

# Using big data to measure the nexus between environment and gender in Asia and the Pacific

Concept note

## Background

The nexus between the environment and gender has been of interest in recent years, with the 2030 Agenda for Sustainable Development providing renewed impetus to the discussion. The Agenda calls for a better and sustainable future for all, making it implicit that development cannot progress without addressing inequality, discrimination and exclusion affecting women and men in all spheres, including in relation to the environment. However, the critical links between gender and environment are not well understood and gaps in data availability impede progress assessment. National level measurement in this area has been inadequate and further development of international standards and guidelines is needed to advance national level development.

In response to this challenge, and to better understand the environment-gender nexus, UN-Women and ESCAP partnered with UNEP and the International Union for Conservation of Nature (IUCN) to put forward a proposal for an Environment-Gender Indicators Set that could capture issues of relevance for Asia-Pacific countries in the form of a 2019 working paper<sup>1</sup>. At the Seventh Session of the Committee on Statistics, the Committee welcomed the initiative and encouraged continuation of this work<sup>2</sup>. This set of indicators is not meant to be prescriptive nor for compulsory reporting. Rather, it has been envisaged as a guidance tool for countries interested in measuring this nexus in their own national contexts. The set includes a combination of indicators taken from the Sustainable Development Goals framework and from other existing frameworks, including the Sendai Framework for Disaster Risk Reduction 2015- 2030 and the International Standard Classification of Occupations (ISCO-08).

Further, as noted at the 7<sup>th</sup> Session of ESCAP's Committee on Statistics<sup>34</sup>, many National Statistical Offices (NSOs) in Asia and the Pacific region are increasingly pioneering the application of non-traditional data sources to supplement or even replace survey and administrative data. They have specifically utilised non-traditional data sources to measure important social and demographic indicators in cases where relevant data are missing or deficient. ESCAP Statistics Division also published a working paper in 2021 on big data for the SDGs highlighting examples of countries with existing applications of non-traditional data sources for producing SDG indicators<sup>5</sup>.

Big data could thus be used as a data source for producing appropriate indicators relevant to the environment-gender nexus in a cost-effective and sustainable manner. However, access to big data sources and the needed legislative frameworks are key obstacles to progress in that area as identified

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<sup>1</sup> ESCAP, UN Women, UN Environment, and IUCN, [Mainstreaming gender in environment statistics for the SDGs and beyond: Identifying priorities in Asia and the Pacific](#)

<sup>2</sup> ESCAP, Seventh Session of the Committee on Statistics, [Report of the Committee on Statistics on its Seventh Session](#)

<sup>3</sup> Ibid, [p.19]

<sup>4</sup> ESCAP, Seventh Session of the Committee on Statistics, [Work of the secretariat and partners on mainstreaming gender in environment statistics](#)

<sup>5</sup> ESCAP, UN Statistics Division, and Statistics Denmark, [Big Data for the SDGs: Country Examples in Compiling SDG Indicators using Non-traditional Data Sources](#)

by the Expert Group Meeting (EGM) on the Uses of Big Data for Official Statistics<sup>6</sup>. In response to the recommendation by the EGM on the need for clear guide, ESCAP is developing a guidance on key consideration for the use of big data for official statistics.

The Environment-Gender Indicators Set and guidance on big data for official statistics form a strong foundation for developing a better understanding of the environment-gender nexus. The next step is their application starting with using big data to produce a few the indicators.

## Objectives

This project aims to support the beneficiary countries to utilize big data for piloting the production of a sample of environment-gender indicators to assist the countries in improving the availability, inclusiveness, and sustainability of quality data and official statistics. The project team will work closely with NSOs from the beneficiary countries to explore the possibility of collecting and analyzing big data to produce the pilot indicators and develop national strategies on the use of big data for producing the indicators.

## Timeframe

September—December 2022

## Countries

The project will support two beneficiary countries to pilot data collection and analysis for the sample indicators. Key consideration is placed on the countries' desire to develop a better understanding of the environment-gender nexus and to explore the potentials for big data as a viable data source for social and demographic measurements.

Additionally, participation of a beneficiary country in the project is conditioned by the country's ability to accommodate a close working arrangement between the local consultant and staff from the NSO. Both the local and international consultants will work with the NSO to build a better understanding of the concepts and big data required for producing the pilot indicators. The consultants will also conduct needs assessment and stakeholder mapping, as well as work with the NSO to generate insights for strategy development and workshop organization.

Priority is given to countries with special needs (least developed countries, small island developing states and landlocked developing countries). Additional criteria will be based on the availability of and access to big data sources relevant to the project.

## Methodology

An international consultant will initiate the project by developing relevant guiding framework outlining the required data source, data collection approach, and method of computation for the pilot indicators. The guiding framework should reflect insights from the aforementioned ESCAP working papers and corresponding metadata. A key emphasis will be on data disaggregation by sex and developing a strong rationale for using the indicators to potentially produce official statistics and support national policymaking for inclusive and sustainable development.

Following the guiding framework development, local consultants will be engaged to support the international consultant in facilitating two national workshops. The first will take stock of existing data,

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<sup>6</sup> ESCAP, [Report of the Expert Group Meeting on the Uses of Big Data for Official Statistics: Data Governance and Partnership Models](#)

data-sharing ecosystem, and NSOs' capacity to use big data, while the second workshop will focus on presenting findings to management for their approval.

