ESSENTIAL CONCEPTS FOR IMPLEMENTING THE SUSTAINABLE DEVELOPMENT GOALS

AN A-Z GUIDE

A-Z GUIDES FOR ENVIRONMENT AND SUSTAINABILITY

Edited by **Frank Biermann, Thomas Hickmann, Yi hyun Kang, Carole-Anne Sénit and Yixian Sun**

ROUTLEDGE

"This meticulously organized A-Z guide arrives at a crucial moment in our global pursuit of sustainable development. It strikes an excellent balance between theoretical depth and practical application. What sets this book apart is its accessibility and clear focus on governance and implementation challenges, making it an invaluable resource for students, policymakers, and sustainability practitioners alike"

–Måns Nilsson, *Executive Director of Stockholm Environment Institute*

"This book is an essential resource for anyone seeking to understand and accelerate progress toward the Sustainable Development Goals. Its accessible format, A-Z structure, and practical examples make complex concepts easy to navigate. Offering valuable insights from global experts with a focus on transformative change, the book will equip policymakers, practitioners, and advocates with tools to drive real impact. To address the halting pace of change, we must redouble efforts to build inclusive societies and a livable planet. This guide is indispensable for shaping a more just, peaceful, and sustainable future."

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"As a youth representative having participated in the processes of the 2030 Agenda, I believe that this book can be very useful to any person willing to understand the problems and challenges related to the implementation of the SDGs. It presents key concepts in an easy-to-navigate fashion. I hope it will help structure the thinking of people who wish to fight for a better world."

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"This book is an invaluable resource for anyone working to advance the Sustainable Development Goals. With contributions from experts worldwide—including researchers from Southern Voice—it offers a clear, accessible, and practical guide to the essential concepts shaping the global effort to implement the 2030 Agenda. At a time of uneven SDG progress and growing urgency, this A–Z guide is a timely tool to help those in academia, policy, and practice navigate complexity and sharpen their contribution to sustainable development."

–Margarita Gómez, *Executive Director at Southern Voice and Visiting Fellow at the Blavatnik School of Government, Oxford University*

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This book provides a highly accessible and user-friendly overview of the essential concepts and terms related to the current global endeavour to implement the Sustainable Development Goals.

With the first decade of the 15-year timespan of the 2030 Agenda now past, the SDGs show limited progress and several goals are even regressing. It is imperative that SDG implementation is accelerated until 2030 and beyond to foster transformations and set the world onto a sustainable and resilient path. The book starts with a thematic introduction to contextualize the topic and set the stage for the individual entries. It then follows an A-Z format, with over 100 entries which describe an important concept or term, using practical examples to illustrate how it connects to the overall debate about sustainable development. It offers swift introductions to key concepts and terms that are discussed and explained by scholarly and policy experts from around the world in a concise and user-friendly way.

The guide is comprehensive in scope, practically oriented and focused on political and societal processes to drive change on a larger scale. With cross-references to related terms in the entries, this book will be a highly valuable resource for students and practitioners engaged with the SDGs and sustainable development more broadly.

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Essential Concepts for Implementing the Sustainable Development Goals

An A-Z Guide

Edited by Frank Biermann, Thomas Hickmann, Yi hyun Kang, Carole-Anne Sénit and Yixian Sun

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Frank Biermann, Thomas Hickmann, Yi hyun Kang,
Carole-Anne Sénit and Yixian Sun
Editors of this A-Z Guide

Essential concepts for implementing the Sustainable Development Goals

An introduction

Frank Biermann, Thomas Hickmann, Yi hyun Kang, Carole-Anne Sénit and Yixian Sun

Sustainable development has been a central concern of the United Nations since the term became popular following the 1987 Brundtland report of the World Commission on Environment and Development. Numerous meetings on sustainable development have been held, and thousands of documents, reports and press releases around this concept have been published. In September 2015, the United Nations General Assembly took a novel and, in their words, 'bold' step by adopting a '2030 Agenda for Sustainable Development' with 17 'Sustainable Development Goals' (SDGs), supported by 169 specific targets. With this new set of documents, the United Nations aims to provide clearer direction for public policies and inspire societal actors to drive sustainable development forward.

The launch of the SDGs was met with immense optimism, as officials at the United Nations and governments expressed strong confidence that this new programmatic framework would serve as a catalyst to 'transform our world for the better by 2030' (United Nations General Assembly 2015: 35). After a decade of policies to implement the SDGs, however, several scientific assessments concluded that 'the world is not on track to achieve the Goals by 2030' (Global Sustainable Development Report 2023: 1). According to the 2024 progress report of the United Nations, only 17% of targets with sufficient data are likely to be achieved by 2030. 83% show limited progress or are even regressing (United Nations 2024: 4). A growing number of studies on the SDGs all point in the same direction. While the 17 SDGs are presented by the United Nations and governments as the so far most comprehensive attempt of a universal policy framework for sustainability, the goals have failed to push political and societal processes to 'transform our world' (Biermann et al. 2022a, 2022b; Hickmann et al. 2024). In turbulent and uncertain times marked by geopolitical tensions, growing inequalities and rapid environmental degradation, the SDGs are facing strong headwinds – and many backlashes. Yet despite these enormous political challenges, there seems to be no alternative. In short, to foster political and societal transformations towards global sustainability and peace, societies must drastically accelerate their efforts to implement the SDGs (Fuso Nerini et al. 2024).

Against this backdrop, this *A-Z Guide* offers an accessible and user-friendly overview of the essential concepts and terms needed to understand the implementation of the SDGs. Crafted in the form of an encyclopaedia, the volume presents 105 entries on important concepts and terms and their links to academic and policy debates. Each entry offers basic definitions of the concept or term at issue, followed by a brief discussion with illustrative examples and forward-looking reflections on science or policy. Together, all entries serve as a key reference for a wide global audience, ranging from students and researchers to policymakers, activists, consultants and other practitioners engaged with sustainable development.

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In the next sections we take stock of global efforts to implement the SDGs, point to governance areas where political changes due to the SDGs have been observed, and discuss calls for reforming the SDGs to make them more transformative. In the final paragraphs we present the main rationale of this A-Z Guide.

Taking stock of the global efforts to implement the SDGs

Owing to their universal reach, broad coverage and the deteriorating state of global sustainability efforts, the SDGs have become a topic for much research and debate in academia and policymaking. Given the centrality of the 17 SDGs within and beyond the United Nations, many programmes and initiatives have been launched to support their achievement. While it is broadly recognized that the SDGs have not led to large-scale transformations, they seem to still have had some influence on political and public discourses. In particular, studies suggest that the SDGs may have changed the framing and understanding of sustainability issues and may have prompted a rethinking of traditional approaches to economic growth, social equality and environmental protection (Biermann et al. 2022a). The goals have also catalyzed a global conversation about sustainability that influenced the language, policies and imaginations of sustainable futures. Other positive developments might be observed regarding some first institutional and normative effects of the SDGs, for example, when new administrative bodies or new policies in support of the SDGs are launched. And yet, research has also shown that these changes often replicate existing priorities and trajectories.

Overall, it remains questionable whether the SDGs could bring about deeper institutional and normative changes. Observable institutional and normative effects have not yet reached the scale that would make the SDGs truly transformative (Biermann et al. 2022b). Also, the SDGs have not generated the deep, systemic changes needed for lasting improvements in public-administrative systems. Many institutions are still insufficiently aligned with the SDGs. Funding, especially large-scale financial commitments, has not been redirected or sufficiently increased for SDG implementation. Moreover, policies are not becoming more stringent or comprehensive, and few new policies are introduced that impose stricter sustainability measures. In addition, binding regulations are lacking that would hold governments, businesses and other stakeholders accountable and responsible for their actions towards the SDGs. In short, the SDGs have not yet led to far-reaching structural, financial, policy or legal changes.

Drawing on the literature, four key governance challenges seem to hamper SDG implementation. First, the voluntary nature of the SDGs allows governments and other public and private actors to implement the goals in a way that benefits their self-interests. State and non-state actors tend to prioritize those goals and targets that are easy to reach, leaving more challenging ones behind. For instance, high-income countries often do not address goals that would require substantial efforts and disrupt business-as-usual processes, or they develop strategies of incremental change while neglecting more complex goals such as reducing unsustainable consumption (SDG 12), phasing out fossil fuels (SDGs 7 and 13), protecting biodiversity (SDGs 14 and 15), raising financial support for poorer countries and strengthening global partnerships for sustainable development (SDG 17) (Biermann et al. 2023). For example, some agri-food multinationals, specifically those exposed to international scrutiny, seem to strategically cherry-pick selected targets to claim their support for SDGs and gain legitimacy for their profit-maximizing practices.

Second, discrepancies are growing between the promises and the actions of governments and non-state actors. While the SDGs are increasingly integrated into strategies and operations of these actors, concerns about 'SDG washing' or 'rainbow washing' have been raised as well, that is, that governments and businesses would make vague or even false claims about their actual contributions to the SDGs. Some businesses may have reframed their practices and portfolios around corporate social responsibility and environmental, social and governance by adopting the new language of the SDGs while not changing their daily practices (Órdoñez Llanos et al. 2022). In fact, state and non-state actors often use the SDGs to legitimize their actions, but if they then fail to deliver on their promised commitments, they may jeopardize the credibility of the SDGs to achieve sustainability transformations. Furthermore, the widening gap between rhetoric and practice delays the implementation of urgently needed action for sustainable development, especially for environmental problems such as climate change, biodiversity loss and land degradation.

Third, many governments seem to fail to mobilize the political will that is needed to prioritize the SDGs in strategies and development plans. In many countries, the implementation of the SDGs has been stymied by a lack of political leadership and political volatility. For example, shortly after adoption of the SDGs in 2015, Sri Lanka established a new Ministry of Sustainable Development to implement the goals. In 2018, however, constitutional conflicts in the legislature led to changes in previously created institutional structures for SDG implementation, with presidential elections in 2019 changing these again (De Zoysa et al. 2020). Brazil, as a second example, was one of the few countries that created a robust institutional framework to coordinate the national targets and indicators for the SDGs and to articulate domestic uptake of the goals, with substantive participation from non-state actors through a new National Commission for the SDGs. However, this commission was dismantled after President Bolsonaro took office in 2019 (Siegel and Bastos Lima 2020) and only later reinstalled when President Lula was elected in 2023. Eventually, institutional instability had negative repercussions on SDG but paved the way for civil society organizations to become key actors in the complex governance of the 2030 Agenda in Brazil (Gehre and Ramiro 2023).

Fourth, the SDGs are not yet fully incorporated in domestic political systems and structures, nor do they foster institutional integration. Admittedly, a few governments, such as Germany, have begun to integrate the SDGs in national strategies and action plans in a comprehensive approach that is reflected in institutional arrangements within the federal government (Bornemann 2014). In many other high-income countries, however, the responsibility for SDG implementation often lies with the ministries of foreign affairs or environment, showing here a more sectoral and siloed approach. Overall, the SDGs have not taken root in most national political systems. Governments seem to be stuck to traditional divisions of tasks between line ministries without effective mechanisms to develop and formulate cross-sectoral policies and programmes that turn the holistic vision of the SDGs into coherent policies.

Governance areas where the SDGs had some political impact

In light of these challenges, a study by Hickmann et al. (2024) has investigated in more detail the actual political changes due to the SDGs. Drawing on an expert survey and a series of online workshops, the study identified five areas where some policies seem to have changed because of the SDGs: global governance, national policy integration, subnational initiatives, private governance and education and learning. Subsequently, five

research groups organized by the Taskforce on the Sustainable Development Goals under the Earth System Governance Project followed up by in-depth studies on each area, offering nuanced answers about a few small but incrementally growing effects of the SDGs and identifying many knowledge gaps.

First, as for global governance, the SDGs have been designed as a framework produced by, and partially for, the United Nations system to streamline sustainable development into global governance. A key mechanism is here the High-level Political Forum for Sustainable Development, which has been set up to track progress on SDG implementation. However, the High-level Political Forum is consistently assessed as being too weak to hold governments to account for their lack of action towards sustainable development. While some international organizations and partnerships have internalized the SDGs in their operations, it remains questionable whether this integration has fully advanced global sustainability governance. Although research has explored the impact of SDGs on diverse areas such as human mobility, governance and partnerships, most studies suggest only limited steering potential for global policy integration. Research also suggests many remaining challenges with partnerships, such as the exclusion of marginalized actors and weak accountability, monitoring and reporting (Bäckstrand et al. 2022). In short, more research is needed on the role of the SDGs in multilateralism and the effectiveness of SDG partnerships in global sustainability governance.

Second, the complexity of the SDGs presents significant challenges for national policy integration, policy interlinkages and implementation. SDG integration has been found to be multi-directional and shaped by domestic contexts and political priorities, with adaptation to national and subnational contexts being a crucial factor. Studies have shown that while some countries, particularly those with higher incomes, have made progress in aligning their political discourse and public administration systems with the SDGs, policy coherence for implementation remains limited. Moreover, the Voluntary National Reviews, which are a central part of SDG reporting, had little impact on changing dominant development paradigms and planning. While the deadline for SDG achievement by 2030 approaches, the first effects of the SDGs on national decision-making are just beginning to emerge. Future research needs to focus now on identifying good practices, better understanding capacity-building for SDG implementation and exploring how governments can better navigate synergies, trade-offs and stakeholder conflicts to promote successful integration of the 17 global goals in domestic policies.

Third, the SDGs must ultimately be implemented in local communities to impact people's lives. This situation has led to a burgeoning literature on 'SDG localization', that is, how local actors engage with the global goals. Much of this literature portrays case studies, particularly in pioneering cities with a long track record of sustainability initiatives. Such studies often explore the effects of Voluntary Local Reviews, which are not required but welcomed by the United Nations, on local policy integration and goal implementation. Other studies examine how to translate the SDGs into local targets, investigate synergies and trade-offs in local communities or develop frameworks to guide subnational implementation. Here, future research may focus on understanding the diverse forms and challenges of SDG localization, assessing the variant success of local initiatives, identifying factors that contribute to successful implementation and designing practical strategies to strengthen subnational governance and local accountability for SDG implementation.

Fourth, how public-private partnerships or private governance initiatives implement the SDGs has become the object of many studies. Reports like 'Better Business-Better World' and 'SDG Ambition' claim an important role in private sector engagement and

commercial opportunities linked to SDG implementation. Research on corporate involvement often focuses on sustainability reporting, revealing concerns about 'SDG washing' or 'rainbow washing' and the limited scope of engagement, especially from corporations in the Global North. While the role of private actors in SDG implementation may indeed seem critical, significant knowledge gaps remain, particularly regarding the interconnected nature of the SDGs and how this affects the private sector. Future research should explore the broader governance roles of private actors, investigating different types of steering effects, such as discursive, institutional or relational, and how businesses use the SDGs to shape strategies, create institutional change, form partnerships and reallocate resources. Ultimately, understanding the conditions for private sector engagement in transformative SDG governance across diverse contexts is crucial for developing effective strategies and policies.

Finally, education and learning are essential for driving behavioural and structural change towards sustainability. SDG 4, which focuses on education, was designed to support this transformation. However, the effectiveness of the SDGs in advancing sustainability through education remains unclear; research on this topic is still limited. Much of the literature explores the relationship between 'Education for Sustainable Development' and the SDGs in educational institutions, such as challenges of operationalization and integration. While the literature highlights the impact of the SDGs on curricula, teaching methods and pedagogical approaches, further research is needed on how to better integrate and operationalize the SDGs in education. Another key area of research looks into the integration of the SDGs in higher education institutions, where there is often a lack of awareness, critical understanding and resources. Many initiatives, particularly rankings and standardized measures, overlook local contexts and the Global North-South divide. Moving forward, research should address synergies between 'Education for Sustainable Development' and the SDGs, investigate the role of educational institutions as agents of change in SDG implementation, explore the complexity of education for sustainability and examine how decolonial and pluriversal approaches can challenge dominant global educational frameworks to foster more inclusive and sustainable practices.

In sum, the uptake of the SDGs remains patchy and often symbolic across governance levels. While there are pioneering SDG initiatives by some progressive governments, cities, local administrations and businesses, no clear pathway has emerged towards sustainable development. The success stories of policy changes due to the SDGs are inspiring, but how they can be scaled up remains unclear. Most actors and institutions continue with business-as-usual approaches despite some discursive shifts and the increasing prominence of rhetoric that uses the SDGs. While the SDGs have helped reframe the debate on sustainable development and led to new narratives, some new policies and even a few new institutions, overall, they had only limited political impact. A core problem is still that the SDGs are not yet strongly supported in political systems and that accountability mechanisms remain scattered and weak. If so, the question arises of whether governance by global goal-setting is effective and whether and how we could make it more effective. Much depends on how political and societal actors and institutions will hold governments accountable for their formal commitments to the SDGs.

Accelerating goal implementation and reforming the SDGs

Given the slow progress towards the SDGs, researchers as well as policymakers have suggested numerous reform proposals. Many have emerged in research and policy circles

as a result of disappointment and frustration with the lack of progress in SDG implementation. For example, the 2023 Global Sustainable Development Report, which had been written by 15 scientists appointed by the United Nations Secretary-General, suggested several specific interventions to accelerate progress on the SDGs. They emphasized levers such as governance, science and technology, business and finance, individual and collective action and capacity-building, all of which should be used for more transformative interventions in areas with potential for systemic effects, such as sustainable food systems, human well-being and energy decarbonization.

Similarly, another group of experts on SDG governance proposed four urgent reforms in this field, namely differentiation, dynamization, legalization and institutionalization (Biermann et al. 2023). They argued, first, that high-income countries should commit to more ambitious policies, also in complex areas such as unsustainable consumption and reductions in fossil fuel use. Second, the SDGs should be more dynamic, with regular revisions that would raise ambitions in a way similar to the Paris Agreement. Third, the researchers suggested stronger legal commitments, including binding agreements among like-minded countries on specific SDGs, such as plastic pollution or fossil fuel phaseout. Fourth, more institutional support was called for, especially for SDGs that focus on inequality, sustainable consumption and better governance. The researchers also argued for stronger global governance mechanisms, better support for local actions and a reduction of the financing gaps for sustainable development.

This reform call was further specified at the International Research Conference 'GlobalGoals2024 – The Future of the SDGs' held in Utrecht, the Netherlands, in August 2024. This event brought together over 150 researchers and practitioners from the Global North and South, who presented a roadmap for sustainability governance until 2030 and beyond, offering further strategies to revitalize progress towards the SDGs. The discussions were summarized in the Utrecht Roadmap, which highlights four concrete avenues for reform (Biermann et al. 2024). The first avenue calls for improving the global architecture of sustainability governance by developing stronger monitoring and accountability frameworks to ensure a more systematic, inclusive and transparent review of how governments and international institutions engage with the SDGs. Specifically suggested were reforms of the High-level Political Forum, a better science-policy interface for SDG monitoring and stronger mechanisms for the participation of civil society. Second, to curtail cherry-picking and 'siloization', researchers called for actions that facilitate national and subnational SDG coordination and governance, including the creation and appropriate funding of cross-sectoral SDG coordination units among governments and the development of national and subnational SDG acceleration plans. Third, it was recommended to consolidate goals by setting more specific, adaptive and ambitious targets and to strengthen data collection and monitoring systems. Finally, the researchers advocated for a shift towards more inclusive development strategies that would move away from the gross domestic product as the primary measure of progress, embrace the circular economy and human well-being as core principles of national policies and advance broader reforms in the global economic system to better support a just transition, particularly in low-income countries.

Similarly, and echoing previous calls for stronger accountability mechanisms, bolstered targets and a reform of the global financial architecture for sustainable development, Fuso Nerini et al. (2024) recommended mission-based approaches for SDG implementation that would have the potential to foster collaboration across sectors, technologies and types of firms to achieve ambitious goals. Still others have looked at how to

reform the SDGs towards realizing their ambition of leaving no one behind. Members of the so-called Earth Commission, a group of scientists who seek to define safe and just planetary boundaries, have called for systemic transformations, resource redistribution and transferable and accessible sustainable technologies for the SDGs to reach justice in access to minimum resources and support socioeconomic human rights without breaching environmental thresholds (Gupta et al. 2024).

At the time of writing, merely five years are left to implement the SDGs by 2030. In September 2024, governments convened for the Summit of the Future and reaffirmed their commitment to advance the SDGs. The outcome document of this summit, the 'Pact for the Future', recognizes the need to plan for the long term, and invites the High-level Political Forum to consider in 2027 how the international community advances sustainable development by 2030 and beyond. While the 'Pact for the Future' aimed on achieving the greatest possible gains on SDG implementation and accelerating efforts, the future of the SDGs beyond 2030, and global sustainability governance more broadly, remains still undefined.

Main rationale of this A-Z Guide

Given the complexities of debates around SDG implementation, this A-Z Guide has been designed to offer the reader succinct elaborations of the 105 most central concepts and terms that are widely used in the debate on the SDGs. All entries are related to goal implementation and circle around the topic of governing transformations towards sustainable development. Written by a diverse group of academic and policy experts from all over the world, the 105 entries offer up-to-date knowledge and concise insights into a wide range of themes around the SDGs. The volume follows an encyclopaedic format, that is, each entry provides first a definition or basic description of the respective concept or topic and then discusses relevant practical examples with critiques and caveats derived from the state of knowledge and policy practices. The volume has been designed for a broad audience and formulated in an accessible language to inform both academics and practitioners.

Different from other works, this A-Z Guide has a clear focus on SDG implementation, while discussing concepts and terms from a critical academic and policy perspective. Moreover, this A-Z Guide takes a global approach to serve as a key resource for students in a diverse set of study programmes and at the same time to function as a knowledge base for policy advice and practices on the broad field of sustainable development. The entries refer to key theoretical approaches and methods that are used in the research on global sustainability governance. Additionally, they deal with the historical background of the SDGs explaining key instruments and milestones of the pathway towards the 2030 Agenda and the SDGs.

The SDGs are one of the most prominent global policy frameworks of our time, aiming to redirect policies in United Nations agencies, national and local governments and among a wide range of non-state actors. And yet, despite some progress, the SDGs have fallen short of their intended impact. More transformative changes at all governance levels and societal scales are needed. Any meaningful and impactful discussion about the SDGs and their future requires a deep understanding of the core principles that underpin this agenda. This A-Z Guide provides exactly that, offering 105 authoritative short analyses of key concepts and terms to equip readers with a solid foundation for their work.

Ultimately, the SDGs can serve as a vital cornerstone in the global effort to advance human society and our planet towards sustainability. We hope that this A-Z Guide provides comprehensive grounds for discussions on accelerating global sustainability goals and shaping reform debates in the years ahead.

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2030 Agenda for Sustainable Development

Steven Bernstein

The 2030 Agenda for Sustainable Development (United Nations General Assembly 2015), which contains the 17 Sustainable Development Goals (SDGs) and 169 targets, provides the UN's framework to implement the SDGs and the broader sustainable development agenda until 2030. Its preamble presents a vision based on five 'P's': people, planet, prosperity, peace and partnerships, while recognizing that 'eradicating poverty in all its forms and dimensions…is the greatest global challenge'. It also articulates several normative aspirations, including 'leaving no one behind', human rights and gender equality. The SDGs, it states, are 'indivisible' and 'integrated', ought to 'balance' economic, social and environmental dimensions, and apply universally to all countries, while taking account of national circumstances.

The 2030 Agenda's last third is devoted to implementation. It builds on the idea of 'global partnership' (SDG 17), which includes macroeconomic, finance, technology and multi-stakeholder partnerships components. It also emphasizes civil society and private sector mobilization, along with states and international institutions, to realize the 2030 Agenda. The need for 'policy and institutional coherence' (SDG 17 and paras 63, 70, 82 and 87) among international institutions and governance arrangements, and within different countries, is another prominent theme.

The 2030 Agenda also lays the groundwork for follow-up and review at national, regional and global levels, identifying the High-level Political Forum on Sustainable Development (HLPF) as the lead institution. Whereas participation in the HLPF's Voluntary National Reviews has been high, calls persist for more systemic, comprehensive, accountable and compulsory review mechanisms and increased involvement of civil society (Biermann et al. 2023). The 2030 Agenda also proposed a Technology Facilitation Mechanism comprised of a United Nations inter-agency task team on science, technology and innovation, supported by a multi-stakeholder forum and an online platform of initiatives and programmes (United Nations Technology Facilitation Mechanism n.d.). While the 2030 Agenda mentions finance, negotiators left details to a parallel process that produced the Addis Ababa Action Agenda of the Third International Conference on Financing for Development, adopted in July 2015.

The 2030 Agenda's framing under the rubric of sustainable development was not a foregone conclusion. It evolved from 'post-2015' development agenda discussions, in reference to the deadline to achieve the 2000 Millennium Development Goals (MDGs). By 2011, when the United Nations officially began considering the next agenda, shifting development discourse and material conditions of developing countries resulted in discussions more explicitly addressing the multidimensional nature of poverty, with

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particular attention to inequality, growth and employment, and integration of environmental sustainability, as well as governance, justice and peaceful societies (Hulme and Wilkinson 2014). When the United Nations General Assembly adopted the Open Working Group's report containing the SDGs in September 2014, that cemented the new 'sustainable development' framing of the 2030 Agenda's formal negotiations, starting in January 2015 (Chasek et al. 2016). While formally negotiated by governments, stakeholder consultations and several international, stakeholder and regional reports fed into negotiations.

Implementing the 2030 Agenda has faced several challenges, including the effects of the COVID-19 pandemic, geopolitical dynamics including the Ukraine war and climate change. Scholarly critiques push in several, and not always consistent, directions. Some call for improved performance measures and modelling and a more systems-based approach, while others propose viewing indicators as tools for conversation across geographies rather than endpoints (Arora-Jonsson 2023). Partially in response, the UN's Global Sustainable Development Reports have focused on synergies, trade-offs and 'coherence' (Independent Group of Scientists 2023). Others call for greater integration of the SDGs into international agreements and law (Biermann et al. 2023). Still others argue that the 2030 Agenda fails to address tensions or contradictions among and within goals, between 'integration' and 'balance', or between 'global partnership' and 'partnerships', which can undermine inclusive development or fail to address structural and institutional drivers of unsustainability, poverty or inequality (Fukuda-Parr and Smaavik Hegstad, 2018; Bernstein et al. 2025).

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A

Accountability

Magdalena Bexell

Accountability refers to an actor having to answer for the way in which the actor has carried out its obligations and exercised its power. It involves an assumption of monitoring and sanctioning and can therefore drive the implementation of agreements forward. Accountability is important for accelerating progress towards the Sustainable Development Goals (SDGs) because goal implementation is uneven. While each individual can support SDG implementation through sustainable practices, actors with great institutional and other resources are at the focus of accountability debates due to their greater power. Key questions for accountability are: Who is accountable? For what actions (or lack of action) are they accountable? How is accountability demanded? And towards whom is a power-holder accountable? In theory, elected politicians are accountable to their electorates. Similarly, chief executive officers are accountable to their company boards and civil society organizations are accountable to their members and constituencies. In practice, however, accountability relations are complex, often weak and dependent on transparency and credible threats of sanctions. Moreover, many stakeholders may be affected by the actions of decision-makers without having the means to hold them accountable.

Accountability is a great challenge for sustainable development politics, including for the SDGs (Ocampo and Gómez-Arteaga 2016; Partzsch 2023). For global political agreements of a non-binding nature such as the 2030 Agenda, there is no enforcement mechanism like police or courts. Governments, who hold the main responsibility for SDG implementation, can be held accountable domestically by voters and civil society for how they address the SDGs, at least in democratic countries. Such political accountability is dependent on voter interest and on the extent to which the SDGs become part of national political debate, including in parliaments (Bexell and Jönsson 2022). Elections and parliamentary oversight over governmental action are forms of *vertical* accountability. This includes institutionalized mechanisms that allow citizens to hold political executives to account for their performance. Yet, opinion polls show that sustainable development is rarely at the top of voters' election issues.

Horizontal accountability is a more diverse category than vertical accountability. It can be found in both domestic and international domains. It appears when national institutions hold each other to account, for example, national supreme audit institutions in

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relation to governments (Breuer and Leiniger 2021). More often, horizontal accountability is less institutionalized. It can take market-based forms, public reputational forms or peer-based forms (Grant and Keohane 2005). Market accountability relies on decisions made by investors and consumers on where to invest and which companies to buy from. This is manifested for instance when investors make decisions to divest from fossil fuels companies. Public reputational accountability can be effective if power holders care about their reputation and therefore change their behaviour. For instance, annual SDG country rankings such as the SDG Index rely on 'naming and shaming' strategies. Peer accountability comes about through mutual evaluations of organizations and experts by their counterparts. The High-level Political Forum, which is a global arena for follow-up of the SDGs, is based on such 'soft' accountability measures of peer review. Civil society and the media also have important horizontal accountability functions. Their reporting exposes the actions of power-holders to public scrutiny (Karlsson-Vinkhuyzen et al. 2018).

Several kinds of powerful actors impact the realization of the SDGs. Therefore, a variety of accountability forms is needed to accelerate goal implementation. The forms mentioned here are complementary. In the ideal case, they can reinforce each other and create a multilayered web of answerability for sustainable development. In practice, this web is weak or even missing in many contexts. Broader challenges to transparency, free media, civil society and democratic institutions across the world need to be addressed for SDG accountability to become stronger.

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Anthropocene

Denis Francesconi

The term 'Anthropocene' was introduced in 2000 by chemist and Nobel Laureate Paul Crutzen and later elaborated in an article co-authored by Crutzen and biologit Eugene F. Stoermer (Crutzen and Stoermer 2000). The term is meant to signify the 'epoch of

humans', a new geological period dominated by human activity (Lövbrand et al. 2015), and to explain how humans have become the leading geological force on the planet (Steffen et al. 2007).

The debate about the starting point of the Anthropocene has sparked intense discussion within geology and has extended to the social sciences and humanities. Scholars have proposed various starting points, such as the mastery of fire around 400,000 years ago, the development of agriculture between 8,000 and 5,000 years ago, the Industrial Revolution and the Atomic Age (Wallenhorst 2024). In 2023, an Anthropocene Working Group proposed Crawford Lake in Canada and the Atomic Age as the candidate site and time to mark the onset of the Anthropocene series. This proposal was rejected, however, in 2024 by the International Subcommission on Quaternary Stratigraphy in a decision that was later confirmed by the International Union of Geological Sciences. Nonetheless, many in the scientific community agree that we live in the Anthropocene, even though some suggest that the Anthropocene should be seen as an unfolding event rather than a distinct epoch or time interval with clear temporal limits (Edgeworth et al. 2024).

The idea that humans have profoundly impacted the planet, however, predates Crutzen and Stoermer's work and their notion of the Anthropocene. In the 19th century, for instance, Italian geologist Antonio Stoppani referred to the 'Anthropozoic' era to acknowledge humanity's geological influence as a 'new telluric force which in power and universality may be compared to the greater forces of earth' (Crutzen and Stoermer 2000, 17). In the 1920s and 1930s, Soviet geologist Vladimir Vernadsky developed the theory of three interconnected stages, which he labelled as the geosphere (Earth), the biosphere (life) and the noosphere (knowledge). Later, also French Jesuit Pierre Teilhard de Chardin contributed to the idea of noosphere.

The concept of a noosphere offers a different perspective on the Anthropocene and necessitates the involvement of social scientists and humanity scholars (Ellis et al. 2016). Indeed, the notion of the Anthropocene fundamentally depends on human cognition and culture, collective learning and the accumulation and distribution of knowledge, as these are primary drivers of geological, environmental and biological changes on earth. Social sciences and humanities can help reframe and decolonize the term Anthropocene, promote a new human self-awareness of our unprecedented power and usher in an era of planetary stewardship, aligning closely with the Sustainable Development Goals. Education, as expressed in SDG 4, can play a crucial role in increasing collective awareness and agency around the concept of the Anthropocene through new school curricula, educational policies and activities (White et al. 2023).

In conclusion, the Anthropocene is not only a geological or environmental phenomenon, but also a cognitive, educational and socio-political one. As suggested by SDG 17, collective actions and partnerships between academics, institutions, economy and citizens should be implemented to assure the way to planetary health, sustainable development and quality of life for all. As Crutzen and Stoermer stated,

> To develop a worldwide accepted strategy leading to the sustainability of ecosystems against human-induced stresses will be one of the great future tasks of mankind, requiring intensive research efforts and wise application of the knowledge thus acquired in the noosphere, better known as the knowledge or information society.
>
> (Crutzen and Stoermer 2000, 18)

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Artificial intelligence

Noémi Bontridder and Yi hyun Kang

There is no universally agreed definition of artificial intelligence (AI) in the United Nations. AI was originally described as a field in computer science that investigates methods to make machines simulate intelligent behaviour (McCarthy et al. 2006). Current discussions on AI in international and regional organizations (for example, Organisation for Economic Cooperation and Development 2024; Regulation [EU] 2024/1689 2024) refer more specifically to machine-based systems that are configured to compute, based on data they receive, how to generate outputs such as predictions, content or recommendations.

While discussions on AI in the United Nations system have raised ethical concerns, they have tended to highlight its potential to contribute positively to achieving the Sustainable Development Goals (SDGs). Since 2017, the International Telecommunication Union has run a digital platform with information on AI solutions for the SDGs, called 'AI for Good'. Key United Nations documents have emphasized the importance of 'safe, secure and trustworthy' AI that can contribute to humanity, as well as cooperation towards benefit-sharing. For example, the United Nations General Assembly adopted in 2024 a resolution on seizing the opportunities of AI systems to achieve all 17 SDGs (United Nations 2024a). Likewise, the Global Digital Compact, adopted at the 2024 Summit of the Future, pays attention to AI by setting the strengthening of international governance of AI 'for the benefit of humanity' as its fifth objective (United Nations 2024b).

International institutions mandated to govern AI technologies are still at an early stage as of 2024. The United Nations Secretary-General's High-level Advisory Body on AI was formed in 2023. Based on its report, the Summit of the Future agreed to establish a multidisciplinary Independent International Scientific Panel on AI in the United Nations to promote scientific assessments of the impacts, risks and opportunities of AI. They also

agreed to launch a Global Dialogue on AI Governance that will involve governments and stakeholders (United Nations 2024b). The development of these institutions, however, remains to be seen.

The impact of AI on sustainable development is multifaceted, and deliberative approaches are needed when discussing the potential of AI to help achieve SDGs. While AI may be used to achieve some SDG targets, negative impacts are also predicted. For example, AI may facilitate the eradication of extreme poverty (SDG target 1.1) if satellite data is used to track areas of poverty and foster international cooperation. At the same time, AI may exacerbate poverty by increasing inequalities (Vinuesa et al. 2020). Furthermore, the potential benefits of using AI to achieve SDG targets may come at the cost of inhibiting the overall achievement of the 2030 Agenda, not least due to the high consumption of natural resources and energy associated with the development and use of AI (Crawford 2021). In this context, it is important to note that AI is often linked to economic interests by industry and political actors. The apparent high profitability of the technology may hinder balanced discussions among stakeholders, making it essential to encourage the assessment of the legal and ethical implications of AI technologies, including societal and environmental ones. Indeed, policymakers need a good understanding of the challenges posed by AI to formulate sound and effective policies (Vinuesa et al. 2020).

In conclusion, AI has rapidly become a significant topic in sustainable development discussions, and the United Nations has begun to take the first steps to ensure the governance of AI 'for the benefit of humanity' (United Nations 2024b). Yet given the apparent high profitability of AI and the debate's focus on its positive impact on SDG achievement, policymakers must also not overlook to assess the negative impacts of its development and use on sustainable development.

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B

Brundtland Report

Rosalind Warner

The Brundtland Report, officially titled 'Our Common Future', is one of the most cited documents in the burgeoning sustainable development literature and sparked debate on issues that continue to this day. The report was the outcome of a four-year deliberation by the United Nations' World Commission on Environment and Development, an international group of environmental experts, politicians and civil servants. Named after Gro Harlem Brundtland, a former Prime Minister of Norway, the Commission was established to identify an international agenda for cooperation on environment and development, and its final report was published in 1987.

The decades following the post-World War II economic boom had brought a growing awareness that economic growth could breach the capacity of natural systems to sustain it (Meadows & Club of Rome 1972). It was increasingly recognized that environmental scarcity could threaten progress on poverty reduction that might be realized through global development efforts. The task of the commission, therefore, was to find ways of balancing concerns over economic development with increasingly severe environmental challenges like deforestation, desertification and climate change while taking the social dimension into account. Such a development would be sustainable, the report argued, with the vision to 'meet the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development 1987, 16).

The report highlighted the importance of public participation, called for reformed government policies and set a renewed focus on multilateralism and global governance. The report placed emphasis on the need for social equity to reduce poverty, both for moral reasons and to prevent poverty-driven environmental degradation. These insights helped develop the concept of sustainable development as a framework for balancing economic growth, social equity and environmental protection, later institutionalized as the three 'pillars' of economy, society and environment (Purvis et al. 2019; Daly 1996). The report made several policy recommendations to achieve sustainable development. It recommended assistance for developing countries in the form of aid, debt relief and fair trade. It advocated for industry to transition to clean energy sources to produce more with less of an environmental impact. It noted how environmental degradation

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contributes to conflict and instability and recommended reallocating resources for sustainable development to reduce the need for military spending.

The influence of the report was evident in the formulation of Agenda 21, adopted at the 1992 United Nations Conference on Environment and Development, also known as the Earth Summit, in Rio de Janeiro and later in the Sustainable Development Goals (SDGs) adopted as part of the 2030 Agenda. Its publication inspired a wave of interest in a wide variety of fields, including but not limited to international development, environmental and ecological sciences, sustainability, finance, management, technology and urban studies (Schubert and Láng 2005). Over the 1990s, contestation over the concepts defined in the Brundtland Report resulted in the term 'sustainability' gaining traction over 'sustainable development', leading some critics to decry the tendency for an overly flexible definition to provide cover for a lack of credible action.

