and promote their agency and contribution to natural resource management.

E. HEALTH, WELL-BEING AND SANITATION

Women's and men's health is closely connected to their environment. Air pollution, water contamination, organic pollutants and occupational risks such as exposure

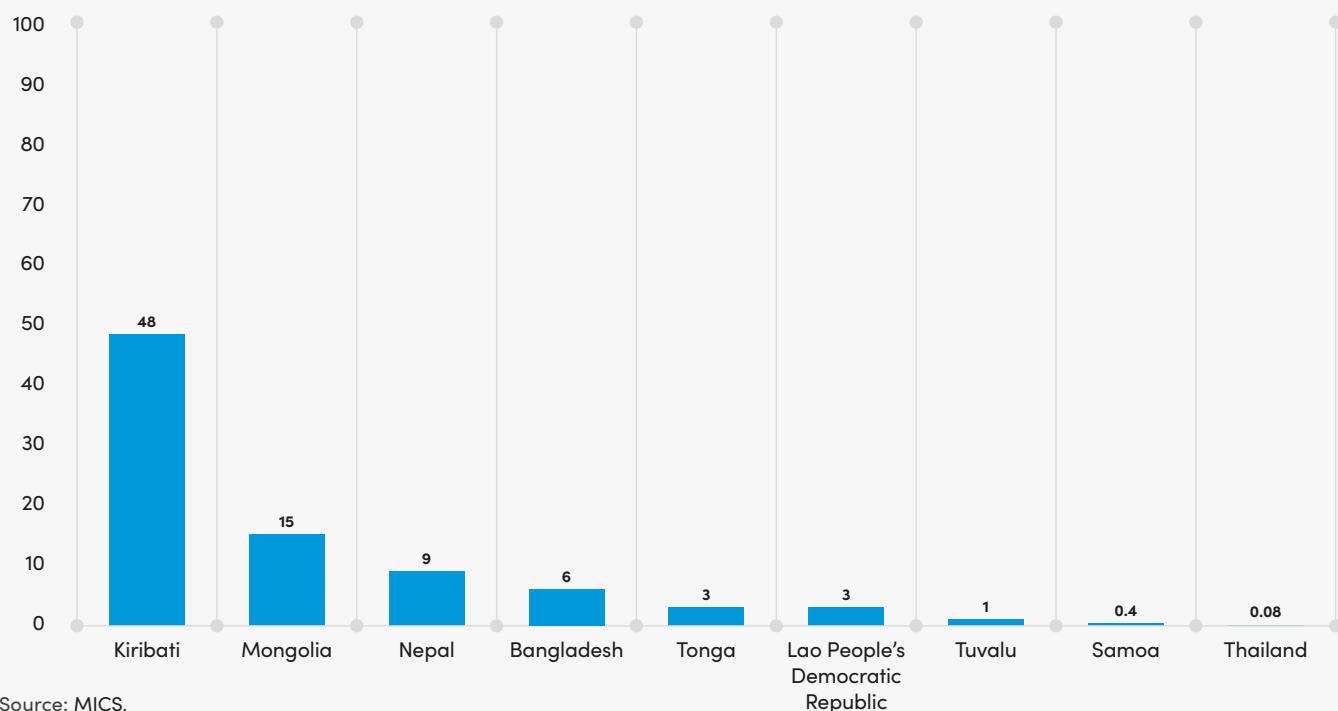
to pesticides and other chemicals, all have an effect on human health and biodiversity loss. Harm to ecosystems is detrimental to the well-being of women and men.

