

# Towards integrating gender in environment statistics: New developments and initiatives on the measurement of the gender-environment nexus

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**Why is a gender angle important?**

## To design inclusive & holistic policies

### Deaths, injuries & health services

- Gender differentials based on locations, jobs, different access to healthcare, types of care available

### Displacement

- Refugees/IDPs, dependents/family reunification, access to essential services in camps and shelters, incl. rep. health & hygiene, safety

### Capacity to cope

- Ownership of land & livestock, access to financing, type of employment (formal/informal), sector of employment (climate sensitive)

### Time use

- Unpaid childcare, adult care, care for the sick, unpaid domestic (cleaning, cooking), water collection, firewood collection, animal feeding

### Decision making

- Representation in Ministries, Forest committees, power utilities, shelter management, rebuilding, purchases

### Environmental conservation and degradation

- Sustainable consumption, engagement in polluting industries, green jobs, environmental livelihoods

## Monitor implementation of existing strategies (national and international)



SUSTAINABLE DEVELOPMENT STRATEGIES /  
NATIONAL SDG IMPLEMENTATION PLANS /  
NATIONAL DEVELOPMENT PLANS



NATIONAL DISASTER MANAGEMENT STRATEGIES,  
SENDAI



ENVIRONMENTAL ACTION PLANS, WATER  
MANAGEMENT PLANS, ENERGY STRATEGIES



ACTION PLANS ON GENDER EQUALITY AND  
WOMEN'S EMPOWERMENT, BEIJING GOALS, CEDAW

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## Identifying gender & environment indicators

## Measuring the gender-climate change nexus: indicator frameworks

### 1) Disaggregate data for indicators in international frameworks (at multiple levels)

SDG indicators

Sendai Framework indicators

Global set of Climate Change Indicators

Global Biodiversity framework, SEEA, and many others

### 2) Generate data for additional indicators to fill information gaps

#### GENDER-ENVIRONMENT NEXUS: INDICATOR FRAMEWORK FOR ASIA AND THE PACIFIC

A. Land and biodiversity

B. Natural resources including food, energy and water

C. Climate change and disasters

D. Sustainable consumption, production and waste

E. Health, well-being and sanitation

F. Environmental decision-making

#### ADDITIONAL INFORMATION GAPS (SUGGESTED BY EXPERTS)

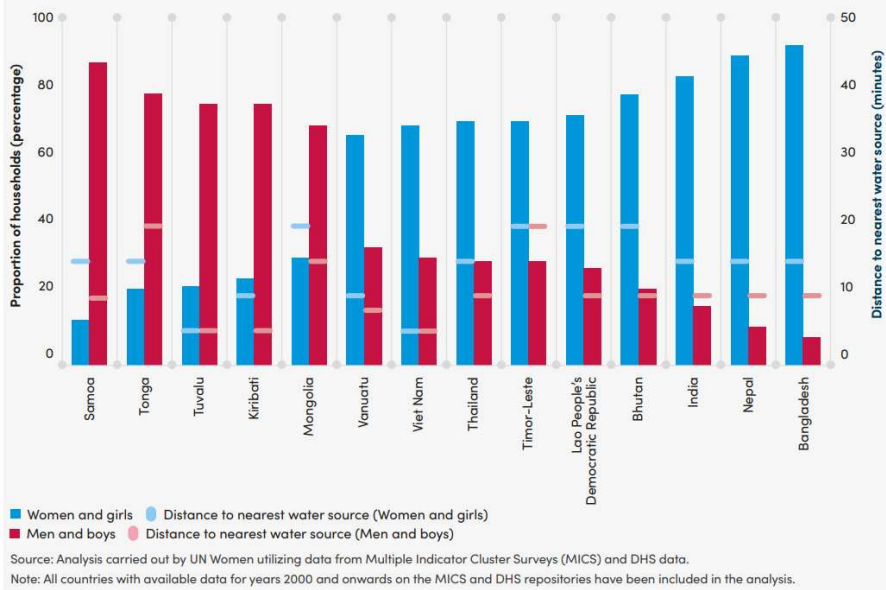
- Women in environmental conservation roles
- Gender differentials in environment related displacement, migration
- Environment-related conflict
- Rural women's leadership and traditional knowledge
- Gender based violence in the context of environment/disasters
- Etc.