Critics also noted the contradictions between renewed calls for economic growth with enhanced levels of ecological conservation and the inattention to the actors and institutions supporting unsustainable development (Sneddon et al. 2006). Other scholars claimed that the notion of sustainable development was little more than a new means to impose a colonial structure upon developing nations (Redclift 1987), reinforcing efforts to prevent poor nations from getting themselves out of poverty using natural resources.

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Budgeting for Sustainable Development

Elisabeth Hege

As the primary political and economic expression of governmental policy, the budgeting process is highly relevant for national SDG implementation. Several countries mention efforts to align their national budgets with the SDGs in their Voluntary National Reviews (Hege et al. 2019; Okitasari and Kandpal 2022). Budgeting for the SDGs includes practices that use SDG goals or indicators in budget planning, formulation and debate, or

monitoring and evaluation. SDG budgeting is expected to improve policy coherence, transparency, accountability and international comparability (Hege et al. 2019).

Since 2015, different SDG budgeting practices have emerged, intervening at different steps of the budgetary cycle (Poghosyan et al. 2022). Ex ante, SDGs can be integrated into budget strategic planning when countries translate goals and indicators into national priorities. A gap analysis or an SDG costing exercise to identify SDG funding and implementation gaps can feed into strategy. Furthermore, SDGs can also be used in budget formulation, when, for instance, ministries signal links between their budget proposal and the achievement of sustainable development priorities. In Finland, for example, the Ministry of Finance requested that each ministry include a short paragraph under each of the main titles in their budget proposal explaining how it will contribute to sustainable development (Hege et al. 2019; Montero 2024). Little evidence exists on the systematic consideration of SDGs during budget hearings (Hege et al. 2019).

Most empirical examples use SDGs ex post, meaning after strategic planning and decision-making. The most common practice is the so-called SDG Budget Tagging (Poghosyan et al. 2022). This means mapping or tracking expenditures against SDGs at either goal or indicator level, sometimes using automatic text analysis tools (Guariso et al. 2023). SDGs can also be used in budget performance evaluations, as initiated by Mexico or can be the basis of a spending review, as in Germany (Hege et al. 2019).

Finally, looking at budget oversight, several Supreme Audit Institutions have provided analyses based on the SDGs, such as in Austria, the Netherlands and Germany. For instance, the German Federal Court of Audit has recommended anchoring the principle of sustainability in all steps of the budgetary cycle and using SDGs in prior impact assessments of subsidies. In practice, however, countries rarely use the SDGs in budget-making to ensure that the proposed budget seeks the best outcome for the goals. They rather use the SDGs as a tool to provide an ex-post overview of contributions to sustainable development.

Globally, budgeting for SDGs is not widespread and rarely mainstreamed into the whole budget cycle (Poghosyan et al. 2022). A review of 74 countries in 2023 showed that 13 out of them had integrated the SDGs into national budgets (Sachs et al. 2023). SDG budgeting methods exist across countries of different income levels. They are not limited to developing countries where SDG budgeting is often part of efforts to establish an Integrated National Financing Framework – a tool to finance national sustainable development strategies, as it is the case in Ghana (Barchiche et al. 2023). Empirical examples also exist at local levels, for instance in the cities of Strasbourg, Malmö and Castilla y Léon (Okitasari and Kandpal 2022).

SDG budgeting methods can be administratively heavy and costly to put in place given the complexity of the SDG indicator framework and the need for coordination across ministries (Guariso et al. 2023). Most of the empirical examples seem to improve transparency with regard to budget allocations and expenditures in relation to sustainable development priorities. However, whether this information increases accountability, or even strategic budgetary decision-making, depends on how this information is used by actors seeking accountability, such as parliamentarians or civil society and by decision-makers. Further research is needed to more systematically assess the impact of budgeting practices on accelerating progress in SDG implementation, also drawing on lessons learnt from similar efforts to integrate social and environmental priorities within budgetary processes (for example, gender budgeting and green budgeting).

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Business sector

Janis Bragan Balda

The United Nations in its guidelines on cooperation with the business sector describes the sector as 'either for-profit and commercial enterprises or businesses; or business associations and coalitions (cross-industry, multi-issue groups; cross industry, issue-specific initiatives; industry-focused initiative)' and includes corporate philanthropic foundations (United Nations 2015, 3). The two guiding documents for business are the United Nations Global Compact and the United Nations Guiding Principles on Business and Human Rights, known as the Ruggie Principles.

The Ten Principles of the Global Compact ask companies to embrace, support and enact a set of core values addressing human rights, labour standards, the environment and anti-corruption. Within the Guiding Principles, corporate responsibility to respect human rights refers to having in place policies and processes appropriate to the size and circumstances of each enterprise, in addition to carrying out human rights due diligence. Though often used interchangeably, the term 'private sector' is a broader concept consisting of organizations, not under direct government control and ownership, including businesses of various sizes and scopes, as well as civil society, which includes not-for-profits such as advocacy groups, charities, philanthropists, social enterprise, endowments and impact investors (Hickmann et al. 2024).

Business-led multi-stakeholder collaborations, including partnerships, existed before the adoption of the 2030 Agenda, but since the launch of the SDGs, the role of business has become larger. The strengths the sector brings include knowledge, financial resources and innovation capabilities. In particular, the business sector is considered essential to bridging the SDG (finance) implementation gap (Hickmann et al. 2024). As noted in the 2030 Agenda, private business activity, investment and innovation are major drivers of productivity, inclusive economic growth and job creation (Article 67).

While expected to bring creativity and innovation to solving sustainable development challenges, there has not been a rapid and broad adoption of the SDGs by businesses. Not surprisingly, businesses have tended to address those SDGs most in line with their business purpose and strategy. The result is that the Agenda's core principle of 'leave no one behind' is frequently neglected (Stanberry and Balda 2023). While various frameworks have been developed to align business activity with the SDGs, clarity and consistency on what SDG alignment looks like is often missing (Sachs and Sachs 2021). A major weakness is the inability of the business sector to scale up and broaden possible solutions to the grand challenges represented by the SDGs.

There is increasing consensus that 'a much deeper, faster and more ambitious response [is needed] to unleash the social and economic transformation needed to achieve our 2030 goals' (United Nations Department of Economic and Social Affairs 2019, 2). The business sector itself must engage more extensively and effectively to increase coherence and collaboration and seek transformative change in terms of business models to bring them into alignment with natural and social realities (Waddock 2020). Going beyond business-as-usual involves interdisciplinary work, which incorporates knowledge and learning from the social-ecological systems approach to corporate sustainability (van Zanten and van Tulder 2021).

At the same time, transformation of the context within which business operates, including the public policy environment and private governance structures and processes, need to enable more effective and collaborative arrangements within which business can align itself. To do so requires a different core purpose beyond economic growth and higher GDP and conceptualizing sustainability differently (Dahlmann 2024). Use of other indices, such as the Human Development Index and the measurement of contributing factors from business, would initiate new practices and processes, serve the SDGs better and at the same time limit 'SDG washing' by the business sector.

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C

Civil society

Carole-Anne Sénit

Civil society was integral to the development of the 2030 Agenda (Sénit 2017) and has been actively involved in efforts to achieve the Sustainable Development Goals (SDGs) at all governance levels since their adoption in 2015. As progress reports highlight that most goals and targets will be missed by far (for example, United Nations 2023), civil society is increasingly perceived as a crucial actor able to turn the tide of SDG implementation.

Civil society generally consists of a political space separate from both state and economy, where voluntary associations explicitly seek to shape the rules – including specific policies, wider norms and deeper social structures – that govern one or the other aspect of social life (Scholte 2002). Far from being a homogeneous whole, civil society constitutes a diverse array of actors with contending visions and interests about which strategies and development pathways should be pursued. In this entry, civil society is understood as progressive non-profit and voluntary groups representing specific causes or constituencies that organize themselves at local, national or global levels in the field of sustainable development. Those groups include actors such as NGOs operating within the developmental and environmental fields, social movements, civic associations and citizens who voice their political preferences through their demonstrations, votes and donations.

Civil society actors participate in the implementation of the 2030 Agenda and the SDGs in several ways (Órdoñez Llanos et al. 2022). First, they play a role in influencing agenda-setting and policy processes on sustainable development at national and subnational levels. By raising awareness, sharing information and providing their expertise on a specific issue or cause related to one or the other SDGs, civil society seeks to influence public and private actors in defining their strategy for sustainable development and in setting priorities for SDG realization. Second, civil society actors contribute to localizing the SDGs and mobilizing people's participation in their implementation. Here, civil society collaborates with public and private actors within projects that steer progression towards goals and targets. Third, civil society plays a key role in monitoring progress, by using the SDG indicator framework, to ensure the accountability of public and corporate actors in achieving the SDGs. Civil society also demands accountability by organizing campaigns or protests that condemn the lack of progress on SDGs and by producing their own evaluations of SDG implementation, so-called shadow reports.

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However, civil society's capacity to act as a powerful game changer in SDG implementation is constrained by several factors. First, civil society engaging in SDG implementation lacks diversity. As important information on the goals does not seem to trickle down to civil society organizations in remote areas (for example, Al Sabbagh and Copeland 2019), country-level goal implementation and monitoring often leave out local or grassroot organizations that could be powerful change agents, such as cooperatives or village associations. Second, civil society often lacks human and financial resources, with uncertainty over funding sources further affecting the roles of civil society actors in SDG implementation (for example, Arhin 2016). Finally, in many countries, trends of autocratization shrink civic space and shift priorities away from sustainable development to security, thus limiting the transformative potential of civil society in SDG implementation (Hossain et al. 2019).

Civil society increasingly participates in SDG implementation, taking on different roles in agenda-setting, implementation and monitoring of the goals and targets. However, civil society's capacity to act as a game changer for SDG implementation is limited by a series of internal and external factors. This calls for future research that systematically analyses those factors and identifies key conditions of transformative civil society impact for SDG implementation.

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Climate change and sustainable development

Shrijana Vaidya, Jing Li and Prajal Pradhan

In 2015, the Paris Agreement to the United Nations Framework Convention on Climate Change was signed to combat climate change, adapt to its adverse effects and provide greater support to developing countries. In the same year, the United Nations adopted the

2030 Agenda for Sustainable Development with 17 Sustainable Development Goals (SDGs), including a goal of climate action (SDG 13). The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (2022) recognizes the set of 17 SDGs as valuable in moving beyond a narrow focus on separate climate mitigation and adaptation options, emphasizing instead the need to act on the climate and sustainable development agendas together.

However, both agendas were developed and implemented independently, leading often to fragmented policy outcomes and limited opportunities to explore linkages (Dzebo et al. 2019). Reconciling the climate and sustainable development agendas is crucial to overcoming their challenges, offering win-win solutions while minimizing trade-offs and supporting transitioning to zero-emissions and climate-resilient sustainable development (Pradhan et al. 2024).

The links between climate impacts, climate actions and sustainable development are manifold. There is substantial research on how the actions of the Paris Agreement and the 2030 Agenda are interconnected. For instance, research shows that progress on SDG 7 (on affordable and clean energy) and SDG 13 (on climate action) could catalyze synergies with other goals. The evidence indicates that while climate change threatens most SDGs, climate change mitigation and adaptation can also undermine the achievement of some SDGs (Fuso Nerini et al. 2019). For example, the negative impacts of climate change on agricultural production have a major implication that can undermine efforts to reduce poverty and hunger (Intergovernmental Panel on Climate Change 2022).

Researchers also indicate that stringent climate change mitigation policies might slow down efforts to reduce poverty in developing countries (Campagnolo and Davide 2019). Many policies on climate change adaptation, however, positively affect the implementation of the SDGs. However, maladaptation and unintended negative consequences of adaptation negatively affect some SDGs, for example, increased land, water and biomass competition (Intergovernmental Panel on Climate Change 2022). The SDGs provide an opportunity to revisit the climate impacts and climate actions and to identify strategies to leverage their synergies and tackle trade-offs in a wider sustainability context.

It is widely recognized that creating synergies and reducing fragmentation between climate action and sustainable development is urgently needed. Still, challenges remain in achieving this coherence effectively. While mitigation and adaptation activities in the Nationally Determined Contributions of countries are linked to all 17 SDGs, most are not harmonized with other domestic policies (Hermwille et al. 2023). Addressing these critical agendas requires therefore to break down silos, fostering synergistic approaches that maximize benefits while minimizing trade-offs. To this end, deep transformations are needed across various sectors, including energy, buildings, transportation, agriculture, forestry and other land-use areas (United Nations 2024).

Challenges persist due to insufficient and ineffective investment in aligning climate action with sustainable development, as the international financial system is not structured to support this alignment. Countries in the Global South, particularly those particularly vulnerable to climate impacts, continue to face inadequate funding for climate-related challenges and sustainable development. While international agencies have tried to align climate finance with SDGs, such as the Integrated National Financing Frameworks, the implementation of the Paris Agreement and the SDGs still progresses in a fragmented manner. More systematic approaches are thus urgently needed to address the gaps across sectors, policy frameworks and future investments.

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Climate finance

Yuen Gu and Yixian Sun

The establishment of the United Nations Framework Convention on Climate Change in 1992 laid the foundation for climate finance. A broad definition of climate finance includes 'local, national or transnational financing, drawn from public, private and alternative sources of financing, that seeks to support mitigation and adaptation actions to address climate change' (UNFCCC 2022). But in practice, different actors and organizations have used their own definitions to classify climate finance. As a result, debates remain on the boundary between narrow official climate finance and broad climate investments and whether climate finance should be considered new and additional funds rather than finance from existing official development assistance.

Climate finance has been widely considered as an important tool for achieving the SDGs. From a mitigation perspective, by supporting low-carbon technologies (for example, renewable energy), climate finance can drive progress in reducing carbon emissions, contributing to SDG 7 (affordable and clean energy) and SDG 13 (climate action), but also other goals such as SDGs 8 (decent work and economic growth), 9 (industry, innovation and infrastructure), 14 (life below water) and 15 (life on land). For example, the Lake Turkana wind farm in Kenya, supported by the African Development Bank, provides 310 megawatts of clean energy (Michaelowa et al. 2020). In addition, from an adaptation perspective, climate finance can provide national and local governments with resources to cope with growing climate impacts. Examples include a range of projects across the globe such as the development of climate-resilient crops, natural flood control

systems, water conservation and mangrove protection. In addition to SDG 13, these projects can make a positive impact on multiple other SDGs, including SDG 2 on food security, SDG 3 on health and SDG 11 on cities and communities (UNDRR 2024).

While climate finance has the potential to significantly achieve synergies among the SDGs, improper use of funds can hinder the realization of such co-benefits. According to Savvidou et al. (2021), between 2014 and 2018, approximately 65% of climate finance (USD 30.6 billion) was allocated to mitigation in Africa, while only 35% (USD 16.5 billion) was directed towards adaptation. This is mainly because developed countries are more interested in funding mitigation projects worldwide for reducing global emissions but less inclined to support adaptation projects that would bring more benefits to host countries in the Global South (Khan et al. 2019). This imbalance in climate finance allocation has prevented developing countries vulnerable to climate change from taking necessary actions to implement the 2030 Agenda and subsequently further exacerbated global inequality (Khan et al. 2019). Ultimately, developing countries having limited resources are likely to suffer more from the impacts of climate change and further off track from the achievement of the SDGs.

Transparency and accountability are key issues that affect the effectiveness of climate finance. For example, corruption in the forestry sector can prevent the appropriate allocation of international funds provided to a certain country for forest protection. Information disclosure alone cannot solve the complex challenges in the allocation and implementation of many climate finance projects. Hence, stronger governance and accountability mechanisms are needed to ensure appropriate use of funds for the benefit of the public and people who are impacted by relevant projects (Tirpak et al. 2014). More efforts are also needed to achieve a fair distribution of mitigation and adaptation finance to better pursue co-benefits among the SDGs. Stronger monitoring mechanisms of capital flows and evaluate them against the Paris goals will help developing countries better access and use climate finance for sustainability transition (Weikmans and Roberts 2017). Finally, the private sector's contributions should be encouraged to attract more capital for climate action and harnessing its synergies with other SDGs.

In conclusion, ensuring the effective use of climate finance is important for achieving the SDGs. By improving transparency and addressing imbalances in financial allocation, climate finance can better promote sustainable development and strengthen resilience to climate impacts.

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Commission on Sustainable Development (CSD)

Pamela Chasek

The Commission on Sustainable Development (CSD) was the first United Nations body to institutionally link environment and development. Agenda 21, the outcome document of the 1992 United Nations Conference on Environment and Development, also known as the Earth Summit, called for the creation of the CSD, as a subsidiary body of the United Nations Economic and Social Council to ensure effective follow-up of the Earth Summit, enhance international cooperation and examine progress in the implementation of Agenda 21 at the local, national, regional and global levels. In 1992, the United Nations established the CSD's terms of reference and composition, organization of work, relationship with other United Nations bodies, Secretariat arrangements and guidelines for the participation of Major Groups (United Nations General Assembly 1992). Fifty-three countries were elected to the CSD. Other United Nations Member States, intergovernmental organizations and Major Groups could attend as observers. The CSD held its first substantive session in June 1993 and convened annually at the United Nations Headquarters for 20 years.

During its first five years, the CSD systematically reviewed the implementation of all chapters of Agenda 21. The second five-year programme of work was organized around sectoral, cross-sectoral and economic thematic issues: industry, strategic approaches to freshwater management and technology transfer, capacity-building, education, science and awareness raising; tourism, oceans and seas and consumption and production patterns; sustainable agriculture and land management, integrated planning and management of land resources and financial resources, trade and investment and economic growth; and energy and transport, atmosphere and energy and information for decision-making and participation and international cooperation for an enabling environment (Chasek et al. 2013).

Following the 1994 United Nations Conference on the Sustainable Development of Small Island Developing States, the CSD was given the responsibility to follow-up on the implementation of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States and review progress in the context of the CSD's Multi-Year Thematic Programme of Work (Chasek et al. 2013).

After the World Summit on Sustainable Development in 2002, the CSD was given the responsibility of providing policy guidance to follow-up on the Johannesburg Plan of Implementation. This plan reaffirmed that the CSD was the high-level forum for sustainable development within the United Nations system. Thus, the CSD's mandate was to coordinate the activities of other United Nations bodies as they relate to issues of sustainable development, analyse progress at the national, regional and international levels towards realizing Agenda 21 and the Johannesburg Plan of Implementation (United Nations General Assembly 2003). In response, in 2003 the Commission adopted a new

multi-year programme of work to be organized as a series of two-year implementation cycles. Each cycle consisted of a Review Session and a Policy Session and considered both a thematic cluster of issues and cross-cutting ones. The CSD 12 and 13 cycle adopted recommendations to address water, sanitation and human settlements. CSD 14 and 15 considered energy, industrial development, air pollution/atmosphere and climate change but did not reach agreement on any recommendations. The CSD 16 and 17 cycle adopted recommendations related to drought, desertification, agriculture, land, rural development and Africa. The CSD 18 and 19 cycle focused on the thematic cluster of transport, chemicals, waste management, mining and sustainable consumption and production, but was also unable to adopt any recommendations (Chasek et al. 2013).

By the time of the 2012 United Nations Conference on Sustainable Development (Rio+20), the CSD was seen as a largely ineffective body (Chasek 2000; Kaasa 2007). Rio+20 called for the United Nations General Assembly to create a High-level Political Forum on Sustainable Development to replace the CSD as the main forum for sustainable development issues within the United Nations (United Nations General Assembly 2013). The High-level Political Forum was created to overcome the CSD's perceived institutional weaknesses. The CSD never carried much political weight as a 53-member body under the United Nations Economic and Social Council. The High-level Political Forum, instead, has universal membership and meets every four years at the heads of state level at the United Nations General Assembly.

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Coordination

Maya Bogers

Coordination refers to the collaboration among various actors – including national and local governments, international organizations, civil society, non-governmental organizations and the private sector – to align their efforts towards the SDGs, so that

implementation of the goals is effective and efficient (Biermann and Kanie 2017; Breuer et al. 2023). While coordination may take place between any combination of these actors, here we focus on coordination by national governments, given that they are ultimately responsible for implementing the SDGs.

Coordination is of high importance in achieving the SDGs. The SDGs are interconnected, meaning that the issues embedded in the goals are interdependent (Biermann and Kanie 2017). Progress on one goal or target may have positive or negative effects on achieving other goals or targets (see *Interaction and Interlinkages*). For example, efforts to increase food security (SDG2) by expanding agricultural land may lead to co-benefits for employment (SDG8) but may have trade-offs with conservation efforts (SDG15). As a result, one actor's efforts to advance a goal may be synergistic or conflictive with other actors' efforts to advance other goals. Coordination is needed to ensure *policy coherence* and prevent conflicting efforts, inefficiencies and missed opportunities for synergy (Breuer et al. 2023).

SDG coordination by governments commonly takes place across three dimensions. First, governments coordinate between different policy domains, which is often referred to as horizontal coordination (Breuer et al. 2023). For this purpose, many countries have inter-ministerial committees or working groups. In Finland, the *Inter-ministerial Coordination Network* consists of focal points in each ministry to coordinate policies for the SDGs at the national level (Organisation for Economic Cooperation and Development 2018). In Estonia, representatives from all ministries and the statistics office collaborate in the *Inter-ministerial Working Group on Sustainable Development* to compile indicators, data and SDG monitoring reports (Mulholland et al. 2018).

Second, central governments coordinate with other levels of government, often referred to as vertical coordination (Breuer et al. 2023). To do so, countries can set up platforms or make use of *Voluntary Local Reviews*. In Mexico, the *National Council for the 2030 Agenda* was established as a platform for aligning efforts at the federal, state and municipal levels (Organisation for Economic Cooperation and Development 2018). In Argentina, the *National Council for Social Policy Coordination* has explicitly focused on local SDG implementation, using the Voluntary Local Review of the capital Buenos Aires to align local and regional efforts (Narang Suri et al. 2021).

Third, governments coordinate with non-state actors, which is often referred to as *multi-stakeholder engagement* (Breuer et al. 2023). In Georgia, the *SDG Council* provides a platform for state and non-state actors to come together to share and debate experiences on SDG implementation (Cázarez-Grageda 2019).

While coordination is an essential part of achieving the SDGs and much effort has been made to increase coordination, it remains a key challenge for SDG implementation. Ample national coordination bodies for the goals exist, many of which predate the adoption of the SDGs. These coordination bodies are often hampered by path dependencies and are not always able to overcome silo-structures (Nilsson et al. 2022). Studies show that the SDGs are not yet perceived holistically throughout governments (Breuer et al. 2023).

In sum, coordination is of the utmost importance to ensure coherence and efficiency in efforts to achieve the SDGs. This is especially necessary due to the interconnected nature of the SDGs and the collaborative effort of many stakeholders that is required to achieve the goals. Many countries have designated bodies to coordinate policies, implementation and data sharing for the SDGs. Such bodies coordinate across different levels of government, across different policy domains and among a diverse range of stakeholders. Despite efforts, coordination remains one of the key challenges in achieving the SDGs.

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Corporate Social Responsibility (CSR)

Philip Schleifer

The United Nations Industrial Development Organization defines corporate social responsibility as a management concept that seeks to integrate social and environmental concerns into business operations and companies' interactions with their various stakeholders (United Nations Industrial Development Organization 2024). On the global stage, driven by transnational corporations and their business associations, corporate social responsibility is closely intertwined with the United Nations' sustainable development agenda and the Sustainable Development Goals (SDGs).

Transnational corporations and their supply chains form the backbone of the global economy. These powerful actors have played a key role in the United Nations' sustainable development agenda since the 1992 Conference on Environment and Development in Rio de Janeiro and the formulation of Agenda 21. Ahead of the summit, international business leaders established the World Business Council for Sustainable Development, an important platform for agenda-setting, networking and policy advocacy on matters of corporate sustainability. The United Nations has also proactively sought business sector support for its sustainable development initiatives; in the early 2000s, former United Nations Secretary-General Kofi Annan launched the United Nations Global Compact, which outlined 10 global principles for sustainable corporate conduct. His successor, Ban Ki-moon, further emphasized the importance of United Nations-business partnerships, stating that 'partnerships with the private sector are crucial to achieving sustainable development' (United Nations 2013). Today, over 500 private-sector-led partnerships supporting the implementation of the SDGs are registered with the United Nations (United Nations n.d.).

The 2030 Agenda for Sustainable Development has been increasingly integrated into private governance initiatives, with research showing significant overlaps between the SDGs and the expanding landscape of voluntary sustainability standards, including organizations like the Forest Stewardship Council and Fairtrade International (Schleifer et al. 2022). To stimulate further private sector investment in SDG implementation, the United Nations-led Business and Sustainable Development Commission estimates that achieving the SDGs could create USD 12 trillion in market opportunities by 2030 (Business and Sustainable Development Commission 2017). This, among other calls to action, has prompted a surge in SDG-themed business initiatives. Today, most major companies worldwide provide detailed information about their SDG-related activities in their annual reports.

While these developments indicate that business actors have played an active role in advancing the United Nations' sustainable development agenda and implementing the SDGs, criticisms remain. One major critique is that many business engagements with the SDGs are superficial, limited to symbolic or discursive actions. Despite the growing centrality of sustainable development in corporate discourse, many unsustainable business models that degrade the environment and exploit workers in global supply chains have remained largely unchanged. In this context, companies have been accused of 'SDG washing' – presenting a façade of commitment to the SDGs without enacting substantive changes (Heras-Saizarbitoria et al. 2022).

Furthermore, the aggregate impact of corporate sustainability activities is often limited. Research on leading consumer goods companies, for instance, suggests that their sustainability strategies fail to address the root causes of environmental degradation, such as overconsumption. While major brands like Coca-Cola, McDonald's and Walmart are making efforts to reduce the resource intensity and pollution of their products, their business models still prioritize profit maximization through high sales volumes. Consequently, despite increased eco-efficiency per unit sold, the overall environmental impact may remain negative (Dauvergne and Lister 2012).

Transnational corporations wield significant influence over issues like climate change, biodiversity loss, workers' rights and livelihoods globally, making them critical actors in achieving the SDGs. However, to date, their corporate social responsibility activities and engagement with the SDGs has often been too shallow to be transformative. Voluntary, private corporate social responsibility measures alone have proven insufficient. Moving forward, a shift towards robust public regulation is needed to ensure that corporate activities meaningfully contribute to sustainable development and address the pressing challenges facing our world today.

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Custodians

Thiago Gehre Galvão, Denise Kronemberger and Rodrigo Correa Ramiro

Custodian agencies are primarily international organizations responsible for developing new methodologies, collecting data, allowing data aggregation and harmonization, improving national statistical capacity and providing data on the 232 indicators for annual Sustainable Development Goals (SDGs) reports (United Nations Statistical Commission 2017). The metadata generated by the custodians (United Nations Department of Economic and Social Affairs 2024) is a guide for countries to produce data on their indicators, ensuring data standardization and allowing comparisons among them. More than half of the SDG indicators have more than one organization responsible for them. The ten custodian agencies with most indicators are the World Health Organization (32 indicators), United Nations Environment Programme (26), the World Bank (23), Food and Agricultural Organization (21), United Nations Educational, Scientific and Cultural Organization (18), United Nations Office on Drugs and Crime (17), United Nations Children's Fund (13), International Labour Organization (13), United Nations Office for Disaster Risk Reduction (11) and United Nations Habitat (9) as of 2024.

Custodians are collaborating in their specific area of expertise with national governments, local governments and civil society organizations on diverse issues related to SDG implementation. They provide capacity-building and technical assistance to countries and contribute to improving their statistics about the SDGs. For instance, custodians cooperate by implementing monitoring and evaluation mechanisms on development and poverty eradication; strengthening data production capabilities on health and education; disseminating data-related initiatives on human rights of vulnerable population groups, as well as indicators on employment and labour rights. Custodian agencies work together with National Statistical Offices (United Nations General Assembly 2017) and have focal points for each SDG indicator; countries have national focal points who receive requests for sending or validating data and filling out questionnaires that result in the production of indicators. This focal point system aims to facilitate the dialogue between countries and custodian agencies in producing aggregated data on global SDG indicators.

The work of custodian agencies is connected to the implementation of the Cape Town Global Action Plan for Sustainable Development Data (Cape Town Global Action Plan for Sustainable Development Data 2017). This Action Plan is a framework aiming to organize global data and to inform sustainable development policymaking in six strategic areas: the coordination and strategic leadership on data for sustainable development; the innovation and modernization of national statistical systems; the strengthening of basic

statistical activities and programmes, addressing the needs of the 2030 Agenda; the dissemination and use of sustainable development data; multi-stakeholder partnerships for sustainable development data; and resources mobilization and coordination efforts for statistical capacity-building.

The main challenges faced by custodians relate to that global governance system that is highly fragmented, oscillating between ad-hoc coordination efforts and the dominance of one agency. This creates inefficient data collection and capacity-building regarding the monitoring of progress of SDG implementation, especially on complex issue areas such as health, environment and climate. Institutional fragmentation also undermines custodians' power on the global architecture of SDG progress evaluation (van Driel et al. 2022). In addition, the lack of clearer institutional leadership weakens the orchestration ability of custodian agencies in the monitoring of SDG targets and indicators.

In sum, custodian agencies are relevant agents of the SDG framework at national and international levels. They have the potential to accelerate SDG implementation by inducing the transposition of global indicators into national and local indicators, a strategic step towards localizing the 2030 Agenda and fighting inequalities in local contexts (Galvao and de Menezes 2024).

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D

Data gaps

Guilherme Iablonovski, Isabella Massa and Samory Toure

Progress towards achieving the Sustainable Development Goals (SDGs) has been slower than anticipated (Sachs et al. 2024). One serious problem, among others, are data gaps (Espey 2019). Without timely, relevant and disaggregated data, policymakers are unable to identify challenges, allocate resources and gauge the effectiveness of sustainable development initiatives. The United Nations global indicator framework encompasses 232 indicators. Official datasets, endorsed by the United Nations Statistical Commission, are collected and submitted by custodian agencies and member states. Nonetheless, numerous institutions and researchers calculate indicators independently (Sachs et al. 2024).

Despite improvements, only 54 out of 193 United Nations member states have data availability for at least 50% of SDG indicators. Data on goals like SDGs 5 (Gender Equality), 13 (Climate Action) and 16 (Peace, Justice and Strong Institutions) is particularly scarce (Goessmann et al. 2023). Statistical capacity gaps, lack of political leadership and inadequate financing are some of the key factors leading to data challenges and differences in data availability across countries (Sustainable Development Solutions Network TReNDS 2019). Moreover, the adoption of the United Nations global indicator framework is voluntary and countries prioritize indicators based on their specific needs and data-collection capabilities, thus leading to inconsistencies in data quality and availability as well as to issues of data comparability across countries.

To address data gaps and improve SDG tracking, crucial actions can be leveraged. Firstly, more investment in national statistical systems is needed to enhance data collection and overall development. A global commitment to increase the share of Official Development Assistance allocated to data would be beneficial (Goessmann et al. 2023).

Secondly, tailored capacity-building, training and support for national statistical offices, as seen in programmes of international organizations, can significantly improve data collection, analysis and reporting (United Nations 2023). For instance, the United Nations Population Fund supports population and housing censuses – a key source of socioeconomic and development data – across multiple countries.

Thirdly, expanding beyond countries and custodian agencies-led efforts can enhance data availability. Partnerships between non-governmental organizations, public and

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private sectors can leverage diverse data sources and improve data collection. Civil society organizations, such as the UN Sustainable Development Solutions Network, Oxfam, the Tax Justice Network and Reporters Without Borders, as well as peer-reviewed journals, produce valuable data for SDG indicators following rigorous data validation processes (Sachs et al. 2024). For example, in the latest edition of the UN Sustainable Development Solutions Network's Sustainable Development Report (Sachs et al. 2024), official and extra-official data sources providing global coverage informed 42% of all SDG indicators.

The use of global geospatial data, such as satellite data (for example, Sentinel, Landsat) and citizen-generated data (for example, OpenStreetMap), may also facilitate data collection – approximately 20% of SDG indicators can be measured using geospatial data – while offering high accuracy, consistency across space and global comparability (IAEG-SDG WGGI 2018). International agencies may use remote sensing datasets to calculate globally comparable indicators (for example, Iablonovski et al. 2024) and provide subnational results to official authorities for review.

Finally, enhancing data transparency and accessibility can lead to better decision-making. Aggregating data on online platforms and ensuring they are up-to-date and comparable can empower stakeholders and foster accountability (United Nations 2023). The development of common principles and standards for data gathering may also contribute to enhancing data comparability across countries and the capacity to integrate data from different sources (Sustainable Development Solutions Network TReNDS 2019).

Bridging the data gap is essential for realizing the SDGs and ensuring effective and equitable efforts towards sustainable development. By investing in national statistical systems, adopting innovative data-collection methods, building capacity and improving transparency, we can address data deficiencies and make meaningful progress towards the SDGs.

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Development banks

Elise Dufief

The 2030 Agenda calls to 'pursue policy coherence and an enabling environment for sustainable development at all levels and by all actors' (United Nations General Assembly 2015). In Article 2.1 (c), the Paris Agreement calls for 'making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development' (United Nations 2015). With now more than 500 institutions worldwide, owning around USD 23 trillion in assets and providing more than 10% of the world's annual investment, public development banks matter for the financing of Sustainable Development Goals (SDGs) (Mazzucato 2023). In 2020, at the first Finance in Common Summit, a group of public development banks committed to aligning their activities with the SDGs (Finance in Common 2020).

In practice there is no common definition of SDG alignment for public development banks, but a number of guidelines exist. The Organisation for Economic Cooperation and Development has put forward two dimensions to guide alignment efforts: equality (that is, resources should be mobilized to leave no one behind) and sustainability (that is, resources should accelerate progress on the long term while doing no other significant harm to other dimensions) (Organisation for Economic Cooperation and Development 2020).

At a more operational level, Riaño et al. (2022) have developed four principles to guide the actions by public development banks: lead internally; develop a holistic vision true to the integrated nature of the 2030 Agenda; mobilize transformative investments; and better integrate SDGs in policies. These have been further developed by the International Development Finance Club (a global network of selected development banks) and the sustainable development unit of Natixis (a French commercial bank) around a methodological guidance to support its members towards SDG alignment at the three levels: entity, activity and external partners (International Development Finance Club and Natixis 2022). These efforts are attempts to structure an approach of alignment for public development banks. They also created their own working group within the Finance in Common Summit. However, practices remain scattered. The challenge is now for public development banks to move from being SDG alignment takers (for their own business model) to being SDG alignment enablers (supporting country priorities and needs).

Most public development banks now embed SDGs and the 2030 Agenda in their long-term plans and adopt an institution-focused perspective to include climate-compatible and equitable socioeconomic dimensions in their financing decisions and project cycles (Riaño et al., 2022). For example, the Asian Development Bank launched an institution-wide reform, informed by an evaluation, which led to the development of a theory of change for the bank and its partners to align on the SDGs. It included a staff reorganization and new ways of working with countries of operations (Dufief and Barchiche 2022).

But these commitments tend to remain discursive. Only a few manage to apply them in their decision-making at the project level, with a view to maximizing co-benefits, redirecting harmful finances and avoiding trade-offs. Reducing alignment to an SDG mapping exercise, for internal and reporting purposes only, misses the point of creating impact for sustainable development. As a good practice, the Agence Française de Développement (French Development Agency) has developed a sustainable development analysis tool to

assess ex-ante the proposed contribution of a project to the SDGs, an assessment that weighs on the allocation (Dufief and Barchiche 2022).

Fewer public development banks manage to fully reach the last mile in their alignment efforts to support sustainable transformations in countries of operation. Since the SDGs are collective objectives, they come with shared responsibilities. Hence, public development banks also have a role to play in supporting national efforts towards alignment of national plans and policies with the SDGs. Enhancing this kind of support by public development banks at the country level would go a long way in current efforts to mobilize funds more efficiently while advancing the 2030 Agenda.

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Discourse and discursive effects

Ilona Rac and Karmen Erjavec

Discourse analysis, which has been developed by theorists like Ferdinand de Saussure, Michel Foucault and Norman Fairclough, studies how language shapes social realities and reinforces power relations – a phenomenon recognized as the *discursive effect*. Foucault for instance has argued that powerholders use language to define what is accepted as 'truth', systematically excluding alternative perspectives, thus shaping societal norms and legitimizing dominant ideologies. Fairclough explores how language use in institutions and policies reinforces power structures (Fairclough 2013). Discourses shape how problems are understood and addressed, legitimizing certain actions and playing a central role in power dynamics.

In the context of the Sustainable Development Goals (SDGs), discourse analysis reveals how different discourses around the concept of sustainable development shape the understanding, prioritization and implementation of these global goals. Sustainable development can thus be seen as a discursive construct that constructs power relations and knowledge systems, positioning actors and practices in particular ways (Schojan et al. 2024). The SDGs, while intended to be a universal framework for sustainable development, are inherently shaped by competing discourses, which affect their governance and prioritization of outcomes. This discursive plurality has important implications for the SDGs' aspirations towards universality.

Sustainable development, although promoted as a forward-looking development paradigm, has also been seen as highly problematic and contested (Stough 2023). Firstly, the concept is ambiguous, facilitating adaptation to different contexts and stakeholders; secondly, it is criticized for aligning with neoliberal agendas by framing sustainability within a market-centric and growth-oriented paradigm (Redclift 2005; Weber 2017). In this discourse, sustainability is framed as compatible with and even reliant upon continued economic growth, technological progress and market-based solutions. Such framing appeals to political elites and allows countries to prioritize socioeconomic SDGs over environmental ones or addressing social equity issues (Biermann et al. 2022).