THE SWITCH TO RENEWABLES WILL BENEFIT WOMEN'S AND MEN'S HEALTH, BUT BARRIERS MUST BE REMOVED FOR EQUAL PARTICIPATION

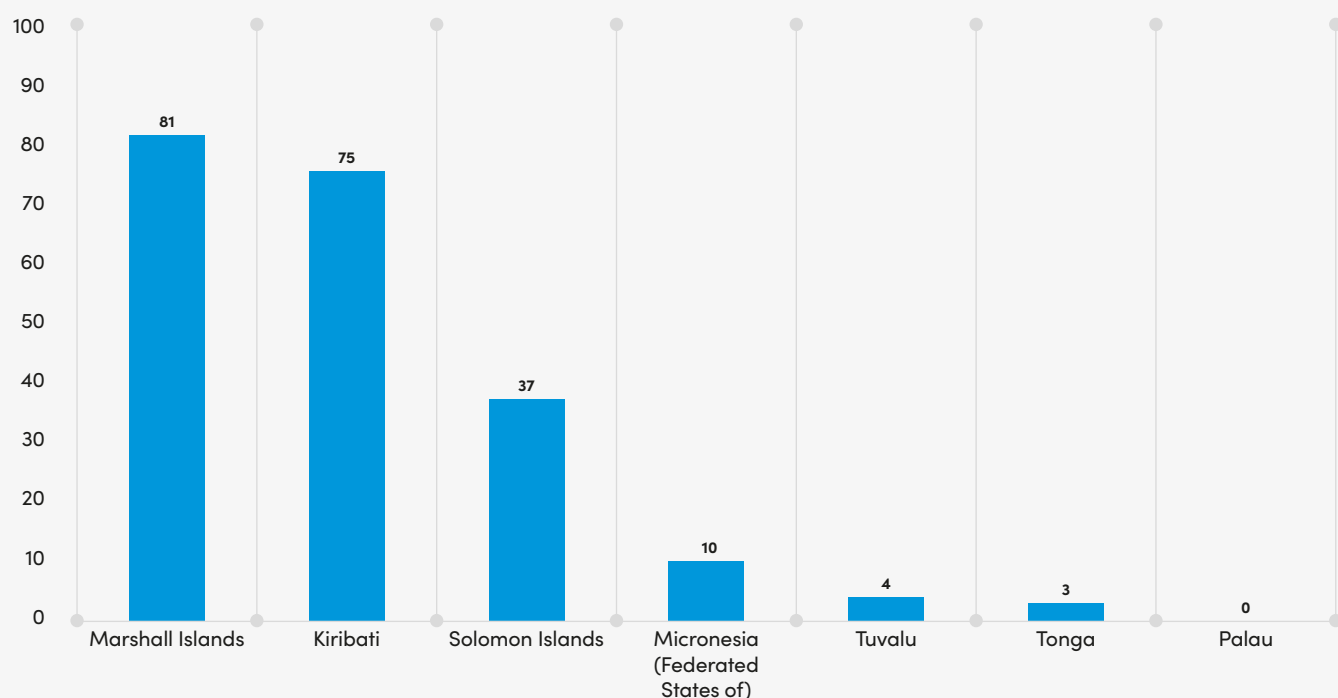
Almost half of the population in Kiribati relies on solar energy for lighting at home (figure 13). The country, which largely relied on kerosene and other unclean fuels for lighting in the past, has made a concerted effort to switch to solar – a renewable power source able to reach even the most remote of its outlying islands. Other Pacific Island Countries and territories have taken a similar approach, particularly in rural areas (figure 14), where solar generators are useful to provide energy to households without grid access. Access to solar-powered electricity reduces domestic work burdens²² typically carried out by women, such as cleaning and cooking, as well as fuel collection obligations and even night-time violence in some settings²³. Importantly, solar power helps preserve air quality, both inside and outside the home and thus contributes to people's health. As a power supply in remote areas, it can also enable the provision of health services, which often require a

dependable source for temperature and hygrometry controls, adequate lighting systems, refrigeration, cold rooms and information technology networks for efficient stock and management of information²⁴.

The widespread use of solar power can also provide income opportunities but, at present, barriers may be preventing women from fully benefitting. Globally, women's participation in the renewable energy sector ranges between 32 and 35 per cent of the workforce, and they are overrepresented in administrative rather than managerial positions²⁵. Promoting the use of solar power systems in rural communities and the switch to renewables overall, including for the generation of grid electricity, is of utmost importance but should be accompanied by training of women technicians and maintenance workers, as well as promotion of women's engagement in energy-related education.

Figure 13: Proportion of households using solar energy for lighting, latest available year (percentage)Source: [MICS](#).

Note: All countries with available data are included in the analysis.

Figure 14: Proportion of rural households with access to small-scale solar power in selected Pacific Island Countries, latest available year (percentage)

Source: Household Income and Expenditure Surveys and Population Housing Census.