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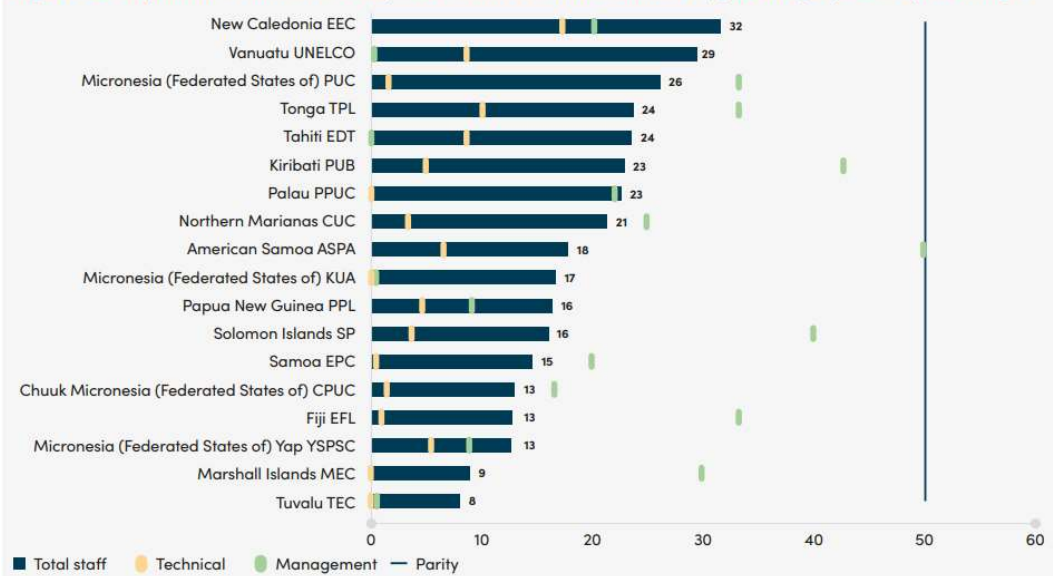
**How do we measure  
these issues?**

## Gathering available data: reprocessing and collating

**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)



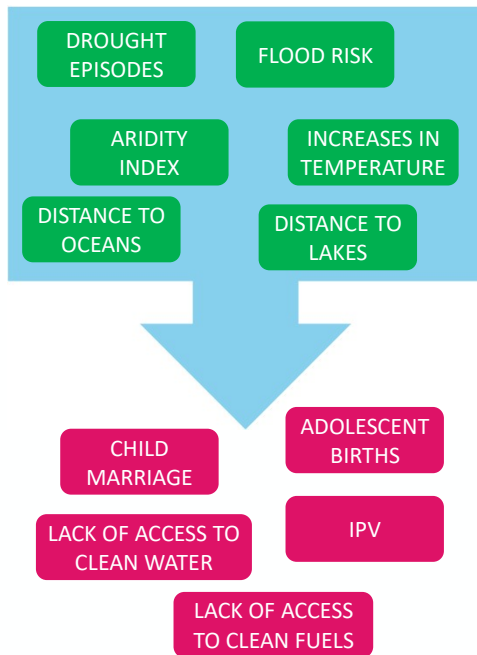
**Figure 12:** Proportion of staff in Pacific power utilities that are women, by job category, 2018 (percentage)



