



Women farmers in Tajikistan (NEIL PALMER/IWMI)

# WLE's contributions to the SDGs

A fundamental shift occurred with the launch of the Sustainable Development Goals (SDGs). For the first time world leaders have agreed upon an agenda in which sustainability is at the heart of development. The prioritization of sustainability clearly echoes the ecosystems-based approach that is unique to the CGIAR Research Program on Water, Land and Ecosystem (WLE): sustainable economic development can only be achieved by protecting, managing and leveraging our planet's ecosystems and their services to poor and marginalized communities.

WLE, as an integrative CGIAR Research Program, and through the efforts of its 12 partners centers plus FAO has made several contributions to the formulation of specific goals and indicators.




## Concrete support for the SDGs

Partners in the CGIAR Research Program on Water, Land and Ecosystems have been contributing to the SDGs in three key ways:

1. Supporting work around the development of indicators (ongoing)
2. Supporting national governments to development implementation and monitoring and evaluation plans (tool development ongoing, government engagement planned).
3. Conducting research relevant to the SDG process (ongoing) and providing options to ensure countries can reach the goals.

## Primary Indicators to which WLE is contributing

While WLE's work is relevant to many of the SDGs, six have been highlighted here. WLE also works on targets related to No Poverty, Good Health and Well Being and Sustainable Cities and Communities.

 <p><b>2 NO HUNGER</b></p> <p><b>2.4: Sustainable food production systems and resilient agricultural practices</b></p> <p>Work on Indicators through SDSN for genetic resources, crop diversity, soil carbon and eutrophication</p>	 <p><b>6 CLEAN WATER AND SANITATION</b></p> <p><b>6.2: Adequate and equitable sanitation</b> <b>6.3: Water quality</b> <b>6.4: Water-use efficiency</b> <b>6.6: Protect and restore water-related ecosystems</b></p> <p>WLE has worked extensively with UN-Water led working groups on indicator development, and more recently the new GEMI (Global Expanded Water Monitoring Initiative) for targets 6.3-6.6</p>	 <p><b>15 LIFE ON LAND</b></p> <p><b>15.1: Conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems</b></p> <p>Development of cross-cutting indicators. Working with GIZ and UNCCD on indicators especially for sub-national level. WLE is collaborating with conservation organizations to "translate" natural resource outcomes into human well-being indicators for SDG 2, 3, 6, 7, 11 &amp; 13 with its MESH model.</p>
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## Contributions during implementation

 <p><b>5 GENDER EQUALITY</b></p> <p><b>5.5 Full and effective participation</b> <b>5.7 Equal rights to natural resources</b></p> <p>Working through flagships to identify barriers and opportunities to increase access and participation specific research on the human right to water for all</p>	 <p><b>7 CLEAN ENERGY</b></p> <p><b>7.2: Energy efficiency</b></p> <p>Together with CCAFS, piloting an innovative solar irrigation scheme to support integrated energy-water-climate-livelihood solutions</p>	 <p><b>13 PROTECT THE PLANET</b></p> <p><b>13.1: Resilience for climate related hazards</b></p> <p>Developing practical approaches to identify where, when and how improved water and land management strategies can increase resilience of agro-ecological landscapes</p>
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## Support to the development of targets and indicators

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WLE has worked through two tracks to engage in the establishment of targets and indicators over the past two years.

The first is through UN processes where WLE (via IWMI) has proposed or assisted in the final formulation of targets under Goal 6. WLE worked through the UN-Water **Global Expanded Water Monitoring Initiative** (GEMI) funded by SDC. The main points WLE contributed to after the targets were set, included:

- For 6.2 + 6.3: Supported the data collection during piloting of the **“framework for measuring fecal waste flows and safety factors”** which is proposed as a/the data collection framework for indicators 6.2.1 and 6.3.1. WLE will be involved in reviewing the proposed methodology together with WHO.
- For 6.3: Co-representing FAO, suggested an accounting approach like in Aquastat’s wastewater database to capture **% waste water (domestic) safely treated and reused**. WLE was the only reference on reuse assessment in a data scarce environment.
- For 6.4: Pushed for (a) the explicit inclusion of **environmental water requirement (EWR)** within a primary indicator **“Sustainable water withdrawal index”**, and (b) for a smart inclusion of water productivity/efficiency as indicator. Promoted use of water productivity mapping, water accounting + and use of remote sensing data.
- For 6.5: Showed our experience with indicators for **measuring water cooperation**, which were pilot-tested in 3 trans-boundary basins in southern Africa (Saruchera and Lautze, 2015).
- For 6.6: Discussed a new primary indicator – **“Natural water capital index”**. While “natural capital” in general is widely used, the task team developed a measure specifically for water sources/ bodies. Developed a draft methodology for primary indicator **“Percentage of change in water-related ecosystems over time,”** which is being pilot tested in South Africa. Organized workshop on the potential contribution of Earth observations to monitoring 6.6.
- WLE/IWMI also contributed experience on water accounting, water productivity, floods and droughts and irrigated area mapping using remote sensing to the cross cutting **“Earth Observations, Novel Data and Data Integration GEMI Task Team”**.
- For 15, WLE/CIAT is **working with the UNCCD Land Degradation Neutral Initiative** to support governments to monitor the three adopted indicators, land use change, land productivity and soil carbon. Currently undertaking review of methods to monitor these indicators, within national frameworks and processes, and will pilot recommendations

To bring greater attention to crosscutting issues, i) WLE has staff in the **UN World Water Assessment Programme (WWAP) Gender and Water Indicator group** (n=30) hosted by UNESCO; ii) WLE/IFPRI contributed to a review coordinated by the International Council for Science (ICSU) and the International Social Science Council (ISSC) pointing at likely **tradeoffs between goals and targets** which need to be monitored together; and iii) WLE through **CIAT** has been working on goal 15.2 (related to the sustainable management of forests) and emphasizing the need for **integrated targets and indicators**.