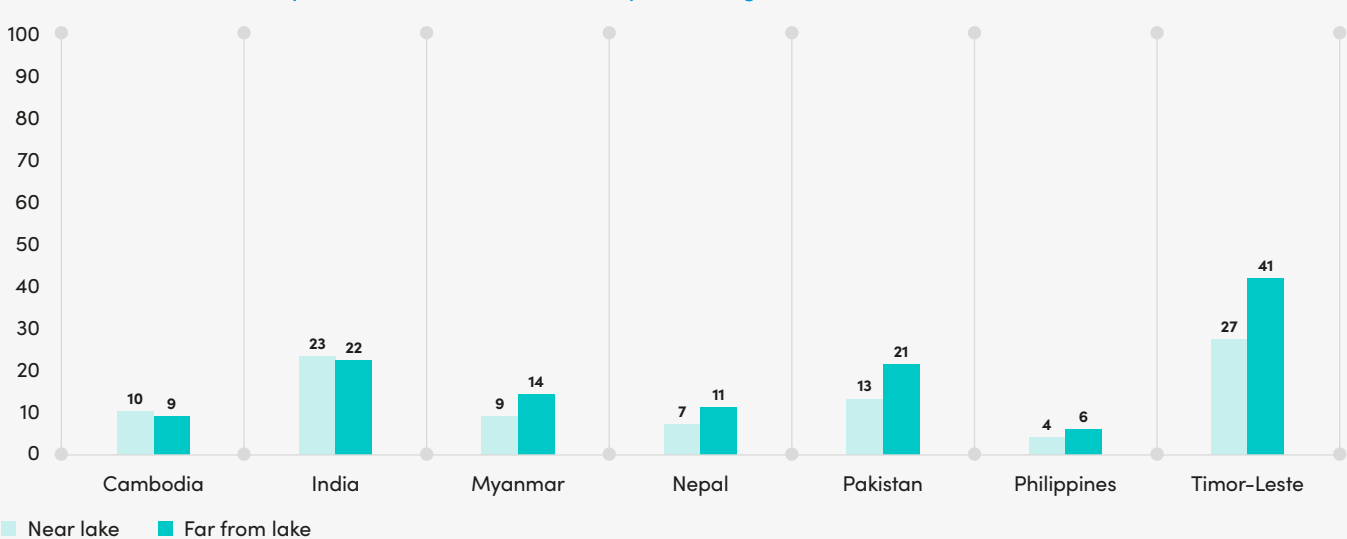
Note: Calculations by UN Women and the Pacific Community using Household Income and Expenditure Surveys and Population Housing Census databases. Only Pacific Island Countries with data available to the authors at the time of the analysis are included.

LIVING NEAR NATURAL RESOURCES MAY LOWER WOMEN'S CHANCES OF INTIMATE PARTNER VIOLENCE

Evidence from multiple countries shows that women living near lakes were less likely than women living far from lakes to encounter intimate partner violence in the year prior to the survey²⁶. This association was obvious in all countries with available data, apart from Cambodia and India where the differences were not statistically significant (figure 15). It is important to note, however, that the drivers of intimate partner violence are complex and multi-dimensional, and this association does not necessarily imply causation, as many other factors may be at

play. Overall, access to natural resources – including those found in freshwater habitats, which cover only 0.1 per cent of Earth's surface but host approximately 10 per cent of all animal species²⁷ – provides women and men with opportunities for livelihoods and coping strategies in the event of crises. Ample evidence has shown that intimate partner violence increases in times of economic stress²⁸, and thus it is possible that lakes may provide safety nets that contribute to lower rates of intimate partner violence in nearby areas compared to other areas.

Figure 15: Proportion of women ages 18–49 who experienced intimate partner violence in the past 12 months in selected countries, by distance to nearest lake (percentage)



Source: UN Women calculations based on DHS data and geospatial data from Global Self-consistent, Hierarchical, High-resolution Geography Database for 2017.

Note: All Asia-Pacific countries where both types of data were available have been considered for the analysis. Near lake refers to the bottom 25 per cent cluster level distances to nearest lake and far from lake refers to the top 25 per cent cluster level distances to nearest lake. For visual brevity, the central values of the rainfall distribution are not shown. ArcGIS Pro software, version 2.8 was used to read the proximity to water vector data and this was used to calculate the geodesic distance between each DHS cluster and the nearest water source (lake). The differences are statistically significant ($p < 0.01$) for all countries considered except Cambodia ($p = 0.6$) and India ($p = 0.07$).

F. ENVIRONMENTAL DECISION-MAKING

Women's voice and agency in environmental decision-making is key to ensuring that their experiences, needs and concerns are brought to the forefront of environmental resource management and conservation.