For example, multinational corporations and financial institutions can dominate the policy space and SDG implementation, which can marginalize local communities and vulnerable populations (Southern Voice 2020; Weber 2017). Biermann et al.'s (2022) analysis of the political impact of the SDGs concludes that the SDGs influence global conversations and values by framing development issues with terms like 'leaving no one behind'. However, they argue this shift is mostly symbolic; the discourse has changed, but it has not led to substantial policy or institutional reform. This reflects the fact that language alone does not necessarily challenge underlying power structures, but can reinforce them instead.

Discourse analysis also highlights the ideological disputes underpinning the implementation of the SDGs. Different actors – governments, international organizations, civil society groups and the private sector – advance competing visions of sustainable development with different implications for governance (Stough 2023). While some discourses advocate deep structural reforms, others align with established economic and political interests and promote more conservative, incremental approaches (Hopwood et al. 2005; Stough 2023). The discourse of 'shared responsibility', as promoted by SDG 17 (Partnership for the goals), for example, suggests that all social actors – states, businesses and individuals – must contribute to sustainable development. However, this narrative often obscures underlying power imbalances, blurs accountability and gives dominant actors disproportionate influence over SDG implementation while minimizing their responsibility for adverse outcomes. Simultaneously, alternative frameworks for sustainability, particularly those that challenge prevailing economic paradigms, tend to be marginalized, as the status quo and prevailing political and power structures are mutually reinforcing (Hopwood et al. 2005).

Discourse analysis indicates that the implementation of SDGs is significantly influenced by the power structures embedded in the discourses that define and perpetuate prevailing interpretations of sustainable development. These discourses shape which goals are prioritized and how they are pursued, reflecting the decision-making authority in SDG governance. Recognizing these dynamics is essential for revealing the underlying ideological and power shaping SDG implementation, providing a foundation for promoting changes that are not only effective but also equitable and genuinely transformative.

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E

Education for Sustainable Development

Thiago Gehre Galvão and Crystal Green

Education and learning are at the heart of the implementation of the Sustainable Development Goals (SDGs). Multiple channels of formal and informal education create a system of learning by example, circulating ideas and practices on how to implement the 2030 Agenda worldwide. Education is a structural transformative force that can influence the accomplishment of all 17 SDGs, encourage an interdisciplinary and transversal approach, enlighten critical thinking and trigger a synergetic interpretation of the SDGs (Ferrer-Estévez and Chalmeta 2021).

SDG 4 targets education. It aims to improve the quality of education, which is expected to positively influence income generation, job growth, reduction of inequalities and life change opportunities. SDG 4 indicators serve to bring political coherence and accountability among governments and stakeholders by allowing the measurement of educational policies, their quality and the degree of collaboration through partnerships and international cooperation. In addition, SDG 4 contains elements that could forge a new cultural frame of social relations that prioritize inclusiveness, equality and opportunities more than meritocracy. Therefore, SDG 4 could impact both SDG politics (the system of formulation, decision and implementation of policies related to the SDGs into societies) and SDG culture (the integration of ideas, beliefs, habitus and practices related to the SDGs into systems, institutions and territories) (Cabral and Galvão 2022).

One substantial concept for implementing SDG 4 is Education for Sustainable Development, which seeks to integrate and make sense of complex environmental, economic and social phenomena. It is embraced in Target 4.7, which focuses on the acquisition of knowledge and skills needed to promote a broader concept of sustainable development, include human rights, gender equality and the promotion of a culture of peace, non-violence and diversity (Sarabhai 2015). Through education and learning, it is possible to focus on implementing integrated innovative SDG-led solutions. In addition, it is in the field of education where we can access intellectual tools (concepts, theories and traditional knowledge) on how to localize SDG implementation in different contexts, particularly along the Global North/South divide (Galvão et al. 2024).

The adoption of the SDGs impacted education and learning by creating opportunities and allowing agents to challenge entrenched inequalities. First, methods and strategies

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for SDG integration within undergraduate and graduate courses are influencing curriculum, teaching methods and pedagogical approaches (Serafini et al. 2022). These include, for instance, concept maps and case-based learning to identify synergies and solve problems from an SDG perspective. Moreover, SDG territorialization is driven by outreach activities that connect pedagogical tools of Education for Sustainable Development with practical knowledge. Second, institutional adaptations are created because of the SDGs, such as specialized centres and administrative units inside universities, schools and other bureaucracies to follow SDG implementation, as well as specific funds and public notices for the development of SDG-oriented actions (Hickmann et al. 2024).

Some persistent challenges are the lack of awareness of the SDGs and the lack of financial, human and material resources. There is also a competition of education models in the processes of standardization and privatization of education. Moreover, global education is marked by a dynamic of knowledge production and practices that do not consider synergies and local contexts, power relations and asymmetries between the Global North and South (Galvão et al. 2024).

Educators use the SDG as a sort of language to communicate ideas, values and solutions linked to sustainability transformation; to share living experiences related to sustainability and social inclusion; and to address decolonial and pluriversal perspectives of development (Hickmann et al. 2024). In sum, education and learning for the SDGs encompass a language that connects people, institutions, countries and regions, paving the way for an inclusive, just and sustainable society in the 21st century.

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Effectiveness

Moira V. Faul, Liliana B. Andonova and Dario Piselli

The notion of effectiveness is central to discussions of the Sustainable Development Goals (SDGs) and to their implementation. Ever since their adoption, the SDGs have served as a normative framework for benchmarking progress towards sustainability. And yet, as

the world continues to be off track to achieve the 2030 Agenda (United Nations 2024), critical questions on more effective implementation remain. To address continuing challenges in conceptualizing, measuring and operationalizing effectiveness for sustainability, we define effectiveness as the contribution to implementing the SDGs through a set of pathways and institutional factors that affect actors and their collective capacity to advance relevant objectives and public purpose (Andonova et al. 2022).

Multiple approaches exist to assess the effectiveness of the SDGs. So far, the formal attainment of targets and indicators, including variation across and within SDGs and polities, has been the main approach to understanding effectiveness. In this way, statistical knowledge is codified into authoritative practice in SDG monitoring. The elaboration of quantitative indicators provides opportunities to monitor certain aspects of SDG implementation and for comparability across institutions and SDGs. However, quantification narrows the scope of the SDGs to what can be measured only and elides other forms of knowledge (Mbembe 2019). Furthermore, even if the adopted indicators show goal attainment, effectiveness could be endogenous to their level of ambition and/or external factors (Andonova et al. 2022; Widerberg et al. 2023).

Effectiveness also goes beyond a single SDG. Detecting the many cross-cutting and interconnecting aspects of the SDGs is needed to facilitate theoretical and methodological advances in research and also inform more systemic and effective solutions for sustainability. Since SDG interlinkages vary across world regions, effectiveness depends on detecting those nexuses that are relevant to different localities rather than assuming global homogeneity (Faul and Laumann 2024).

In practice, however, concerns abound about the effectiveness of governance by goal-setting and the SDGs. While the SDGs have been effective in framing discourses around sustainable development, they show otherwise limited political impact (Biermann et al. 2022). The integration of SDG objectives into national policies and agency capacities is unclear and highly variable. Subnational governments and coalitions appear to be more proactively integrating the SDGs into their work, and while international organizations have orchestrated interlinkages across SDGs, they appear to lack sufficient capacity for their effective implementation.

Therefore, another prominent line of inquiry focuses on the effectiveness of multi-stakeholder partnerships as the 'means of implementation' (SDG 17.16 and 17.17) towards achieving sustainable development and legitimating global governance (Andonova 2017). However, many partnerships are inactive, and many lack resources for achieving their objectives (Widerberg et al. 2023). While a partnership may be successfully established, causal analysis is needed to link a partnership with problem-solving for sustainability (Andonova et al. 2022).

Research suggests several criteria that need to be fulfilled for more effective implementation. For instance, the effectiveness of multi-stakeholder partnerships for the SDGs should depend on five different conditions, including goal attainment, effective collaboration, value created for partners and impacts on other institutions and on affected constituencies (Andonova et al. 2022). Other factors shaping effectiveness of SDG implementation have also been identified, such as examining contractual arrangements, credible commitment of resources, adaptability and innovation. This theoretical approach can be applied across different areas, disciplines and levels of governance, using complementary methodologies to fully assess potential contributions to SDG effectiveness. Working with an expanded conceptualization of effectiveness – such as that we offer here – will be crucial to realizing the SDGs and developing the next global sustainability agenda.

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F

Finance mechanisms

Aurelie Charles

Accelerating the implementation of the Sustainable Development Goals (SDGs) after the setback from the COVID-19 crisis demands that SDG financing be upscaled, from billions to trillions annually, in order to close the so-called financing gap (Mazzucato 2023). Such a challenge requires a variety of financing mechanisms, each playing a pivotal role in addressing the multi-levelled governance challenges posed by SDG implementation. Current finance mechanisms include public financing (taxation, for example), private sector investment, blended finance (public and private), development finance (from microfinance to Official Development Assistance) and new financing tools such as payment for ecosystem services and debt-for-nature swaps. These are channelled through diverse stakeholders seeking to achieve financial performance and/or developmental goals to various degrees. They range from financial speculators in financial markets, philanthropes giving to foundations and non-governmental organizations, to governments with multilateral development banks and development finance institutions for Official Development Assistance, impact investment or debt-for-nature swaps.

Since 2015, the landscape of SDG financing has evolved from looking at the source of financing, that is, private or public, to financing by purpose, that is, development or commercial finance flows (Organisation for Economic Cooperation and Development 2018). This reconciles the trade-off between short-term financial returns and long-term goals while also allowing a focus on the context-based impact of investments. Over the last 40 years of financialization, while global finance has been increasingly in private hands, public financing has remained a cornerstone for SDG implementation. Governments allocate budgetary resources to critical SDG areas such as healthcare, education and infrastructure with an ideal United Nations target of 0.7% of gross national income going towards Official Development Assistance. Development aid and grants from international organizations and developed countries also form a significant part of public financing. These funds are often channelled through multilateral development banks and development finance institutions or initiatives like the Green Climate Fund, which supports projects aimed at mitigating climate change impacts in developing countries, which are most in need of support for SDG financing (Kharas and McArthur 2019; Mawdsley 2021).

Given the scale of investment required, private sector investment is increasingly recognized as essential for SDG implementation as long as financial motives are not tapping

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into groupthink to create unsustainable patterns of speculative investments and resource use (Charles 2024). As argued by Mazzucato (2023), channelling finance towards mission-oriented goals and public-private investments through multilateral development banks is reducing the risk and uncertainty linked to the volatile nature of financial flows on SDG targets, while maximizing the social impact of development finance. Blended finance has therefore emerged as a mechanism that combines public and private resources to leverage greater total investment for SDG-related projects. This approach aims to de-risk investments for private financiers by using public funds as a buffer, thereby attracting private capital into sectors and areas that are otherwise deemed too risky.

The current finance mechanisms for the SDGs are based on purpose or mission with blended finance, which alleviates the speculative threat and volatility of private finance. Assessing and monitoring the contextual impact of investment decisions has also become central to ensuring the stability of long-term goals. To accelerate and close the financing gap, however, there is an urgent need for restructuring the global governance of finance to account for the voice of developing countries (Griffiths 2018) and to channel finance locally for a more resilient economic system. What makes an economic system resilient? It is one that first recognizes the role of group behaviour in financial accumulation and manages to redirect its excesses where needed (Charles 2024).

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Fragmentation

Joshua Philipp Elsässer and Fariborz Zelli

Fragmentation has emerged as a concept to capture the rapid growth and differentiation of international institutions in the past decades. It captures the decentralized and evolving nature of the contemporary international system, where a diverse set of institutions

– both intergovernmental and transnational – coexist, overlap and interact (Elsässer et al. 2022). The concept has been defined as a 'patchwork' of international institutions – organizations, regimes and norms – that vary in type, scope (from local to global) and focus areas (Biermann et al. 2009, 16). Often used interchangeably with related terms like institutional complexity, fragmentation itself carries no inherent positive or negative connotations and does not imply a normative preference for a centralized authority. Fragmentation primarily describes an empirical phenomenon, which may produce complementary, synergetic or even conflicting relationships among institutions. At the level of actors, high degrees of fragmentation may render difficulties in navigating and developing adequate responses to transboundary problems.

Global sustainability governance is a policy domain characterized by a particularly high degree of fragmentation. The regulatory scope of the Sustainable Development Goals (SDGs), for instance, ranges from transboundary environmental problems to human development, global health, trade and even security. Given the absence of an overarching institutional framework, governing sustainable development has come to involve multiple, interdependent regimes, each with its own varying degrees of fragmentation and different institutional centres (Zelli 2011). This decentralized structure presents both opportunities and challenges. On the one hand, the presence of diverse institutions creates more opportunities for alliances aimed at addressing transboundary environmental issues (Hickmann and Elsässer 2020). On the other, there has been frequent competition among international institutions for regulatory primacy, as illustrated by emissions trading, a key issue in both the United Nations climate regime and the World Trade Organization (Zelli and van Asselt 2010). Moreover, powerful governments frequently engage in 'forum-shopping' behaviour to achieve their policy goals within preferred forums, thereby juxtaposing economic growth with environmental concerns (Kellow 2012).

There are still key knowledge gaps with regard to fragmentation in global sustainable development governance despite significant progress in mapping and analyzing the phenomenon. First, we need to know more about how fragmentation interacts with new forms of power, accountability and legitimacy within complex institutional systems, particularly regarding issues of equity and justice. This is particularly relevant to understand fragmentation amid the rise of transnational governance or the crisis of multilateralism (Sommerer et al. 2022). Second, fragmentation studies have predominantly drawn on institutionalist perspectives in international relations research and thus leave room for a more interdisciplinary research agenda going forward. Such new research could complement existing approaches beyond international relations scholarship on interplay management and the role of agents in coping with fragmentation (e.g., Elsässer 2024). Third, we also need a deeper understanding of the means and mechanisms driving fragmentation, while also taking into account new societal developments. For example, incorporating perspectives from science and technology studies, research on fragmentation may investigate how human-technology interfaces and data use contribute to governance complexities.

For practitioners, understanding fragmentation is essential to navigate both its challenges and opportunities, especially in global sustainability governance. Fragmented governance structures can complicate coordination efforts due to overlapping mandates and the diversity of actors and institutions involved. This often results in inefficiencies or sometimes even conflicts. At the same time, fragmentation offers flexibility, allowing policymakers to utilize multiple institutions to address specific needs that may exceed the capacity of any single forum. To manage fragmentation effectively, practitioners should harness the potential of institutional integration and, for instance, strengthen skills in network coordination, cross-sector learning and interplay management.

In relation to the SDGs, considerations of fragmentation should already be embedded in early stages of policy development and implementation, rather than dealing with fragmentation after policy goals have already been established. A proactive approach to fragmentation may thus foster more coherent and adaptable governance for sustainable development.

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G

Gender mainstreaming

Antra Bhatt, Laura Rahm and Tara Patricia Cookson

Gender mainstreaming was first introduced as a global strategy to promote gender equality in the 1995 Beijing Platform for Action. It was defined as 'the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels' (United Nations Economic and Social Council 1997, 3). Gender mainstreaming is thus a means to achieve gender equality, rather than an end in itself.

The gender mainstreaming approach of the Millennium Development Goals was criticized for being technocratic and donor-driven (Palmary and Nunez 2009). By contrast, the Sustainable Development Goals (SDGs) opened pathways for greater local expertise and national ownership, pointing towards a *Gender Mainstreaming 2.0* approach (Novovic 2023). In practice, however, gender mainstreaming remains an unachieved agenda.

The 2030 Agenda for Sustainable Development emphasizes the ambition to realize human rights for all, including achieving gender equality and empowerment of all women and girls (United Nations General Assembly 2015). The adopted resolution explicitly states that 'the achievement of full human potential and of sustainable development is not possible if one half of humanity continues to be denied its full human rights and opportunities' and that 'the systematic mainstreaming of a gender perspective in the implementation of the Agenda is crucial' (United Nations General Assembly 2015, 6). Thus, the monitoring of the SDGs is expected to consider progress on a stand-alone goal (SDG 5) as well as gender as a cross-cutting issue influencing all other SDGs.

Gender mainstreaming has been particularly impactful in areas like education and maternal health. In education, efforts have focused on ensuring equal access for girls and boys. Global gender parity in primary and lower secondary education was achieved in 2009 and in upper secondary education in 2013, even if specific countries have followed various trajectories towards or away from parity. In maternal health, gender mainstreaming has been instrumental in addressing maternal mortality and reproductive health services as critical components of SDG 3. In countries like Rwanda, gender-sensitive health

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interventions have improved maternal survival rates by expanding access to prenatal and postnatal care.

Despite these wins, barriers to mainstreaming gender across all the SDGs remain. Data gaps are part of this story: 4 of the 18 indicators and sub-indicators under SDG 5 cannot be fully assessed globally. Out of 232 indicators selected for global monitoring of the SDGs, only 52 are gender-specific (Bhatt et al. 2024). Structural power imbalances, especially in resource sharing, are missing from the SDGs (MacGregor and Ursula Mäki 2023). For instance, climate-related goals such as SDG 13 (Climate Action), SDG 14 (Life Below Water) and SDG 15 (Life on Land) overlook gendered dimensions of access to natural resources and the vulnerabilities of women farmers. A major challenge has been data disaggregation to identify and monitor progress for groups that face multiple inequalities and deprivations and deliver on the promise to 'leave no one behind' (United Nations Women 2018).

Gender mainstreaming is a powerful tool for SDG implementation that can ensure that gender perspectives are incorporated into all aspects of policy and programme development. Its implementation, however, faces challenges. Tokenistic approaches, data gaps and political resistance continue to undermine efforts towards gender equality. To fully realize its transformative potential, a more comprehensive and intersectional approach is needed, supported by robust data and accountability mechanisms such as the Gender Equality Marker, Voluntary National Reviews and a stocktaking of gender mainstreaming efforts by policymakers during the annual Commission on the Status of Women (United Nations Women 2018). Only then can the SDGs be inclusive and effective in addressing the gendered dimensions of sustainable development.

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Global Sustainable Development Reports (GSDR)

Shirin Malekpour and Cameron Allen

The Global Sustainable Development Report (GSDR) is a science-policy report prepared every four years by an Independent Group of Scientists appointed by the United Nations Secretary-General to synthesize available evidence on how transformational change to achieve the Sustainable Development Goals (SDGs) could be facilitated. The GSDR was mandated in 2016 by the United Nations (UN) member states as an important component of the review and follow-up process for the 2030 Agenda. The Ministerial Declaration (E/HLS/2016/1) of the High-level Political Forum on Sustainable Development asked for the report to provide strong evidence-based instruments and recommendations to support policymakers in advancing sustainable development. It also requested the formation of the Independent Group of Scientists for each quadrennial report, comprising 15 independent experts from diverse scientific disciplines, ensuring geographical and gender balance. This was a shift away from prototype editions of the GSDR prior to the adoption of the SDGs that were written within the United Nations system.

The GSDR differs from and complements the Sustainable Development Goals progress report prepared annually by the United Nations. The Sustainable Development Goals progress report uses the global indicator framework and data from national or regional statistical systems to quantitatively report on SDG progress. The GSDR, on the other hand, is more qualitative and analytical in nature, with a focus on providing frameworks, tools and policy recommendations for SDG transformations. Government officials and policymakers in United Nations member states are the main audience of the GSDR. Countries, such as Germany, have adopted the frameworks offered by the GSDR in their national sustainable development planning and strategy making (German Federal Government 2021). The report has also been used by other societal actors and in different sectors (for example, Allen et al. 2024; United Cities and Local Governments 2024).

While the GSDR relies on scientific evidence, extensive consultation is undertaken in different regions and input is sought from different sectors at all levels, including governments, the private sector, scientific bodies and expert groups. The report also draws on other major assessments and substantive reports prepared by the United Nations system or other global and regional policy organizations. The draft is peer-reviewed by a large international group of experts from various fields.

The first GSDR was launched in 2019 and the second in 2023 (Independent Group of Scientists 2019, 2023). Both reports identified six 'entry points' that offer the most promise for transformations at scale and support a systemic approach considering SDG interconnections. The entry points are: human well-being and capabilities, sustainable and just economies, sustainable food systems and healthy nutrition, energy decarbonization with universal access, urban and peri-urban development, and global environmental commons. Both reports also suggested 'levers' of change, highlighting the means of implementation and the multiple and complementary roles different societal actors can play in SDG transformations. The levers include governance, economy and finance, individual and collective action, science and technology, and capacity-building.

With the COVID-19 pandemic between the two reports, the 2023 GSDR emphasizes the need for accelerated and strategic action to turn the dial on SDG progress. It

synthesizes evidence from global scenario modelling to highlight that business-as-usual action will not achieve the SDGs by 2030 or even 2050. However, working through the six entry points and setting deliberate policies could unleash rapid progress. The report lists key transformative shifts and interventions that can accelerate progress across different entry points. The 2023 report also provides a framework for understanding the different phases of transformation as they unfold over time, highlighting impediments and enablers in each phase. The framework emphasizes that transformation processes need to be strategically driven from emergence to acceleration to stabilization, while unsustainable systems need to simultaneously go through phases of decline. The next GSDR is expected to be published in 2027 and lay the scientific foundation for the post-2030 global agenda.

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Governance by global goal-setting

Norichika Kanie

Governance by global goal-setting is an emerging concept which was conceptualized during the formulation of the 2030 Agenda and the Sustainable Development Goals (SDGs). It can be regarded as a strategy of global governance that is based on the idea of setting a wide range of goals around a particular issue. In the case of the SDGs, goals and associated targets, which describe further details of the goals, do not include explicit means of implementation. Rather, a variety of implementation pathways can emerge so long as they are heading towards the goals. Such a process provides an opportunity for partnerships and collaboration as well as social and technical innovations.

Goal-setting is not an entirely new phenomenon or a novel practice in international relations and global governance (Kanie and Biermann 2017). In fact, most international institutions, United Nations programmes or multilateral agreements are rooted in broad goals and objectives, such as peace and justice or protecting the global climate. The United Nations Framework Convention on Climate Change, for example, states as its objective in Article 2: 'to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level

that would prevent dangerous anthropogenic interference with the climate system' (United Nations 2015).

The SDGs, however, differ from those cases of goals and objectives by both quantity and quality: quantity in terms of their wide range of coverage, involving basically all issues related to sustainable development, and quality in terms of detailed description of targets and target years associated with the goals (Kamau et al. 2018).

The characteristics of governance by goal-setting can be further clarified by comparing them with governance by rule-setting, which is represented by international regimes as a set of rules (Young 2017). Governance by goal-setting is future-oriented; therefore, its governance forms are back-casting in nature, whereas governance by rule-setting is based upon the legal framework and forecasting in nature. International negotiations for governance by goal-setting is a consensus-making process for sharing goals and visions, whereas governance by rule-setting is marked by changes within legal frameworks. There is thus no fixed implementation mechanism associated with governance by goal-setting, and it is also not legally binding.

This nature could be regarded as weaknesses of governance by goal-setting, but at the same time it leaves space for innovation in ways of implementation, which could be a strength and potentially an integrative force for many stakeholders involved in the global endeavour to achieve global goals.

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H

High-level Political Forum on Sustainable Development (HLPF)

Thomas Hickmann

The High-level Political Forum on Sustainable Development (HLPF) was formally established in July 2013 through a resolution of the United Nations General Assembly (United Nations 2013). It is a key outcome of the 2012 United Nations Conference on Sustainable Development held in Rio de Janeiro, Brazil. The HLPF replaced the earlier Commission on Sustainable Development that was widely seen as being incapable of attracting the attention of high-level policymakers and of fostering concrete actions and policy impact on sustainable development (Abbott and Bernstein 2015). Therefore, the HLPF was endowed with a stronger mandate to provide political leadership for sustainable development, and it was designed as the central platform for the review and follow-up of the 2030 Agenda and the Sustainable Development Goals (SDGs). In the annual events of the HLPF at the headquarters of the United Nations in New York, heads of state, ministers and societal stakeholders assess the progress of SDG implementation, and countries submit and present their respective Voluntary National Reviews.

While the HLPF takes a central position in the global governance system to promote SDG implementation in domestic settings, researchers have pointed out that it lacks clear means to hold governments accountable for advancing the SDGs (Beisheim and Fritzsche 2022; Partzsch 2023). First and foremost, the reporting system is essentially a soft governance instrument based on the idea to foster peer-to-peer learning about best or good practices of SDG implementation in national jurisdictions (Bernstein 2017). Governments are free to decide whether they submit Voluntary National Reviews or not and how they formulate their individual reports. While a large number of countries have submitted reports, most reports fail to critically engage with the problems of goal implementation and instead rather showcase single success stories. Civil society actors do not have a strong role in the review and thus cannot act as watchdogs drawing attention to deficiencies and delays in SDG implementation. Growing political conflicts in multilateral settings and limited resources are additional reasons that impede the effectiveness of the HLPF.

Looking ahead, the HLPF could become more impactful if it would evolve into a forum with stronger mechanisms for accountability, potentially incorporating binding commitments or clearer enforcement measures. The forum's inclusivity could be expanded

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through larger participation of civil society, local governments and the private sector to ensure that diverse perspectives are reflected in discussions. Finally, integration of digital tools and platforms could help improve transparency and accessibility of the HLPF, making it more responsive to global and regional challenges as they arise. Such ideas to upgrade the HLPF, however, are highly unlikely to materialize, because conflict lines from other areas of global cooperation and fears of governments to be publicly shamed for underperformance continue to block the further development of the HLPF (Beisheim 2021).

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Human rights

Andrea Schapper

Human rights are intersubjectively shared norms and principles to which everyone is entitled by virtue of being human (Schmitz and Sikkink 2013). According to social contract theory, human rights define the relationship between a state government and its citizens. However, we increasingly see other actors governed by human rights and engaged in human rights governance, such as non-governmental actors or multinational corporations (Schmitz and Sikkink 2013). Most human rights are anchored in international or regional legal frameworks and institutions. Within the United Nations (UN) human rights system, there are nine core international human rights instruments and their respective monitoring bodies (OHCHR 2024).

Human rights play a key role in all three dimensions of sustainable development, including economic, social and environmental concerns. The preamble of the 2030 Agenda for Sustainable Development highlights that one objective of the Sustainable Development Goals (SDGs) is '[…] to realize human rights for all' (United Nations General Assembly 2015). The Agenda is based on important human rights principles, like non-discrimination and equality. Some SDGs have strong overlaps and synergies with concrete human rights. Examples are zero hunger (SDG 2) and the right to food; good health, well-being (SDG 3) and the right to health; or quality education (SDG 4) and the right to education. Whereas these are mainly economic, social and cultural rights, goals like gender inequality (SDG 5) and reduced inequalities (SDG 10) embrace civil and political rights as well. In addition to

individual rights, the SDGs correspond with collective rights, including the right to development (for example, 'no poverty' SDG 1) and the right to a healthy environment (for example, 'climate action' SDG 13, 'life below water' SDG 14, 'life of land' SDG 15).

Despite these strong overlaps between human rights and the SDGs, concrete policy programmes and projects implemented under the framework of the 2030 Agenda can also conflict with rights. A prime example is large-scale renewable energy projects, like hydroelectric dam projects or solar power plants. These are often planned and funded by development banks, governments or private investors, who use the SDGs, especially 'affordable and clean energy' (SDG 7), 'industry, innovation and infrastructure' (SDG 9) or 'climate action' (SDG 13) to justify and seek co-funding for their activities. There is ample evidence that, in the implementation process, large-scale renewable energy projects can infringe on individual human rights and the rights of Indigenous Peoples (Schapper 2021; Schapper et al. 2020). These can be direct rights violations via forceful relocations of local community groups that can endanger their rights to life, personal integrity, security or health, or indirect rights infringements when communities lose access to their traditional lands or water and their rights to self-determination, food, water, health or education are at risk (Bartmann et al. 2023; Schapper 2021). In addition to these substantive rights, procedural rights, such as Indigenous Peoples' right to free, prior and informed consent, are also often neglected in the context of projects justified under the SDG Agenda (Schapper 2021).

One way forward could, therefore, be a better integration of human rights in the 2030 Agenda for Sustainable Development. This could be done by making use of the established human rights monitoring mechanisms and bodies for SDG reporting, or by using human rights impact assessments when implementing UN-funded projects under the framework of the SDGs. Moreover, including procedural rights, such as the right to information, transparency, participation in decision-making and access to remedies in SDG implementation projects, can prevent adverse human rights effects on the ground and enable just transitions (Bexell et al. 2023).

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I

Implementation

Kristina Jönsson and Marie Stissing Jensen

Implementation can be defined as the process of turning a policy, or a decision, into action. One could also define it as what happens between policy expectations and policy results (Buse et al. 2023). Here, implementation specifically refers to the implementation of the Sustainable Development Goals (SDGs) and their targets and to the 2030 Agenda as a global policy framework. This implies both governance through ranking and reporting on the SDG indicators and implementation through policy steering at multiple levels (Órdoñez Llanos et al. 2022). The overall aim is to govern transformations towards sustainable development.

The 2030 Agenda includes a specific goal – SDG 17 – dedicated to the means of implementation. Both the preamble of the 2030 Agenda and SDG 17 state that its implementation requires a 'revitalized global partnership', which mainly refers to a call for high-income countries to support lower income countries by emphasizing two main pathways to implementing the goals: 1) through financial redistribution between countries and strengthening of domestic resource mobilization and 2) through multi-stakeholder partnerships – not the least by focusing on underrepresented and cross-cutting goals (Glass et al. 2023). This approach involves integration across sectors, societal actors and countries.

The responsibility for realizing the SDGs lies primarily with national and local governments. This means that there are no sanctions at the global level for *not* implementing the SDGs other than 'naming and shaming' through reporting and pointing fingers. Governments can implement the SDGs through legislation, strategies and policies. They can do this through existing institutions or by creating new ones (Bexell and Jönsson 2021). Subnational governments are supposed to align with these initiatives, but so far, the impact of SDG implementation has been limited at this level (Hickmann et al. 2024). Other actors, such as business, academia, civil society and citizens are expected to contribute to the implementation in their different capacities, for example, through partnership brokering, facilitating knowledge sharing and technology transfer.

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In practice, SDG implementation faces many hurdles. According to the 2030 Agenda, each country should implement the SDGs based on its own context and circumstances, leaving plenty of room for interpretations of what to implement. As a result, cherry-picking occurs in implementation, whereby governments implement only those goals on which they are able to achieve progress (Forestier and Kim 2020). In some cases, the implementation of the SDGs reflects 'business as usual' as it largely overlaps with existing policies. In other words, some actors merely use the SDGs as a communication tool to relabel existing policies, while others use the SDGs to strive for transformative change by breaking down organizational silos and building new institutions to cater for the implementation of the SDGs (Órdoñez Llanos et al. 2022).

Halfway through the 2030 Agenda, the implementation of the SDGs is seriously off track (Sachs et al. 2024). Some countries face larger challenges than others because of limited resources or political obstacles, but even the wealthiest countries will fail to implement all the SDGs by 2030. As current societal challenges are worsening, the implementation of the SDGs will face increasing competition from other political initiatives to tackle multiple crises, such as conflicts in several regions, a cost-of-living and debt crisis and climate-related disasters.

In sum, the implementation of the SDGs is a complex process of transforming policies into action, which requires collaboration at multiple levels. Some countries focus on individual SDGs while others take a more holistic approach by working with the whole 2030 Agenda. Progress is uneven with many challenges, including limited resources and multiple crises impeding success by the year 2030.

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Inclusiveness

Guilherme de Queiroz-Stein

The concept of inclusiveness brings to the sustainable development discussion principles linked to the defence of human rights, redistributive and procedural justice and capacity-building. This idea has gained political appeal under the motto 'Leaving no one behind', which calls for a sustainable, equitable and fair development, both nationally and internationally. It is, therefore, a conception with a strong normative component, necessarily intersectional, involving criteria of age, race, gender, social class and ethnicity to overcome the mechanisms that generate exclusion and inequalities (Sénit et al. 2022). Translating it to SDG implementation, actions encompass reducing the vulnerability of these populations to economic, environmental and health crises and increasing their chances of enjoying the value generated and accumulated collectively (Gupta and Vegelin 2016; Sen 1999). Analytically, it can be understood in socioeconomic, political and ecological dimensions.

Socioeconomic inclusiveness refers to providing solutions to material needs and fighting recognition faults to make the full participation of historically marginalized populations in the socioeconomic systems effective (Gupta and Vegelin 2016). All the SDGs between 1 and 11 contribute to this dimension, especially 1 – No Poverty, 2 – Zero Hunger, 5 – Gender Equality and 10 – Reduced Inequalities. Also, international cooperation is crucial here (SDG 17). The political dimension is intrinsically connected to democratic principles. Higher levels of freedom, fairness, participation, representativeness and accountability enhance political inclusiveness (Sénit et al. 2022). This dimension is closely related to SDG 16, which strives for maintaining peace and confronting all forms of violence, guaranteeing access to justice for all. Finally, ecological inclusiveness means guaranteeing the right of all countries, peoples and individuals to an ecologically healthy environment, reducing vulnerability to natural disasters and the climate crisis. Some SDGs explicitly deal with this dimension, regarding global warming issues (SDGs 7, 11, 12 and 13) and biodiversity protection (SDGs 14 and 15).

Operationalizing the SDGs in an inclusive way may face significant challenges. It is not enough to solve problems of material well-being. It is also necessary to tackle obstacles linked to the recognition and legitimate participation of minorities in social and institutional life (Fraser 2001). Furthermore, democratic arrangements must go beyond consolidating formal rules; the power relations that permeate concrete political dynamics must allow space for multiple voices and innovative forms of social organization to emerge (Fischer 2017). Finally, actions for environmental protection often need to better equate to the socioeconomic dimension, considering the decisive role of the traditional knowledge of Indigenous peoples and local communities and the need for combating urban poverty and inequalities (Queiroz-Stein and Siegel 2023).

Programmes and policies for SDG implementation must follow some specific directions to avoid these flaws. Actions for sustainability must bring together socioeconomic and ecological dimensions through a fair and equitable (re)distribution of available resources and capacities. Governments, judiciary institutions and civil society actors must protect access to natural resources and local ownership and promote the sustainable uses

of biodiversity for a healthy environment. Fighting stigmas and prejudices against minorities is also crucial. The knowledge and interests of these populations are decisive for building new sustainable development pathways. They must be included by truly participatory arrangements, in direct dialogue with excluded groups' claims, demands and ideas. Therefore, participation is the foundation for developing the adaptive capacity of cities and communities to face climate change and environmental degradation, building paths for restoring ecosystems and creating innovative green economic activities and jobs. Consequently, SDGs can only be achieved in an environment of high political inclusiveness and reinforcing democratic institutions and values. Above all, inclusiveness is about building more symmetrical relationships within societies and between humanity and nature.

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Independent Group of Scientists (IGS)

Ibrahima Hathie

The Independent Group of Scientists (IGS) comprises 15 experts appointed by the United Nations Secretary-General to draft the Global Sustainable Development Report, published every four years. Members of the IGS are selected through a structured and transparent process overseen by the United Nations Secretary-General. This process involves nominations from member states, compliance with diversity and expertise criteria and final appointments made by the Secretary-General. In the end, the 15 experts selected come from different scientific disciplines and geographical origins, with a gender balance, thus ensuring a diverse representation of perspectives. The aim of this approach is to create a well-balanced and effective group capable of meeting the complex challenges of sustainable development.

The IGS was first established following the 2016 High-level Political Forum on Sustainable Development, where member states mandated the creation of IGS to strengthen the science-policy interface in discussions on sustainable development (United Nations 2016). The group plays a crucial role in informing the High-level

Political Forum by providing evidence-based guidance on the state of global sustainable development and progress towards the SDGs. It is thus an essential component of the United Nations' efforts to integrate scientific knowledge into sustainable development policymaking.

The IGS is responsible for synthesizing information and assessments from a wide range of sources, including scientific literature, to produce a comprehensive report that addresses pressing global issues related to sustainable development. The United Nations Task Force supports IGS in its work to ensure that the report is comprehensive, well-informed and reflects diverse perspectives on sustainable development. The Task Force supports IGS by coordinating the contributions of a diverse network of stakeholders, providing technical assistance, facilitating collaboration and ensuring alignment with global goals. This multifaceted support is essential to the successful preparation and impact of the Global Sustainable Development Report.

In carrying out its mission, however, the IGS faces a number of challenges (IGS 2023). First, global inequalities are complex and, as a result, require context-specific research and solutions that take account of local realities, which make it difficult to implement the SDGs uniformly in different regions. Second, there is a lack of political will to implement the necessary transformations described in the Global Sustainable Development Report. Hence, the need to strengthen political leadership in order to overcome entrenched interests and resistance to change and mobilize resources effectively. Third, the siloed nature of the scientific community hinders the development of global solutions when a more transdisciplinary approach would enable complex global problems to be tackled with a greater chance of success. Finally, the under-funded scientific systems and the lack of local expertise in low- and middle-income countries are another challenge. Added to this is the importance of increasing scientific literacy and confidence in scientific data among policymakers and the public, to promote informed decision-making.

By producing the Global Sustainable Development Report, the IGS helps to shape international discourse and action on sustainability, ensuring that decisions are based on sound scientific evidence and diverse perspectives. The work of the IGS reflects a commitment to tackling global challenges collaboratively and effectively as the world strives to achieve the ambitious goals set out in the 2030 Agenda for Sustainable Development. It has received a very favourable response from the scientific community and is being listened to carefully by decision-makers, even though the challenges of putting the recommendations into practice remain (Malekpour et al. 2023).

