Seven Food System Metrics Developed to Improve Sustainability and Human Nutrition Outcomes

ILSI Research Foundation Publishes Unique Food System Performance Metrics

The world faces an escalating challenge to meet accelerating demand for sustainably-produced, nutritious food in the face of human population pressure, resource scarcity, ecosystem degradation, and climate change. As the ambitious Millennium Development Goals (MDGs) give way to the Sustainable Development Goals (SDGs), about 795 million people globally are still without sufficient calories and at least two billion lack sufficient nutrients.

Filling these deficits in human nutrition needs by expanding food production will be difficult due to the rising impacts of extreme weather and dwindling groundwater resources in many regions. The degree of difficulty is further compounded by the fact that food systems themselves contribute to a large portion of the greenhouse gas emissions that cause climate change, as well as a number of other environmental concerns: soil degradation, water quality and losses in biodiversity.

What can we do to best mitigate risks, build resilience, enhance nutrition and preserve ecosystems? Working with a broad range of knowledgeable stakeholders across the food system, the ILSI Research Foundation has developed and published a new paper giving a unique set of metrics for measuring food system performance. The metrics make it possible to set meaningful goals, track progress, and evaluate the potential impact of food system interventions intended to improve sustainability and human nutrition outcomes.

The work to develop these metrics was carried out over a three-year period using a collaborative approach that involved scientists from around the world – in academia, governments and the private sector. The seven chosen metrics are: (1) food nutrient adequacy; (2) ecosystem stability; (3) food affordability and availability; (4) sociocultural wellbeing; (5) resilience; (6) food safety; and (7) waste and loss reduction. Each metric is scored on a 0-100 scale and comprises multiple indicators. For instance, the ecosystem stability metric combines the following indicators: ecosystem status, greenhouse gas emissions, net freshwater withdrawals, non-renewable energy use and land use.

The metrics were selected due to their importance as measures of the overall food system and its impact on human health, as well as its influence on social, economic and environmental sustainability.

A key guiding principle in the development of the metrics was to avoid needless creation of new metrics or indicators when suitable ones already existed in the literature or in the community of practice.

The food system metrics make it possible, for the first time, to holistically and accurately measure food system performance across all relevant domains of interest: nutrition, environment, economic, social, resilience, safety, and waste.

The paper contains example applications of the metrics to nine countries from several regions and representing much of the development spectrum. Although the paper focused on application of the metrics at the national scale, some or all of the metrics would also have practical utility at smaller geographic scales, or for other applications, such as with individual food items. Thus, the metrics will be of interest to a broad range of food system players, from international organizations to individual farmers. To access the paper, visit http://bit.ly/1TMA20d

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