REPORT : **SNAPSHOT**

CHANGING DIRECTIONS

Steering science, technology and innovation
towards the Sustainable Development Goals

strings

**Steering Research and
Innovation for Global Goals**

REPORT : **SNAPSHOT**
GLARING PROBLEMS AND RECOMMENDATIONS

This report presents the results of the Steering Research and Innovation for Global Goals (STRINGS) project – a major global study into the alignment between science, technology and innovation (STI) and the Sustainable Development Goals (SDGs). It highlights a glaring mismatch between STI and the SDGs; warns that, if this mismatch is not addressed, it will undermine progress on the SDGs; and makes recommendations about how to tackle this imbalance.

What must change:
The main problems

Our findings show:

A problem of orientations
Most published research (60%-80%) and patented inventive activities (95%-98%) are poorly aligned with the SDGs.

A problem of inequalities
High-income countries (HICs) and upper-middle income countries (UMICs) contribute disproportionally to such misalignment: only 30-40% of research in HICs and UMICs is related to SDGs. In low-income countries (LICs), 60-80% of the research is related to the SDGs, but these countries account for only 0.2% of globally produced research. Since most global research is produced in HICs without collaboration with researchers in LICs (where SDG challenges are most severe), there is little chance that STI can address contextual challenges.

A problem of focus
Even though a majority of stakeholders consider social, policy and grassroots innovations critical to addressing the SDGs, support for these types and forms of innovations, and related research on complex underlying social issues of deprivation, inequality and conflict, lags far behind research and investment in hard technologies.

A problem of knowledge siloes
There is currently too little effort to combine research and innovation on technical interventions with research that more directly addresses complex underlying social issues. This is despite evidence that different types of STI have divergent impacts on SDG targets, leading to synergies and tensions.

A problem of regional misalignment
Countries' research priorities are often not aligned with their main SDG challenges. This is the case for LICs such as India (which does not prioritize research on hunger or gender equality), as well as for most HICs, including the USA, which do not prioritize research on the major environmental challenges associated with unsustainable consumption and production patterns. Globally, military-related research is typically highly funded, but military aims feature nowhere in the SDGs.

A problem of closing off relevant STI pathways
Diverse contexts, priorities, values and interests mean there are many possible STI pathways to address specific SDG-related challenges. However, it remains the case that a single pathway is usually dominant. For example, when addressing SDG 2 (Zero hunger), breeding new seeds in laboratories might be prioritized above conserving and exchanging seeds from indigenous plant varieties. Similarly, closed forms of science might be prioritized over open science practices when addressing neglected diseases in SDG 3 (Good health and well-being).

A problem of data
There is little systematic understanding about what exactly is being supported by STI investments, where, and for what purposes, and a similar dearth of data about what knowledge is being produced and used beyond formal R&D processes. The STRINGS project has pulled together comprehensive data sets, surveys and in-depth case studies to enable decision makers to better understand and shape their options. But a major investment is also needed to gather data about knowledge and innovation investment and production across all contexts and sectors.

The result of the above problems is that the world's efforts in STI are insufficiently contributing to the overarching objectives, encapsulated in the SDGs, that the world has decided matter most.

How to bring about change: Our main recommendations

This report provides evidence and tools to help enable more active debate and exploration of alternative and more inclusive STI strategies, whether within nations, regions or at a global level. It provides several recommendations for research funders, aid organizations, the academic community, development agencies, policymakers, governments and civil society organizations, as summarized below.

Increase funding for SDG-related research and innovation – particularly in LICs; on underlying social issues; social, policy and grassroots innovations; and on issues that are relevant to a region or context – to improve alignment between SDG priorities and STI portfolios.

This includes:

involving a more diverse set of actors and interests in research funding decisions

creating opportunities for more equitable knowledge transfers and capacity-building

enabling more open and participatory decision-making that identifies and implements plural funding priorities

adopting a more holistic approach to research funding design and evaluation, valuing constructive and equitable partnerships, and interdisciplinary and transdisciplinary research

Promote a rich diversity of STI pathways to address specific SDG challenges.

This includes:

ensuring that decisions about which STI pathways to prioritize involve stakeholders affected by those decisions

comparing how different kinds of STI can address different challenges, rather than focusing on advancing specific types of STI

maintaining a diverse and balanced portfolio of research and innovation investments

Design accountable initiatives that strengthen STI governance and support open and inclusive processes of deliberation and prioritization.

This includes:

setting up a global platform observatory to conduct regular surveys of global R&D, its diversity, inclusion, scale, locations, purposes and impacts

bringing together constellations of funders to align how they support SDG priorities

creating global funding pools to maximise the impact on global challenges

Empower stakeholders to form different interpretations of what counts as SDG-related STI.

This includes:

developing and maintaining user-friendly and open analytical tools in collaboration with policymakers and civil society organizations

increasing funding for national data and statistical systems

developing STI databases to better capture activities in social sciences, applied fields, diverse languages and in lower-income countries