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Indicators

Félicien Pagnon and Grayson Fuller

Indicators are one of the main vehicles for implementing the Sustainable Development Goals (SDGs). They allow tracking progress on the different dimensions of the SDGs. With the 2030 Agenda, adopted by the United Nations General Assembly, the 17 goals come to define the horizon for action on sustainable development, which break down into 169 targets and 244 indicators (232 without double counting).

The large number of indicators owes much to the diplomatic negotiations between states within the framework of the United Nations General Assembly (Caron and Châtaigner 2017): multiplying the number of dimensions covered by numbers had the advantage of producing an international consensus around the SDGs and bringing together a very large number of sovereign actors to validate their relevance.

Indicators can be defined as synthetic summaries of information in numerical form. They make it possible to grasp complex natural, social and economic phenomena simply by looking at the evolution of a figure. Most importantly, they enable us to objectify a phenomenon beyond words. For instance, Saudi Arabia's 2023 Voluntary National Review on SDGs claimed 'Saudi Arabia has taken major steps to address climate change and reduce its greenhouse gas emissions' (Government of Saudi Arabia 2023: 153). However, figures on greenhouse gas emissions per capita (SDG 13) do not appear, as it belies this claim. Indicators thus confer a form of transparency on information when they are produced and/or verified by an independent authority. They therefore offer citizens and civil society a means of holding political authorities accountable for public action (Porter 1995).

Scholars have questioned the role of quantified goals in policy implementation (Bruno et al. 2016), especially the use of indicators in global governance and international organizations (Davis et al. 2012). Indicators do not fully reflect the state of the world; instead, they are social constructs. They *indicate* something, show a direction to follow and set a horizon – which is why they are used as valuable governance tools. Once set, they depoliticize public policy and serve as a monitoring tool. Choosing indicators is therefore highly political.

SDG indicators have various functions in global and national governance: they can be used to describe a state, set quantified objectives (Ward 2004), but also to evaluate public policies, allocate budgets and direct aid and subsidies (Hege et al. 2019). Most importantly, the performance or perceived progress of a country depends on the indicators chosen. For instance, composite indices looking at economic criteria such as the Gross Domestic Product and the Gross National Income tell a different story than indicators that look at socioeconomic progress more systematically, such as the Human Development Index, which themselves give very different pictures than indicators focused primarily on the environment or sustainable development (Pagnon 2022).

The use of indicators to govern sustainable development also has significant limitations. First, United Nations member states' ability to produce data is highly uneven, creating technical dependency on the United Nations Statistics Division for countries without adequate statistical services. Secondly, the profusion of indicators allows for 'cherry-picking' among the most convenient indicators to demonstrate progress towards

sustainable development. This is especially true for high-income countries, which have already largely achieved their targets and for whom many indicators are of little relevance. Finally, SDGs may risk encouraging states to focus on the performance of individual indicators, at the risk of losing a holistic and integrated view of sustainable development. This calls for caution when using and interpreting SDG indicators and all indicators more broadly, to guide public policy.

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Indigenous views

Rosalind Warner

The United Nations Declaration on the Rights of Indigenous Peoples, adopted in 2007 by the General Assembly, enjoins all member states to 'respect, protect and fulfil' the rights of Indigenous peoples through the United Nations, including the 2030 Agenda and the Sustainable Development Goals (SDGs). Indigenous perspectives play a significant role in the SDGs adopted in 2015, reflecting a more inclusive approach compared to previous global normative frameworks on sustainable development. Indigenous peoples were one of the nine 'major groups' that were involved in consultations and discussions in the lead-up to the adoption of the 2030 Agenda. In addition, the 2030 Agenda includes six direct references to Indigenous peoples, in the political declaration, specific targets (Goal 2 on Zero Hunger and Goal 4 on Education) and in the section on follow-up and review (United Nations Division for Inclusive Social Development 2022).

As a result of the United Nations Declaration on the Rights of Indigenous Peoples and the participation of Indigenous peoples in the negotiations of the SDGs, the SDGs' broader view of development as 'a plan of action for people, planet and prosperity' aligns with Indigenous worldviews more closely than previous perspectives, in that it recognizes the interconnectedness of human well-being and environmental sustainability.

Indigenous peoples play an outsized role in advancing the SDGs in their territories and regions under their control through their traditional knowledge and practices, particularly in promoting food systems that provide healthy nutrition (SDGs 2 and 3), climate resilience (SDG 13) and sustainable natural resource management (SDGs 14 and 15). For example, Indigenous territories cover approximately 28.1% of Earth's terrestrial surface. Globally, tree cover loss in such areas is lower on Indigenous lands (Simkins et al. 2024), contributing to one of the key targets of SDG 15.2, which is to reduce deforestation and restore and sustainably manage forests. In another example, one study has shown that maintaining Indigenous healing practices and intergenerational transmission of Indigenous culture are associated with better health, advancing SDG 3, which aims to promote health and well-being (Gallardo-Peralta et al. 2019).

Despite their contribution to SDG implementation, Indigenous peoples are also some of the most vulnerable groups and among those most likely to be 'left behind' when it comes to eliminating poverty (SDG 1) and protecting their land rights. The 2030 Agenda has been criticized by Indigenous peoples for its anthropocentric focus, lack of integration of cultural goals and the potential conflict between economic growth targets and Indigenous rights, particularly land rights and ownership of knowledge systems (van Norren 2020: 444). In addition, concerns exist around the invisibility of Indigenous Peoples in the SDG indicators, since they are often being clustered together under the broader category of vulnerable groups (Indigenous Peoples' Major Group on the SDGs 2024). SDG implementation can also hinder the rights of Indigenous peoples, especially when governments utilize colonial practices and policies. During the COVID-19 pandemic in Canada, public health mandates requiring Indigenous people to travel to urban centres for birth clashed with Indigenous peoples' interest in continuing their community birthing practices and reducing their own risk of exposure to the coronavirus (Murdock et al. 2024).

While the SDGs represent a significant step forward in incorporating Indigenous perspectives into global development goals, there is still room for improvement in fully recognizing and integrating Indigenous views and rights in sustainable development efforts. Indigenous peoples have identified a series of key priorities for the SDGs to further take indigenous perspectives into consideration, including, inter alia, the recognition of collective rights to land, territories and natural resources; culturally sensitive policies for education and health; a focus on Indigenous women, children, youth and persons with disabilities; the recognition of culture as the fourth pillar of sustainable development; the implementation of free, prior and informed consent for economic development projects that impact indigenous livelihoods (in alignment with the United Nations Declaration on the Rights of Indigenous Peoples); and the establishment of partnerships on Indigenous development issues.

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Inequality (global and national)

Hristo Dokov

Inequality, both on a global and national scale, is one of the most pressing challenges of our time, often associated with overarching moral values such as justice, fairness and solidarity. Stark disparities in income, wealth and access to opportunities threaten the social fabric, undermine economic stability and hinder efforts to combat poverty and environmental degradation. The inclusion of 'leaving no one behind' as a central theme of the entire 2030 Agenda and the addition of inequality as a stand-alone goal – Sustainable Development Goal (SDG) 10 – reflect the urgency of addressing this issue. Moreover, the inequality goal represents the indivisibility that guided the design of the 2030 Agenda, with direct links to targets across most of the SDGs (Sénit 2020).

For decades, development studies have focused on exploring inequalities, often distinguishing between constructive/destructive inequality and inequality of outcome/opportunity (van Niekerk 2020). While it is difficult to define an 'acceptable' degree of inequality, empirical evidence suggests that, in general, more equal societies experience higher levels of well-being. Over time, the growing understanding of development as a multidimensional construct – extending beyond income and wealth to encompass social, political and environmental factors – has shifted the paradigm for measuring inequalities, moving from assessing single (economic) indicators to employing more complex methodologies. The process of 'moving beyond GDP' has led to the creation of numerous composite indices and indicator sets that assess overall development or specific aspects of it. While this is unquestionably a step forward, no irrefutable or universally accepted measures exist yet. The challenge of finding the right approaches and tools for measurement is critical, as responses to rising inequality must be built around effective institutions and people-centred policies (Chancel et al. 2018).

Research confirms that inequalities are steadily growing, both across and within nations (van Niekerk 2020; Biermann et al. 2022a). The staggering extent of global inequality is well illustrated by Oxfam's calculation that, in 2024, the world's richest 1% own more wealth than 95% of humanity. Such extreme economic inequality fuels other

forms of inequality, including gender and environmental injustice. The wealthiest individuals and nations continue to invest heavily in carbon-based economies, contributing to climate change, while the poorest populations disproportionately bear the brunt of its impacts.

Against this backdrop, the inclusion of inequality as SDG 10 was highly contentious, as countries varied significantly in their positions and proposed strategies (Sénit 2020). Consequently, SDG 10 has often been poorly supported and marginalized, with an unclear roadmap and weak targets that focus more on social inclusion than on directly reducing inequalities (Fukuda-Parr 2019). Furthermore, the limited academic research on the relationship between the SDGs and national and global inequality (Biermann et al. 2022a) highlights knowledge gaps that hinder more effective policy development and critique.

While SDG 10 establishes a strong normative framework for reducing inequality, the operationalization of these objectives remains weak, with a significant gap between rhetorical commitments and the institutional and normative changes needed to achieve substantial progress (Biermann et al. 2022b). A major challenge in advancing SDG 10 is the fragmented custodianship, which has resulted in a lack of clear leadership and coordination. Without a dedicated agency to streamline efforts, inequality reduction initiatives remain disjointed, limiting their visibility and impact. Institutions like the World Bank have been criticized for using 'organizational jiu-jitsu' techniques to exploit the SDGs for advancing their own agendas without real policy shifts (van Driel et al. 2023).

Addressing inequality, both globally and nationally, is a crucial yet complex endeavour. While the inclusion of inequality in the SDGs represents a significant step forward, the progress remains uneven, and the frameworks to measure and achieve this goal are still underdeveloped. For meaningful change, a more transformative approach is needed – one that prioritizes equality as a core aspect of sustainable development rather than an afterthought. Only then can we create a more just, sustainable future where no one is left behind.

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Institutions and institutional effects

Ha B. Vien

Institutions play a crucial role in implementing the Sustainable Development Goals (SDGs) by helping policymakers understand the path dependencies that contribute to the persistence of specific policies, technologies or objectives over time. These institutional effects can also influence how readily certain goals are achieved. While the term 'institutions' has diverse definitions across disciplines, in political science institutions are often seen as formal and informal rules, norms and structures that shape political behaviour and governance (North 1990). The Institutional Analysis and Development framework further describes institutions as 'human-constructed constraints or opportunities' that shape choices and their outcomes (McGinnis 2011, 170), driven by 'rules, norms and shared strategies' that organize structured interactions – or the absence of them (Ostrom 2009, 3–5).

Institutions go beyond the physical boundaries of organizations, encompassing visible and invisible institutional arrangements that link individuals in organizations to the broader society. For instance, the United Nations is an organization, not an institution. However, the frameworks and principles it establishes – such as the United Nations Charter and the SDGs – are institutions. These institutions set norms, rules and shared strategies that guide the actions of the United Nations and its member states in areas such as peacekeeping or sustainable development.

Scholars in the field of Institutional Analysis and Development distinguish between rules-in-use and rules-in-form, where the former refers to the rules used in practice, while the latter denotes formalized, documented rules. Due to the voluntary nature of SDG implementation, policymakers should prioritize rules-in-use, as these informal practices and norms can be more influential in achieving real-world outcomes than formal regulations, leading to more effective and sustainable progress in advancing the SDGs.

The concept of institutions spans multiple scales, aligning with a polycentric governance system. Vertically, institutions exist on multiple levels, ranging from international, regional, national, state, to local scales. Each governance level has its own set of rules, norms and shared strategies. The implementation of SDGs as global goals involves international and national institutions originating from actors such as the United Nations and governments. If scholars analyse these actors solely as organizations without considering their institutional arrangements, that is, the relevant political and economic institutions, political power along with their rules and shared strategies, their analysis will be incomplete.

Furthermore, scholars have asked for SDG localization that leads to the attention to multiple smaller scales of local resources and communities. The questions of how communities' rules and norms influence SDG implementation have formed different scale properties of SDG implementation. Horizontally, in a polycentric governance system, each level includes a range of governmental and non-governmental decision-making centres. Formal governmental entities at the local level include state and local governments, while non-governmental actors include the private sector, non-profits, interest groups and communities. Importantly, SDG researchers should consider the institutions governing these actors to understand how they shape each sector's role in advancing the SDGs.

Understanding the concept of institutions enables policymakers to assess the institutional effects on implementing SDGs. Institutions can serve as either opportunities or barriers; policymakers need to consider this when aiming to enhance or mitigate their effects on organizational behaviour. Beyond focusing on standardized external measurement methods, attention should be given to informal socialization processes and internal oversight to gain deeper insights into inter-organizational structuration and institutional effects (Lawrence et al. 2002).

Assessing institutional effects seems to be more complex, decentralized and less clearly defined than in the case of markets and hierarchies. Achieving SDGs may be more attainable if policymakers consider the isomorphic processes of institutions – namely coercive, mimetic and normative mechanisms (DiMaggio and Powell 1983), for example, the case of universities (Vien and Galik 2024). The application of these mechanisms varies based on organizational characteristics and contexts, resulting in different types of institutional pressures.

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Integration

Basil Bornemann

The concept of integration, broadly understood as the linking of diverse elements into an integrated whole, has shaped sustainability thinking and governance from its inception. Historically, the emergence of sustainable development can be understood as a process of discourse integration, in the course of which several formerly separate discourses – 'environment' and 'development' – intertwine to form a new, integrated discourse. Embarking on changes in these discourses from the mid-1970s onwards, the Brundtland Report became the decisive contribution that turned the two into a single discourse. Sustainable development offered a way out of the prevailing 'growth versus environment' polarity, suggesting that it is possible to realize economic and social development compatible with sound environmental stewardship. By promoting an integrated set of goals, an integrated worldview and an integrated strategy for change, sustainable development has set out to

transform the political arena in an integrative sense, bringing together actors from different sectors and levels and catalyzing the formation of new coalitions across traditional lines of conflict. In particular, the widespread belief in win-win relationships between environmental and development goals fostered new cooperation between previously opposing interests (Meadowcroft 2000).

As a central discourse motif, integration runs through important programmatic documents on sustainable development. The Brundtland Report of 1987 presents sustainable development as a framework for integrating environmental policies and development strategies to overcome the fragmentation of national and international institutions. Agenda 21 of 1992 emphasized the need to integrate environment and development concerns to satisfy basic needs, a higher standard of living for all, better protected and managed ecosystems and a more secure and prosperous future. Apart from specific commitments to integrated programmes, plans and strategies in various thematic chapters, Agenda 21's entire Chapter 8 is devoted to concretizing an integrative approach to governance (United Nations Conference on Environment and Development 1992).

Standing in this tradition, the 2030 Agenda of 2015 makes integration a central feature (Le Blanc 2015). The Sustainable Development Goals (SDGs) are 'integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental', according to a description in the preamble repeated throughout the Agenda (United Nations General Assembly 2015: Preamble). Achieving such an integrated set of goals requires not only integrated policy strategies for specific SDGs but also a more fundamental overcoming of institutional silos and new forms of cooperation between levels and societal actors (Stafford-Smith et al. 2017).

In terms of the meaning of integration, the 2030 Agenda shows notable shifts. While earlier views were based on overly optimistic notions of synergistic relationships, that is, different goals reinforcing each other, the integrated quality of the SDGs has been assessed more ambivalently. It was argued early on that the SDGs form a complex network of goals with positive (synergistic) and negative (conflicting) relationships (Le Blanc 2015), which led to the development of a research field on SDG integration (Bennich et al. 2020). In addition to overarching and context-specific analyses of the interactions between the SDGs, this debate has generated a number of governance approaches to harness the differentiated integrative character of the SDGs during implementation. They aim to identify neuralgic SDGs that could be targeted to lever systemic change, thus opening new perspectives for overcoming institutional fragmentation, forming new actor coalitions and creating spaces for joint action (Bornemann and Weiland 2021). Integration is likely to remain at the heart of sustainable development in the future. Especially in a world in which transformations towards sustainability are increasingly controversial and the world is becoming more and more divided, integration seems to be the concept of our time. Integration is relevant not only in the sense of an evidence-based alignment of policy goals and measures, but also in a more fundamental political sense, such as the recognition of diversity and a serious commitment to bringing actors together across lines of conflict.

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Integrity (ecological and planetary)

Rosalind Warner

The term 'ecological integrity' refers to the full functioning of a suite of natural processes. In other words, integrity is said to exist when native living and non-living components are intact and interact through processes without human interference (Mackey 2004). The term is widely used in international domestic laws and policies, including by the International Union for the Conservation of Nature, the United States Environmental Protection Agency and national park legislation in Canada. The term originated in the work of Aldo Leopold (1949), who argued that actions are right when they preserve the 'integrity, stability and beauty of the biotic community' and wrong when they do otherwise. Over time, ecological integrity has evolved into a central theme in environmental science and policy, used to assess and guide the management of natural resources and ecosystems across various contexts. As discussed by Kotzé et al. (2022), the term 'planetary integrity' is derived from the concept of ecological integrity but extends it to the global scale to refer to the overall health and stability of Earth's interconnected systems and processes that support life and maintain the planet's habitability.

While it is difficult to identify one single founding moment, it could be argued that interest in the idea of ecological and planetary integrity began with the widespread publication of the 'Earthrise Photo' taken in December 1968, by the crew of the Apollo 8 mission. The photo pictured the planet for the first time as a fragile, interconnected whole, isolated in the vastness of space. The 'Earthrise Photo' inspired environmental movements across the globe to focus on the importance of maintaining Earth's overall health and stability to ensure a habitable planet for all life forms. In particular, the idea of Earth as a self-organizing complex system (termed Gaia) became central to the work of James Lovelock and Lynn Margulis in the 1970s. It also inspired the work of the Club of Rome, most widely known by the 1972 report, *The Limits to Growth* (Meadows et al. 1972), and has been central to the work of the Planetary Boundaries project led by Johan Rockström et al. (2009).

Maintaining planetary integrity is crucial for long-term sustainability and the well-being of both human societies and ecosystems. However, human activities are increasingly threatening planetary integrity, for example, through climate change, biodiversity loss and pollution. While the Sustainable Development Goals (SDGs) could potentially serve as steering mechanisms to address the loss of planetary integrity (particularly through SDGs 6, 13, 14 and 15), their effectiveness in this regard is debated (Biermann et al. 2022).

One of the chief complaints about the term ecological or planetary integrity is the lack of a consensual definition or agreed benchmark indicators to measure it. Originally referring to 'nature' in its pristine and wild state, using the term today risks overlooking the extensive manipulation of the natural world that has gone on for millennia by humans. In turn, this complicates the integration of ecological and planetary integrity principles into laws, policies and treaties for implementation. Another set of controversies surrounds the ethical basis for ecological and planetary integrity. The recognition of the ethical holism of the planet and the intrinsic value of nature suggests a reformulation of the human-nature relationship in more radical ways than the SDGs and 2030 Agenda currently appear to address.

While there is a clear implicit connection between the SDGs and the necessity of ensuring ecological and planetary integrity, the SDGs are relatively silent on the issue. For instance, SDG 14 (Life Below Water) and SDG 15 (Life on Land) relate to preserving ecological integrity of marine and terrestrial ecosystems, but much of the attention around ecological and planetary integrity has emerged from other United Nations tracks, particularly the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change. As a result, while the concept of ecological integrity has roots in mid-20th-century ecological thought, its formal adoption and application in SDG implementation remains somewhat uneven and unrealized.

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Interaction and interlinkages

Ivonne Lobos Alva

The 2030 Agenda and the Sustainable Development Goals (SDGs) were designed as an 'integrated and indivisible' set and every goal must be met equally to attain sustainable development. This means assessing interactions and interlinkages between the SDGs is a central element of the 2030 Agenda, including the need for strategies that maximize synergies and mitigate trade-offs and conflicts among the goals (Bennich et al. 2023). The integrated nature of the SDGs increases the complexity of their achievement because making progress on one goal might hinder progress in others, due to the interlinkages between them. In practices, SDG implementation requires systems thinking, searching for synergies and identifying potential conflicts. This is often not the way policies are formulated and implemented. The primary challenge facing those working towards achieving the SDGs concerns making decisions today that properly orient development trajectories towards realizing this integration aspiration.

There is a wide understanding among governments, the scientific community and international organizations of the need to identify interactions between goals and targets. The basic concept implies that advances or changes in one goal or target can have positive or negative effects in the achievement of others through systemic interactions (Hernández-Orozco et al. 2022).

The scientific community and international institutions have dedicated significant efforts to develop a wide array of methodologies and methods to assess these interlinkages and to support decision-makers in their efforts to achieve more integration of the SDGs (for an overview, see Bennich et al. 2020). While many governments have tried to include interlinkages in their policy planning, the call to increase the consideration of interlinkages remains relevant. There is no generally agreed-upon methodology to decipher the synergies and trade-offs that arise in SDG implementation, so that decision-makers can take their pick, in terms of the approach that best suits their interests. In this sense, there is a debate regarding the methods that should be used in identifying these connections, including the advantages and disadvantages of qualitative approaches, quantitative methodologies or a combination of both (Bennich et al. 2020).

Additionally, a limited number of online decision-support tools are being developed by research groups to display SDG connections. For example, the Institute for Global Environmental Strategies' 'SDG Interlinkages Analysis and Visualization tool' (Institute for Global Environmental Strategies 2019) shows synergies and trade-offs between SDG targets for various Asian countries, based on correlations between national development indicators. The United Nations Environment Management Group's 'Nexus Dialogues Visualization Tool' (Environment Management Group 2019), where a group of experts discussed and assessed interactions between SDGs in the context of global environmental issues. The SDG Synergies tool (Stockholm Environment Institute 2020) is based on a decision-support approach designed to guide priority setting and policy coherence amongst key stakeholders. The aim of SDG Synergies is to support decision-makers in dealing with multiple interlinked targets. The methodology uses cross-impact analysis and a 7-point scale to score interactions. The SDG Synergies tool, developed by the Stockholm Environment Institute, provides an accessible interface and allows the scoring

of interactions in an online matrix – the web platform then creates graphics that enable a quick visualization of results.

As these methodologies and tools are incrementally applied across different countries, it will become feasible to conduct comparative studies and examine the specific effects they are having at the national and, hopefully, also at the subnational level. It is important to mention that all these methodologies and tools solve specific policy problems. This means decision-makers are advised to seek the accompaniment and counselling of experts and the United Nations System, in order to identify the best one for their particular needs.

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International Environmental Agreements

Rakhyun E. Kim

International environmental agreements (IEAs) are legally binding treaties between nations aimed at addressing environmental challenges that transcend national borders. In addition to customary practices, general principles and judicial decisions, IEAs serve as a significant source of international environmental law. The institutions they create, such as conferences of the parties and scientific advisory bodies, play a critical role in shaping global environmental governance. Despite their importance, IEAs have often fallen short of their objectives, with compliance and implementation remaining significant challenges. Moreover, the proliferation of IEAs, now numbering over 3,000, has led to conflicts and inconsistencies among agreements (Mitchell et al. 2020). The Sustainable Development Goals (SDGs) aim, in part, to address this fragmentation and promote greater synergy between IEAs. In turn, IEAs are vital tools for achieving the SDGs, as many treaties promote sustainable development. Thus, the nexus between IEAs and the SDGs is complex and requires a nuanced understanding to maximize synergies.

The SDGs are derived, in part, from existing international legal frameworks, including IEAs. This ensures that environmental sustainability is integrated into the broader sustainable development agenda. Specific SDG targets reflect commitments made under various IEAs, such as Target 15.7, which aims to end poaching and trafficking of protected species, aligning with the objectives of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. IEAs thus provide legal frameworks, guidelines and monitoring mechanisms that countries can leverage to achieve the SDGs. However, because the SDGs are based on existing IEAs, they mirror the fragmented and compartmentalized structure of international environmental law, which undermines the SDGs' claim of being indivisible and integrated (Kim 2016). The SDGs represent a non-hierarchical list of equally important global priorities in the absence of an internal mechanism to address conflicts. It remains unclear when environmental concerns should take precedence over social or economic goals and to what extent (Underdal and Kim 2017).

While the environment was relatively weak in the Millennium Development Goals (MDGs), it is central to the SDG framework (Elder and Olsen 2019). It was hoped that this emphasis on environmental sustainability as a core pillar of sustainable development would enhance the effectiveness of IEAs, especially in comparison to powerful international institutions like those governing trade. For example, the SDGs' focus on sustainable consumption and production (SDG 12) could support the objectives of multiple IEAs by reducing pressure on natural resources and ecosystems. However, the political impact of the SDGs on improving environmental protection remains limited (Kotzé et al. 2022). The SDGs could have served as a unifying framework to align the objectives and actions of the many IEAs, helping to avoid conflicts and enhance synergies. However, this potential has not been fully realized due to inherent design limitations. While the SDGs aim to be comprehensive, they often create trade-offs and conflicts between goals. For instance, the pursuit of economic growth (SDG 8) can conflict with environmental sustainability goals (SDGs 13, 14 and 15), complicating the orchestration of IEAs. In fact, the SDGs have sometimes exacerbated the fragmentation and siloing of international institutions (Bogers et al. 2022).

To improve the relationship between IEAs and the SDGs, or any future global goals, it is essential to agree on overarching, long-term objectives for both frameworks. A potential goal for IEAs could be an overarching environmental SDG that guides the coordination of IEAs. The potential conflicts and synergies between this environmental goal and other SDGs could be addressed by establishing an overarching goal for the SDGs as well (Costanza et al. 2014). Currently, a clear, long-term vision for sustainable development beyond 2030 is lacking.

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International Monetary Fund (IMF)

Jakob Skovgaard

The International Monetary Fund (IMF) is an international organization founded in 1944 in Bretton Woods to ensure the stability of the international monetary system. Together with the World Bank, it is commonly referred to as a 'Bretton Woods institution'. The IMF's core activities are (1) lending to countries that cannot pay for essential imports or their debts, (2) capacity development within countries and (3) surveillance of member states' economies. These activities grant it considerable power over countries, especially its borrowers, which will have to accept the IMF's conditions to borrow money. The impact of what the IMF does, both through its direct efforts to address the Sustainable Development Goals (SDGs) and its day-to-day operations promoting economic growth and stability, will be vital for implementing the SDGs.

The IMF's approach has been described as part of the 'Washington Consensus', a policy paradigm shared with the World Bank, which emphasizes structural reform such as privatization and liberalization, the protection of private property rights and cutting public deficits. The emphasis on liberalization and cutting public expenditure was criticized for its impact on sustainable development, particularly inequality and the environment. Regarding inequality, the IMF policies have been criticized for inducing countries to reduce social spending and adopt policies that increase inequality (Stieglitz 2002). Regarding the environment, the IMF's advice and conditionalities have been criticized for inducing countries to exploit natural resources, including rainforests and minerals, stimulate carbon-intensive growth and cut expenditure on environmental protection (Soener 2024).

Yet, since the 1997–1998 Asian debt crisis, there has been gradual change at the IMF to address these criticisms, with the IMF's attention to inequality and climate change increasing (Clark and Zucker 2023). This is particularly pertinent in relation to the SDGs, which have a closer involvement of the IMF than the Millennium Development Goals (Roy 2019).

The IMF structures its SDG efforts along the following five pillars (see *5 Ps*). First, *people*: The IMF particularly focuses on how fiscal policy can be 'deployed to reduce inequality – through spending on health, education and social protection and ensuring the progressivity of tax systems' (IMF 2024a). Second, *prosperity*: 'The IMF sees growth,

especially in low-income countries, is a precondition for the SDGs, especially through 'growth-enhancing and inequality-reducing investments in health, education, infrastructure and agricultural productivity…' (IMF 2024a). Third, *planet*: The IMF focuses particularly on climate change and promotes carbon pricing and fossil fuel subsidy reform as means of mitigating climate change, as well as helping vulnerable countries with improving their resilience to climate impacts (Skovgaard 2021). Fourth, *peace*: The IMF's work in this pillar concerns strengthening governance and reducing corruption within countries, which are seen as preconditions for meeting SDGs. Fifth, *partnerships*: The IMF's arguably most important role concerns the financing necessary for achieving the SDGs. This role concerns how to increase public spending on selected areas and raise finance through strengthening tax capacity and increasing aid and private finance.

While the IMF's efforts to implement the SDGs are notable, they remain circumscribed by two fundamental characteristics of the organization, which have been the subject of criticism from civil society and the Global South. The first is the emphasis on economic growth, which downplays discussions of limits to growth. The second is the governance structure of the IMF, which grants industrialized countries a majority of the votes and ensures the Managing Director is from Europe and the first Deputy Managing Director from the United States (IMF 2024b). Of these two characteristics, it is arguably easier to change the governance structure. If countries with low income and high vulnerability to environmental change become more influential within the IMF, it can become a stronger force for meeting the SDGs.

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International organizations

Thomas Hickmann

The Sustainable Development Goals (SDGs) are the result of intense negotiations between governments and, as such, a product of the United Nations system (Chasek et al. 2016). While the main responsibility for implementing the SDGs lies with national governments, international organizations within and outside the United Nations system seek to advance the various goals and targets by providing platforms for multilateral cooperation and giving impulses for national policymaking.

International organizations adopt a range of roles and functions in the global endeavour to advance the SDGs. They set agendas and frameworks for policy initiatives, engage in coordination efforts across regions and countries, offer technical assistance and expertise to countries with a lack of adequate resources, compile data and monitor progress of goal implementation and raise awareness about sustainable development among the general public, policymakers and other stakeholders. In this context, numerous international organizations have incorporated the SDGs into their portfolios while scholars have criticized the strong 'siloization' around the 17 goals in the work of international organizations (Bogers et al. 2022).

Studies have moreover shown that the efforts of international organizations in fostering multilateral cooperation and driving domestic policies for SDG implementation have been seriously hampered by a number of factors. They include, but are not limited to, growing institutional fragmentation and problem shifting, lack of political will among many governments, inadequate funding and resources for sustainable development, the non-binding nature of the goals and targets and the all-encompassing scope of the SDGs (Biermann et al. 2022; van Driel et al. 2022).

At the same time, authors have pointed to some positive developments and institutional changes in the United Nations system, indicating that the SDGs, to an increasing extent, get incorporated into the strategic work of international organizations (Montesano et al. 2023). By this means, international organizations shape national SDG agendas and influence discourses on sustainable development at different governance levels. Yet, there is evidence that the efforts of international organizations have not led to large-scale goal implementation in national public-administrative systems due to lacking national ownership, prioritization and resources for the SDGs (Hickmann et al. 2024).

In this regard, an emerging body of research focuses on the concept of orchestration. In the area of the SDGs, this concept is based on the premise that international organizations adopt coordination and facilitation functions to foster the advancement of the SDGs (Haas and Ivanovskis 2022). As a case in point, international organizations may collaborate and interact with non-state actors to induce governments to take more ambitious steps for implementing goals and targets. Such orchestration strategies require that international organizations have adequate resources and mandates which allow them to reach out to non-state actors and pool their resources to launch initiatives aimed at advancing the SDGs. While researchers have pointed to the potential of international organizations to act as orchestrators, especially those within the United Nations system, we do not have sufficient knowledge about the effectiveness of such orchestration strategies.

Overall, despite the growing number of studies in this area, there is still a great need for further research on international organizations in relation to the SDGs. In particular, studies are warranted on the future of multilateralism and global cooperation in light of the changing geopolitical environment. Key areas of investigation include power struggles, diverging interests and conflicting norms within international organizations operating in the field of sustainable development. This requires deeper exploration of the political dynamics within international organizations and enhanced cross-disciplinary collaboration.

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J

Justice perspectives

Elke Kellner

The concept of justice plays a critical role in the implementation of the Sustainable Development Goals (SDGs). The 2030 Agenda adopts a universal approach to justice, emphasizing equality, dignity and inclusion, with a focus on addressing the needs of the poorest and most vulnerable people. Its conceptualization of justice aligns with concepts of cosmopolitanism construing a global society that supports its poorest members living in poverty on a 'needs-based minimum floor principle' but less on a 'global difference principle' (Biermann and Kalfagianni 2020). The cosmopolitan approach is combined with 'liberal egalitarianism and libertarianism in its focus on cooperation among states combined with free trade' (Biermann and Kalfagianni 2020, 8). It remains open whether this approach will lead to a realignment of global policies supporting justice.

Over the years, various types of justice have emerged, each with diverse definitions. For decades, *environmental justice* has been central, focusing on the fair distribution of environmental benefits and burdens (Schlosberg 2013). The concept also integrated concerns regarding endangered species or landscapes, which was later framed as *ecological justice*, focusing on the rights of non-human entities and ecosystems. After years of debates, ecological entities like rivers have gained the legal status of a living entity, for example, the Whanganui River in New Zealand.

Branches of environmental justice include *climate justice*, which focuses on the fair distribution of burdens and benefits related to climate action and inaction, and *energy justice*, which examines the energy lifecycle, from extraction to production to consumption to waste (Carley and Konisky 2020). SDG 7, for instance, aims to ensure access to clean and affordable energy. Place-based and resource-centric types of justice emerged, such as *food justice* or *water justice*, which focus on fair distribution and access to clean water, aligning with SDG 6. *Planetary justice* has emerged as a response to human impacts on planetary systems and flows, focusing on the intertwined relation between social and ecological entities and impacts on material flows (Biermann and Kalfagianni 2020; Winter and Schlosberg 2023).

Planetary justice scholars call for a profound shift in how justice is understood in the Anthropocene, critique anthropocentrism and urge deeper engagement with the non-human world. Gupta et al. (2023) propose *earth system justice*, which minimizes the risks

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of global environmental change to maintain safety while promoting well-being through fair and equitable sharing of nature's benefits, risks and responsibilities among all people, within safe and just earth system boundaries.

Justice in these contexts goes beyond the equitable distribution of benefits and burdens (*distributive justice*). *Procedural justice* addresses inclusiveness through transparent and fair processes, including access to information and how decisions are made and by whom. *Recognitional justice* emphasizes acknowledging and respecting the diverse rights, needs and values of individuals and communities, considering cultural, social and historical identities of particular groups. *Epistemic justice* is closely related but focuses on different sources and types of knowledge. It seeks to address valuing and fairly integrating knowledge and perspectives, as well as access to different types of knowledge (Fricker 2007).

Another dimension of justice includes relationships between humans: *Intragenerational justice* focuses on relationships between present humans, and *intergenerational justice* examines relationships between present and future generations.

Despite the growing body of work on justice, the literature still lacks clear and precise definitions, and different forms and dimensions of justice often overlap. Many definitions also stem from Global North perspectives with underlying colonial, utilitarian, majoritarian, liberalist or masculinist assumptions, overlooking gender, race, Indigeneity and other intersecting inequalities (Sovacool et al. 2023). Scholars need to critically evaluate these biases and engage more directly with affected communities to develop more inclusive approaches to justice. Although complete justice may be unattainable, the world can undoubtedly become less unjust.

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L

Leave No One Behind

Rodrigo Correa Ramiro

The principle of 'Leave No One Behind' is a cornerstone of the 2030 Agenda for Sustainable Development. Paragraph 4 of resolution 70 adopted by the United Nations General Assembly underscores this commitment:

> …we pledge that no one will be left behind. Recognizing that the dignity of the human person is fundamental, we wish to see the Goals and Targets met for all nations and peoples and for all segments of society. And we will endeavour to reach the furthest behind first.
>
> (United Nations 2015)

The principle of 'Leave No One Behind' embodies a commitment to eradicating poverty, ending discrimination and exclusion and addressing inequalities and vulnerabilities that marginalize people (United Nations 2019). It focuses on inclusiveness through three dimensions: recognition, ensuring respect for rights, safety and cultural identities; representation, enabling participation in decision-making; and distribution, ensuring equitable access to resources and opportunities (Sénit et al. 2022). The principle of 'Leave No One Behind' also shapes the implementation of the Sustainable Development Goals (SDGs) by structuring participation – empowering individuals, groups and nations to influence decisions – and outcomes, prioritizing vulnerable populations and least developed countries (Vijge et al. 2020).

The 2030 Agenda marks a significant step forward compared to earlier development frameworks, expanding its focus to include human rights, equality and non-discrimination. It mandates non-discrimination based on race, ethnicity, migration status, indigeneity or 'other status' while promoting human rights and fundamental freedoms (Achiume 2022). The principle of 'Leave No One Behind' also strengthens civil society's ability to hold governments and other actors accountable for addressing social inequities. Leveraging this framework, civil society can drive systemic change, prioritize marginalized populations and foster inclusion and accountability to achieve sustainable development goals.

However, the impact of the principle of 'Leave No One Behind' in fostering inclusiveness remains limited. While the SDGs have heightened awareness of disadvantaged and

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vulnerable groups – especially women, children, adolescents and persons with disabilities – the progress has been uneven. LGBTQ+ population, racialized groups, Indigenous peoples and migrants often remain marginalized in both policy and practice (Sénit et al. 2022). Incorporating intersectionality and strengthening the rights of marginalized groups are essential to fully realizing the potential of the principle of 'Leave No One Behind'. Without dismantling structural inequalities, the vision of leaving no one behind will remain unrealized (Achiume 2022).

The principle of 'Leave No One Behind' emphasizes addressing inequalities both between and within countries and regions, requiring the transformation of systemic barriers at all levels. It acknowledges the significant global disparities faced by marginalized populations, who often endure compounded disadvantages due to geography, economic status and intersecting vulnerabilities. Operationalizing the principle of 'Leave No One Behind' demands tackling the root causes of inequality through inclusive governance, equitable resource distribution and targeted interventions. This process involves not only bridging gaps but also fostering accountability, collecting disaggregated data and establishing mechanisms that prioritize the most vulnerable populations and regions. Without these systemic changes, disparities will persist, jeopardizing progress towards achieving the SDGs (United Nations 2019).

