

Nature's contribution to poverty alleviation, human wellbeing, and the SDGs (Nature4SDGs)

The Nature4SDGs project was a 2-year collaboration between academic institutions in UK, India, and Sweden. We leveraged multiple existing datasets on the relationship between nature and wellbeing, and how this varies for different types of people in varied parts of the Global South. We aimed to support the delivery of Agenda 2030 by understanding trade-offs and synergies between SDGs, and the challenge of sustainable development that leaves no one behind.

Agreed in 2015 by all the countries of the United Nations, the Sustainable Development Goals of Agenda 2030 represents a blueprint for enabling humanity to achieve a sustainable future, in which all people can flourish while protecting the environment on which we all depend. Delivering on Agenda 2030 will require (a) measurement of the progress towards relevant indicators and (b) understanding how policies and interventions can effectively lead to progress on different indicators. Governments are now starting to report annually on the set of 230 indicators originally identified.

Despite the focus on indicators for individual SDGs, they are linked together leading to possible synergies but also trade-offs. For example, the 2018 SDG report highlights that pressures for food, energy, and shelter have increased land degradation, threatening the livelihoods of over one billion people. Agenda 2030 thus has to be delivered holistically and the trade-offs and possible synergies between the SDGs need to be understood. In many cases, marginalised people, whether the poorest or women, have different relationships with nature that are not well represented by data aggregated at the national level. For example, improvements in national-level indicators of food security may hide the fact that the poorest are getting hungrier. Therefore, to fulfil the SDGs' overarching aim to 'leave no-one behind', we need to understand how nature-wellbeing relationships are experienced by marginalised groups so that appropriate policies can be put in place that support everybody. This project will significantly improve our understanding of the complex interactions between people and the environment required to make progress in achieving the Agenda 2030, particularly SDGs 1 (no poverty), 2 (zero hunger), 10 (reduced inequalities), and 15 (life on land).

Our objectives were to:

- (i) assess the contribution of nature to multidimensional human wellbeing at local level, focusing specifically on the experience of the poorest;
- (ii) analyse the policies and contextual factors at various scales which drive the observed relationships between nature and wellbeing; and
- (iii) determine how well local, socially disaggregated nature-wellbeing relationships are reflected in national-level and modelled data used to report on the SDGs.

To do this, we drew on recent data sets from seven projects from the Ecosystem Services for Poverty Alleviation programme and one closely aligned project. These fine-grained social-ecological datasets combined quantitative household survey data with qualitative contextual data from 11 sites in the Global South with varying levels of intervention and degradation. Combining data from these different sites provided us with the unique opportunity to deliver new insights into the contribution of nature to human wellbeing at the local level, and how this is influenced by different biophysical, socio-economic, and policy factors. Practically, our cross-site comparison improved understanding of how key policies (particularly related to

conservation and agriculture) affect the nature-wellbeing relationship. Furthermore, we reviewed how such local-level nature-wellbeing interactions are reflected in national-level data and models (Co\$tingNature and FEEDME) of ecosystem services and SDGs. By engaging with policymakers in the countries where the original data were collected (particularly India) we aimed to contribute to the development of rigorous sustainable development indicators, more appropriate environment-related policies, and interventions that ensure that no one is left behind.

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