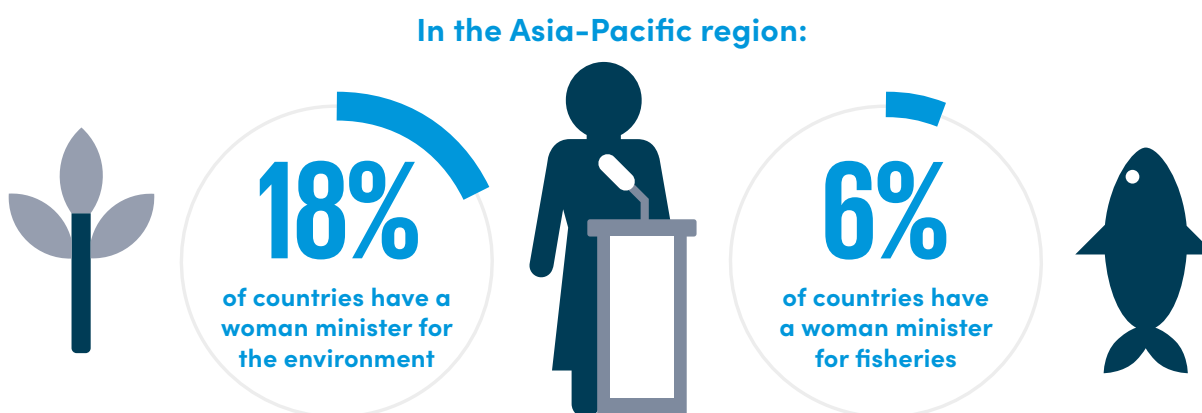
Their meaningful participation in decision-making should be promoted in environment-related government bodies, the private sector, as well as natural resource management groups, including at the grassroots level.

WOMEN REMAIN SEVERELY UNDERREPRESENTED IN ENVIRONMENTAL DECISION-MAKING

An estimated 18 per cent of countries in Asia and the Pacific have a woman minister for the environment (or related), while only 6 per cent have a woman minister for fisheries (infographic 3). This limits women's influence over environmental decision-making, including conservation strategies. At the local level, women are also underrepresented. No internationally comparable official statistics are available on women's participation in forest user groups, but the findings from surveys conducted by the Center for International Forestry Research indicate that men's attendance

always exceeded women's, across all groups considered for the Asia-Pacific region.²⁹ Promoting women's participation in environmental decision-making within countries can impact natural resource management policies and practices. Similarly, women's participation in global discussions is key but their representation remains staggeringly low. With the exception of some Pacific Island Countries, women were underrepresented in almost every party and observer State at the 2021 United Nations Climate Change Conference in Glasgow, Scotland (COP26) (figure 16).