Limited progress suggests that the discourse on 'Leave No One Behind' has been more performative than transformative (Sénit et al. 2022). While central to the SDG framework, the principle of 'Leave No One Behind' faces significant political and technical challenges. It requires cross-cutting, whole-of-government approaches that integrate equality across sectoral policies, moving beyond isolated social protection measures. Operating within the SDGs' 'governance through global goals' approach, the principle of 'Leave No One Behind' relies on national discretion and global institutional frameworks to steer countries towards shared objectives without enforcement mechanisms. This ambiguity and flexibility raise concerns about the degree to which the principle of 'Leave No One Behind' is effectively institutionalized at the national level (De Jong and Vijge 2024).

In sum, the principle of 'Leave No One Behind' highlights the need to address systemic inequalities and global disparities. Its effective implementation requires inclusive governance, equitable resource distribution, targeted interventions, robust accountability and disaggregated data to prioritize the most vulnerable. Without these efforts, achieving the SDGs will remain a challenge.

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Legitimacy

Matteo De Donà

Legitimacy is one of the key ingredients for the exercise of political power. It is also fundamental for policy implementation at different levels of governance. As a major multiscale policy process, the implementation of the 2030 Agenda and the Sustainable Development Goals (SDGs) is no exception. Although legitimacy is a multifaceted concept that can be interpreted differently across contexts and scholarly literatures, it is often understood as 'a generalized perception or assumption that the actions of an entity are desirable, proper, appropriate within some socially-constructed system of norms, values, beliefs and definitions' (Suchman 1995: 574). In a more political acceptation, legitimacy can refer to 'the acceptance and justification of shared rule by a community' (Bernstein 2004: 142) or to 'the normative belief by an actor that a rule or institution ought to be obeyed' (Hurd 1999: 381).

Political scientists conceive of legitimacy in either *normative* or *sociological* terms: in its normative meaning, legitimacy refers to the right of an institution to rule based on a set of predefined standards, principles and values; in a sociological (or empirical) sense, legitimacy denotes the widely held belief that an institution has the right to rule (Buchanan and Keohane 2006). In other words, while the normative perspective is concerned with universal ethical criteria for assessing legitimacy, the sociological approach focuses on actors' and audiences' perceptions of legitimacy. At the same time, when assessing legitimacy in practice, the normative and sociological aspects of legitimacy are often intertwined.

Regardless of whether understood normatively or sociologically, legitimacy can derive (or, in the case of *legitimation*, can be claimed) on the basis of different *sources*. In particular, it is common to distinguish between *input* and *output* legitimacy: the former refers to procedural aspects of decision-making (such as participation, inclusiveness and transparency), while the latter pertains to performance and effectiveness, including the capacity to solve a problem (Scharpf 1999). To attain legitimacy, policy actors should strive to enjoy satisfactory levels of both input and output legitimacy. For example, a government may be able to effectively and fully implement policy in accordance with the 2030 Agenda by realizing universal health coverage (SDG Target 3.8) at the national level: this would amount to achieving output legitimacy. However, in order to have input legitimacy as well, such a government would have to pursue that health policy goal through an inclusive and participatory process, in accordance with the expectations of the government's constituencies. Input-oriented and output-oriented sources of legitimacy are not the only possible lenses to make sense of legitimacy in the framework of SDG implementation. Other sources of legitimacy may include, but are not limited to, *substantive legitimacy*,

focusing on the congruence between policies and the broader societal values and purposes prevailing in a given period and *expert-based legitimacy*, putting the emphasis on decision-making rooted in expertise and specialized knowledge (Bexell 2014).

Finally, legitimacy is considered one of the three key criteria (together with 'credibility' and 'salience') for effectively linking knowledge to action in the framework of sustainable development. In this context, legitimacy 'reflects the perception that the production of information and technology has been respectful of stakeholders' divergent values and beliefs, unbiased in its conduct and fair in its treatment of opposing views and interests' (Cash et al. 2003: 8086). Hence, echoing ideals of input legitimacy, scientific advisory processes for sustainable development are to be considered legitimate only if they meet appropriate standards of inclusiveness, transparency and procedural fairness.

In sum, legitimacy is an important relational and intersubjective concept that indicates whether power and authority are exercised in a way that is considered proper and acceptable. With a view to a successful implementation of the SDGs, it is crucial that relevant decision-making actors enjoy legitimacy in the eyes of policy recipients.

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Living wages

Elizabeth A. Bennett

A living wage is

> the remuneration received for a standard workweek by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, health care, transportation, clothing and other essential needs, including provision for unexpected events.
>
> (Global Living Wage Coalition 2024)

Simply put, a living wage aims to ensure that if someone works full time, they will have the income they need to take care of themselves and their families, at the most basic level.

The international community has long committed to promoting living wages. Article 23 of the 1948 United Nations (UN) Declaration of Human Rights reads: 'Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity'. The constitution of the International Labour Organization (ILO), adopted in 1919, similarly commits to 'the provision of an adequate living wage' and 'a minimum living wage to all employed'. In recent years, both organizations have reaffirmed this commitment. In 2019, the ILO's Global Commission on the Future of Work identified living wages as a central component to decent work. And in 2023, the UN Global Compact's Forward Faster programme selected living wages to be one of five key strategies for businesses to promote human rights.

Living wages are closely related to several of the Sustainable Development Goals (SDGs). They can address poverty (SDG 1) and hunger (SDG 2) by increasing incomes, reducing vulnerabilities and decreasing the number of working poor (Saxena 2023). They can also promote decent work and economic growth (SDG 8) by reducing turnover, increasing productivity and growing markets for consumer goods (Barford et al. 2022). Finally, living wages can reduce inequalities (SDG 10) by raising wages for low-wage workers and reducing material depravation and poor quality of life (Marshall 2019).

Although most countries have adopted a legal minimum wage – a minimum hourly amount that businesses are required to pay employees – it often falls below what workers require to meet their basic needs. Furthermore, some workers are paid informally or participate in special labour programmes exempt from labour protections. Today, the estimated gap between actual and living wages for workers worldwide is USD 674 billion annually (Hall and Suh 2020). One way to increase the number of people receiving a living wage is to increase the legal minimum wage, improve enforcement and expand coverage. Another approach is to convince companies to voluntarily pay a living wage and commit to only transacting with other companies that do the same. Challenges to voluntary living wage payments include agreeing on how to calculate a living wage and the cost of estimating and updating living wages for every city, county or region of the world (Anker and Anker 2017).

Not everyone agrees that living wages are an efficient strategy for promoting the SDGs. Some argue that higher wages will increase pressure on workers to increase productivity, reduce levels of employment, inflate consumer prices, disadvantage small enterprises and drive more workers into informal employment (Brennan 2019). Others are sceptical that laws will improve, or voluntary initiatives will realize their ambitions (Bennett 2018).

Although living wages are generally recognized as a key strategy for advancing the SDGs, technical, financial and political barriers have thus far prevented governments from mandating them and companies from voluntarily implementing them. Whether these dynamics will shift remains to be seen.

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Localization

Rodrigo Führ

Localization refers to the local implementation of the Sustainable Development Goals (SDGs). It can involve how local authors define, plan, implement, monitor, evaluate and report their local strategies aimed at achieving the 2030 Agenda (United Cities and Local Governments 2024; United Nations 2024). Whereas local governments are included in the SDGs in a specific goal (SDG 11), subnational actors are related to at least 65% of the goals and targets of the 2030 Agenda (United Nations 2023, 48–49). Therefore, while national governments are mainly responsible for implementing the SDGs, there is growing recognition of the need to include, or even centre, subnational actors in implementation processes (United Cities and Local Governments 2024).

Localization is not exclusive to the 2030 Agenda but rather a process expected to all international norms, especially those with top-down approaches. Four decades of scholarship and practice on 'norm diffusion' have sought to understand why some norms are internalized by local authors while others are rejected or, most commonly, contested by regional and local orders. The localization of international norms hinges on, for example, the cultural match between the global and local contexts; the pre-existence of norms and institutions, either formal or informal, which may impact the implementation of the new norm; and processes of 'norm subsidiarity', meaning the intention of local actors to preserve their autonomy from power relations inherent to the norm diffusion (Acharya 2004).

Other variables specific to SDGs localization have also been identified. One of the key themes that affect localization in different contexts is the institutional and constitutional design of each country. Localization efforts might vary due to the multilevel governance arrangement in each nation, which changes the level of independence, autonomy, legitimacy and power delegated to local governments. Another variable is the capabilities of local authorities to comprehend, plan, implement and report strategies related to the 2030 Agenda. For instance, large metropoles with high technical expertise, counting on the support of their national government and funding from international organizations, are best equipped to localize the SDGs, while small rural towns with no support and limited budgets might find it difficult to implement local actions related to the 2030 Agenda.

In domestic settings with strong regional authorities such as provinces, departments or states, these intermediate actors might also play a role in either accelerating local action or hampering localization efforts. The degree of national convergence with the 2030 Agenda and national governments' leadership (or lack thereof) also impact the effectiveness of localization and the role that local governments play in the 2030 Agenda implementation. Since the start of the agenda, less than half of the countries that have reported Voluntary National Reviews have informed the presence of local authorities in SDGs coordination processes (United Cities and Local Governments 2024, 15). Finally, another identified variable is the prioritization of actions. While conceptually the SDGs were designed with the intent of having an indivisible nature, local actors are 'cherry-picking' goals and targets while rejecting others, either by interest, limitation of capabilities or pre-existent priorities at the local level (Forestier and Kim 2020).

While there is evidence that the 2030 Agenda has impacted local politics, the degree and ways in which it has been occurring are still being assessed. Most research linking local policies to the 2030 Agenda has shown that local authorities have shifted discourse practices, while there is evidence of institutional and normative effects as well (Órdoñez Llanos et al. 2022). However, localization varies significantly between local governments in different national settings, with observed differences between local governments in the Global North and South. Disparities in technical and financial capacities also have been shown to affect localization at all levels. This scenario suggests that the localization of SDGs is not universal and that implementation policies should be consistent with local contexts to be effective.

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M

Major Groups and other Stakeholders

Jano Richter and Carole-Anne Sénit

The Major Groups and other Stakeholders (MGoS) system is the central mechanism for non-state actors to participate in the High-level Political Forum on Sustainable Development, which is tasked with the follow-up and review of progress on the 2030 Agenda at the global level. MGoS are independent umbrella advocacy networks representing different societal constituencies. Each MGoS has a distinct membership and governing structure with elected Organising Partners. Members can range from individual activists to large humanitarian non-governmental organizations or business associations with the United Nations continuously recognizing new stakeholder groups that can form independently.

MGoS were created in response to the increasing number of stakeholders wanting to engage with the global governance of sustainable development (Corson et al. 2015). At the 1992 United Nations Conference on Environment and Development, also known as Earth Summit, the United Nations recognized nine societal constituencies central to sustainable development. These were Women, Children and Youth, Indigenous People and their Communities, Non-governmental Organizations, Local Authorities, Workers and their Trade Unions, Business and Industry, Scientific and Technological Communities and Farmers. Following the Earth Summit, the United Nations granted the MGoS formalized access to the Commission of Sustainable Development, which featured multi-stakeholder dialogues (Dodds 2019).

More recently, representatives of MGoS advocated for the interests of their constituencies during the negotiations on the SDGs. With the creation of the High-level Political Forum, the United Nations reinforced non-state actors' participatory rights in the global governance of sustainable development. Within this Forum, MGoS attend and intervene in official meetings, have access to official information and documents, submit position papers and present oral contributions, make recommendations and organize side events and roundtables, in cooperation with Member States and the United Nations (United Nations General Assembly 2013). Throughout the years, the MGoS system has evolved in an experimental manner into an intricate stakeholder engagement mechanism with today 21 groups and an overarching coordination mechanism for collective advocacy and coordination with the United Nations Secretariat and member states.

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There is mixed evidence on the effectiveness of MGoS advocacy to date. In SDGs negotiations, civil society was overall more successful in its advocacy in informal and exclusive participatory spaces and early in the negotiations (Sénit 2020). While youth demands were hardly incorporated into the text of the 2030 Agenda (Orsini 2022), the Women's Major Group saw some of its demands integrated into the gender equality goal (Gabizon 2016). As for the monitoring and review of SDG implementation at the High-level Political Forum, it is questionable whether MGoS representatives can influence at all the core outcomes of the Forum, as the intergovernmental negotiations on the political and ministerial declarations are finalized prior to the annual sessions of the High-level Political Forum.

While MGoS have presented shadow reports as accountability supplements to the National Voluntary Reviews, this practice has not been officially recognized, and the High-level Political Forum is thus missing out on non-state actors' implementation capabilities and independent policy monitoring. Funding and visa restrictions are other main concerns that limit the participation of a broad range of stakeholders. MGoS representatives, especially from the Global South, face financial constraints in attending the High-level Political Forum and travel funding from the United Nations is sparse. This can lead to sensitive imbalances in the representativeness of the system, thus undermining its legitimacy (Sénit and Biermann 2021).

The MGoS unite voices and capabilities from all societal sectors and are vital to the achievement of the SDGs. In the follow-up of SDG implementation at the global level, the High-level Political Forum provides a valuable platform for those societal sectors to exchange with policymakers from all levels of governance. However, while MGoS participation in United Nations policy processes on sustainable development has been extensive, there is much room for improvement to make the MGoS system more inclusive and effective, so as to increase accountability within the High-level Political Forum and the SDG follow-up and review process.

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Millennium Development Goals (MDGs)

Estefanía Charvet

The Millennium Development Goals (MDGs) were a group of eight measurable objectives globally established to address essential social and economic aspects of human development (United Nations 2000). The MDGs were expected to be achieved by 2015 and consisted of 48 indicators and 18 targets that subsequently expanded to 21 (United Nations, n.d.). They laid the groundwork for the Sustainable Development Goals (SDGs) launched in 2015.

The origins of the MDGs date back to September 2000 when 189 countries at the United Nations General Assembly adopted the Millennium Declaration. This was a powerful yet non-binding commitment to face some of the world's most pressing and long-standing challenges, especially focused on overcoming poverty (United Nations 2000). The set of eight goals that emerged from the Declaration included eradicating extreme poverty and hunger; achieving universal primary education; promoting gender equality and empowering women; reducing child mortality; improving maternal health; combating HIV/AIDS, malaria and other major diseases; ensuring environmental sustainability; and fostering a global partnership for development. Progress of the MDGs was measured using 1990 as the baseline year.

By 2015, the global community had achieved noticeable progress, including poverty reduction, decreasing child mortality and increasing primary education enrolment (United Nations 2015). One of the most remarkable accomplishments was reducing the proportion of people living in extreme poverty by approximately half (United Nations 2015). The MDGs mobilized the global community towards a common aim, although it is difficult to attribute these gains solely to the goals as other contextual factors likely played a role.

Progress in achieving the MDGs varied across regions. Sub-Saharan Africa in particular lagged behind (United Nations 2015). This regional imbalance underscores one of the main critiques of the MDGs. Establishing global targets in relative terms, such as reducing maternal mortality by three-quarters, obscures the substantial effort some countries or regions make to attain the same relative value (Vandemoortele 2009). In other words, the lower the countries' initial human development conditions, the greater the resources and effort needed. There were also concerns about the implications of setting quantitative targets that leave qualitative aspects on the side (Greig and Turner 2024). For instance, achieving MDG2 (universal primary education) might occur without investing in educational infrastructure, thus risking a decline in quality education despite increasing enrolment.

Another common criticism goes back to the formulation of the MDGs: the lack of an inclusive initial consultation undermined the sense of ownership in the Global South. Furthermore, there was a perception that the design and development of the MDGs were donor-driven (United Nations 2012). The involvement of a task force of multilateral organizations crafting MDG's targets and indicators might have reinforced this view (Greig and Turner 2024). Similarly, environmental concerns were not sufficiently addressed in the MDGs. This limitation reflects a broader oversight of how the goals interacted with one another. For instance, ensuring access to water and sanitation may be challenging without a primary commitment to environmental sustainability (Fehling et al. 2013).

Overall, the MDGs received many positive and negative feedback. Some argue that they were unrealistic, while others believe that their limited scope fails to capture the complexity of development issues (Fehling et al. 2013). Most importantly, the MDGs managed to unite efforts and created global momentum for human development as never seen before. As Greig and Turner (2024) argue, the MDGs created an institution of hope. And what is the world without hope? In the aftermath of the MDGs, a set of far more inclusive, comprehensive and ambitious goals emerged, the SDGs. These new goals and targets, galvanized by the United Nations Conference on Sustainable Development (Rio+20) in 2012, built upon its predecessor's momentum and legacy of hope. The SDGs cover a greater range of global challenges than the MDGs and surfaced to respond to new international development priorities from 2015 onward.

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Modelling

Chaohui Li, Teun Kluck and Prajal Pradhan

Models provide a simplified version of reality. Mathematical, statistical or computational models are used to analyze and project the impact of policies and actions related to Sustainable Development Goals (SDGs) (Pradhan et al. 2024). They can be used to analyse scenarios, identify optimal pathways and inform strategies to address complex issues. Many types of models have been developed, adopted and used to support SDG policy-making at global, national and local levels (Anderson et al. 2022). These models cover a wide range of methodologies, such as system dynamics, social simulations, network analysis, economic input-output and computational general equilibrium models (Aly et al. 2022). Models within the SDG framework can promote systems thinking in understanding SDG interactions, guide the design of holistic and effective strategies and offer plausible future pathways that encourage forward-thinking policies.

Models facilitate systems thinking in SDG analysis by revealing the interconnectedness of different subsystems and establishing connections. They can illuminate a complex system's hidden, distinct and seemingly irrelevant influence pathways. For example, econometric models have detected that climate change (SDG 13) can undermine women's welfare (SDG 5) by increasing the burden of water withdrawal (Carr et al. 2024). They have also unravelled that urban expansion (SDG 11) can result in increased segregation and inequalities of individuals and communities (SDG 10) (Nilforoshan et al. 2023).

Models also provide valuable insights into understanding the long chain of ripple effects of a single SDG policy across various subsystems. For example, input-output models have provided insights into how the implementation of additional tariffs can ripple across the economic-social-environment systems, leading to the reduction of global export volume (SDG 8), increase of carbon dioxide (SDG 13), increase of pollution-induced health burdens (SDG 3) and exacerbate inequality across developed and developing regions (SDG 10) (Lin et al. 2019). By understanding the complexities and systems dynamics of the real world through systems modelling, policymakers can design more holistic policies that minimize negative externalities.

Models also enable policymakers to evaluate the impacts of different SDG policies before implementation by providing projections and scenario-based analysis. For example, integrated assessment models have been widely used to project different sustainable development pathways. They can measure climate and socioeconomic outcomes and evaluate the effectiveness of intervention strategies, such as carbon pricing, migration, energy transition and changes in diet (Soergel et al. 2021). This will provide us with a roadmap of what to expect in the future under these different scenarios. The foresight these models provide is crucial for designing effective, forward-looking policies that align with SDG targets.

While SDG models are powerful tools, their capabilities are not without limitations. One challenge is the need for models to be more policy-oriented at local levels and to recognize regional specificity. Moreover, the real-world complexity presents a considerable challenge for SDG modelling. While models can effectively simulate specific systems, such as climate or economic markets, they struggle to capture the long-term and full range of socio-political factors influencing sustainable development, such as geopolitical dynamics, political conflicts and governance structures. The exclusion of these factors can lead to oversimplified models that do not fully reflect the complexities of global systems. Nevertheless, the current models provide sufficient insights to accelerate SDG progress (Pradhan et al. 2024).

In sum, models represent a powerful means of envisioning and planning for sustainable futures. The key to maximizing their impact lies in further refinement and expansion to address model limitations. Through advancements, models will be able to provide actionable intelligence and empower decision-makers to navigate the complexities of sustainable development with greater precision and confidence and to foster policies that are inclusive, forward-thinking and resilient.

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Multilevel governance

Aurelie Charles

There are different understandings of the term 'multilevel governance', and this entry builds upon the framing of the United Nations Habitat. According to this understanding, multilevel governance relates to the vertical and horizontal integration of governance systems to enable efficient policymaking, service delivery and cohesive leadership by and among all spheres of governance (United Nations Habitat 2024). This definition is used by the United Nations Habitat and its partners who launched a global initiative towards the enhancement of multilevel governance for effective local action to achieve the 2030 Agenda. While 'vertical integration' refers to the spatial scale from global to national, regional and local levels, 'horizontal integration' is concerned with the potential synergies and trade-offs between and across the Sustainable Development Goals (SDGs). Merging both perspectives leads to a complex system of scales, actors and levels of implementation. For example, Allen et al. (2023) identified six different governance approaches to the SDGs, namely, polycentric governance, meta-governance, transition management, adaptive and reflexive governance, anticipatory governance and transformative governance.

Top-down multilevel governance from global to local means that effective SDG implementation must come through collaborative and coherent strategies across different layers of governance. At the global level, the 2030 Agenda offers a comprehensive framework that all member states are encouraged to follow on a voluntary basis, but this is the main weakness for widespread implementation. Biermann et al. (2022) have shown that there has been a limited political impact on institutions and policies apart from discursive change and that legislative, normative and institutional impact remains rare. For example, the European Union integrates the SDGs into its policy frameworks, such as the European Green Deal, which aligns with SDG targets on climate action and sustainability. However, there is a lack of meta-analyses between countries to understand the extent to which the impact goes beyond the discursive implementation of the SDG framework

(Biermann et al. 2022). In that sense, institutionalizing and legalizing the SDGs in national frameworks would accelerate SDG implementation (Biermann et al. 2023).

At the national level, some countries have established national strategies seeking to integrate SDGs into policymaking. For example, the German Sustainable Development Strategy aligns national policies with the SDGs and includes specific SDG indicators to measure progress. Voluntary National Reviews for governments and Voluntary Subnational Reviews for regional and civil society organizations, such as Oxfam, also help monitor progress on SDG implementation. It is, however, down to political and institutional will to do so and to be transparent about the shortcomings in the progress. For example, the United Kingdom government did a Voluntary National Review in 2019, but no other Voluntary National Review has been published since, which makes it difficult to monitor progress.

At the local level, including cities and municipalities, local governments are at the forefront of implementing SDG-related projects and engaging directly with communities. An example is the city of New York, which has aligned its local development plans with the SDGs through its initiative OneNYC 2050. Many progressive cities and regions also use Voluntary Local Reviews as a useful tool to showcase local progress and map the dynamics of local action and partnerships (Matthews et al. 2023). Local authorities, however, face budgetary and institutional capacity constraints that require stronger support from stakeholders at other governmental levels and societal scale (Hickmann 2021). As a way forward and to enhance the principle of subsidiarity, community-level initiatives such as local Doughnuts (Raworth 2017) have started to emerge for local SDG governance actors.

The success of the SDGs ultimately depends on local action and contextual adaptation (see *Localization*), which the United Nations Habitat initiative is carrying forward. However, major challenges such as policy fragmentation, varying capacities and resource disparities among different governance levels remain and create bottlenecks to go in that direction.

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National sustainable development strategies

Basil Bornemann

National sustainable development strategies date back to the early days of international sustainability governance (Steurer 2008). Agenda 21 stressed the need to integrate sustainable development into national policymaking and, in Chapter 8, identified national sustainable development strategies as key instruments in this regard. Defined as a coordinated, participatory and iterative process of thoughts and actions to achieve economic, environmental and social objectives in a balanced and integrated manner (Bass and Dalal-Clayton 2002), a national sustainable development strategy aims to harmonize a country's economic, social and environmental policies in the spirit of socially responsible economic development that protects the environmental resources for future generations.

In 1997, the United Nations General Assembly committed all countries to having such a strategy by 2002, and the 2002 Johannesburg Plan of Implementation urged member states to take immediate steps to advance implementation (Steurer 2008). The 2030 Agenda is, however, more ambiguous regarding national sustainable development strategies. While stressing that their role in linking the SDGs to relevant economic, social and environmental processes cannot be overemphasized, it calls on governments to decide for themselves how exactly to integrate the SDGs into national policymaking.

Governments began publishing national sustainable development strategies, particularly in the run-up to the 2002 World Summit on Sustainable Development. By 2003, about one-third of all countries had such a strategy. Actual implementation varies between regions and countries. Some European countries started early to develop comprehensive and detailed strategies with clear objectives, targets and monitoring frameworks (Steurer 2008). Other strategies remained in the tradition of the sectoral environmental policy plans that national sustainable development strategies aimed to overcome. It was only gradual, supported by guidelines (Bass and Dalal-Clayton 2002), that countries launched strategic processes that combine formal planning and incremental learning in a cross-sectoral approach. While this development was supported by a general surge of policy strategies (Bornemann 2016), there are exceptions and countermovements. The United States never developed a sustainable development strategy, and

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the European Union's strategy was abandoned in the 2010s as political attention shifted to the economic crisis.

National sustainable development strategies are usually formulated and implemented by the government and administration, supported by governance arrangements involving inter-ministerial coordination committees, parliamentary groups and social sustainability councils. In terms of content, such strategies combine assessments of current states and challenges, overarching government commitments and presentations of activities in different policy areas. Since the 2030 Agenda, many strategies have been aligned with the SDGs and linked to Voluntary National Reviews (Persson et al. 2016).

There is little generalizable evidence on the success of national sustainable development strategies. A dominant perception is that national sustainable development strategies serve to communicate sustainability rather than engender substantive policy change (Casado-Asensio and Steurer 2014). As administrative and often highly conceptual documents, they remain disconnected from day-to-day policymaking. Yet some see this as precisely their function: By providing overarching conceptual reference points for policy problems and solutions, they perform a meta-governance function that promotes sustainability-oriented integration, reflection and learning. As such, these strategies develop substantive effects rather indirectly but are more than just symbolic exercises (Meadowcroft 2007; Steurer 2008; Bornemann 2016).

With their institutionalization and initial experience, national strategies for sustainable development have lost some of their original appeal. Earlier attempts to promote a particular strategy model have given way to recognition of a diversity of strategic policy approaches – a pluralization that echoes the shift towards goal-oriented governance under the 2030 Agenda (Biermann et al. 2017). National sustainable development strategies are likely to remain relevant in countries where they exist, increasingly addressing the SDGs and linked to Voluntary National Reviews. However, there is no sign of a push for new strategies. Many countries will continue to go their own way, which may deviate from the once-established concept, and it remains to be seen which types of national policies or strategies will be most effective in implementing the SDGs.

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Negotiation of the Sustainable Development Goals

Pamela Chasek

The United Nations Conference on Sustainable Development (Rio+20) in June 2012 launched a process to develop a set of Sustainable Development Goals (SDGs) to build upon the Millennium Development Goals (Doran et al. 2012). Paragraph 248 in the outcome document, *The Future We Want*, reads:

> We resolve to establish an inclusive and transparent intergovernmental process on sustainable development goals that is open to all stakeholders, with a view to developing global sustainable development goals to be agreed by the General Assembly. An open working group…shall comprise thirty representatives, nominated by Member States from the five United Nations regional groups, with the aim of achieving fair, equitable and balanced geographical representation.
>
> (United Nations 2012)

It took seven months for Member States to reach an agreement on how to distribute the 30 seats among the five United Nations regional groups. When they asked for expressions of interest, 70 countries responded. Rather than holding elections, which could disenfranchise the losers, they found an innovative way to accommodate all 70 countries by sharing the 30 seats (Kamau et al. 2018). For example, Nauru, Palau and Papua New Guinea shared a Pacific island seat and usually spoke with one voice. Another group, Iran, Japan and Nepal, however, never coordinated and took turns speaking on behalf of their own country. In the end, all United Nations member states could participate in the Open Working Group, but priority was given to the 70 members who shared the 30 seats.

The Open Working Group held eight stocktaking sessions between March 2013 and February 2014, with each session focused on different clusters of sustainable development issues. Each stocktaking session included early-morning meetings with representatives of civil society, panel presentations by experts, question and answer periods and formal statements. By the time the Open Working Group began actual negotiations in 2014, there was a high level of cohesion, a common sense of purpose and a shared understanding of the issues (Kamau et al. 2018).

Once the negotiations began in March 2014, the Open Working Group had five sessions to reach agreement on the goals and targets. The co-chairs took an iterative approach in the negotiations by first releasing a series of 'focus areas' documents, which initially outlined 19 focus areas as the basis for discussions. As discussions of the focus areas continued, the Open Working Group added possible targets to accompany each focus area, with over 300 targets initially proposed (Chasek and Wagner 2016). The last two sessions in June and July 2014 narrowed down and determined the wording of the goals and targets and reduced the number by combining some goals and targets. There was a lot of disagreement on including targets on peaceful and inclusive societies (Goal 16), transboundary water management and goals on equality, energy, oceans-related issues and the Law of the Sea and women's reproductive rights and health, to name a few. Even at the very end, some countries did not want to adopt the goals because of one or more of these issues.

On 19 July 2014, the Open Working Group adopted the 'Proposal of the Open Working Group for Sustainable Development Goals', containing 17 goals and 169 targets covering a broad range of sustainable development issues, including ending poverty and hunger, improving health and education, making cities more sustainable, combating climate change, protecting oceans and forests and peace, justice and strong institutions (Chasek and Wagner 2016). In a shift from the Millennium Development Goals, the SDGs were intended to be universal – in other words, an agenda that recognizes shared national and global challenges among all countries, not just developing countries. Governments also committed to leave no one behind in the implementation of the SDGs, since many countries had not been able to meet the targets under the Millennium Development Goals.

On 10 September 2014, the United Nations General Assembly adopted resolution 68/309 welcoming the Open Working Group's report (United Nations 2014). A new set of negotiations then convened over eight sessions between January and August 2015 to prepare the outcome document for the United Nations Sustainable Development Summit. The document, *Transforming Our World: The 2030 Agenda for Sustainable Development*, contained the SDGs and targets as well as a declaration and sections on means of implementation, follow-up and review (United Nations 2015). The 2030 Agenda was formally adopted by heads of state and government during the Summit at United Nations Headquarters in New York in September 2015.

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Network analysis

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Given the integrated and indivisible nature of the 2030 Agenda, the multidimensional Sustainable Development Goals (SDGs) and their 169 targets form complex networks of interactions. Network analysis offers a holistic approach to understanding, visualizing and evaluating these interactions. The networks' entities are conceptualized as nodes, for example, the SDGs and targets, and the interactions and interlinkages between them as

edges. Nodes in a network can be characterized by centrality measures, helping prioritize central actors in the network and, through cluster analysis, identifying broader patterns that guide coordinated policy interventions. The nature of these connections can differ significantly. Edges represent positive (synergy), negative (trade-off) or neutral influences, which can be direct or indirect and be weighted or unweighted in terms of strength (Dawes 2022). SDG-focused networks can be constructed at various scales, encompassing all SDGs, targets or indicators, a subset, or interactions with externalities (Dawes 2022; Warchold et al. 2022; Weitz et al. 2018). These networks can be analysed at global, regional, income, national, subnational or local levels (Issa et al. 2024).

Two primary applications of SDG network analysis include assessing interactions among goals and targets and examining the social networks of actors involved in SDG governance. Qualitative, semi-quantitative or quantitative approaches can be used to construct these two applications of SDG networks (Issa et al. 2024). *Qualitative network analysis*, often involving expert assessments, literature reviews, case studies or observational data, is particularly valuable for exploring networks with limited or non-quantifiable data and understanding context-specific interactions. For example, Weitz et al. (2018) employed expert assessments in Sweden to evaluate the interactions between SDG targets using a cross-impact matrix. By applying network theory, those results were analysed and visualized. This allows ministries, like one responsible for climate mitigation (Target 13.2), to identify influences on other targets and assess their own impact, which in turn fosters collaboration or highlights necessary negotiations. *Quantitative network analysis* relies on statistical methods to measure and model interactions between nodes, such as centrality measures, correlation and causality analysis. Thus, directed, weighted networks, resulting from these approaches, reveal which goals exert a stronger positive or negative influence on others, aiding SDG prioritization and understanding cascading effects. Dörgő et al. (2018) were among the first to propose a framework for quantitatively inferring causal interactions within the SDG system. By employing node centrality metrics in a network of sustainability indicators, the authors identify the most critical indicators, such as sanitation and drinking water (SDG 6), based on their position within a global SDG system of causal interactions. *Social network analysis* for SDG governance examines the relations among actors involved in achieving the SDGs, revealing their roles, influence and collaboration patterns. To effectively implement SDGs, these actors, such as states, local governments, non-governmental organizations, international organizations and businesses, must coordinate and collaborate, forming extensive global governance networks. Pärli et al. (2021) studied information exchange networks among Swiss actors working on SDG 6, demonstrating how collaborations between actors can positively impact SDG governance.

Network analysis offers valuable insights into the structural properties of the SDG system, identifying leverage points and hurdles for goal-prioritizing, which in turn reduces complexity and allocates resources effectively. Understanding the centrality and influence of goals through network analysis can help prioritize actions that yield significant co-benefits across multiple goals. However, network analysis faces challenges, including the quality and completeness of data, which can lead to misleading conclusions (Warchold et al. 2022). Networks may also assume static relationships, failing to capture second-order interactions and the dynamic nature of real-world systems (Issa et al. 2024). This can result in networks that are overly simplistic and fail to represent the complexities of the systems they aim to analyse. Future applications of SDG network analysis should emphasize close collaboration among researchers, stakeholders and policymakers. By

combining quantitative and qualitative analyses with knowledge co-creation, network analysis can facilitate a deeper understanding of SDG interactions and enable the effective implementation of policies at various levels (Pradhan 2023).

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Nexus governance

Montserrat Koloffon Rosas

Nexus refers to a series of connections linking two or more things and is commonly used in relation to governance when several issue areas are intrinsically interlinked (Boas et al. 2016). The nexus concept originated in the field of natural resource management in 1983 through the Food-Energy Nexus Programme, which focused on finding combined solutions to challenges related to food and energy scarcity (Liu et al. 2018). Over time, the concept gained prominence at international conferences, including the World Economic Forum in 2008, which emphasized water's role in driving economic growth through its connections with a nexus of issues; the Bonn 2011 Nexus Conference with its focus on the Water-Energy-Food nexus in focus (Hoff 2011); and the United Nations Conference on Sustainable Development in Johannesburg 2012, where it was acknowledged that fragmentation of sectors could no longer be maintained (Boas et al. 2016). The 2030 Agenda was negotiated against this backdrop, resulting in the 17 Sustainable Development Goals (SDGs), which are explicitly declared to be 'integrated and indivisible and balance the three dimensions of sustainable development' (United Nations General Assembly 2015).

The rationale behind a nexus approach is that it can support a transition to sustainability by focusing on system efficiency rather than on the productivity of isolated sectors (Hoff 2011). This approach stems from *systems thinking*, which involves

understanding the world as a complex, interconnected system, whose elements are intricately linked to one another. When adequately implemented, nexus governance examines interactions among multiple sectors, allowing to harness synergies and avoid trade-offs (Liu et al. 2018), for example, by ensuring that 'investments made to achieve a given goal influence the approach, resourcing, and effectiveness of the delivery of others' (United Nations Department of Economic and Social Affairs 2014). Successfully achieving this, however, requires the fulfilment of various conditions such as (1) an accurate understanding of the system of interest to identify shared root causes that produce undesired behaviour in different issue areas; (2) an effective interaction of strategic stakeholders within the nexus; and (3) a fitting intervention design, often in transboundary contexts.

Despite the increasing popularity of nexus governance in sustainable development, in practice, institutions from the international to the local level continue mirroring the historical fragmentation of sustainable development. In rare cases where a nexus approach has been implemented, such as by the German Inter-ministerial Working Group on Sustainable Development, maintaining efficiency in administrative processes has reportedly been a significant challenge. Another popular governance mechanism that occasionally takes a nexus approach is multi-stakeholder partnerships (Widerberg et al. 2023). However, even when partnerships seem to simultaneously target various SDGs, they often address each goal through separate projects. Lastly, similar to the case of policy integration (Bornemann and Weiland 2021), the assumption of nexus governance as an effective approach to accelerate SDG implementation is largely based on theory, as empirical research on the feasibility of this nexus governance to unlock sustainability transformations and accelerate the achievement of the SDGs remains scarce.

In sum, the concept of nexus governance has gained popularity throughout the years. In the context of global sustainability governance, a nexus approach is assumed to contribute to designing synergistic interventions that avoid trade-offs between issue areas. The concept is used both in research and practice with the purpose of accelerating sustainability transformations to advance the SDGs; however, the few nexus governance efforts result in a gap of empirical evidence on the feasibility of this approach. This gap should encourage actors to strengthen the science-policy exchange and to ensure that lessons learnt in nexus governance for sustainable development are recorded and disseminated.

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Norms and normative effects

Aurelie Charles

Norms can be defined as implicit or explicit rules in resource allocation. As implicit rules, norms shape human behaviour through personal and collective ideals and beliefs, they are therefore engrained in people's decision-making (Charles 2024). As explicit rules, norms can be institutionalized into a national or international legal framework and used as rules of governance. In the context of the Sustainable Development Goals (SDGs), normative effects are then adjustments in legislative and regulatory frameworks and policies in line with and because of the SDGs (Biermann et al. 2022). Both explicit and implicit types of norms are at the heart of individual and policy decision-making for resource allocation, and they are therefore central for an effective implementation of the SDGs.

As implicit rules, the SDGs offer cognitive messages to establish the value of global norms to the domestic audience (Okitasari and Katramiz 2022). Schmieg et al. (2018), for example, show that understanding the normative features of the SDGs helps both scientific and non-scientific sustainability discourses and allows a diverse system of norms that interrelates at the macro, meso and micro levels of implementation. As explicit rules, studies have doubted whether the SDGs will ever be able to transform legal frameworks towards increased political participation of these countries in global governance (Biermann et al. 2022). A continued lack of compliance with long-standing norms indicates the limited steering effect of the SDGs on the ability of poorer countries to fully participate in and benefit from the global economy (Biermann et al. 2022).