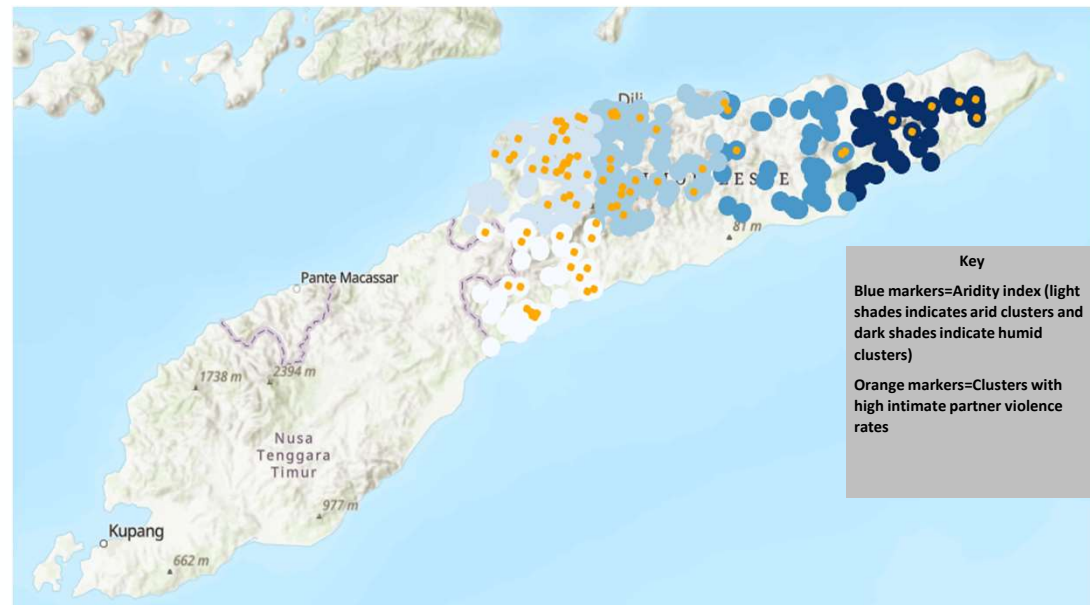


## Integrating various data sources

Multivariate logistic regression and Random Forest models



GEOGRAPHICAL DISTRIBUTION OF HIGH RATES OF INTIMATE PARTNER VIOLENCE IN THE PAST 12 MONTHS, BY CLUSTER ARIDITY, TIMOR-LESTE

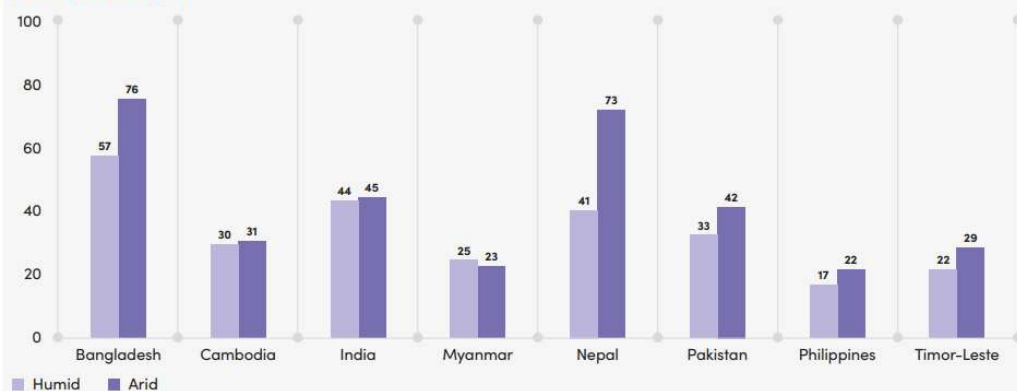


**Key for interpretation:** The gradient of blue color represents aridity index -- lighter shades of blue representing lower relative humidity (arid clusters), and darker shades indicating higher relative humidity. The orange dots represent clusters with high intimate partner violence rates (top 25% of cluster values). The map indicates that arid clusters (light blue region) are more likely to see higher intimate partner violence in the past 12 months.

Source: Duerto Valero, Kaul et al, UN Women (Forthcoming)

