FACT SHEET

A framework for understanding interactions within the Sustainable Development Goals

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A. Why interactions are important

A group of scientists with the International Council for Science (ICSU), which has advisory functions to the Open Working Group on the Sustainable Development Goals, have been studying the best way to scientifically explain the "indivisible whole" meaning of the 2030 Agenda for Sustainable Development[1]. They view the three dimensions of sustainable development that the 2030 Agenda outlines—economic prosperity, social justice and environmental protection—as "intertwined", like three strands of DNA. Their preliminary scientific analysis concludes that while the 17 Sustainable Development Goals (SDGs) have a clear starting point in one of the three dimensions of sustainable development, most embed all three dimensions within their targets.[2]

Based on a proposal from the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), this group of scientists singled out SDG 6: "Ensure availability and sustainable management of water and sanitation for all" to illustrate their conclusion. The sixth SDG, as the collaborating scientists emphasize, contains targets related to the economic (integrated water resources management), social (universal and equitable access) and environmental dimensions (protect and restore water-related ecosystems), with significant interactions with other SDGs. The most commonly discussed set of interactions lies in the nexus between food, water and energy, as reflected in the links between SDG 2, SDG 6 and SDG 7.

Because of these interactions, achieving targets in one goal can lead to positive interactions or synergies with other goals or targets, which can produce mutually beneficial outcomes. Alternatively, there may be negative interactions or trade-offs with other goals or targets. For example, water withdrawals for agriculture can have a detrimental effect on water-related ecosystems. There is also potential conflict between water for energy production through hydropower for residential and industrial uses and water for irrigation for food production use.

The SDG 6 targets interact with a much broader set of targets and goals, such as doubling agricultural productivity (target 2.3), ending the preventable deaths of newborns and children younger than 5 years (target 3.2), ensuring that all girls and boys complete their primary and secondary education (target 4.1),

1 See D. Griggs: A Draft Framework for Understanding SDG Interactions. *International Council for Science*, Working paper (2016)

2 See also N. Weitz, M. Nilsson, and M. Davis: A nexus approach to the post-2015 agenda: Formulating integrated water, energy and food SDGs. SAIS Review of International Affairs, vol. 34 (2014), pp. 37–50.

develop quality, reliable, sustainable and resilient infrastructure (target 9.1), improve access to adequate, safe and affordable housing and basic services and upgrade slums (target 11.1) and sustainably manage and protect marine and coastal ecosystems (target 14.2).

B. How to manage these interactions

To better understand the nature and dynamics of these interactions, the ICSU scientists collaborated with other researchers[3] to develop a framework tool to classify the extent to which a relationship is positive or negative, using a seven-point scale.

C. Recommendations

This interactions framework is intuitive, relatively easy to use and broadly replicable. ESCAP and other regional and national bodies should use this immensely constructive tool when designing SDG-related programmes to ensure that synergies with other SDG goals and targets are exploited and that trade-offs are minimized and managed. It also can help in choosing cross-cutting indicators that measure reinforcing interactions between goals and targets, such as water productivity in agriculture (measuring the cost per megalitre of water used) or water used in energy production (megalitres per megawatt hour).

3 See United Nations, Economic and Social Commission for Asia and the Pacific: *A Draft Framework for Understanding SDG Interactions* (Bangkok, 2016); and M. Nilsson, D. Griggs, and M. Visbeck: Map the interactions between Sustainable Development Goals. Nature, vol. 534 (2016), pp. 320–322.

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