One primary challenge with explicit norms is the normative hierarchies and conflicts that can occur at the national or local level (Charles 2024). Local norms can conflict with and be prioritized differently from the global norms established by the SDGs, leading to resistance or selective adherence in line with local prioritization of the SDGs. For example, economic growth norms may conflict with environmental sustainability norms, leading to policies that favour short-term economic benefits over long-term sustainability. Another example is gender equality norms promoted by SDG 5 that may face resistance in patriarchal societies with deeply ingrained implicit norms. In the context of the financing mechanisms of the SDGs, donor and international organizations can exert normative influence that shapes the priorities and strategies of recipient countries, sometimes leading to misalignment with local needs. Finally, Fukuda-Parr and McNeill (2019) discuss the tensions between global and local priorities and their implications for policymaking, notably in terms of the danger to be governed by indicators. Emphasis on quantitative indicators in effect can lead to 'indicator chasing', where efforts are directed more towards improving metrics than addressing underlying local challenges.

Norms and normative effects are critical to the implementation of the SDGs, influencing how goals are prioritized, interpreted and enacted across different governance levels, both explicitly and implicitly. The strongest impact of the SDGs has certainly been in the way they have changed people's cognitive mechanisms towards a universal ideal. However, in terms of explicit rules of governance, challenges remain to address their normative ambiguity, the conflicts between global and local norms and the impact of monitoring mechanisms.

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North-South relations

Dhanasree Jayaram

North-South relations mainly involve power dynamics and structural inequalities between the Global North (industrialized/developed countries) and the Global South (developing and least developed countries). These power dynamics are shaped by historical, socioeconomic, political and colonial legacies. These terms emerged during the Cold War based on the distinction between the Global North and South, considering income, technological, macroeconomic, infrastructure and educational disparities (Kowalski 2021). While the world has changed significantly since then, these inequities persist between the richer North and poorer South, with implications for the implementation of the Sustainable Development Goals (SDGs).

Although the SDGs are a universal agenda that lays equal emphasis on transformations across the Global North and South, the Global South receives special attention with the inclusion within the framework of issues such as inequality, poverty, hunger, economic growth and affordable energy. The SDGs typically emphasize partnerships (for example, North-South or South-South) and win-win cooperation, yet they largely fail to address power imbalances in a geopolitically fragmented international order (Martins 2020). Conflicts in different parts of the world; trade and technological disputes; the functioning of international organizations; international responses to transnational crises

such as climate change and pandemics; and global developments in Science, Technology and Innovation, among others, have reinforced the North-South divide.

For example, Global South countries such as the Democratic Republic of Congo, Chile and Papua New Guinea are leading producers of critical minerals (such as cobalt, copper and lithium) for energy transitions. However, not only do these countries face severe energy poverty, but also the extractivist operations are known to exacerbate marginalization, human rights violations, conflicts and poverty among the affected communities (Matanzima and Loginova 2024). North-South initiatives such as the Just Energy Transition Partnerships launched by the International Partners Group of donor countries in several countries of the Global South have been criticized for power asymmetries, a lack of mutual respect and recognition of priorities of the Global South and unequal financing instruments (mainly loans) that perpetuate dependency (Banerjee 2024).

North-South relations are marred largely by exclusionary and non-pluralistic processes of decision-making and policy implementation, including in the case of the SDGs. These processes reflect the persisting gap between the Global South and North in areas such as knowledge production, resource access and capacity development. Although the SDG framework tries to reduce this gap, the Global North has failed to deliver on key issues such as sustainable finance and aid/assistance, urgently needed by the Global South to tackle socio-ecological and socioeconomic crises. For example, the COVID-19 pandemic was marked by a substantial disparity in vaccine access between the Global South and North. Similarly, even North-South knowledge partnerships on SDG implementation tend to include a unidirectional transfer of knowledge or capacity from North to South, guided by donor-recipient relationships (Penderis et al. 2018). This overlooks the agency, characteristics and needs of the Global South's diverse contexts. For instance, the COVID-19 pandemic shed light on indigenous knowledge and practices in the Global South that helped many countries overcome the pandemic. However, this has largely been overlooked in global sustainability governance.

Yet, the SDGs present an important platform for all countries to address the sustainability challenges they face through multilateral collaboration. The trust deficit between the Global South and North created by historical and contemporary injustices may be bridged through a transformation of the sustainability governance architecture(s) through participatory processes (to cater to the most vulnerable communities), co-creation of knowledge (challenging the geopolitics of knowledge that prioritizes Northern science) and a socio-ecologically just allocation of resources, responsibilities and risks (Gupta and Lebel 2020). North-South relations must recognize the diverse realities within the Global South and North and tailor solutions through equitable South-North and South-South partnerships.

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O

Official development assistance (ODA)

Li Li and Hyeyoon Park

Official development assistance (ODA) was first invented as a statistical concept in 1969 by the Development Assistance Committee of the Organization for Economic Cooperation and Development. It is regarded as the 'gold standard' of governmental foreign aid that promotes the economic development and welfare of developing countries and shapes the relations between developing and developed countries (Bracho et al. 2021: 1).

The international society started debating ODA as one of the core financial sources for achieving the Sustainable Development Goals (SDGs). SDG 10.b aims to encourage ODA and financial flows, including foreign direct investment, to states where the need is greatest. Notably, SDG 17.2 re-endorses developed countries' commitment to achieving the target of 0.7% of gross national income for ODA (a UN resolution in 1970) (United Nations General Assembly 2015: 21, 26). Since then, the SDGs have become the backbone of ODA policy. The interlinkage between ODA and the SDGs has shown some positive effects. For instance, the contribution of climate-relevant ODA contributes to achieving multiple sustainability policy targets simultaneously, such as agriculture and water (Iacobuță et al. 2022).

Nevertheless, the current global volume of ODA is far behind in fulfilling developing countries' needs to achieve the SDGs for several reasons. First, the number of eligible ODA providers is limited – that is, 32 members of the Development Assistance Committee of the Organisation for Economic Cooperation and Development. Second, even if all these countries were to satisfy their duty of paying 0.7% of their gross national income, it is insufficient to reach all the SDGs with 169 targets (Mawdsley 2021). The United Nations Conference on Trade and Development estimated that between 2023 and 2030, USD 5.4–7.6 trillion per year is needed to achieve all goals, which represents a personal cost of USD 1,179–1,383 per year. However, many donor countries often fail to reach the 0.7% threshold (United Nations 2023).

Against this backdrop, how to catalyze money to narrow the financial gap became a primary policy issue. It sheds light on multiple types of financing routes, such as philanthropy, remittances, foreign direct investment and South-South flows, in addition to traditional ODA – including both public and private, national and international financing. The debate now centres on 'blended finance', aiming at unlocking private finance by utilizing ODA to de-risk private capital flows (Organisation for Economic Cooperation and Development 2021).

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The increasing role of private finance in modernizing ODA via blended finance has brought many concerns, such as the risks of 'SDG washing' (Biermann et al. 2022). First, ODA, closely integrated with private finance, could serve market interests through the SDG business model aligned with 'neoliberal development' (Mawdsley 2021: 54). Blended finance is likely to support projects benefiting private investors' interest. Regarding climate change-related ODA, it tends to support more mitigation projects than the ones for adaptation, due to a lack of profitability (Iacobuță et al. 2022). Second, transparency is another controversial issue regarding what ODA information should be made public. ODA blended with private finance can worsen the transparency problem because of the private sector's confidentiality obligation (Mawdsley 2021). Third, the privatization of ODA could weaken the norm of the 0.7% gross national income as donor countries' national obligation.

In sum, the above-mentioned emerging challenges show a huge governance gap in the current ODA-SDG finance structure that doesn't fulfil developing countries' needs. The gap includes a risk of the emerging 'blended finance' approach wherein the private sector's role increases, and their interests could be centred within ODA projects. It could weaken the legitimacy and accountability of the current ODA system. Building inclusive institutional settings reflecting the demands of the Global South would be significant to realizing just and transformative governance of the SDGs.

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Orchestration

Joshua Philipp Elsässer

Orchestration has emerged as a prominent conceptual approach in the global governance literature, which foregrounds the importance of agency and actor dynamics in addressing complex global challenges. In essence, orchestration involves a principal actor with

limited resources (orchestrator), often an international organization, that seeks to mobilize and facilitate the voluntary cooperation of third-party actors (intermediaries) to achieve shared objectives (target). Introduced by Abbott and Snidal (2009), orchestration reflects the limitations of traditional, state-centric governance and recognizes the emergence of new governance structures in which non-state actors and transnational governance initiatives play critical roles in creating innovative norms and rules to address collective action problems. These new structures are characterized by complementary – and sometimes alternative – approaches between transnational and intergovernmental governance in a system marked by heterogeneous authority (Elsässer et al. 2022; Green 2014).

Unlike collaboration, orchestration is a mode of governance that is 'indirect', as it relies on intermediation rather than direct interaction. Moreover, it is a 'soft' governance mode, meaning that orchestrators lack the capabilities to enforce rules hierarchically or issue orders through principal-agent relationships. Instead, orchestration relies on persuasion, incentives, nudging or capacity-building to foster voluntary cooperation among a diverse set of actors. While states and other governors can generally use orchestration, it is particularly valuable for international organizations, which often cannot engage in hard, direct regulation. Due to restricted resources or mandates, international organizations are typically granted limited authority to govern states or private actors, as this would require strong enforcement mechanisms or interventions in domestic affairs, potentially undermining national sovereignty (Abbott and Snidal 2009).

Scholars in global sustainability governance have frequently employed orchestration to analyse how international organizations influence and mobilize actors, highlighting two central strategies with significant practical implications for achieving the Sustainable Development Goals (SDGs). First, international organizations can *manage* states by engaging intermediaries to shape state preferences, beliefs and behaviours, aligning them with the orchestrator's objectives. For instance, various environmental treaty secretariats under the United Nations have mobilized various non-state initiatives to exert pressure and drive intergovernmental negotiations towards ambitious policymaking (Hickmann and Elsässer 2020). Second, international organizations can also *bypass* states by engaging intermediaries to influence the behaviour of private actors. For instance, the United Nations Environment Programme has successfully promoted responsible investment guidelines that encourage private investors to adopt sustainability criteria, fostering alignment with environmental and social goals (van der Lugt and Dingwerth 2015).

While orchestration has become a popular framework for understanding how international organizations navigate complex policy landscapes, its application in practice often reveals a more nuanced reality than the theory suggests. The clear distinction between the roles of orchestrators and intermediaries, central to the theory, can blur in real-world settings. For instance, under prolonged orchestration dynamics, where benefits accrue to all parties involved, collaborative dynamics often emerge (Hickmann and Elsässer 2020). Similar to the analogy of an orchestra, where musicians play subordinate roles under the direction of an orchestrator, the theory sometimes struggles to account for the varying degrees of influence and control exerted by different actors, potentially obscuring the hierarchical elements inherent in many governance arrangements.

This suggests that while orchestration is a valuable starting point, it requires further investigation to capture the nuances and intricacies of actor dynamics of contemporary global governance. Future research on orchestration should thus focus on its underlying mechanisms and make further headway in measuring its impacts (Elsässer 2024). This

may include further consideration of normative implications, such as questions of legitimacy (Bäckstrand and Kuyper 2017), or connecting the agency-centred approach to potential structural effects on institutional environments to better understand the potential and limitations of orchestration.

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P

Paris Agreement

Joshua Philipp Elsässer

The Paris Agreement was adopted in 2015 by the conference of the parties to the United Nations Framework Convention on Climate Change. The agreement has revitalized global climate governance after years of negotiation deadlock; for the first time, major emitters and superpowers, including China and the United States, committed to a common pathway to limit emissions, which sparked optimism that governments could collectively address the climate crisis.

The Paris Agreement is a complex and evolving treaty. Its overall design is meant to limit global warming to well below 2°C, with efforts to cap the increase at 1.5°C above pre-industrial levels. Its complexity stems from its ambitious goal of transforming global economies into low-carbon societies. Acknowledging the critical role of domestic politics for international climate policy, the agreement works through an implementation and ambition cycle, which spans multiple governance levels (WRI 2024). This cycle of planning, reviewing and implementing involves a broad range of stakeholders, with public consultations, reviews and impact assessments at the national level combined with international mechanisms to support implementation, promote compliance and enhance transparency.

Central to the Paris Agreement are the so-called Nationally Determined Contributions, which involve a mandatory, iterative 'ratcheting-up' process that requires countries to progressively increase their climate ambition and update their contributions to reduce greenhouse gas emissions every five years (Falkner 2016). Alongside mitigation targets, countries also have to outline their actions for adapting to climate change and enhancing resilience. While the Paris Agreement is primarily an intergovernmental treaty, it also advances a novel 'all hands on deck' approach that views non-state actors such as corporations and civil society as essential contributors to the treaty's implementation alongside states. While non-state actors are hoped to close governance gaps or catalyze more intergovernmental ambition, treaty implementation has yet to fully deliver on its promises (Elsässer et al. 2022; Hale 2016).

The Agreement's design allows for the addition of new elements and agenda points, increasing its comprehensiveness. The low-carbon transformations it envisions are

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tied to the dependency on fossil fuels that has underpinned global economic development over the past decades, particularly in industrialized countries. In reducing this reliance, the Paris Agreement intersects with broader development areas also targeted by the Sustainable Development Goals (SDGs), including poverty alleviation, energy access or sustainable industrialization (Moreno et al. 2023). Simultaneously, SDG 13 on climate action explicitly recognizes the connections between climate mitigation and other development goals. While this overlap suggests potential synergies, alignment across the two frameworks has often remained elusive in practice (Campagnolo and Davide 2019). Taking a more critical perspective, the expanding scope of the Paris Agreement could even render the SDGs redundant in the long run in a development that is possibly accelerated by the increasing severity of climate change impacts around the world, which could result in a heightened priority to address climate change for development.

Looking ahead, the Paris Agreement faces many challenges. Key issues include unequal responsibility for climate change, contested mitigation technologies such as carbon capture and storage, and the need for increasing funding. While the Paris Agreement has established a solid framework for mitigation, adaptation has been only gradually introduced, with loss and damage still emerging as a critical issue. This is particularly relevant due to the asymmetric vulnerability of developing countries, which are disproportionately affected by rising sea levels, flooding, droughts and wildfires. Major science networks have warned that the world might exceed 2°C of warming and that efforts under the Paris Agreement are still insufficient (IPCC 2023). The central challenge now is the speed of action, given the complexities of socio-technical-economic transformations, including issues of equity and justice closely related to several SDGs and the costs from delayed action for the broader objectives of sustainable development.

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Participation

Okechukwu Enechi

Participation is a multifaceted concept that has been a subject of debate among philosophers, policymakers, practitioners and academics for centuries. Within sustainable development, although the role of participation has been extensively explored, there is limited consensus on its meaning and its capacity to drive transformative change, as well as a lack of a clear framework for organizing and implementing participation at different governance levels (Carpentier 2012; Glass and Newig 2019).

Participation has been a key focus in sustainable development research and policymaking, with evidence supporting its role in fostering sustainability through democratic practices (Pickering et al. 2022). It is a key component of the United Nations (UN) 2030 Agenda for Sustainable Development, which positions participation as central to achieving the SDGs and realizing the 'leave no one behind' principle. SDG 16 explicitly calls for stakeholder participation in decision-making at all levels, while SDG 17 offers partnership mechanisms as a means of implementation. At the national level, the Voluntary National Reviews encourage participation of stakeholders in the review in order to achieve inclusion, integrate domestic-local contexts and empower the most affected towards achieving the SDGs.

Despite its central role in the SDGs framework, enhancing participation in SDG implementation is complicated due to limited clarity in how participation is conceptualized and should be implemented. A primary challenge is the lack of specific, measurable targets and indicators related to participation, which impedes analytical processes and effective monitoring. Although the process around Voluntary National Reviews is intended to promote participation and inclusiveness in SDG implementation, many countries fail to meaningfully involve the most affected and marginalized groups in the review of the SDGs at national level. This exclusion can be attributed to factors such as shrinking civic space and the contested representative role of civil societies in global governance (Sénit and Biermann 2021).

Furthermore, even when countries explicitly state their intention of including diverse stakeholders in the Voluntary National Reviews, there is often a lack of clarity regarding how the participation of subnational and local level stakeholders should be organized and implemented (Figueroa and Harrison 2022). Additionally, resource constraints, inadequate expertise and sustainability knowledge gaps also pose significant challenges to participation in the review of SDG implementation at different levels. These challenges question the extent to which Voluntary National Reviews can effectively address the participation gap in SDG governance, with potential consequences that include a dearth of empirical data for evaluating SDG implementation, particularly in regions like Sub-Saharan Africa (Biermann et al. 2022). Additionally, there is also a risk that lack of clarity in how participation should be implemented leads to tokenism or marginalization of stakeholders, thus further exacerbating inequalities in SDG governance at the local level (Mosse 2001).

Participation, while widely acclaimed as key to the implementation of the SDGs, remains challenging to define and materialize in national and global contexts. Therefore, to realize the potential of participation for sustainability transformation as envisioned in

the 2030 Agenda, a robust framework is required that provides an unambiguous definition of participation, including the identification of relevant stakeholders and specific, measurable targets and indicators to assess both the level and quality of participation. In addition, there is a need to establish clear thresholds for the participation of stakeholders in SDG monitoring and review at national, subnational and local levels.

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Partnerships

Maximilian S. T. Wanner

Partnerships have been described and studied under terms such as collaborations, networks, alliances, coalitions, cross-sectoral or cooperative initiatives and multi-stakeholder platforms. Originally understood as collaborations between the public and private sector, scholars now refer to partnerships more broadly as 'voluntary agreements between public actors (international organizations, states, or substate public authorities) and nonstate actors (non-governmental organizations, companies, or foundations) […] across multiple jurisdictions and levels of governance' (Andonova 2017, p. 2). Partnerships can be formal or informal initiatives in which actors from different sectors come together in diverse constellations for specific purposes. As such, they vary substantially depending on the issue area, actors involved, institutional structures and goals.

The concept of partnerships as a form of governance for sustainable development has been around for decades. International and national agencies began promoting partnerships for development in the 1980s, and their popularity grew especially after the 2002 World Summit on Sustainable Development (Higham et al. 2024; Pattberg and Widerberg 2016). Partnerships have since become key components of global governance for

sustainable development. With the adoption of the Sustainable Development Goals (SDGs), multi-stakeholder partnerships were integrated into the global sustainability agenda to address the scope and interconnectedness of the SDGs, specifically under the targets 17.16 and 17.17 of SDG 17, which aims to 'strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development'. The rise of partnerships is associated with globalization and decentralization trends, the retreat of the state and the collaborative efforts of international organizations (Andonova 2017). Partnerships complement state efforts by pooling knowledge, expertise, technology and financial resources from different sectors, which are crucial given the scope and complexity of today's sustainability challenges. These collaborative and cooperative initiatives are seen as essential means for global action and the local implementation of the SDGs, as they are expected to generate synergies, effects larger than the sum of individual efforts, both between actors and the SDGs.

In the context of the SDGs, partnerships have been increasingly studied by scholars of global governance and organizational studies as modes of governance and forms of collaboration. These literatures have assessed their emergence and formation (for example, Andonova 2017; Higham et al. 2024), participation and institutional design (for example, Glass et al. 2023), accountability and legitimacy (for example, Bäckstrand et al. 2022), performance and effectiveness (for example, Higham et al. 2024; Pattberg and Widerberg 2016), synergies, transformative potential and future prospects (for example, Leal Filho et al. 2024; Widerberg et al. 2023). Research has identified various conducive conditions, including committed resources and institutionalization, collected in partnership guidebooks, such as *Unite to Ignite* by the Partnering Initiative and the United Nations Department of Economic and Social Affairs (Benton and Stibbe 2023).

However, partnerships have faced criticism for reinforcing unequal power relations and failing to deliver effective action at scale and to create needed synergies. As challenges such as securing long-term funding and poor coordination on a global scale persist, there are calls to reform the governance landscape by improving the orchestration and 'meta-governance' and developing better frameworks for aligning partnerships (Bäckstrand et al. 2022; Widerberg et al. 2023). Ultimately, the success of partnerships often depends on the will of governments that keep shaping the increasingly complex funding system and priorities in the world.

In conclusion, partnerships are vital to achieve the SDGs but face many challenges. Unlocking their full potential requires creating an enabling environment that provides partnerships with the necessary resources and support to generate more synergies between actors and SDG action.

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People, Planet, Prosperity, Peace, Partnerships (5 Ps)

Laura Rahm, Tara Patricia Cookson and Ginette Azcona

People, Planet, Prosperity, Peace and Partnership – also known as the 5 Ps – are the core pillars of the 2030 Agenda for Sustainable Development. They originate from the preamble of the 2030 Agenda as 'a plan of action for people, planet and prosperity [that] also seeks to strengthen universal peace…acting in collaborative partnership' (United Nations General Assembly 2015, 5). The 5 Ps highlight the interconnected, indivisible nature of the Sustainable Development Goals (SDGs) and serve as a guiding framework for their implementation across social, economic and environmental dimensions (Tremblay et al. 2020).

The **People** pillar aims to end poverty and hunger, ensuring that all individuals live with dignity and equality in a healthy environment.

The **Planet** pillar focuses on protecting ecosystems, addressing climate change and promoting responsible use of natural resources while curbing overproduction and overconsumption.

The **Prosperity** pillar seeks to foster sustainable, equitable growth, where everyone benefits from economic, social and technological progress, in harmony with nature.

The **Peace** pillar emphasizes promoting peaceful, just and inclusive societies where people can live without fear of violence and conflict.

The **Partnership** pillar underscores the need for collaborative efforts among governments, private sector entities, civil society and other stakeholders to achieve the SDGs and support the poorest and most vulnerable.

The 5 Ps are frequently used in progress reporting to the United Nations, such as the Common Country Analysis, Voluntary National Reviews, policies, strategies and programmes to illustrate the holistic and interconnected nature of the SDGs. The absence of an official mapping that links specific SDGs to individual pillars has led to variations in how different countries and organizations interpret and apply the framework. This is based on an understanding that many goals fall under more than one pillar. One alignment of pillars to the SDGs, which also illustrates the framework's framing of gender equality as a cross-cutting priority, is illustrated in Figure 1.

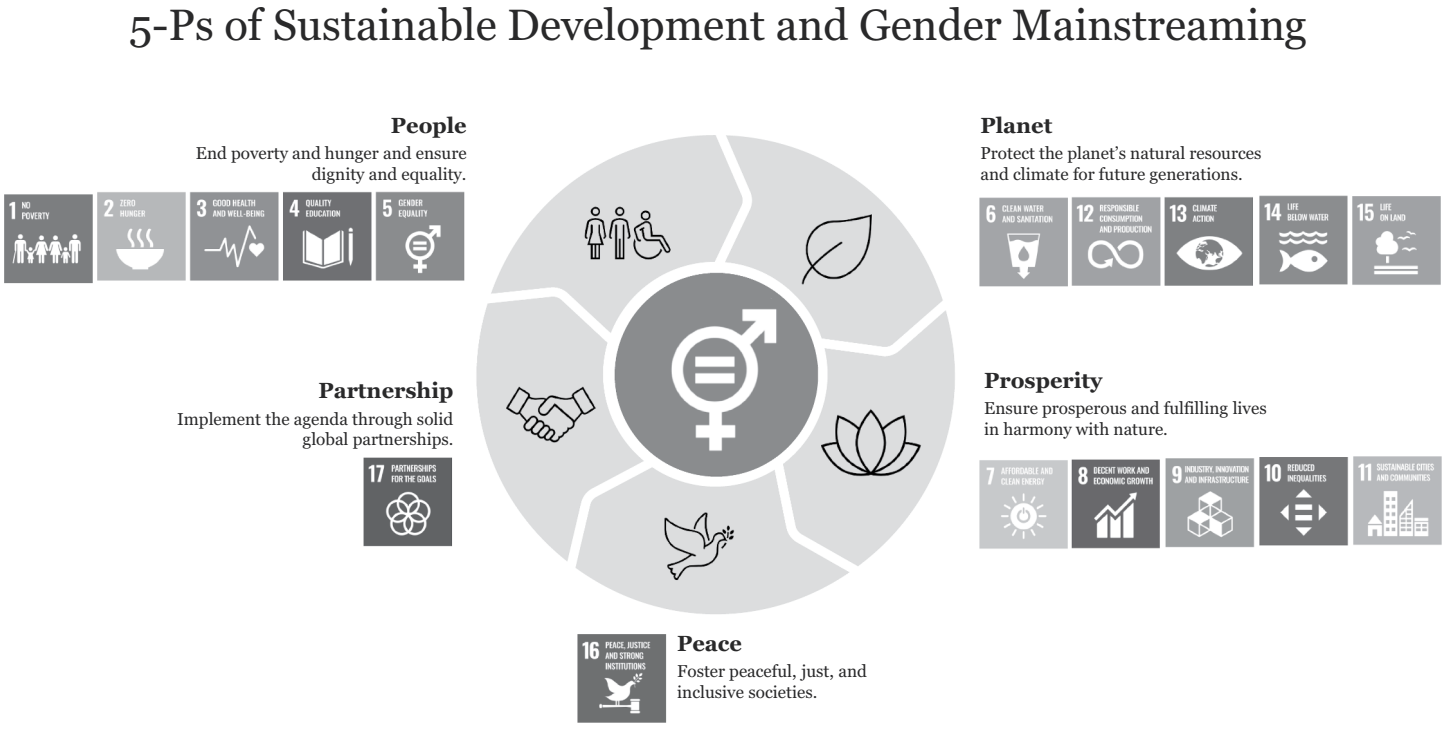

Figure 1 Five Pillars of the 2030 Agenda mapped by SDGs and Gender Equality (SDG 5) as a cross-cutting goal.
Author's own illustration.

The 5 Ps framework has been criticized as too vague, not distinguishing between primary and secondary goals (Holden et al. 2016). Moreover, despite the framework's intention to promote multi-sectoral approaches to SDG implementation, in practice, there is a tendency towards 'cherry-picking', where countries or sectors prioritize certain SDGs while neglecting others (Forestier and Kim 2020). This fragmented approach leads to siloed actions, ignoring the complex interconnections between goals (Bali Swain and Min 2023). For instance, prioritizing economic growth without considering its environmental or social consequences exacerbates inequalities and accelerates ecological degradation. Needed investments to promote accelerated progress and foster synergies across the 5 Ps have not materialized. Large funding gaps are evident in the areas of education, social protection, climate change, energy transition and gender equality. Additionally, a lack of coherence across government levels, policy sectors and societal actors further undermines the indivisibility of the SDGs (Breuer et al. 2023).

A systemic approach to implementing the SDGs would promote high synergy effects across the 5 Ps, mitigate trade-offs and spur accelerated progress across many goals. For example, SDG 5 (Gender Equality) has been identified as highly synergetic across the 5 Ps, as it both leverages progress towards other goals and targets and receives synergy effects from other SDGs (Xiao et al. 2023). By capitalizing on synergies, including through gender mainstreaming across goals, countries can accelerate progress towards the 2030 Agenda. To strengthen the 5 Ps framework, further research and data on synergistic approaches are needed, alongside a stronger commitment among decision-makers to effective coordination and policy coherence at all levels of policymaking.

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Philanthropic foundations

Cornelia Ulbert

The landscape of actors in global governance has expanded considerably since the United Nations system opened up to non-state and business actors in the second half of the 1990s. The goal-oriented approach, which was introduced through the Millennium Development Goals, attracted more and more private foundations to engage in international development (Moran and Stone 2016). From the onset, the Sustainable Development Goals (SDGs) were promoted as 'converging interests' between governments and philanthropies (United Nations Development Programme 2016). The United Nations Development Programme, assisted by the Foundation Center and the Rockefeller Philanthropy Advisers, tried to engage philanthropies via an 'SDG Philanthropy Platform', which was later accompanied by an 'SDG Impact Fund' for pooling foundation funding among others.

Almost by definition – and legally required – private foundations are philanthropic and serve the public good. Within the spectrum of non-state actors, philanthropic foundations are situated between for-profit companies and nonprofit-making non-governmental organizations. The new type of philanthropists who have been actively involved in implementing the Millennium Development Goals and subsequently the SDGs adheres to a logic dubbed 'social entrepreneurship' or 'philanthrocapitalism'. Philanthrocapitalism is characterized as framing development issues as scientific problems, recipients as entrepreneurs and philanthropic funding as social investment (Haydon et al. 2021). From a more critical stance, philanthropic foundations belong to the 'new global governors' (Clarke 2019) who wield undue influence in global politics because of their financial means acquired through tax exemptions.

In fact, the funds that philanthropic foundations provide are needed to close the financial gap necessary to implement the SDGs. Over the last two decades philanthropic contributions have become a significant part of international development assistance: Based on data from 205 of the largest philanthropic organizations worldwide, the Organization for Economic Cooperation and Development reported the amount of USD 42.5 billion from private philanthropy for the period of 2016–2019, compared to USD 595.5 billion of official development assistance of the members of the Development Assistance Committee of the Organisation for Economic Cooperation and Development, which equals 7% of official development assistance (Organisation for Economic Cooperation and Development 2021, 32).

Funding projects, (international) organizations, policy initiatives and research activities, however, is just one means by which philanthropic foundations establish their power and influence. The decisive factor seems to be what kind of funds are made available and how they are used. With their material incentives, philanthropic foundations can act as agenda-setters. They also promote their agendas by advocacy often based on either campaigns or evaluations and monitoring reports. Besides education (SDG 4), philanthropies, first and foremost the Gates Foundation, as the largest private foundation, are especially engaged in the health sector (SDG 3).

Following a trend of state funding, foundations subsidize international organizations with earmarked funds. This enables them to better control the use of their contributions and thus pursue their own objectives through these organizations (Clinton and Sridhar

2017). Philanthropic foundations not only shape processes. They also develop structures and institutions by actively creating networks and by sponsoring and being partners in global public-private partnerships. One of the most prominent and successful examples of a global health partnership is GAVI, the Vaccine Alliance, founded in 2000 on the initiative of the Gates Foundation, which is still one of its most influential members.

Philanthropic foundations are agents of global governance and thus instrumental in implementing the SDGs. Their activities, however, usually happen outside the political and formalized procedures of representative decision-making and accountability, which poses a fundamental democratic problem of global governance. This is why their legitimacy is seen as critical, and there are repeated calls for better accountability, especially of the most influential private foundations (Harman 2016).

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Planetary boundaries

Lena Partzsch

The planetary boundaries framework informed the negotiations on the 2030 Agenda and the Sustainable Development Goals (SDGs). It identifies nine interrelated processes that are critical for maintaining the stability and resilience of the Earth system as a whole. Johan Rockström pioneered work on the framework, which was published in 2009, when he was director of the Stockholm Resilience Centre (Rockström et al. 2009). The framework was updated several times, in particular, by Steffen et al. (2015) and Richardson et al. (2023).

The boundaries establish a 'safe operating space' for human civilization on the Earth. Therefore, crossing these boundaries puts humanity into an unsafe space, endangering human well-being and human civilization. Six of the nine boundaries have now been transgressed: *Climate change*, *biosphere integrity (genetic diversity)*, *biogeochemical flows (nitrogen and phosphorus)*, *land system change*, *freshwater use* and *chemical pollution*. The transgression level has increased for all boundaries identified as overstepped since the first assessment. *Ocean acidification* is close to being breached, while *aerosol loading* regionally exceeds the boundary. *Stratospheric ozone levels* have recovered slightly (Richardson et al. 2023). These findings have been subject to considerable criticism. While the revisions have addressed issues of limited data availability and use, the framework continues to neglect historical and regional heterogeneity (Biermann and Kim 2020).

Almost all authors of the original framework have a background in the natural sciences. By design, their assessment effort is science-driven, neglecting human dimensions, including equity. The more recent concept of Earth system boundaries has evolved from the concept of planetary boundaries, identifying not only safe but also just boundaries at both global and sub-global scales. Seven of these eight global earth system boundaries have already been exceeded (Rockström et al. 2023). They have been further refined to 'planetary commons' in an effort to more persuasively argue for comprehensive stewardship obligations through earth system governance (Rockström et al. 2024). However, the conclusion remains that environmental sustainability needs to be prioritized in the implementation of the 2030 Agenda. Otherwise, planetary health and human civilization are at risk.

Arguments that developing countries cannot afford environmental sustainability, or that they should develop first and clean up later, are invalid if environmental damage from crossing planetary boundaries makes economic development impossible. This conclusion is shared by similar concepts such as just transition, nature-based solutions and nature's contribution to people, demonstrating a growing recognition of an integrated approach as seen in the SDGs. United Nations Environment Programme's *Sixth Global Environment Outlook* makes explicit reference to the planetary boundaries framework. The framework has raised alarm bells in scientific and political debates about the postponement and non-implementation of environmental targets under the SDGs. However, the prioritization of the environment in global sustainability governance has not been achieved, and environmental targets continue to be postponed during implementation (Partzsch 2023).

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Policy coherence and integration (at domestic level)

Alex San Martim Portes

The domestic implementation of the Sustainable Development Goals (SDGs) is a challenging task that involves numerous actors and institutions working in various areas of domestic policymaking. Since the 17 SDGs span across economic, social and environmental dimensions, there are many points of possible conflict and trade-offs and policy integration and coherence are necessary to ensure that progress in one area supports, rather than undermines, progress in others.

Policy integration and policy coherence are similar and interrelated concepts commonly used in the global sustainability literature (Tosun and Lang 2017). Both concepts describe the breaking down of silos between government departments and sectors to enable coordinated action. Although many authors use these terms interchangeably (Glass and Newig 2019; Stafford-Smith et al. 2017), they are different concepts, both valuable in understanding the domestic implementation of the SDGs. Policy coherence suggests that different sectors should meet similar goals or not contradict and hamper each other's objectives (Organisation for Economic Cooperation and Development 2016). Policy integration goes further than coherence. It is understood as a political process that involves the coordination of actors, institutions and instruments from different policy sectors (Cejudo and Trein 2023). While policy coherence helps understand the implementation of different parts of the 2030 Agenda consistently, policy integration explains how this agenda is mainstreamed into national policies.

In the context of the SDGs, both policy integration and coherence are critical for addressing the complex and interrelated nature of sustainable development goals and targets. There are two main aspects of integration and coherence in the 2030 Agenda: within the agenda and with other policy instruments. Integration and coherence within the 2030 Agenda expect that the 17 SDGs 'are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental' (United Nations 2015, 1). For example, environmental ministries must work closely with

economic and social ministries to ensure that environmental sustainability (SDGs 13, 14 and 15) is not sacrificed for short-term economic gains (SDG 8).

The implementation of the 2030 Agenda also requires countries to place it within existing policy structures in a way that creates synergies with 'national planning instruments, policies, strategies and financial frameworks' (United Nations 2019, 5). As such, countries must consider the best approach to ensure that the SDGs capitalize on existing efforts within ministries and institutions and do not create a burden or barrier in domestic policymaking.

Policy integration and coherence are often challenging because different sectors may have conflicting priorities, and political compromises are necessary to achieve outcomes. In addition, the success of policy integration and coherence often depends on a country's governance capacity. In many low- and middle-income countries, institutional weaknesses and resource constraints limit the ability to design and implement integrated policies effectively. For example, in Latin American countries like Brazil, integrating environmental and economic policies has been complicated by the competing demands of protecting the Amazon rainforest (SDG 15) and promoting agricultural exports (SDG 8). Here, policy integration is further complicated by the influence of agribusiness interests, which often dominate the policy agenda, making it difficult to reconcile economic development with environmental protection.

In conclusion, both policy integration and coherence are critical but complex processes necessary for achieving the SDGs. They require coordinated action across sectors and governance levels, involving both state and non-state actors. Such coordination can be challenging to achieve, particularly in contexts where political and economic interests clash. Ultimately, the success of policy integration will depend on the ability of governments to navigate these challenges, align policies with the overarching goal of sustainable development and ensure that progress in one area supports, rather than undermines, progress in others.

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Policy coherence for sustainable development (at global level)

Amandine Orsini

Since the beginning of the 2000s, scholars of global politics have recognized that international problems could not be studied in isolation from one another anymore, contrary to what the international regime approach of the 1990s was supposing. Rather, concepts such as 'institutional interactions', 'regime complexes', 'global governance architectures' and more recently 'complex systems' and 'adaptive systems' have been coined to describe the cross-cutting institutional arrangements that form the structures that manage (or at least try to) global governance (Day 2024). These arrangements are made of many different international institutions such as international organizations, international treaties and international partnerships across several international regimes on a wide diversity of problems. Since these structures are formed by many different elements, the issue of their coherence has been at the centre of attention in global politics since the 2010s (Morin and Orsini 2013).

Adopted in this context, the 17 Sustainable Development Goals (SDGs) were meant to enhance policy coherence at the global level. Firstly, by including more topics compared to the Millennium Development Goals, they took a much more comprehensive approach to sustainable development. Their key overarching principles of people, prosperity, planet, partnership and peace (5 Ps) were already integrating the different goals into a coherent agenda of integral development (de Jong and Vijge 2021). Secondly, the SDGs not only detailed several targets within each goal, but the precise analysis of such targets reveals the existence of a network of targets across the goals, with specific targets being in practice related to several goals (Le Blanc 2015). Finally, to be sure that the goals would be understood in a coherent manner, policy coherence has been explicitly mentioned three times in the adopted text, with one specific target, Target 17.14, precisely entitled 'Enhance policy coherence for sustainable development'. These targets are key to avoiding the cherry-picking of objectives within the goals and are meant to consider them as *Nexus Governance*.