Guided by their international counterpart, national consultants will conduct a series of training sessions in between the workshops to improve NSOs' understanding of the concepts and big data required for the pilot indicators, and to coordinate data collection and analysis through engagements with big data holders and relevant national stakeholders.

The international consultant will support the NSOs to develop a living national strategy for each of the beneficiary country to guide the use of big data for developing the pilot indicators. The ESCAP guidance on key considerations for the use of big data for official statistics should form the basis for the development of national strategies. In particular, the strategies should analyze the flexibility of regulatory frameworks in enabling access to third party data, potential partnership models (i.e. Memorandum of Understanding with the data holder, etc.), and data protection and privacy concerns. Mechanisms for involving national stakeholders, budget allocation and procurement for data management infrastructures (i.e. hardware and software for data collection, analysis, storage, etc.), and data quality assurance should also be included in the strategies. In line with the living nature of the document, the beneficiary countries should commit to updating the national strategies on a regular basis.

The national strategies should at the minimum contain information about:

1. Rationale for using big data to produce environment-gender indicators
2. Main stakeholders, data partnership models and data flow
3. Enabling regulatory framework and legal basis governing the use and storage of data
4. Statistical indicators and quality assurance considerations
5. Opportunities and challenges

## Support

Although the NSOs will be leading the implementation of the project, the international and national consultants will provide extensive support. Due to the current difficulties associated with international travel, the project will be supported through a combination of remote technical guidance and national consultants engaged to support the process. The following experts hired by and reporting to ESCAP will help the NSOs to implement the project:

- **International consultant:** On a part-time basis, the international consultant will provide technical support to the country and guide national consultants. S/he will design the training materials, determine suitable data-sharing partnership model with big data holders if necessary, and guide the national consultants on data availability and capacity assessments. The international consultant will lead on the development of the national strategies accounting for insights from NSOs, national consultants and the ESCAP guidance on the uses of big data for official statistics. S/he will conclude the project by producing a completion report and organizing a regional workshop to share outcomes and explore interests from other countries in the region to undertake a similar project.
- **National consultants:** Two full-time national consultants will provide in-person support to the two beneficiary countries. As the in-country experts, the national consultants will work closely with respective NSOs to carry out data availability assessments and conduct stakeholder consultations. They will also analyse NSOs' capacity to use big data, administer hands-on

trainings, and organize two national workshops per country to finalise the production of the pilot indicators. The national consultants will offer substantive and administrative support to the international consultant to organize the regional workshop. They will also support the international consultant in developing the national strategies and completion report by collecting relevant information and data.

Funds are earmarked for the four national workshops to be held in a hybrid format. The regional workshop will be virtual requiring minimal fund.

## Activities

The nascent nature of the use of big data for producing the pilot indicators requires a series of consultations and validations iterating throughout the project. The NSOs will take ownership of the project with extensive support from the international and national consultants. The project will include the following types of activities:

- **Organizing a national workshop:** To formalize the inception of the project and identify existing data availability, NSOs' technical and institutional capacities to utilize big data, and areas for improvement to facilitate the trainings.
- **Conducting hands-on trainings:** To address challenges identified during the national workshop, identify suitable partnership model with big data holders if necessary, improve capacity of NSOs to use big data for producing the pilot indicators, and generate required information and data for the strategies and completion report.
- **Organizing a final national workshop:** To finalize the production of the pilot indicators using big data and present findings to key stakeholders at the NSOs and ESCAP for approval.
- **Organizing a regional workshop:** To share outcomes from the project at the regional level and explore interests from countries in the region to undertake a similar initiative.

## Language

The support included in this project will be provided in English, although the national consultant is expected to be fluent in the national language.

## Suggested Programme

This indicative programme aims to outline different activities to be undertaken as part of the project and their approximate timing. The exact dates will be determined by the countries and consultants.

<b>Work plan 2022</b>	
<b>Key activities</b>	
• <i>4 x National workshops (2 for each country)</i>	<i>September— December 2022</i>
• <i>National strategy development</i>	<i>September— December 2022</i>
• <i>Completion report drafting</i>	<i>December 2022</i>
• <i>Regional workshop</i>	<i>December 2022</i>
<b>Consultancies</b>	
• <i>4 months (part-time) x 1 international consultant to design the training materials, identify suitable partnership model with big data holder if necessary, and guide national consultants on the implementation of the in-person national workshops. The international consultant will produce a completion report and organize a regional workshop to share outcomes from the study and assess other countries' interest in undertaking a similar project.</i>	<i>September— December 2022</i>
• <i>2 months x 2 national consultants to facilitate in-person, country-specific national workshops to assess data availability, identify data gaps, and determine NSOs' capacities to utilise big data. The local consultants will work closely with NSOs to improve their understanding of the concepts and big data required for the pilot indicators, and to coordinate data collection and analysis involving various national stakeholders. The two national consultants will also offer substantive and administrative support to the international counterpart on national strategy development, regional workshop organization, and completion report drafting.</i>	<i>September— December 2022</i>
<b>Workshops</b>	
• <i>4 x 1-day national workshops (2 for each country)</i>	<i>September— December 2022</i>
• <i>1 x 1-day regional workshop</i>	<i>December 2022</i>