The second avenue has been through the **Sustainable Development Solutions Network** under the Thematic Network (TN) on **Data for Sustainable Development** and the Thematic Group on **Forests, Oceans, Biodiversity and Ecosystem Services**. Researchers from ICRAF proposed five key principles towards implementing a decision analysis approach that were published in [Nature](#):

- **Replace targets with measures of return on investment:** decision makers should invest where the likelihood of positive returns for people and environment are the highest
- **Model intervention decisions:** instead of starting out by defining indicators, consider the interventions needed to reach a certain goal first, then identify relevant indicators
- **Integrate expert knowledge:** expert knowledge can help fill gaps and improve decisions where data is sparse
- **Include uncertainty in modeling activities:** considering the unknown, including social and behavioral factors, is key to making sound assumptions
- **Measure the most informative factors:** don't waste money measuring and tracking indicators that have little relevance

WLE Bioversity staff has also been engaged over the past two years with the **SDSN Forests, Oceans, Biodiversity and Ecosystem Services Group** to propose and review indicators for goals on Agriculture, Oceans and Terrestrial Systems. WLE staff encouraged:

- The adoption of more integrative indicators on soil quality, eutrophication, land conversion to move beyond traditional and less-insightful indicators used in the MDGs. Currently appropriate definitions and metrics for Eutrophication are being reviewed by the UN Stat IAEG.
- The establishment of a Technical Review Panel to update and integrate new data and indicators as they become available over the lifespan of the SDGs to ensure the best monitoring system possible is in place. An idea echoed in the IAEG paper on the Data Revolution: "A World that Counts" in a UN-led Global Partnership of Sustainable Development Data.

## Support to national governments to develop implementation and monitoring and evaluation plans

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Other WLE efforts are being implemented which we expect to contribute to the implementation of the SDGs in due course including supporting countries to develop context specific targets and indicators as well as developing new thinking around implementation of the SDGs. Some key examples are provided below.

WLE through Bioversity is leading the [Making Ecosystems Count in the Sustainable Development Goals \(SDGs\)](#) project which seeks to understand how the emerging UN Sustainable Development Goals can be broadly leveraged for nature conservation and human well-being. with funding from WLE, the [CGIAR Research Program on Policies, Institutions and Markets](#) (PIM), as well as the [National Center for Ecological Analysis and Synthesis](#) (NCEAS) and [The Nature Conservancy](#). With the contribution of multiple CGIAR centers and partners, the group has developed a new ecosystem service modelling platform MESH ([Mapping Ecosystem Services to Human wellbeing](#)) to link landscape-level management actions to outcomes for SDG targets. The tool is in beta-testing phase and can currently be run using imported or existing data-sets. Future releases planned for 2016 are currently being tested against World Bank investments in the Volta Basin.

In Phase 2, building on collaborations with UNEP and FAO, WLE will play a role in working on sustainability indicators for agriculture intensification with agri-food systems CRPs and other integrating programs across the CRP portfolio. It will apply a landscape approach to enhancing the productivity, nutritional security, sustainability, equity, and overall resilience of agricultural ecosystems.

## Research relevant to the SDG process

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It is expected that all research conducted through WLE will contribute to the implementation of the SDGs. A number of strategic areas with examples of how the research could directly contribute to specific SDGs are mentioned here.

WLE scientists are working to provide countries in Africa with better land health data that can support both monitoring and decision-making specifically related to SDG 15 on protecting forests and halting land degradation through the [Africa Soil Information Service](#), to which WLE is contributing.

WLE works across the different SDGs to look at trade-offs and costs and benefits of different interventions. For example, IWMI is working on water–energy–food nexus investments in groundwater-stressed western India, including the promotion of innovative solar irrigation pump strategies to enable farmers, who are currently recipients of subsidized electricity, to use grid-connected solar pumps to generate solar power as a cash crop, reducing CO<sub>2</sub> emissions from pumped irrigation, reducing groundwater overdraft, reducing the farm power subsidy bill, and increasing participating household incomes from sale of surplus power to the national grid.

Monitoring water use efficiency targets requires proper water accounting. WLE, together with UNESCO-IHE and FAO, are further developing the [Water Accounting Plus](#) framework. This effort will support better and more effective monitoring of water and improvements in water use efficiency at the basin scale.

Beyond tools and data, WLE scientist have worked on various publications including: a White Paper [on Integrated Landscape Management for the SDGs](#), led by partners at the Landscapes for People, Food and Nature Initiative, an editorial for the journal *Frontiers in Ecology and Environment* on [Ecosystems and human well-being in the Sustainable Development Goals](#); the CBD publication on [Connecting Global Priorities: Biodiversity and Human Health, a State of Knowledge Review](#); and the book “[On target for people and planet](#).”

The CGIAR Research Program on Water, Land and Ecosystems (WLE) combines the resources of 11 CGIAR centers, the Food and Agriculture Organization of the United Nations (FAO) and numerous national, regional and international partners to provide an integrated approach to natural resource management research. WLE promotes a new approach to sustainable intensification in which a healthy functioning ecosystem is seen as a prerequisite to agricultural development, resilience of food systems and human well-being. This program is led by the International Water Management Institute (IWMI), a member of the CGIAR Consortium, and is supported by CGIAR, a global research partnership for a food-secure future. [wle.cgiar.org](http://wle.cgiar.org)

### Contact Us

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