Actual coherence of the goals at the global level is confirmed by discourse analyses: compared to the Millennium Development Goals, the SDGs produce a much more coherent discourse with inclusion, human rights and action beyond economic priorities as important moves forward (de Jong and Vijge 2021). Coherence of the goals has also been confirmed by scholars using *Network Analysis* as a research tool, despite a few gaps (Le Blanc 2015). To the contrary, researchers who looked at their practical implementation with the measurement of targets' progression with relevant data are less convinced by their coherence as trade-offs have appeared across the goals (Coscieme et al. 2021, 1). In particular, environmental goals are found to be less coherent than social and economic goals as their targets are less clear and interrelated. Orchestration seems like an important strategy to correct these drawbacks.

More importantly, scholars recognize that 'policy coherence for development is not merely a technical tool, but rather a normative and political construct' (de Jong and Vijge 2021, 2). The Policy Coherence for Development agenda dating back to the

1990s and embraced by many countries which negotiated the goals, including member countries of the Organization for Economic Cooperation and Development and the European Union, is not free from power relations and tends to reiterate a domination of the North on the South (Zeigermann 2018). Rather, a variety of perspectives about policy coherence for development should be used when implementing the goals (Tosun and Leininger 2017). Studies of the normative coherence of the goals at the global level are also lacking, while there is a risk that the SDGs still correspond to the global norm of neoliberalism, giving upfront importance to economic development at the detriment of alternative models of human rights or gender equality (De Jong and Vijge 2021).

While they were precisely designed to improve policy coherence at the global level, the promise of the SDGs for such coherence should therefore stay at the centre of attention for academic and civil society.

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Political impact and steering effects

Frank Biermann

Ever since the United Nations General Assembly adopted the 17 Sustainable Development Goals (SDGs), there have been questions about their political impact on national and global governance, especially in addressing critical issues such as poverty, social justice and environmental protection. A 2022 meta-analysis of over 3,000 studies aimed to assess the SDGs' political impact and identified three types of possible effects: discursive, normative and institutional (Biermann et al. 2022a, 2022b). Discursive effects involve shifts in global and national debates, while normative effects reflect the adoption of policies inspired by the SDGs. Institutional effects involve the creation or restructuring of

institutions to support the SDGs. When all three occur, they signal a transformative impact, a key goal of the 2030 Agenda.

The meta-assessment found that the SDGs have led to some discursive effects, such as the adoption of SDG-related language in global policy. However, their actual impact on global governance has been modest. Institutions have increasingly referenced the SDGs, but reforms have been limited. For example, the High-level Political Forum on Sustainable Development, meant to review SDG progress and promote global cooperation, has facilitated peer-learning but failed to catalyze the transformational changes needed to meet the SDGs by 2030.

At the domestic level, the SDGs' impact has been similarly restrained. While some countries have integrated the SDGs into national policies, implementation often mirrors existing agendas, without significant changes in resource allocation or policy reform. The SDGs have been selectively adopted, with governments prioritizing goals that align with their political interests. Subnational actors, such as cities and civil society organizations, have shown greater support, but the lack of national funding and commitment has hindered deeper transformations. Meanwhile, some private corporations have embraced sustainability rhetoric linked to the SDGs, raising important concerns about 'SDG washing' or 'rainbow washing'. Concerning institutional integration, some countries have set up coordination bodies to align their structures with the SDGs. However, policy coherence remains inconsistent across nations. The SDGs have rarely resulted in comprehensive cross-sectoral policies, and bureaucratic inefficiency and short-term agendas continue to impede progress.

The SDGs have been widely embraced for their focus on inclusivity, particularly the pledge to 'leave no one behind' (Sénit et al. 2022). This call for inclusivity has been a prominent narrative in development strategies. However, while the SDGs are used to justify existing policies, they have not led to significant institutional or normative shifts aimed at reducing inequality. Political elites often use the SDG discourse to legitimize the status quo, which may entrench power imbalances and marginalization. Internationally, the SDGs have not substantially changed global power dynamics or improved the position of the most vulnerable countries, and they have not steered global governance towards greater inclusiveness, particularly for least developed countries. Long-standing commitments to aid and trade privileges for poorer countries remain largely unmet, suggesting the SDGs' limited impact on global inequalities. However, emerging economies in the Global South have increasingly framed their aid and investment efforts in the context of the SDGs. Civil society organizations have also leveraged the SDGs to hold governments accountable, pushing for more inclusive policies. These efforts, though incremental, may help counterbalance powerful actors and push for more inclusive governance.

The SDGs aim to support environmental protection, but their impact on ecological integrity at the planetary scale has been limited. While the goals have influenced discussions on climate and biodiversity, many of these changes were already underway before their adoption in 2015. Despite some alignment with SDGs in environmental governance, national governments and regional bodies have shown little evidence of stronger environmental policies. Some scholars argue that the SDGs lack the ambition and coherence needed to drive meaningful change, as they often prioritize global economic growth (SDG 8), which conflicts with the environmental protection goals in the SDGs. Critics contend that the SDGs' focus on neoliberal sustainable development undermines planetary integrity and justice. As a result, while the SDGs raise awareness about environmental issues, they have not pushed for the transformative changes needed for ecological integrity.

In conclusion, while the SDGs may have raised awareness about sustainability issues, their political impact remains limited. The agenda has primarily functioned as a discursive tool rather than a transformative force. To realize the SDGs' full potential, more fundamental changes are needed in governance, funding and policy enforcement. Without these changes, the promise of a world free from poverty, inequality and planetary destruction remains distant.

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Political will and leadership

Joanna Stanberry

Working definitions of political will invoke 'the commitment of actors to undertake actions to achieve a set of objectives and to sustain the cost of those actions over time' (Beisheim et al. 2025). It is thus conceived as a form of collective leadership not solely tied to *leaders* per se or individualistic leader-follower influence relationships. Drath et al.'s (2008) framing of leadership as direction, alignment and commitment can be applied to *processes* of leadership. In this way, networks of actors collaborate to determine a direction, align their goals and strategies and secure commitments in tangible ways.

While political leaders have responsibility for policy, formative agents are individuals or collectives who guide political will regardless of apparent or prescribed political power. They are 'so called because they give form to what justice, sustainability and related concepts should mean in practice…[and] shape the principles that ought to be adopted in particular contexts', thus enabling willingness as 'discourse entrepreneurs' (Dryzek and Pickering 2018, 105). Implementing the Sustainable Development Goals (SDGs) requires that formative agents, whether individuals, organizations, partnerships or social movements, harness three processes to shift norms, policy and behaviours: reframing the direction of policy pathways towards the transformative agenda, orchestrating alignment either through targeted coalitions or mobilizing majorities and securing the commitment of scarce resources such as time, attention and funding (Clark and Harley 2020).

Reforming the global financial architecture, negotiating end producer responsibilities for plastics and mitigating loss and damage from climate change are just a few of the leadership challenges that must be addressed at every level, from the local to the global,

across inequitable systems. The SDGs represent a voluntary, broad and coherent agenda for tackling these challenges in concert, but governments apply the SDGs towards their incumbent priorities, maintaining and legitimizing elite interests (Beisheim et al. 2025). Political will is often invoked as an ambiguous panacea and the absence of it as the critical element in policy failures.

Where political will has been harnessed towards change, it often emerges from multistakeholder and collaborative governance arrangements that advance informal learning (Stanberry et al. 2024). Within these arrangements, however, powerful actors outside traditional political institutions such as the private sector can represent both a problem to be overcome and a necessity for transformations (Stanberry and Balda 2023). For example, in Indonesia, multinational enterprises are demonstrating the ability to leverage their SDG initiatives into political influence through building constituencies, managing conflict and cross-sector partnerships (Röell et al. 2024).

In collaborative contexts, formative agents can contest assumptions and highlight diverse perspectives, thus heightening awareness of unpredictable human environment systems and aligning actors (Stanberry et al. 2024). The kind of leading from behind needed for the SDGs requires that initiatives at every level can make sense of their direction, alignment and commitment through the lenses of 1) politics, especially the distribution of resources and other forms of power; 2) proximity to the poor, including vulnerable people and places wherever they exist; and 3) progress, representing the myriad of qualitative improvements measured as SDG implementation, thus also embedding Indigenous and local ecological knowledges (Stanberry and Balda 2023). It may well be that political will to transform development trajectories will emerge more from bottom-up initiatives of local autonomy than in the spotlight on powerful actors.

While formative agency can result in positive change, it can simultaneously be 'disastrous' if it fails to respond to signals from the Earth System (Dryzek and Pickering 2018, 106). Examining the role of political actors at the global, national and subnational level reveals dominant arrangements that continue 'business-as-usual' development pathways that prevent progress (Clark and Harley 2020; Beisheim et al. 2025). It is precisely this willingness towards self-preservation that absorbs the direction, alignment and commitment needed to 'transform our world' as stipulated in the 2030 Agenda. Advancing new norms that support reflexive governance frameworks can help mitigate this resistance, activating and sustaining political will.

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Private finance

Lisa-Maria Glass

Private finance refers to financial resource allocation by individuals, organizations, companies and non-public financial institutions and investors, including private banks, insurances, pension funds and other asset owners and managers. Private finance has received growing attention as a critical mechanism for addressing the substantial investment gap for implementing the Sustainable Development Goals (SDGs). With an annual funding need estimated at over USD 4 trillion in developing countries alone and official development assistance amounting to USD 223.7 billion in 2023 (United Nations 2024), mobilizing private capital is seen as essential for scaling up efforts to meet global development objectives.

In corporate governance, the term private finance is frequently employed to highlight the potential contribution of companies to sustainable development. Corporate investments and operations can be aligned with sustainability objectives through the adoption of corporate social responsibility strategies, as well as the implementation of sustainable business models and practices both domestically and internationally (Pérez-Pineda and Wehrmann 2021). Moreover, foreign direct investment has become a key pillar of international development cooperation. These capital flows in the form of cross-border mergers and acquisitions, greenfield investments and project finance can potentially contribute to infrastructure improvements and technology transfer and generate employment and productive capacities, enabling the integration of developing countries into global value chains.

However, only 2.4% of the USD 1.33 trillion in global flows of foreign direct investment in 2023 targeted least developed countries, which remain heavily dependent on official development assistance and remittances (United Nations Conference on Trade and Development 2024). Financial investors, including institutional investors like pension funds and insurance companies, also play an important role in allocating private capital. Investment portfolios are increasingly aligned with environmental, social and governance principles, driven by growing pressure from investors and consumers and tightened regulation. The role of impact investing, seeking to generate positive non-financial impacts alongside financial returns, is further explicitly promoted in the Addis Ababa Action Agenda on Financing for Development.

Mobilizing private finance faces challenges, as private investors typically prioritize high-return, low-risk investments, which may not align with the long-term and often high-risk nature of sustainable development, particularly in least developed countries. To

address this, governments and international financial institutions use mechanisms like blended finance, which pools public and private capital to improve the risk-reward profile of investments in sustainable development (Smith et al. 2022). For example, the public sector may provide guarantees or first-loss capital to de-risk investments for private investors. This approach has increasingly been employed in financing large infrastructure projects (Georgeson and Maslin 2018).

However, the growing involvement of private capital in sustainable development financing is not without controversy. Concerns have been raised about the accountability and transparency of private finance and public-private partnerships due to commercial privacy barriers, alongside warnings that systemic risks to recipients of these funds are often downplayed (Mawdsley 2018). The risk of 'greenwashing' or 'SDG washing (rainbow washing)' is also prevalent, where investments are marketed as sustainable without delivering meaningful environmental or social benefits. Others question the 'financialization' and emphasis on 'bankability' of development interventions per se, cautioning against power dynamics that can grant private finance undue influence over development priorities, potentially marginalizing the public interest and perpetuating inequalities (Yunita et al. 2023).

In summary, private finance plays an important role in the implementation of the SDGs, offering both opportunities and challenges. While it can provide essential resources to support sustainability transformations, its effectiveness depends on ensuring that investments align with long-term public interests and are held to high standards of accountability and transparency. A balanced approach that integrates private finance with robust governance mechanisms is crucial for achieving sustainable and equitable development.

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Private governance

Yixian Sun

Private governance is broadly defined as the processes in which non-state actors adopt rules that seek to move behaviour towards shared, public goals. A central characteristic of this governance model is the provision of public goods without the state's enforcement (Andonova and Sun 2017). Concrete examples range from businesses' self-regulations through corporate social responsibility to multi-stakeholder partnerships that develop sustainability standards or governance initiatives led by non-governmental organizations. The rapid rise of private governance initiatives is a key feature of global sustainability governance since the 1990s, which has been jointly shaped by the expansion of global supply chains, erosion of state capacity and empowerment of global civil society (Falkner 2003).

Despite varying features and priorities across different initiatives, the work of most private governance initiatives is related to some Sustainable Development Goals (SDGs). Therefore, in the context of the 2030 Agenda, an important question in this respect is the extent to which private governance supports SDG implementation. While many private governance initiatives were developed far before the adoption of the 2030 Agenda in 2015, the 17 SDGs closely align with these initiatives' missions and work. From this perspective, the SDGs were expected to provide private governance initiatives with new opportunities to increase support from a wider audience and introduce transformative changes.

However, research shows mixed evidence on the impact of the SDGs on private governance. A mapping of policy linkages between 232 voluntary sustainability standards and the 17 SDGs conducted by Schleifer et al. (2022) show significant overlaps between the objectives of these standards and those of the SDGs, especially for people-centred and development-focused SDGs (for example, SDGs 1, 2, 5 and 8). The study, however, finds that these standards have no linkages for 70 out of 125 core SDG targets. These findings suggest that synergies between the SDGs and private governance have yet to be fully explored, and private governance initiatives may cherry-pick the goals that align with their ongoing work without making new efforts. In fact, a study on the Fortune Global 500 corporations finds that, despite the majority of these corporations refer to the SDGs on their website, 32.6% of them match their usual business, and only 22.8% have developed specific actions and strategies for specific SDGs (Song et al. 2022). This strategy of claiming SDG efforts without changing practices can be seen as a type of 'rainbow washing'. All in all, one can conclude that the SDGs have not yet been fully integrated into the work of private governance, and the contributions of relevant initiatives to SDG implementation remain limited.

As society-wide support is critical to the achievement of the SDGs, private governance should be a useful channel for SDG implementation. As the effectiveness of private governance has been increasingly put into question (for example, Grabs 2020), better alignment with the SDGs may help relevant initiatives introduce necessary reforms to enhance their impact. A key challenge lies in incentivizing private actors to recentre their actions towards the SDGs as research suggests that the motivation of private governance's engagement with the SDGs remains largely instrumental with the central aim to appeal

to a wider group of stakeholders and attract more resources (for example, Sun 2022). At the same time, many SDG targets were designed with state actors as their primary audience. While this may increase the difficulty for private governance to engage with SDGs, it can also lead researchers and practitioners to identify synergetic interactions between public and private governance for SDG implementation (Cashore et al. 2021).

In conclusion, better integration of the SDGs into private governance is urgently needed to achieve the 2030 Agenda. Doing so would be a win-win for both state and non-state actors committed to sustainable development. For public regulators, cooperation with private governance can mobilize more stakeholders and resources for SDG implementation. For non-state actors championing private governance, connecting their work to a set of goals set by the international community can enhance the legitimacy of their governance initiatives.

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Rainbow washing

Elizabeth A. Bennett

The term 'washing', in the context of implementing the Sustainable Development Goals (SDGs), refers to the practice of making an institution, programme, practice or strategy *appear* more supportive of the SDGs than it actually is. Put another way, 'to wash' is to overstate commitments to implementing the SDGs. Washing may also be described as a 'performative gesture', 'empty promise', 'symbolic commitment' or 'virtue signalling'. Those who engage in washing are at times said to be 'talking the talk' without 'walking the walk'. Washing is often issue-specific. 'Greenwashing' overstates environmentalism, for example, while 'fair washing' suggests a trade relationship is more just or equitable than it actually is (Bennett 2020). 'Blue washing' – named for the colour of the United Nations flag – overstates alignment with United Nations programmes, such as the United Nations Global Compact for Business and Human Rights (Berliner and Prakash 2015), while 'CSR washing' refers to corporate social responsibility claims that overestimate potential outcomes. Finally, the term 'brown washing' refers to *down*-playing or *under*-reporting efforts to promote sustainable development. Institutions may do this to avoid being held accountable or identified as a target for activists (Kim and Lyon 2015).

The term 'rainbow washing' has several meanings. First, since the rainbow symbol is often associated with the LGBTQ+ (lesbian, gay, bisexual, trans, queer and questioning) movement, it commonly refers to overstating contributions to the LGBTQ+ movement. Second, since washing is sometimes linked to specific colours, 'rainbow washing' can refer to washing multiple issues at the same time. Finally, because the SDGs are often visually represented with many colours, 'rainbow washing' may refer to misleading claims about promoting the SDGs (Heras-Saizarbitoria et al. 2022).

Anyone can engage in 'rainbow washing', and there are many ways to 'rainbow wash' the SDGs. A company, for example, may claim to promote *all* of the SDGs, while in reality it only focuses on those that are most affordable. An NGO may claim to be deeply oriented around the SDGs, but only be marginally or superficially engaged. A government agency may highlight its positive contributions to the SDGs, while ignoring or obscuring how they cause harm (de Freitas Netto et al. 2020; Gutierrez et al. 2022).

On the one hand, rainbow washing presents a significant challenge to implementing the SDGs. Incomplete and inaccurate information about whether, how, when and to what

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extent the SDGs are being implemented incumbers efficient resource allocation and effective policymaking (Lashitew 2021). At the same time, however, 'aspirational commitments' may also facilitate progress. Unsubstantiated claims may reinforce that SDGs are a priority, keep sustainable development on the agenda, invite pressure from external stakeholders or help attract the resources required for action.

Despite the potential benefits of aspirational commitments, rainbow washing is generally understood to impede – not support – global governance for sustainable development. Thus, several initiatives have emerged to encourage more accurate and credible claims. In global supply chains, for example, several non-governmental organizations have created standards for social, environmental, labour and governance business practices that align more closely with sustainable development than do legal regulations. Suppliers (for example, factories or farms) can voluntarily adopt these standards, hire an auditor to verify compliance and pay a licensing fee to have the non-governmental organization 'certify' that the product is sustainable. Although sustainability certifications and other credibility-oriented initiatives can, in some contexts, offer resistance to rainbow washing, they may also, at times, overestimate their potential or overstate their claims.

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Rankings and performance measurement

Grayson Fuller and Félicien Pagnon

Composite indices and rankings are performance measurement tools that aggregate data to provide a panoramic view of performance on the concepts they aim to measure. Rankings and the composite indices that underlie them can encourage better performance when they are well-crafted, clear and transparent. The most widely used ranking tool to measure

performance on the Sustainable Development Goals (SDGs) is the SDG Index, published as part of the *Sustainable Development Report* (Sachs et al. 2024). The SDG Index aims to help render the SDGs actionable by translating the goals into easy-to-understand metrics, to raise awareness among policymakers and to hold countries accountable.

The official monitoring framework of the SDGs contains 232 indicators. For policymakers, 232 numbers may be too much information, making it difficult to grasp where a country's priorities lie. The SDG Index, in benchmarking countries using internationally harmonized data and targets, transforms a multitude of disparate numbers into easy-to-understand and comparable evaluations of countries' SDG progress. Many governments, as well as the European Union, use the SDG Index to guide SDG policies domestically (Pichon et al. 2021).

Rankings are newsworthy and draw attention to the concepts they measure (Saisana et al. 2011). Increasing awareness, not only among policymakers but also among academics, non-governmental organizations and the public, is key to promoting SDG policies. For example, *Sustainable Development Reports* include rankings of countries' performance on international spillovers, defined as transboundary impacts of one country on others (for example, imported deforestation or consumption-based CO_2 emissions). The International Spill-over Index has been carefully monitored by many governments and has helped raise awareness of the issue (Fuller and Bermont-Diaz 2024).

By providing an independent measure of country progress, the SDG Index shows which countries are fulfilling their SDG commitments. Rankings also create a 'race-to-the-top', whereby countries seek to improve their position and therefore take action to meet the SDGs. Many governments keep track of their position in the SDG Index rankings and report their position in their Voluntary National Reviews. The reputational risk of losing ranks in the SDG Index, often with regard to regional peers, also incentivizes countries not to neglect their SDG performance.

However, critics argue that rankings can be harmful because they create perverse incentives, encouraging countries to cheat or 'game the system' instead of improving performance. The case of the World Bank's *Doing Business* report, which had to be discontinued after the authors were caught distorting data on behalf of certain countries, is exemplary (Nicola 2021). This is why rankings must have certain safeguards in place, including autonomy and transparency. For instance, the SDG Index is calculated by an independent team of experts, while the methodology, an independent statistical audit and all underlying data are made publicly available online.

In addition, the SDG Index rankings have been critiqued for their correlation with gross domestic product per capita, with high-income countries tending to perform better on the SDG index overall and for their correlation with some measures of environmental harm. However, rankings ultimately reflect only the scope of the concepts they measure. The SDGs aim by design to capture not only environmental degradation but also socioeconomic development more generally (SDGs 1–9). High-income countries have more fiscal resources to invest in these dimensions of the SDGs, and this is reflected in their performance on socioeconomic SDGs.

Composite indices summarize information and allow users to quickly understand how their country is performing in SDG implementation. Yet, for the SDG index rankings, it is important to go beyond their face value (Nardo et al. 2008). Composite indices and rankings should thus be seen broadly as invitations to dive into the data and indicators, to identify what specific issues are driving a given position in a ranking and to stimulate discussion.

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Regional organizations

Chol Bunnag

A regional organization is defined as an international organization composed of three or more geographically proximate states having a continuous institutional framework (Haftel 2013). Generally, regional organizations are structured around an institutional framework designed to foster cooperation on specific issues shared by member states and support localizing initiatives and partnerships that promote regional goals and priorities. They are characterized by their capacity to establish and uphold membership norms, thereby influencing the regional community by setting criteria for membership that differentiate insiders from outsiders. These norms reflect the values and interests of the members, fostering a unified identity within the organization. Several regional organizations collaborate across sectors, that is, public, private, academia and civil society groups, to promote the region's agenda and address region-specific challenges (Flick et al. 2022). In addition, regional organizations frequently overlap in terms of mandates and memberships, which can lead to cooperative or conflicting interactions among member states (Nolte 2016).

The roles of regional organizations in the global effort to implement the Sustainable Development Goals (SDGs) are manifold. Several sustainability challenges are not limited to a nation's boundaries. There are transboundary environmental sustainability challenges, such as shared water resources, climate change mitigation and adaptation, marine resources and pollution management and biodiversity conservation. Some social sustainability issues are shared among the member states, such as poverty, climate disasters, economic development, migration and food security. Regional organizations provide a platform for countries to address shared regional issues, establish frameworks for shared

strategies, tackle problems that individual states cannot solve alone, create feedback mechanisms and amplify efforts to align with the related global agenda (Al-Sarihi and Luomi 2019; Hasanat and Karim 2018).

Regional organizations can enhance resource sharing, knowledge and capacity exchange and financial and technical support mobilizations (Muntschick and Plank 2024). They also help facilitate policy alignment across member states, create unified strategies and standards, develop region-specific action plans and monitor and assess the progress of the regional efforts to combat sustainability challenges. These organizations can also facilitate multilevel and multi-sectoral coordination as they foster local-level action and coordination, support collaboration between the public, private and academic sectors, build trust and accountability and facilitate communication between local, national and supranational bodies, which enhances regional relevance to the SDGs (Flick et al. 2022).

Regional organizations face several challenges in SDG implementation. Almost all regions of the world encounter slow SDG progress. In Asia and the Pacific, for example, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) reported in 2024 that no sub-region had sufficiently advanced to the expected level in 2023 (United Nations Economic and Social Commission for Asia and the Pacific 2024). Slow regional progress stems from low prioritization of the SDGs, slow adoption of SDG initiatives by member states and unclear targets and strategies, hindering the translation of agreements into policies (Al-Sarihi and Luomi 2019). Varying monitoring practices and limited long-term data impede the establishment of a shared knowledge base and progress tracking across member states, particularly in regional environmental issues (Hasanat and Karim 2018). Many regional organizations in the Global South lack the financial and personnel resources needed for effective SDG implementation, often relying on external support. This creates asymmetric dependence on powerful actors, reducing their regional autonomy (Muntschick and Plank 2024). Institutional weaknesses also hinder regional SDG progress, such as inadequate frameworks for transboundary issues, a lack of transparency and siloed approaches.

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Responsibility

Magdalena Bexell

Responsibility refers to the obligations belonging to an actor in a forward-looking sense. In contrast, accountability refers to the backward-looking assessment of how these obligations have been fulfilled. Governments hold the main formal responsibility for the implementation of the Sustainable Development Goals (SDGs), having adopted the goals in the United Nations General Assembly in 2015. Beyond governments, other actors can also be argued to hold responsibility for advancing SDG implementation. Spheres of responsibility are not fixed but can be contested and subject to change over time.

On what grounds can responsibility for the SDGs be assigned to different actors, beyond formal government responsibility (Miller 2001)? According to the *connectedness principle*, responsibilities should be allocated based on closeness. This means that people with special ties have stronger obligations towards each other. It implies that governments first consider obligations to citizens before international obligations. In contrast, the *capacity principle* means that having the ability to act entails the obligation to do so. In other words, this means to have 'response-ability' (Fukuda-Parr and McNeill 2015).

The capacity principle is found in the 2030 Agenda outcome document, *Transforming Our World*, in the sense that high-income ('developed') states have greater responsibilities to ensure SDG implementation globally in certain respects. This is primarily through their commitments on development assistance and with regard to taking the lead on implementing SDG 12 on sustainable consumption and production. The principle also underpins demands that powerful actors of all kinds should assume responsibility for the SDGs. Examples are large companies, private foundations, multi-stakeholder partnerships and international organizations. Many companies across the world have taken on the SDGs as part of their corporate social responsibility schemes (Panda et al. 2024).

Yet another justification for why someone holds responsibility is offered by *the contribution principle*. This implies that an actor who caused a problem has a responsibility to address it. This would mean, for instance, that former colonial powers and large emitters have greater responsibilities to fulfil the SDGs (cf. Young 2006). The contribution principle is referenced in the notion of 'common but differentiated responsibilities', briefly mentioned in the 2030 Agenda. It means that state responsibilities vary due to differing contributions to environmental degradation – as first agreed on by governments in the Rio Declaration on Environment and Development of 1992. Accordingly, beyond formal government responsibilities, principles mirrored in the 2030 Agenda emphasize certain responsibilities of high-income countries.

Once responsibility has been allocated, many factors impact how it is realized in practice. Researchers often point out that implementation is a politically charged rather than a purely administrative or technical process. In practice, SDG responsibility is shaped by factors such as institutional mandates, financial resources, knowledge, goal conflicts and political will and priorities (Bexell and Jönsson 2021; Beisheim et al. 2025). In the broader political environment, the relative power of interest groups may also affect the realization of responsibility if these groups try to support or hinder implementation (May 2015). Furthermore, the presence of review processes and accountability mechanisms impacts the realization of responsibility (see *Accountability*).

The allocation of responsibilities for the SDGs taps into broad ideological debates on the obligations of the state, the market and civil society. It raises questions on international power and justice. At the same time, responsibility needs to be clearly distributed and supported by institutional resources and political will. Implementation of the SDGs will be more successful if a wide range of public and private actors assumes shared responsibility for the goals.

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S

Science, technology and innovation

Yi hyun Kang

Science, technology and innovation (STI) are widely perceived as critical factors for economic growth and prosperity in modern societies. The positive connotation of STI is also applied to sustainable development. Sustainability science emerged here as a research field to facilitate a transition towards sustainability by understanding and improving the complex dynamics of nature-society interactions (Clark 2007, 1737). STI is also the central means of sustainable development defined by the 2030 Agenda. The Sustainable Development Goals (SDGs) have three targets on SDG 17 (that is, Targets 17.6, 17.7 and 17.8) that focus on international cooperation for technology transfer between industrialized and developing countries (Imaz and Sheinbaum 2017). In this context, the United Nations Technology Facilitation Mechanism was launched to promote multi-stakeholder collaboration on STI for the SDGs and to facilitate the sharing of information, experiences and best practices among governments, civil society, the private sector, the scientific community and international organizations.

Although the 2030 Agenda commenced with well-defined technology transfer institutions, the STI gap between states has been a persistent issue, especially between the Global North and South. Also, there has been limited participation of the Global South scientific community in decision-making on the SDGs (Adenle et al. 2023). Concerns about the technology gap have further increased with the rapid advancement of digital technology and innovation (United Nations 2023). Scientists in the Global South have pointed to a lack of cooperation in the global scientific community and poor infrastructure as the most important obstacles in applying STI for SDG implementation (Adenle et al. 2023).

STI solutions hold the potential to significantly accelerate the implementation of the SDGs. Evidence-based solutions that consider SDG synergies and trade-offs can drive substantial progress on the SDGs (Popovici et al. 2024). Moreover, environmentally sound technologies and innovation can play a crucial role in reducing pollution and resource use. Advanced technology and innovation can also contribute to poverty alleviation and human well-being. However, to harness the potential of STI solutions, a deeper understanding of their consequences for societies and planetary boundaries is required. Implementing STI solutions without a holistic analysis of their consequences may lead to a 'lock-in' effect, hindering transformative changes towards sustainability (Walsh et al.

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2020). The ethical, fair and just use of technologies is another critical aspect to consider when applying STI solutions to the implementation of the SDGs.

To effectively leverage socially and environmentally sound and science-based approaches in sustainable development governance, it is crucial to foster mutual efforts between STI and policy actors. When research is perceived as credible, legitimate and salient to the needs of decision-makers, it is more likely to be used in decision-making. Therefore, it is encouraged to implement institutional measures such as increasing interaction between knowledge producers and users or involving stakeholders in research design to advance mutual understanding (Allen et al. 2021).

In conclusion, the need for STI to accelerate the implementation of the SDGs is widely acknowledged, and the field of sustainability science has expanded with the increasing call for problem-solving efforts (Clark 2007). To effectively use STI solutions for sustainable development, more attention is now required to the widening gap between the Global North and South, to the broad and long-term consequences of STI solutions, and to stronger mutual efforts of STI and policy actors.

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Scientific community

Mara Wendebourg

The scientific community refers to a network of scientists bound by a shared objective of fact-finding and a common understanding of the scientific method and of the values essential to adhere to the community, such as objectivity, transparency and accountability

through peer review. The scientific community has played a valuable role in the development and implementation of the Sustainable Development Goals (SDGs). The contribution of the scientific community to the SDGs, and to global sustainability governance more broadly, indicates an underlying diversity of the scientific community.

The scientific community may produce science for research (or, scientific knowledge), but it can also be involved in the production of science for policy, which is also understood as regulatory science. Regulatory science builds on scientific knowledge and is co-produced by scientists and regulatory agencies with specific socio-political regulatory aims (Jasanoff 1998). The nuance between science as a fact-finding activity and as a regulatory science explains the plurality of the scientific community concerned with the development and implementation of the SDGs. Groups of scientists may be more or less organized, and they may be more or less discrete or integrated within the United Nations system. Like global groups of science, the scientific community at the regional and national levels is often fragmented.

Within the United Nations system, the science community is organized and institutionalized in numerous ways. For example, the Inter-agency and Expert Group on SDG Indicators brings together representatives of national statistical offices and is mandated to develop the indicator framework for the follow-up and review of the SDGs and their targets. The group also provides technical support for the implementation of the indicators and the monitoring framework. Such indicators are key tools to track progress towards the SDG targets; they have a decisive impact on SDG implementation but may have distorting effects since the reliance on indicators can harm the SDGs' ambition, integrity and legitimacy (Kim 2023).

A second organized science community regarding the implementation of the SDGs within the United Nations is the Independent Group of Scientists, appointed by the Secretary-General. It was instituted by the High-level Political Forum on Sustainable Development in 2016 to draft the Global Sustainable Development Report. This quadrennial report reviews the scientific knowledge to inform policymakers on how to best accelerate the sustainable development agenda by strengthening the science-policy interface at the High-level Political Forum.

Outside of the United Nations system, the Major Groups and other Stakeholders are formalized as autonomous and self-organized groups of civil society concerned with sustainable development. One of them is the Scientific and Technological Community Major Group, which aspires to integrate science into global sustainability governance. The group is co-organized by the International Science Council and the World Federation of Engineering Organizations. It uses its expert network to provide scientific knowledge for position papers and policy briefs, to organize side events and to participate in the High-level Political Forum.

This fragmentation of the scientific community into different groups results in the asymmetrical institutionalization of science, which in turn impacts their participation in policy processes. The Inter-agency and Expert Group on SDG Indicators, specifically, is mandated to define the indicators and set the standards by which the implementation of the SDGs is measured (Ordaz 2019). While the Inter-agency and Expert Group includes experts from the national statistical offices of some countries and international organizations, it does not include the Scientific and Technological Community Major Group or independent experts as observers. Participation of the broader scientific community, however, has been possible through the Expert Group Meetings that are facilitated by the United Nations Department of Economic and Social Affairs, such as the Global Expert Group Meeting in Support of the Mid-Point Review of SDG 7 at the 2023 High-level Political Forum.

In sum, the scientific community involved in global sustainability governance is diverse. This is reflected in the channels through which the community is working towards SDG implementation. Some institutions formulate regulatory science and have stricter membership requirements in comparison to those synthesizing and exchanging knowledge.

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SDG summits

Chol Bunnag

The SDG summits are high-level events convened by the United Nations General Assembly every four years with the aim of assessing progress on the Sustainable Development Goals (SDGs). They are not to be confused with the annual sessions of the High-level Political Forum on Sustainable Development, a ministerial-level conference organized under the auspices of the United Nations Economic and Social Council usually taking place in July. In the sessions of the High-level Political Forum, progress on a specific set of goals is reviewed, while the SDG summits assess the overall performance of SDG implementation (Beisheim and Fritzsche 2022).

The SDG summits have become a crucial mechanism to support SDG implementation. First, the SDG summits are designed to be a robust high-level platform for a comprehensive review of the achievements and shortcomings of SDG implementation at the national, regional and global levels, setting priorities for action, marking key milestones in 2019, 2023 and 2027 and discussing course corrections (Desai 2023; Goodman 2023). Second, attended by heads of state and government, the SDG summits are intended to send a strong political signal urging all countries to reaffirm and hold themselves politically accountable for their commitments to the 2030 Agenda (Pattberg and Bäckstrand 2023). Third, the SDG summits aim to foster cooperation, enhance partnerships between United Nations member states and various stakeholders, mobilize global resources, maintain political momentum and catalyze new actions and commitments for sustainable development (Montéville and Kettunen 2019). Moreover, the SDG summits are an essential platform to galvanize financial support, implement systemic reforms and promote transformative changes (Goodman 2023).

The main challenge of the SDG summits that undermines its main function to support goal implementation is the current geopolitical environment, limited political will among governments and the lack of global solidarity (Beisheim and Fritzsche 2022). Tension and mistrust between nations hinder collective action in solving transboundary, regional and global issues related to sustainable development. Although the SDG

summits provide opportunities for international dialogue, deep-rooted political differences cannot be resolved without strong global leadership. As a result, experts point to the ineffectiveness of the SDG summits in driving substantial progress towards the 2030 Agenda (Desai 2023; Goodman 2023; Pattberg and Bäckstrand 2023). Only 17% of the 169 SDG targets are on track, whereas nearly half show minimal progress and require acceleration, while one-third have stalled or regressed (United Nations 2024). Moreover, given that the SDGs are an inclusive agenda, the SDG summits are criticized for lacking specific and actionable support to address urgent needs in the world's poorest, most fragile and conflict-ridden states (Desai 2023). The ineffectiveness can be attributed to the insufficient translation of political declarations into action. Although solutions to SDG challenges have been discussed at SDG summits, the absence of political prioritization may lead to failures to implement and scale up transformative solutions (Goodman 2023).

Furthermore, the SDG summits operate within the framework of voluntary and non-binding commitments. They hence cannot function as a robust accountability mechanism for the member states (Beisheim and Fritzsche 2022; Pattberg and Bäckstrand 2023). Consequently, the SDG summit may not sufficiently address critical issues required for transformative actions. These issues include trade-offs between SDG goals and targets, the reform of the global and regional financial systems and emphasizing financial commitments for the least developed and developing countries, insufficient integration of governance and other structural issues and limited influence on global governance (Beisheim and Fritzsche 2022; Blind 2020). Finally, the SDG summits are not fully inclusive or reflective of the voices of those most heavily affected by sustainability challenges, such as women, indigenous peoples and youth (Pattberg and Bäckstrand 2023).

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Silo approach

Maya Bogers

A silo approach refers to the tendency of actors or organizations operating in one policy domain to work in relative isolation from actors and organizations operating in other policy domains (Bogers et al. 2022; Kim 2020). As a result, the structure of the global governance system as a whole is shaped in clusters of actors and organizations around different policy domains: the silos. With regard to the Sustainable Development Goals (SDGs), such a silo approach may cause actors to operate in myopic ways, focusing only on 'their' SDG or target. Silos can occur at all levels of governance, including at the global, national and local level.

A silo approach may hinder overall progress on the SDGs. Most importantly, the myopic tendencies of actors and organizations may lead to isolated efforts that advance progress in single-issue areas and goals, but do not consider possible synergies or trade-offs with other goals and targets, resulting in policy incoherence (Griggs et al. 2014). For example, actors seeking to increase agricultural productivity to address hunger (SDG 2) may not consider possible negative effects on biodiversity (SDG 15) or on water availability for other uses (SDG 6). Similarly, efforts aimed at fostering economic growth (SDG 8) that do not consider environmental sustainability (SDG 13) might result in short-term economic gains but long-term environmental degradation (Griggs et al. 2014). A silo approach may also lead to duplicate efforts, as actors and organizations operating in different SDG issue areas may face similar challenges, for example, in the use of data that is relevant to multiple SDG issue areas but is not shared (Okembo et al. 2024).

