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Leveraging creative tension between Sustainable Development Targets for developing micro-macro level collaboration

Anshul Agrawal, Maya Narayan

The Sustainable Development Goals (SDGs) provide a shared blueprint for peace and prosperity of people as well as the planet. Although national governments have been mandated with monitoring progress, it is impossible to achieve the SDG targets by 2030, without the active contribution of other stakeholders like private companies, civil society organisations, etc. However, there is lack of clarity on roles the different stakeholders are expected to play, inadequate accountability mechanisms and the urgent need to create spaces for collective action towards the 2030 Agenda. This situation gives rise to two distinct forms of tensions, among others. Firstly, the inherent power differences between the government, civil society and industry, poses a challenge to collaboration, where they don't see eye to eye on what constitutes "sustainable development. Secondly, progress on SDG implementation is being monitored top-down, while most implementation is taking place bottom-up. In order to deal with these tensions, there is a need to explore the interrelations among different SDGs and their underlying targets. This study explores the merit of using systems thinking to amplify the positive interactions (enablers) between various SDG targets, and mitigate the negative ones (inhibitors) for unlocking their transformative potential.

Keywords; SDGs, Enablers, Inhibitors, Interactions, Tension

Introduction

In 2015, 193 United Nations (UN) member states jointly established the Sustainable Development Goals (SDGs), and committed to achieving them worldwide by 2030. The SDGs provide a shared blueprint for peace and prosperity of people as well as the planet. They comprise 17 global goals and 169 underlying targets that "are integrated and indivisible and balance the three dimensions of sustainable development - economic, social and environmental." (UN General Assembly Resolution, 2017).



Figure 1. Source: A Novel ICT Framework for Sustainable Development Goals

Tensions in implementation of the 2030 Agenda

While governments have the primary responsibility for implementing the 2030 Agenda, various other stakeholders are expected to play either of two roles in contributing towards achieving it: “Holding governments accountable for their actions or lack thereof, and making their own contributions to implement the SDGs.” (UN DESA, 2021). In this regard, although a few member states have managed to institutionalise the global goals by incorporating them into their national plans, progress is either negligible or very slow in a majority of them.

Today, more than ever before, the interdependencies between global social, economic, and environmental systems have been exposed, due to complex issues such as climate change, socio-economic inequities, a global pandemic, etc., which makes us believe that we are living in a world comprising interconnected human and ecological systems that are continually self-organising. As these interconnected global issues continue to affect security and well-being of people and the planet, traversing the boundaries laid down by nation states, the overarching tension faced by countries across the board with regards to implementation of the 2030 Agenda is about how to forego the current siloed approach and advance collaboration, both within as well as externally with each other.

Presently, the implementation of SDGs is overseen by a Global Monitoring Framework, with key touch points at the national, regional as well as global scales. This framework largely follows a top-down hierarchical structure, where national governments have been mandated with monitoring progress against the 2030 Agenda. However, literature on the subject increasingly shows that most action with regards to implementation takes place at the state and local levels. Due to lack of appropriate collaborative structures the dynamic behaviour that unfolds on ground as a result of interlinkages between the different SDGs, is not concretely captured by national governments.

This is mainly because of three key challenges (Bowen et al., 2017) that have been identified as critical to implementing the SDGs:

1. Creating inclusive spaces for stakeholder interaction to nurture collective action;
2. Focusing on equity, justice and fairness while deliberating over difficult trade-offs; and
3. Ensuring accountability mechanisms exist for various actors

As we have stepped into the “Decade of Action”, there is an urgent need to address the systemic nature and scope of the 2030 Agenda, keeping in mind the urgency for remediating the challenges mentioned above. For this purpose, it is imperative that policy makers and other stakeholders analyse critically the nature of interactions across the three SDG domains: Economic, Environmental and Social; and explore how the goals and their underlying targets are interconnected, both within and across the domains. “Understanding possible trade-offs as well as synergistic relations between the different SDGs is crucial for achieving long-lasting sustainable development outcomes.”