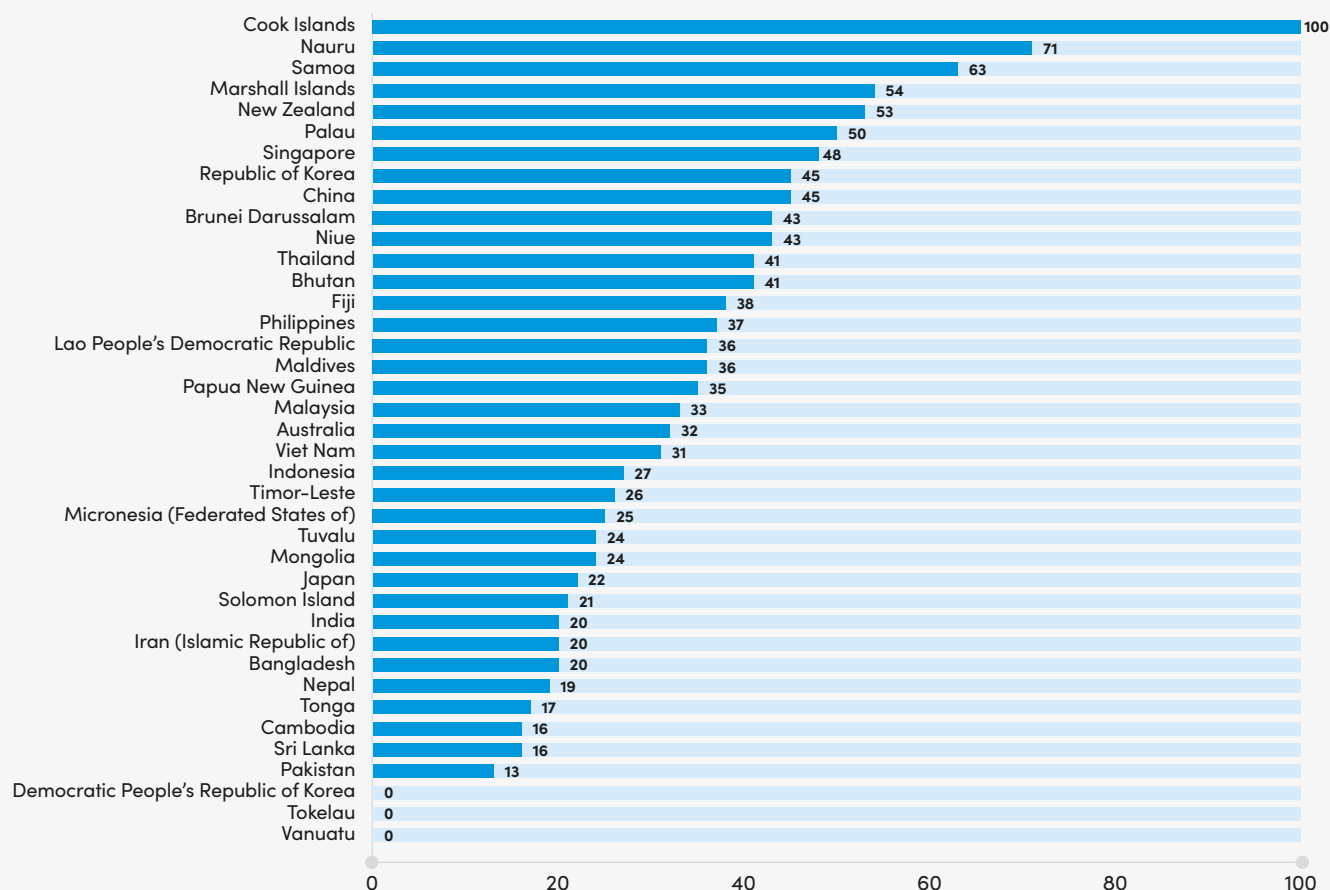
Infographic 3: Proportion of Asia-Pacific countries with a women minister for the environment and fisheries, 2020 (percentage)



Source: International Union for Conservation of Nature (IUCN) (2020).

Note: UN Women calculation based on IUCN database. Total of 30 countries with available data have been considered for the analysis on proportion of Asia-Pacific countries with a women minister for fisheries and related ministries, and total of 36 countries with available data have been considered for the analysis on proportion of Asia-Pacific countries with a women minister for the environment and related ministries.

Figure 16: Proportion of women participants at the 2021 United Nations Climate Change Conference from parties and observer States, 2021 (percentage)