## Filling gender data gaps: Integrating various data sources

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

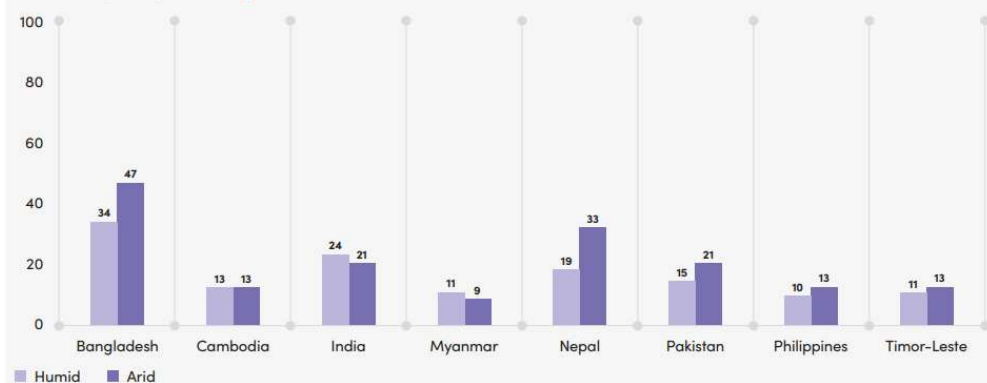


Source: UN Women calculations based on DHS data and geospatial data from DHS Geocovariates for 2015.

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.

## New data collection instruments: Gender Environment Surveys



- Measure how women and men interact with the environment for pay/profit, subsistence, leisure, tradition religion or others
- Can be implemented in full or in attachment to other surveys as long as there are two adult respondents of different sex per household
- Sampling must go beyond economic engagement

Module number	Module name	Type of module
Module 1	Household roster	Household
Module 2	Housing characteristics: Location, building materials, fuel, water and sanitation	Household
Module 3	Individual characteristics	Individual
Module 4	Disaster exposure, preparedness and consequences	Individual
Module 5	Exposure to, and preparedness for, climate change related effects	Individual
Module 6	Employment in the green economy	Individual
Module 7	Agriculture and land use	Individual
Module 8	Environment-related livelihoods	Individual
Module 9	Assets ownership	Individual
Module 10	Decision making and mobility	Individual

- Direct exposure to hazards and effects of CC (UNDRR Hazard Info.)
- Early warning/related information
- Preparing/Coping (e.g. preserving food, seeds, eating less)
- Effects on livelihoods: agricultural yield, livestock, fish catch, fishing/harvesting/foraging times
- Effects on unpaid work burdens: lengthen times for care, domestic work, water, fuel
  - Effects on the environment: apply pesticides/antibiotics
  - Engagement in green jobs
  - Engagement in conservation
- Participation in environmental decision-making

Nationally representative survey completed in Mongolia. Pilot in Bangladesh. Data collection currently on-going in Tonga. Planned for Samoa (February), Solomon Islands and Kiribati (2023). Interest expressed from other countries.

Questionnaire available at [data.unwomen.org](https://data.unwomen.org); guidelines forthcoming.

## Additional tools to implement the survey



Sampling Guidelines



CAPI Script (CSPRO, Survey solutions)



Enumerators manual



Training materials



Indicator metadata

INFORMED BY  
TESTING/PILOTING

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**Ensuring the new  
measures are useful**



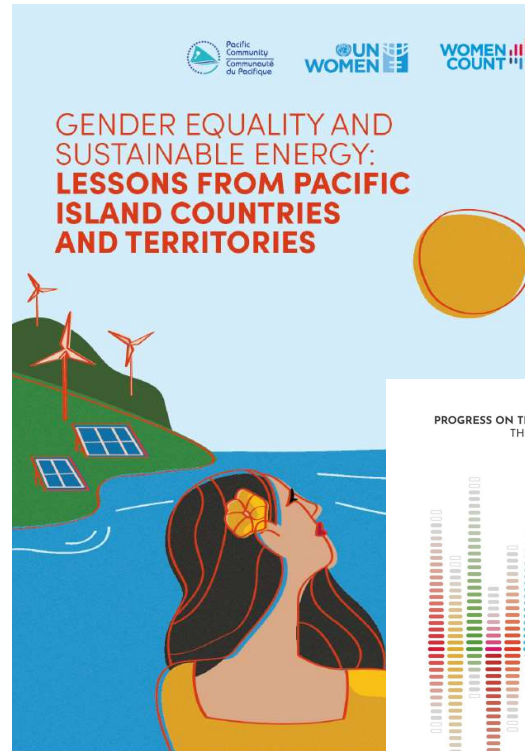
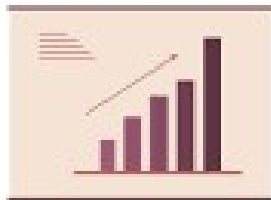
# Promoting gender data use

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.



# Thank you

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