Firstly, we need to understand the dynamics that emerge from the interactions between different SDGs, especially between the targets, at local levels. This is critical for identifying enablers and inhibitors that can influence decisions with regards to difficult trade-offs. SDG targets are connected to multiple goals in different ways, such that the viability of one target may either get amplified or constrained, depending on another being realised. Thus careful deliberation is needed in a multitude of ways:

- between different development paths;
- involving different sectors at different spatial levels; and
- factoring in environmental integrity and societal needs

The International Council for Science (ICSU), in its recently launched report titled, “A GUIDE TO SDG INTERACTIONS: FROM SCIENCE TO IMPLEMENTATION”, has specifically studied the interactions among SDG targets, and defined a range of positive (enabling) as well as negative (inhibiting) interactions among different SDGs. (International Science Council, 2019) Using a 7-point scale, scientists evaluated causal and

functional relations emerging from target-level interactions between various SDGs and attributed a score to such interactions, as depicted below:

- ❑ positive interactions were assigned scores of +1 ('enabling'), +2 ('reinforcing') or +3 ('indivisible');
- ❑ negative interactions characterising trade-offs were assigned scores of -1 ('constraining'), -2 ('counteracting'), or -3 ('cancelling');
- ❑ neutral interactions between SDGs were assigned 0.

Considering the example of SDG 7: Affordable and clean energy, which is underpinned by three targets:

1. 7.1 - ensuring universal access to energy services,
2. 7.2 - increasing the share of renewables in the energy mix, and
3. 7.3 - improving energy efficiency

Figure 2. below depict interactions between SDG 7 targets and targets of SDGs 1, 2, 3, 6, 8 and 13.