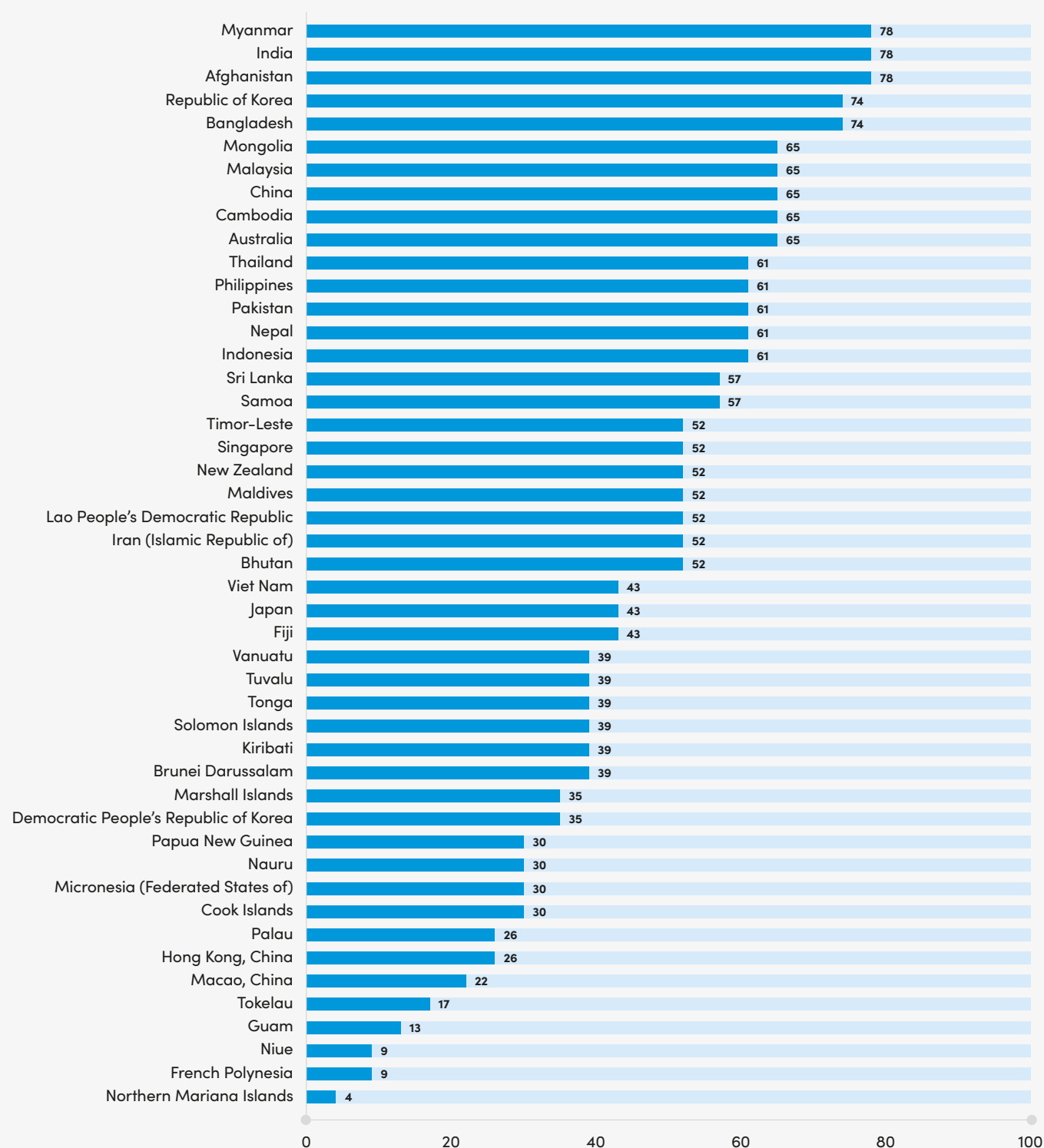
Source: United Nations Framework Convention on Climate Change. List of participants (Part One) Parties and observer States.

FILLING DATA GAPS ON THE GENDER-ENVIRONMENT NEXUS IS PARAMOUNT TO MAKING EVIDENCE-BASED ENVIRONMENTAL DECISIONS

Of the more than 200 SDG indicators, only 23 capture, directly or indirectly, the gender-environment nexus.³⁰ In the Asia-Pacific region, only 5 of the 47 countries have data for more than two thirds of these indicators, thus information gaps on this topic are widespread (figure 17). Moreover, the SDG indicators themselves do not address important areas of the gender-environment nexus, such as the gendered effects of climate change, or the differentiated contributions that women and men make to environmental conservation and degradation, among many others. To fill existing data gaps, UN Women, through its Making Every Woman and Girl Count programme, has designed a model questionnaire and methodology, and supports countries in the collection

of these data. By reprocessing existing data, including by integrating geospatial information with survey data, UN Women is also helping fill some of these data gaps.

It is critical to dedicate additional financial and technical resources to generating data on this topic to ensure environmental policies are gender sensitive and evidence based. Investing in gender data will help highlight existing gender-environment issues, and will provide a better understanding of the linkages between environmental conservation, degradation, adaptation and all aspects of the lives of women and men. When taken into consideration for policymaking, the data have the potential to inform better targeted transformational policies.

Figure 17: Proportion of gender and environment-related SDG indicators with available data (percentage)

Source: UN Women calculations based on data from the Global SDG Indicator database, as of 31 January 2022.

Note: Data availability was assessed across a total of 23 SDG indicators that have been identified as gender-environment indicators. For more details on the classification criteria, see: <https://data.unwomen.org/sites/default/files/inline-files/Measuring%20the%20gender%20environment%20nexus%20in%20Asia%20and%20the%20Pacific.pdf>.