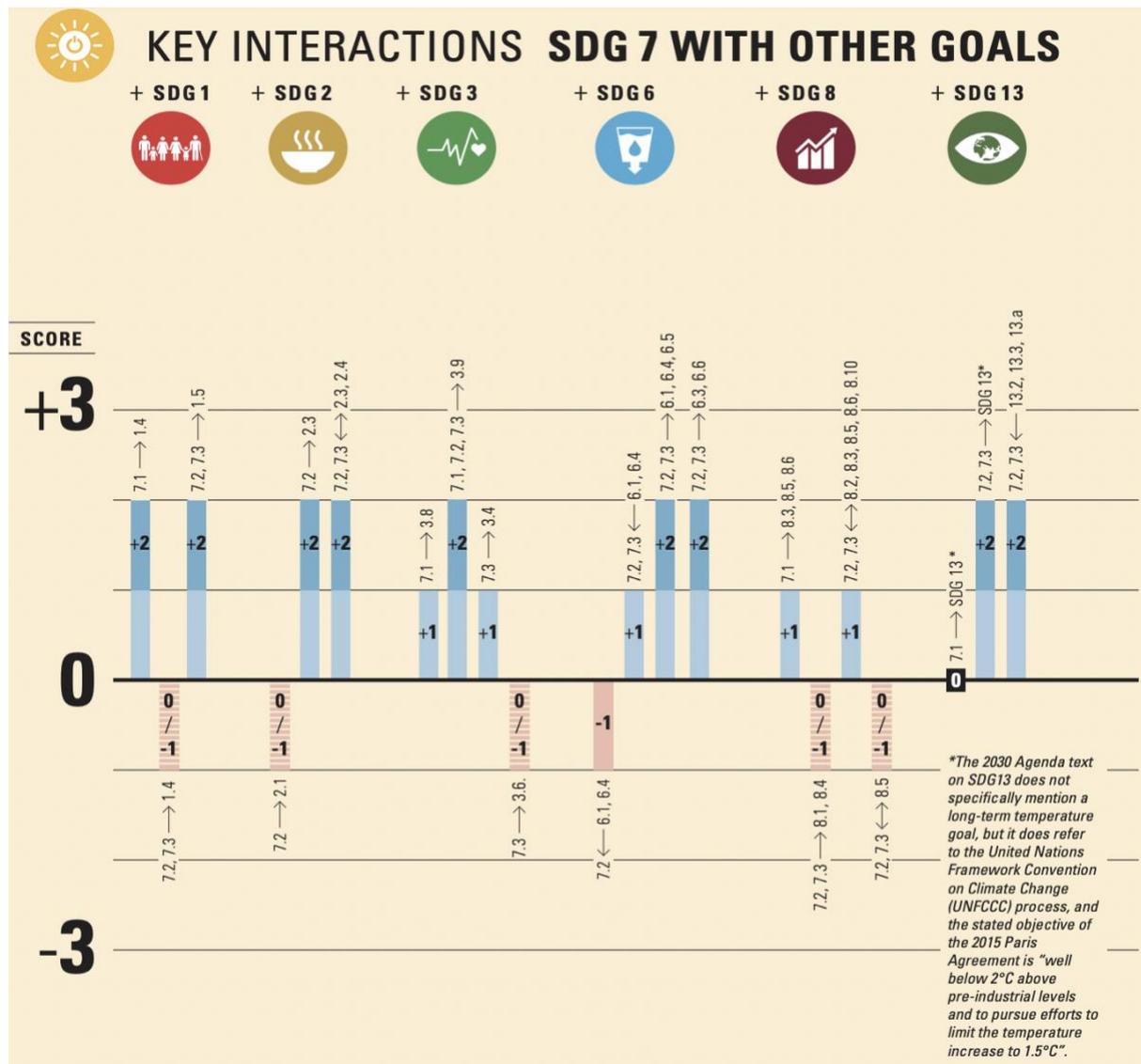


Figure 2. Source: SDG Interactions Report, International Council for Science (ICSU)

Table 1. Illustrates how the interactions between targets of SDGs 1 and 7 have been scored.

Table 1. Source: SDG Interactions Report, International Council for Science (ICSU)

Targets	Key interactions	Scores
7.1 & 1.4	Energy is a basic service, therefore universal energy access reinforces the achievement of 1.4	+2
7.2, 7.3 & 1.4	Decarbonizing the energy system 0/-1 through renewables and efficiency is consistent with the provision of basic energy services as long as policies help to shield the poor from any fuel price increases that may result. Lacking such policies, 7.2 and 7.3 could constrain the options for achieving 1.4	0 / -1
7.2, 7.3 & 1.5	Renewables and energy efficiency are a necessary precondition for limiting global climate change; in turn, exposure of the poor to climate-related extreme events will be reduced	+2
7.1 & 1.4	Energy is a basic service, therefore universal energy access reinforces the achievement of 1.4	+2

Systems thinking for streamlining implementation of the 2030 Agenda

Using some of the findings from this report on SDG interactions, we have derived certain key insights for intervention design for effective implementation of the 2030 Agenda.

- Understanding the behaviour of interactions between SDG targets is both contextual as well as critical to identify enablers and inhibitors
- Different dimensions can be used to contextualise the assessment of specific enablers and inhibitors, providing deeper insights into attributes that the SDG-level and target-level interactions depend on. These include:
 - o Directionality
 - o Governance
 - o Technology and
 - o Time- frame
- Using various systems thinking tools, we should be able to identify leverage points for transforming the identified enablers and inhibitors, as depicted below:



Figure 3. Leveraging creative tension between SDG targets

We are aware that commissioning such a study for all 17 SDGs is a very extensive project, and would require a lot of time and resources. Hence, we aim to conduct a pilot of sorts, by limiting the scope of this study. To help us decide on the particular SDGs we conducted some secondary research, and learnt that four major sectors i.e. food and agriculture, cities, energy and materials, and health and well-being), collectively amount to almost 60 percent of the real economy and hence opportunities in these sectors will be critical in delivering on the 2030 Agenda. (Business and Sustainable Development Commission, 2017) Given these findings we are interested in using a nexus approach, by highlighting interconnections between the following 3 SDGs and their underlying targets:

- SDG 3: Good health and well-being
- SDG 7: Affordable and clean energy
- SDG 8: Decent work and economic growth

As stated previously, we will be using systems thinking tools to evaluate feedback caused by various enablers and inhibitors that can be influenced in order to leverage emergence, bottom-up.

The objective of this study, is to seek answers to the following questions:

1. How can we empirically establish interconnections between different SDGs and targets?
2. How can we design an objective lens to address concerns of co-benefits and trade-offs among different stakeholders?
3. How can we support policy makers and other stakeholders in making more coherent and effective decisions for achieving the 2030 Agenda?

References

International science council. (2019). A Guide to SDG Interactions: from Science to Implementation - International Science Council. Retrieved from International Science Council website

Bowen, K. J., Craddock-Henry, N. A., Koch, F., Patterson, J., Häyhä, T., Vogt, J., & Barbi, F. (2017). Implementing the “Sustainable Development Goals”: towards addressing three key governance challenges—collective action, trade-offs, and accountability. *Current Opinion in Environmental Sustainability*, 26-27, 90–96.

Business and Sustainable Development Commission. (2017). The report of the Business Sustainable Development Commission.