ENDNOTES

- 1 This is largely due to occupational segregation (e.g. women holding different jobs than men) as well as actual wage gaps.
- 2 Aggregate calculated by UN Women using data from [ILO STAT](#) database on mean nominal monthly earnings and population engaged in each economic activity for 20 countries.
- 3 [World Bank, 2013](#).
- 4 [Maldives National Bureau of Statistics, 2016](#).
- 5 UN Women, 2018. [Turning promises into action: Gender equality in the 2030 Agenda for Sustainable Development](#).
- 6 ILO (2018) [Women and men in the informal economy: a statistical picture](#) (third edition).
- 7 UN Women (Forthcoming). The gendered impacts of climate change: Empirical evidence from Asia. The analysis was performed by integrating GIS data with DHS data and utilizing logistic regression and random forest models to assess associations between climate related geospatial variables and gender equality outcomes for selected countries.
- 8 Aggregate calculated by UN Women using [WHO Global Health Observatory](#) data from 35 countries and population data from [World Population Prospects](#) (2020). UN Women's regional groupings have been used for all aggregates included in this brief. These may differ from official SDG regions.
- 9 [WHO, 2021](#).
- 10 Gosh et al. [Ambient and household PM2.5 pollution and adverse perinatal outcomes: A meta-regression and analysis of attributable global burden for 204 countries and territories](#).
- 11 This association was observed in all countries with available data, apart from Nepal. UN Women (Forthcoming). The gendered impacts of climate change: Empirical evidence from Asia. The analysis was performed by integrating GIS data with DHS data and utilizing logistic regression and random forest models to assess associations between climate related geospatial variables and gender equality outcomes for select countries.
- 12 UN Women (Forthcoming). The gendered impacts of climate change: Empirical evidence from Asia.
- 13 International Telecommunications Union (ITU) (2022) [Multi-hazard early warning system](#).
- 14 Aggregates sourced from the [Sendai Framework](#) (2020). The Asia-Pacific regional grouping may differ from other regional groupings presented in this brief.
- 15 Aggregates sourced from [ITU Statistics](#) (2020). The Asia-Pacific regional grouping of ITU may differ from other regional groupings presented in this report.
- 16 UN Women (Forthcoming). The gendered impacts of climate change: Empirical evidence from Asia. The analysis was performed across eight countries in Asia-Pacific by integrating GIS data with DHS data and utilizing logistic regression and random forest models to assess associations between climate related geospatial variables and gender equality outcomes for selected countries.
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- 21 UN Women (2022), [Gender Equality and Sustainable Energy: Lessons from Pacific Island Countries and Territories](#).
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- 23 See UN Women. [Safe Cities and Safe Public Spaces: Global Results Report](#); and M.A. Saim and I. Khan (2021). [Problematizing solar energy in Bangladesh: Benefits, burdens, and electricity access through solar home systems in remote islands](#).
- 24 UNDP (2018), [Solar for health](#).
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- 26 UN Women (Forthcoming). The gendered impacts of climate change: Empirical evidence from Asia. The analysis was performed by integrating GIS data with DHS data and utilizing logistic regression and random forest models to assess associations between climate related geospatial variables and gender equality outcomes for selected countries.
- 27 V.E. Balian, H. Segers, C. Lévêque and K. Martens (2008). [The Freshwater Animal Diversity Assessment: an overview of the results](#). [Hydrobiologia](#) 595, 627–637.
- 28 See for example L.A. Goodman, K.F. Smyth, A.M. Borges and R. Singer (2009). [When crises collide: How intimate partner violence and poverty intersect to shape women's mental health and coping?](#). [Trauma Violence Abuse](#), 10(4), 306–329; E. Fulu, R. Jewkes, T. Roselli and C. Garcia-Moreno (2013). [Prevalence of and factors associated with male perpetration of intimate partner violence: findings from the UN Multi-country Cross-sectional Study on Men and Violence in Asia and the Pacific](#). [The lancet global health](#), 1(4), e187–e207; F. Samuels, N. Jones, and T. Gupta (2017). ["Tackling intimate partner violence in South Asia: Why working with men and boys matters for women"](#). Overseas Development Institute.
- 29 Center for International Forestry Research (2016), [Poverty and environment network global database](#).
- 30 S. Serrao, S. Duerto Valero, J. Campbell and M. Gilligan (2019) [Mainstreaming gender in environment statistics for the SDGs and beyond: Identifying priorities in Asia and the Pacific](#).