To overcome silo approaches, deliberate political strategies are required to facilitate actors and organizations to work across policy domains or SDG issue areas. Several initiatives have been proposed in this regard. They include facilitating coordination, policy integration and mainstreaming and orchestration (Bogers et al. 2023). With the adoption of the SDGs, many had hoped that the SDGs themselves, as a set of explicitly interrelated goals, could spur more collaboration across policy domains and the breakdown of silos (see *Synergies and goal complementarity*). Yet so far, the SDGs have not facilitated this effect (Órdoñez Llanos et al. 2022).

However, some scholars contend that silo approaches may not be so problematic. Silos are there for a reason: As societal issues have become more complex, actors or organizations working on those issues have proliferated and have increasingly specialized. There is clear value in organizations having deep, specialized knowledge on the issues they aim to address and in having a variety of organizational structures and processes in place to address societal issues (Niestroy and Meuleman 2016). Thus, while 'too strong' silos are considered problematic both in science and in policy practice, there is no clear evidence or consensus on when silos are indeed 'too strong'. There is little scientific evidence on how the structure of governance systems affects policy outcomes, or what ideal-type structures for governance systems are (Kim 2020).

To conclude, a silo approach refers to actors or organizations working in policy-domain based silos. Such silos may lead actors to work in myopic ways, neglecting the inherent and complex interdependencies between the SDGs. In the overall governance system, this can result in fragmented strategies that fail to address the root causes of the issues embedded in the SDGs, do not take advantage of potential synergies between

different SDGs and lead to duplicate efforts. A silo approach may thus hamper overall progress on advancing the SDGs.

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Stockholm+50

Nina Weitz

Fifty years after the 1972 United Nations Conference on the Human Environment, the 2022 international meeting, *Stockholm+50: A Healthy Planet for the Prosperity of All – Our Responsibility Our Opportunity*, brought together the United Nations system, some 150 member states and numerous other stakeholders. The 1972 Stockholm conference marked the start of international environmental governance and diplomacy. It was also the first to link environment and human development and to agree on a global set of principles in the field of the human environment (United Nations 2022a). The 2022 Stockholm+50 meeting presented an opportunity to generate action on these foundational principles and commitments for environmental diplomacy, many of which had not made much progress since 1972.

At the time of Stockholm+50, it was widely agreed that humans cause unprecedented change to the global environment, with the risk of major and irreversible changes. Also, it was apparent that the multilateral system had not effectively delivered concrete measures (Stockholm Environment Institute and Council on Energy, Environment and Water 2022). Commemorating five decades of global cooperation for sustainable development, the Stockholm+50 meeting reflected on how the global context was drastically different from 1972, as well as on the state-of-affairs, lacking progress, continued gaps and possible ways forward. A negotiated outcome was not within the meeting's mandate (United Nations 2021).

Instead, the two co-hosts, Sweden and Kenya, and the United Nations Environment Programme aimed at actions that governments and others could take to deliver on the 2030 Agenda and at a mobilization of the global community behind strengthened cooperation on the SDGs (United Nations Environment Programme 2021). With these objectives and mandate, the meeting focused on reinforcing international and multi-stakeholder collaboration, addressing challenges such as unmet earlier commitments, declining trust in governance, increasing concerns about the future among youth and distrust between the Global South and North. Just like the 1972 Stockholm conference had initiated dialogues on links between economic growth, environmental pollution and well-being for all, Stockholm+50 emphasized the global interconnectedness of current challenges and the need to collectively address them through bold and deliberate actions, strengthened political will and solidarity.

The mandate of the meeting allowed for an open format with broad stakeholder involvement (United Nations 2022b), bolder dialogues, stronger focus on ideation and more demanding calls for system-wide change, rather than consensus-seeking. Discussion within three Leadership Dialogues contributed to the outcome document, *Stockholm+50 Agenda for Action, Renewal and Trust*, with ten recommendations for accelerating implementation. These recommendations focus on placing human well-being at the centre of a healthy planet for all, the right to a healthy and sustainable environment and need to restoring our relationship with nature; changing our economic system to address economic and financial drivers of environmental degradation and making fundamental changes in attitudes, habits and behaviour; strengthening intergenerational responsibility in policymaking and rebuilding trust, solidarity and multilateralism (United Nations 2022a).

The meeting format was also used to build support amongst stakeholders for progress in ongoing negotiations. For example, just after the Stockholm+50 meeting, a resolution on the human right to a clean, healthy and sustainable environment was adopted. This closed five decades of advocacy and collaboration since the first principle of the 1972 Stockholm Declaration had been agreed, which stated 'the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being' (United Nations 1973, 2022c)

The Stockholm+50 meeting offered an opportunity to reflect on international cooperation for sustainable development over the past 50 years since the first United Nations Conference on the Human Environment in 1972. Its format highlighted a shift towards more networked and inclusive multilateralism and resulted in a set of recommended actions aimed at accelerating progress towards a healthy planet for the prosperity of all. These recommendations, however, now need to be taken forward in international processes and future policies.

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Subnational initiatives

Rodrigo Führ

The current architecture of global sustainability governance is characterized by a shift from a top-down approach to a more bottom-up design. This shift involves the increasing participation of local authorities in international decision-making (Global Taskforce of Local and Regional Governments 2013), which in turn leads to a greater focus on subnational initiatives – the actions and programmes taken by local actors to implement the Sustainable Development Goals (SDGs) locally. As a result, subnational initiatives have gained traction, also complexifying the extent and ways in which local governments are implementing actions for advancing the SDGs (Hickmann 2021). Two analytical points to consider here are the varying degrees of autonomy and capacity of local entities in implementing sustainable development policies and practices and the concrete challenges subnational actors face.

First, the implementation of subnational initiatives reveals stark disparities between local governments in different contexts. Local actors in high-income countries often have greater autonomy and capacity to implement the SDGs, as well as more resources and established governance structures. In contrast, many subnational authorities in the Global South lack capacities and resources even when they develop innovative approaches to sustainable development. This disparity between the Global South and North extends to the size of governments as well, with large cities having more capacity to implement actions (even in the Global South) while small and medium-sized municipalities often struggle with translating the SDG framework into their local context. These differences are further influenced by non-governmental groups and international organizations, which often have the expertise and financial resources to implement actions at the local level, thus playing a crucial local role.

Second, subnational actors face various challenges when they try to implement the SDGs at the local level. While finance is often the primary obstacle, other factors are significant, too. In the Global South, technical expertise is often lacking in areas crucial for SDG implementation. Some regions struggle with lacking institutional capacity, as their governance structures are ill-equipped to handle complex, multi-sectoral sustainable development projects. In the Global North, where technical expertise is often available, one challenge is how to gain and maintain political support for SDG initiatives, especially when these compete with national politics that run counter to the 2030 Agenda (United Cities and Local Governments 2024).

The main sources of information to understand the scope and width of subnational initiatives are voluntary reviews. Some countries have established governance mechanisms that allow local governments to share their best practices and challenges to inform their countries' Voluntary National Reviews.

However, national governments tend to disregard local governments in their reviews, with some exceptions (United Cities and Local Governments 2024). Cities and states are encouraged, then, to report through their own instrument, so-called Voluntary Local Reviews. They vary widely: one can find such Voluntary Local Reviews with quantitative reporting on indicators for goals and targets and others with broad qualitative reporting that focus on narrating the influence of the SDGs in local planning. Despite these differences, Voluntary Local Reviews are seen as relevant instruments for local governments to share how they implement the SDGs. A third form of reporting are Voluntary Subnational Reviews, which is an informal form of reporting originated from a partnership between United Cities and Local Governments and United Nations Habitat. Through Voluntary Subnational Reviews, local and regional governments' associations are invited to analyse trends of SDG localization, helping to systematize subnational initiatives within a country or region.

In addition, numerous local actions could be seen as a best practice of SDG subnational implementation but may not be reported by local actors as being steered by the 2030 Agenda (see Órdoñez Llanos et al. 2022). Analysing formal reports alone might not completely show how the 2030 Agenda is accelerating or influencing subnational initiatives. In sum, this complex landscape underscores the need for the international community to increase their attention to how subnational actors are implementing sustainable development initiatives.

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Summit of the Future (2024)

Fronika de Wit

The United Nations Summit of the Future, held on 22–23 September 2024 in New York, was a high-level event where governments discussed how to transform global governance to make it better fit for current and future challenges. The summit built upon the

outcome of the earlier 2023 SDG Summit and focused among others on how to create conditions to turbocharge the implementation of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs).

The proposal for organizing a Summit of the Future originated in the United Nations Secretary-General's 2021 report *Our Common Agenda*, which urges a complete re-evaluation of political, economic and social systems to ensure they function more fairly and effectively for all (United Nations 2021). The report has the 2030 Agenda and the SDGs at its core and was meant to serve as an action agenda.

During the Summit, five main areas were on the agenda: sustainable development and financing for development; international peace and security; science, technology and innovation; youth and future generations; and transforming global governance. The outcome was presented in the internationally negotiated, action-oriented Pact for the Future, which presented 56 actions in these 5 areas. The outcome also includes two annexed documents: First, the Global Digital Compact, which seeks to foster a fair, inclusive and secure digital future by bridging digital divides, addressing risks and leveraging technology and artificial intelligence for sustainable development. Second, the Declaration on Future Generations, which advocates for decision-making that prioritizes the well-being of future generations at national and international levels.

Although the Pact for the Future intended to offer a blueprint for consensual global institutional reform, global governance scholars highlight that the Summit's outcome may fall short of what is needed (Fuso Nerini et al. 2024; Mathiasen 2024; Pham 2024). Negotiations leading up to the Pact were difficult, with the main conflicts being the international financial architecture and competing interests, systems and actors (Mathiasen 2024). Also, despite efforts to include diverse voices in the drafting process, questions remain about the inclusion of marginalized groups and how their priorities will be upheld in practice (Pham 2024). Although achieving the 2030 Agenda was discussed during the Summit, they were not placed at the centre of the global policy agenda. Instead of focusing on SDG implementation until 2030, however, the Summit could have adapted and extended the SDG framework to guide national action and global cooperation beyond 2030 (Fuso Nerini et al. 2024).

To reinvigorate the SDGs, SDG researchers have proposed a wide variety of measures and governance reforms until and beyond 2030. Biermann et al. (2023) propose four governance reforms focused on differentiation, dynamization, legalization and stronger institutionalization. Moreover, in an effort to complement the Pact for the Future, participants of the international research conference GlobalGoals 2024 designed a roadmap with additional strategies and actions to revitalize SDG implementation. This conference statement presents reform avenues in relation to adapting the architecture of global governance; facilitating national SDG coordination and governance; recalibrating targets and indicators; and working towards a paradigm shift in economic policy (GlobalGoals 2024).

In conclusion, the Summit of the Future marked an important moment for global sustainability governance, aiming to align immediate actions with long-term strategies for achieving the 2030 Agenda and its SDGs. While the Summit emphasized the need to address future challenges and opportunities, the Pact for the Future – the main outcome document – offers a framework for action but remains insufficient on its own. To deliver meaningful results, the Pact must confront systemic power imbalances, promote equitable participation and prioritize justice among diverse actors. Without addressing these foundational issues, the ambitions of the Summit risk falling short of their transformative potential.

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Sustainable finance

Maximilian Bruder and Daniel Duma

Sustainable finance can be broadly conceptualized as a set of practices, standards, norms, regulations and products that pursue financial returns alongside sustainable development objectives (UNEP 2016). It is an umbrella term that subsumes other related classifications such as climate finance, green finance, SDG finance and others (Migliorelli 2021). Sustainable finance therefore encompasses not only the environmental dimension of sustainability but also considers social, economic and governance issues. The ultimate aim is to align finance flows with the pursuit of the Sustainable Development Goals (SDGs).

The lagging progress towards the SDGs has led to the realization that additional finance needs to be mobilized. Public finance has traditionally been the primary source of funding for sustainable development, and there are calls for public and multilateral finance to be scaled up rapidly to tackle the enormously costly global challenges. However, given the limited availability of public funds, the recent focus has been on leveraging private profit-seeking finance for sustainable economic activities. This objective has been fundamental to the Addis Ababa Action Agenda, which was the outcome of the 2015 Third International Conference on Financing for Development that provided a framework for financing sustainable development by aligning all financing flows and policies with economic, social and environmental priorities.

There are calls for the private financial sector to fundamentally realign – whether through voluntary initiatives or regulatory measures – and redirect capital towards sustainable development and away from unsustainable practices. Key mechanisms include

voluntary pursuits such as investing in line with environmental, social and governance criteria, further driven by new disclosure requirements like the European Union's Corporate Sustainability Reporting Directive. This type of sustainable finance is now firmly part of mainstream capital markets, with global environmental, social and governance-related assets surpassing USD 30 trillion in 2022 (Bloomberg 2024). However, with the sector's rapid expansion and lack of standardized criteria come concerns about 'greenwashing', where projects are labelled as sustainable without achieving actual verifiable impact (Delmas and Burbano 2011). Further, the investment trend is particularly pronounced in high-income countries, where favourable risk-reward conditions are encouraging.

On the other hand, low- and lower-middle-income countries are being left behind, suffering from chronically low investments in all sectors, not just those relevant for sustainable development (Songwe et al. 2022). This is due in part to the greater investment risk, resulting in higher risk premia and, thus, a higher cost of capital compared to investments in high-income countries. At the same time, it has been implicitly assumed that low- and lower-middle-income countries can absorb large amounts of capital and turn them into power capacity, sustainable transport infrastructure, climate-smart agriculture, sustainable business models and other desirable outcomes – an assumption that is not a given.

To better meet the demand of low- and lower-middle-income countries for sustainable finance, innovative instruments have been introduced into the sustainable development context to mitigate the risk for private investors of financing sustainable economic activities, for instance by blending public and private funds and offering guarantee instruments, thereby making investments more appealing. This approach has led to greater investment in low- and lower-middle-income countries, particularly in renewable energy capacity. Still, progress is far from what is needed. For example, in 2021, the private finance mobilized for sustainable development through blended finance was USD 40 billion, around 1% of the amount needed (Convergence Blended Finance 2022).

While the challenges around achieving the SDGs go far beyond the field of finance, sustainable finance approaches have shown promise in accelerating investment. With ongoing commitment, alignment and innovation, sustainable finance can meaningfully accelerate progress in SDG implementation and maximize the transformative potential of the global goals.

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Synergies and goal complementarity

Simon Beaudoin

According to the Oxford English Dictionary, the notion of synergy refers to 'any interaction or cooperation which is mutually reinforcing; a dynamic, productive or profitable affinity, association, or link' (Oxford English Dictionary 2024). The notion stands out as a key concept to unite research on fundamentally interconnected socio-ecological issues (Beaudoin 2023, 15). In the context of the Sustainable Development Goals (SDGs), the notion is of great interest, given the reinforcing interactions, both positive and negative, between economic, social and environmental goals. Synergy is also a particularly relevant notion, as one of the main problems that cripples the quest for answering socio-ecological issues is that 'institutions, governance and research funders are commonly fragmented or siloed' (Scharlemann et al. 2020, 2). To reform these, attention should be paid to synergies in order to bring light to the connections across sectors, governance structures and funders' objectives.

The notion of goal complementarity is rooted in the idea that goals exhibit mutually complementing characteristics. These can be observed at multiple levels of governance, from the inherent structure of the goals and the targets and indicators associated with them to the very aims of the goals. In some cases, multiple goals are adopted with their connections in mind. In other cases, complementarity between goals is only recognized downstream, once goals are established. In the context of the SDGs, attempts were made to craft the goals and the encompassing 2030 Agenda in terms of complementarities between social, environmental and economic goals as a comprehensive and holistic governance framework (Caballero and Londoño 2022) (see *Policy coherence for sustainable development*).

Although the 2030 Agenda aimed to foster synergies between goals, the design of the SDGs taps only shallowly into the complementarity between economic, social and environmental goals. Indeed, the adoption of the SDGs saw early efforts to integrate these three categories of concerns being replaced by a progressively segmented and goal-specific stream of negotiation. As a result, the complementarity between the SDGs, rather than being explicitly integrated in the design of the goals, now needs to be exposed by researchers and goal advocates. Crafting the environmental, social and economic goals through the lens of their synergies and complementarity from the get-go would have greatly facilitated implementation. Nonetheless, promising research is currently exposing the synergies and trade-offs between goals and will certainly serve to implement coherent action plans and policies (Kim et al. 2023).

The study of interactions across multiples temporal, spatial and socio-ecological goals is of great importance for students of social and natural sciences interested in providing insights to socio-ecological issues that span beyond silos. Indeed, the contemporary context of deep interlinkages across sectors and scales calls for seizing synergies through integrated approaches (Hickmann et al. 2024). Whereas policies and implementation plans based on synergies can help bring together the environmental, social and economic dimensions, such approaches are often lacking or poorly integrated in decision-making. The design of the SDGs in separate goals rather than a coherent whole resulted in a difficult agenda to implement, hindering actors' ability to tap into existing connections

between goals. This is challenging, I argue, as global environmental governance can no longer work in silos. It might remain true in the foreseeable future, as 'new problems have emerged, long-standing problems remain inadequately addressed and many diverse problems are becoming ever more tightly intertwined' (Burch et al. 2019, 2). In sum, the notions of synergies and goal complementarity are useful to think about socio-ecological systems in systemic, integrated and synergistic ways.

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Targets

Mark Elder

The 17 Sustainable Development Goals (SDGs) have 169 targets specifying more specific objectives or actions. Each SDG has at least three targets and includes both thematic targets and targets on means of implementation. For instance, SDG 12 on responsible consumption and production aims to substantially reduce waste generation through prevention, reduction, recycling and reuse (Target 12.5) by rationalizing inefficient fossil fuel subsidies that encourage wasteful consumption (Target 12.c). Targets are qualitative in nature, except for Target 8.1 on economic growth, which calls for an annual increase of at least 7% per year for least developed countries. The indicators, in contrast, are intended to quantify the targets to facilitate monitoring their progress.

The SDGs' targets, more than the headline goals or indicators, contain the SDGs' main substance. Many targets are broad, ambitious and wide ranging. For example, Target 1.1 aims to end extreme poverty for all people everywhere, while Target 8.4 seeks to decouple economic growth from environmental degradation. However, some targets are narrow, such as Target 8.9 on sustainable tourism. Targets also differ on whether they call for full or partial achievement. For example, some only aim to 'improve' or 'encourage' progress rather than 'ensure' or 'achieve' targets, and some targets have specific deadlines while others do not (Mustajoki et al. 2022).

The targets reflect the SDGs' integrated approach. Indeed, all SDGs have targets addressing at least two of the three dimensions of sustainable development – economic, social and environmental (Elder 2024). All SDGs, including especially the socioeconomic-oriented SDGs, can be interpreted as having at least one target related to the environment (Elder and Olsen 2019). Similarly, many 'economic' targets also promote environmental sustainability, such as Target 9.4 on sustainably upgrading infrastructure and retrofitting industry (Elder 2022).

SDG 6 (water) has the clearest integrated approach: Target 6.1 focuses on water access as a basic need (social), Target 6.3 focuses on water-use efficiency (economic), while Targets 6.5 and 6.6 concentrate on integrated water resources management and protection and restoration of water-related ecosystems, respectively (environmental). The targets are also synergistic, for example, the economic dimension – water-use efficiency – contributes

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to both social and environmental dimensions by promoting water access and sustainable consumption.

Moreover, some targets reflect sustainability's holistic nature. For instance, while Target 9.1 on infrastructure may seem primarily 'economic', it specifies that infrastructure should be 'sustainable' and support 'human well-being' and 'equitable access', so it is also 'environmental' and 'social'. Similarly, Target 15.1 is not just about the conservation and restoration of terrestrial and freshwater ecosystems, but also their 'services' (ecosystem services), so the target contributes to all three dimensions of sustainable development.

Therefore, many studies of interlinkages among SDGs are based on targets (Allen et al. 2019; Anderson et al. 2022). These have generally concluded that there are more synergies than trade-offs among the targets (Independent Group of Scientists 2023).

The SDGs' quantitative indicators are intended to reflect the targets, although they are generally much narrower and do not fully align with the targets' breadth, scope and integrated nature. For example, Target 11.6 calls for reducing the overall environmental impact of cities, but the indicator only addresses municipal solid waste, excluding other environmental impacts. Also, indicators often do not reflect the environmental dimensions of the targets. For example, while Target 9.2 calls for industrialization to be 'inclusive' and 'sustainable', the indicators only address overall 'manufacturing' and not inclusiveness or sustainability.

Overall, the targets of the SDGs do not conform to the commonly recommended SMART (Specific, Measurable, Achievable, Realistic and Time Bound) framework, but were intended to be quantified by the indicators. However, it has been difficult to reconcile the quantitative SMART approach with broad holistic ambition and multidimensional integrated approaches pursued by the 2030 Agenda.

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Trade-offs and goals conflicts

Alex San Martim Portes

The Sustainable Development Goals (SDGs) are a comprehensive policy framework aimed at achieving economic, social and environmental objectives. Despite the integrated vision of the SDGs, implementing the various goals and targets inevitably involves significant trade-offs and conflicts (Breuer et al. 2019; Kroll et al. 2019). These tensions emerge because progress in one area may create obstacles for others, making the implementation of the 2030 Agenda highly complex. The United Nations compares this process to solving a Rubik's cube, where 'all sides must be considered in relation to each other if the puzzle is to be solved' (United Nations Sustainable Development Group 2023, 1).

The conflicts and trade-offs within the 2030 Agenda are well recognized in the broad literature on sustainable development. Scholars have argued that overcoming these conflicts is a significant challenge in the domestic implementation of the 2030 Agenda (Stafford-Smith et al. 2017). The literature highlights the importance of considering how to deal with trade-offs and not avoid those conflicts, since avoiding conflicts in policymaking is a significant cause of the lack of transformational changes (Wong and van der Heijden 2019). In contrast, successful policymaking involves transforming these conflicts into synergies (Kroll et al. 2019).

A notable example is the tension between economic growth (SDG 8) and environmental sustainability (SDG 13). Most industrialized and emerging economies rely on industrial activities and natural resource exploitation to drive economic progress, which can result in significant environmental degradation. Xing et al. (2024), for example, describe the challenging trade-offs China must address when balancing environmental and climate action and economic development at national and local levels. Such cases exemplify the difficulties of integrating all SDGs and the importance of finding points of synergy that support a comprehensive implementation of the 2030 Agenda, avoiding silo approaches.

Another example is the promotion of clean energy (SDG 7) versus responsible consumption and production (SDG 12). While renewable energy sources like solar panels and wind turbines are vital for reducing reliance on fossil fuels, their production requires significant resources, such as rare earth metals. The extraction of these materials can cause environmental harm and social inequities, especially in the absence of regulatory frameworks. As Ramasubramanian and Ramakrishna (2023) argue, there is no one-size-fits-all approach to achieving SDG7, and each country should assess the trade-offs and synergies that apply to its domestic context.

Some policy areas, like agricultural production, involve various SDGs, and policymakers should carefully navigate potential trade-offs and synergies. For example, policies to increase agricultural production can be positive for ending hunger (SDG 2) but negative for protecting biodiversity (SDG 15) and people's health (SDG 3) if they involve reducing biodiversity and using pesticides.

Critically, these trade-offs and conflicts are not just technical but political. Different interest groups, including governments, private sector actors and civil society, will prioritize goals that align with their interests. Corporations, particularly in industries such as fossil fuels, may lobby for policies prioritizing their economic interests over environmental or social objectives, complicating efforts to achieve balanced outcomes. Addressing the

political nature of trade-offs requires robust governance structures capable of balancing competing interests and fostering cross-sectoral collaboration.

In conclusion, trade-offs and goal conflicts are unavoidable in the pursuit of the SDGs, reflecting the diverse and sometimes competing objectives within the 2030 Agenda. While certain trade-offs can be mitigated through innovative policies and international cooperation, others require difficult political choices. Policymakers must be aware of these conflicts and develop strategies that minimize negative impacts while promoting integrated solutions.

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Transdisciplinarity

Kerstin Krellenberg, Florian Koch and Julia Wesely

Transdisciplinarity often refers to the joint production of knowledge and decision-making of academic and non-academic actors. In the context of sustainability science and the 2030 Agenda, transdisciplinary research is frequently understood as knowledge co-production, which aims to localize the Sustainable Development Goals (SDGs) through collaborations between diverse actors (Krellenberg and Koch 2021), such as public and private sectors, civil society, social movements, non-governmental organizations, academia and other institutions.

Many approaches emphasize that transdisciplinarity is not an acupuncture tactic, but rather a long-term strategy and a relational practice to be deployed along the entire research process (Lawrence et al. 2022), which would start from the shared identification and framing of a complex societal problem and continue to the collaborative design and

implementation of a research methodology and the development of actionable knowledge on the SDGs, covering as well transversal processes such as communication and co-learning. Transdisciplinary research thus aims to achieve a delicate balance between producing relevant and reliable knowledge for addressing the SDGs based on sound methodologies, while creating impact for a range of stakeholders as part of the process and afterwards. While the former challenges ontologies and epistemologies, the latter provides an important critique and alternative to simplistic linear science-to-policy approaches.

Transdisciplinary collaborations between academic disciplines as well as scientific and other knowledge and practices open possibilities for new knowledge, partnerships and visions of sustainable futures to emerge. Drawing on experiences from nine African research projects as part of the Leading Integrated Research for Agenda 2030 in Africa initiative, for example, an assessment of transdisciplinarity contributions to contexts, processes and products highlighted their potential to overcome policy and institutional silos, foster transformative learning and agency, as well as produce concrete outputs such as tools, maps and handbooks to address interconnected SDGs (Thiam et al. 2021). The International Science Council and other global actors further recognize the potential of transdisciplinary research to target not only individual SDGs but also their interlinkages in terms of creating synergies and addressing trade-offs (International Science Council 2020). A study by Bandari et al. (2024), for instance, used transdisciplinary methodologies and scenario modelling to forecast the impacts of 11 local actions in an Australian region on global targets articulated through SDGs 2, 6, 8 and 15. It revealed strong synergies between actions to increase water-use efficiency on farms, increased total crop and dairy production (SDG2) and reduced agricultural land use (SDG 15), among many others.

Given the complexity and diversity of transdisciplinary research, its barriers and enablers are well known (McClure 2024). These include theoretical inconsistencies and disagreements in terms of transdisciplinary frameworks, practical aspects such as the commitment, competencies and skills of all participating actors and the availability of short- and long-term resources, especially time and money. Moreover, transdisciplinary research is often marked by different experiences and ownership of the problem and unequal decision-making powers, which demand an enabling environment for building relationships between institutions and people amidst deep structural inequalities.

In conclusion, transdisciplinary research can contribute to place-based and pluralist actions and strategies to accelerate the implementation of the SDGs through locally relevant and actionable knowledge (co-)production between non-academic actors and academic actors from various disciplines by contributing to the knowledge of institutional arrangements needed for SDG implementation at all governance levels. The scale and scope of impact for addressing the SDGs and their interlinkages, however, depend on a contextually specific enabling environment that frames all research stages from design to communication and co-learning.

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Transformation

Sabine Weiland

The 2030 Agenda and its 17 Sustainable Development Goals provide a normative framework and vision for a sustainable society. They call for deep transformations of our societies and economies from the current unsustainable state to more sustainable courses of development. Sustainability transformation refers to fundamental changes in the structural, functional, relational and cognitive aspects of how societies operate that lead to new patterns of interactions and outcomes (Patterson et al. 2017). This transformation is aimed at addressing the interconnected global challenges of poverty, inequality, environmental degradation and climate change.

The notion of transformation is increasingly relevant in sustainability discourse, as it reflects a shift from merely describing problems and identifying solutions to understanding pathways for sustainable change. However, although the term is omnipresent, it is often unclear what exactly is to be transformed and by which process. In an overview article, Scoones et al. (2020) systematize from the literature three strands of transformation concepts: (1) *structural approaches* that focus on fundamental changes in the foundations of politics, economy and society and an overhaul of the ideological underpinnings of social systems. One example of this approach can be seen in decarbonization paths and the transformation of global markets, both of which are aimed at radically changing production and consumption patterns (for example, Bulkeley et al. 2012); (2) *systemic approaches* that target the interdependencies of institutions, technologies and social practices, with the aim of steering complex systems towards sustainability objectives (Voulvoulis et al. 2022). An example is the introduction of new low-carbon innovations (for example, wind and solar power) that emerge in niches and trigger changes in the energy system with the backing of policies aimed at targeted change; (3) *enabling approaches* that emphasize fostering human agency and capacities to identify and enact pathways to desired futures. These approaches are often driven by grassroots movements, for example, community-owned wind power initiatives and ecological agricultural practices, where transformation directions are deliberated politically (Smith and Stirling 2018).

While these approaches are distinct and reflect different understandings of what transformation entails and how it can be achieved, they are also complementary in that each

addresses different aspects of transformation. The approaches can influence and enhance one another; for instance, structural changes in policies and institutions can create an environment that supports enabling approaches, such as grassroots movements and social alliances, which in turn can advocate for and implement systemic changes (Scoones et al. 2020).

Apart from these conceptual questions, the empirical question arises as to what extent the SDGs set transformative processes in motion. The Global Sustainable Development Report (Independent Group of Scientists 2023) finds that the progress towards the SDGs has been severely disrupted in the context of various economic, social, health and environmental crises. A scientific study on the transformative impact of the SDGs (Biermann et al. 2022) identifies some political impact on institutions and policies, even though this impact has mostly been detected in the area of discourses, that is, the way how actors understand sustainable development. More substantive impacts on institutions and regulations remain rare, which is interpreted as a limited transformative effect of the SDGs.

Sustainability transformations are complex and multifaceted processes that must be based on different approaches, plural pathways and political commitment. The slow and sometimes disappointing progress in implementing the SDGs is due to the complexity of the challenge.

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United Nations Conference on Environment and Development (1992)

Pamela Chasek

In December 1989, the United Nations General Assembly adopted resolution 44/228, which called for convening the United Nations Conference on Environment and Development (UNCED), which has also become known as the Earth Summit. The conference was to examine the state of the environment and changes that have occurred since the 1972 United Nations Conference on the Human Environment in Stockholm, Sweden. The resolution said the conference should recommend measures to be taken at the national and international levels to protect and enhance the environment, taking into account the specific needs of developing countries, through the development and implementation of policies for sustainable and environmentally sound development, as well as to promote the further development of international environmental law (United Nations General Assembly 1989).

Canadian Maurice Strong, who had been the Secretary-General of the 1972 Stockholm Conference, was named UNCED Secretary-General. Strong believed that the complex General Assembly resolution needed to be translated into a clear set of final outputs from the UNCED, including an Earth Charter, building on the Stockholm Declaration, Agenda 21, an action programme, financial considerations, technology transfer, institutional follow-up and treaties on climate and biodiversity. There was supposed to be a treaty on forests, but this proved unrealistic due to major North-South divisions (Engfeldt 2009, 144–145).

The preparatory committee, which was established to negotiate the conference outcomes, held 4 substantive sessions for a total of 12 weeks between August 1990 and April 1992. There were significant disagreements between the developed and the developing world. Consequently, each group provided different inputs to the agenda-setting process: developed countries wanted to focus on ozone depletion, global warming, acid rain and deforestation, while developing countries wanted to explore the relationship between their sluggish economic growth and the economic policies of the developed countries. The concern was that an 'environmentally healthy planet was impossible in a world that contained significant inequities' (Miller 1995, 9).

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UNCED convened in Rio de Janeiro, Brazil, in June 1992. It was one of the largest United Nations Conferences, with more than 30,000 participants from 176 countries, including 103 heads of state or government and nearly 10,000 members of the media (Sand 1994). The major output was Agenda 21 (referring to the 21st century), which set out a global plan of action for sustainable development. In 294 pages, comprising 40 chapters covering 115 separate topics, Agenda 21 reflected the emergence of an international consensus on the issues affecting the long-term sustainability of human society, including domestic social and economic policies, international economic relations and cooperation on issues concerning the global commons – the oceans, the atmosphere and space.

When negotiations on the 'Earth Charter' began, it was clear that governments did not support Strong's vision for a brief inspirational document intended for the general public. After difficult negotiations, delegates adopted the Rio Declaration on Environment and Development, which consisted of 27 principles, including the right to development, common but differentiated responsibilities and the precautionary approach. The Earth Summit also adopted the Statement of Forest Principles instead of a forest treaty, aimed at creating norms and expectations for sustainable forest management. Two legally binding treaties, the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity, which were negotiated independently of the UNCED process, were opened for signature at the Earth Summit.

The Earth Summit concluded that sustainable development was an attainable goal for all people, regardless of whether they were at the local, national, regional or international level. It also recognized that integrating and balancing economic, social and environmental concerns is vital for sustaining human life on the planet and that such an integrated approach is possible (United Nations 1997).

At the same time, Agenda 21 is non-binding action plan. While the United Nations system did push forward on a number of recommendations, including negotiation of the United Nations Convention to Combat Desertification, the Fish Stocks Agreement and chemicals treaties, many member states did not implement Agenda 21. The Rio Declaration, however, continues to be cited in United Nations resolutions, including the 2030 Agenda and the Sustainable Development Goals (SDGs).

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United Nations Conference on Sustainable Development (2012)

Frank Biermann

The United Nations Conference on Sustainable Development was held in Rio de Janeiro, Brazil, in June 2012. It was one of many mega-summits on global environmental and sustainability governance that began with the 1972 United Nations Conference on the Human Environment held in Stockholm, Sweden. Because the 2012 conference followed the 1992 Earth Summit, it has often been called Rio+20. This conference attracted 44,000 participants, including 79 heads of state, and it had 500 side events in the programme. Brazilian president Dilma Rousseff called it the most participatory conference in history.

The conference produced several declarations and financial pledges from richer countries, such as the United States committing USD 20 million to a partnership with African nations and the European Union pledging EUR 400 million for sustainable energy projects. The official outcome was a non-binding document, *The Future We Want*, accepted by all member states (United Nations 2012). It covered various areas of sustainable development, including energy, health, climate change and gender equality, with two main themes: the 'green economy' and the 'institutional framework for sustainable development'. These were where hopes for reform were focused but also where the most disappointment occurred.

Despite the strong participation, the conference fell short of expectations. The final document was a watered-down compromise, focusing on the lowest common denominator that all countries could support. Some contentious issues, like trade and environment, were removed to ensure consensus, which helped avoid a breakdown in negotiations but resulted in a document that largely reaffirmed the status quo (Biermann 2013).

The conference's primary institutional debates centred on three areas: strengthening the environmental pillar of the United Nations system, integrating sustainable development into global governance and agreeing on sustainable development goals. One of the most contentious discussions was the creation of a world environment organization to replace or 'upgrade' the United Nations Environment Programme, which had often been criticized for its limited mandate and effectiveness (Biermann et al. 2012). The idea of a world environment organization received support from the European Union, the African Union and some developing nations, but faced strong resistance from the United States, Japan, Russia and Brazil. Ultimately, the final document merely called for strengthening the role of the United Nations Environment Programme without offering concrete reforms or additional financial resources.

Another key issue was the integration of economic, social and environmental policies. The Commission on Sustainable Development, created in 1992, was intended to oversee this integration but has largely failed to generate substantial effects. Proposals for a more authoritative body, such as a United Nations Sustainable Development Council (Biermann et al. 2012), were discussed but addressed in a weakened form: a 'high-level political forum' was called for as a new body to replace the Commission on Sustainable Development without a clear mandate and authority to drive comprehensive reform (see *High-level Political Forum on Sustainable Development*).

Lastly, a proposal for a United Nations High Commissioner for Future Generations, designed to protect the interests of future generations, was discussed but rejected. Many developing countries feared that it would disproportionately impact their current development needs. Instead, governments agreed to consider the need for intergenerational solidarity but without concrete institutional reforms.

A key outcome of Rio+20 was the agreement to develop new *Sustainable Development Goals* (SDGs). Initially proposed by Colombia and Guatemala, these goals were envisioned to continue and expand the trajectory of the Millennium Development Goals and cover environmental, economic and social dimensions in a balanced way. Negotiations following Rio+20 eventually delivered these global goals, agreed upon by the United Nations General Assembly in September 2015.

In conclusion, while Rio+20 made some progress, it failed to produce the major reforms many had hoped for. However, the extensive preparations and dialogues may have laid the groundwork for more substantial changes, including the launch of the SDGs three years later (Kanie and Biermann 2017). Yet the challenge remains to achieve meaningful reforms in global governance that truly integrate sustainability across economic, social and environmental dimensions.

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United Nations Conference on the Human Environment (1972)

Simon Beaudoin

The United Nations Conference on the Human Environment (UNCHE), which took place in Stockholm in June 1972, is a landmark moment in the history of global environmental politics. It spurred interest in environmental questions across governments and civil society and launched a series of initiatives that shaped the future of environmental diplomacy and cooperation (Beaudoin 2023; Morin and Orsini 2015). Not only did the conference bring to light the need for stronger integration of environmental concerns in national policies, but it also explicitly recognized the environmental

damage of human activities (United Nations 1973). UNCHE also fostered the involvement of a plethora of actors in international environmental negotiations. It encouraged the creation of national ministries for environmental matters and facilitated the adoption of national and international policies and laws on these questions. The conference also promoted research on environmental challenges and encouraged citizens, non-governmental organizations, scientists, industry actors and governmental agencies to address environmental issues.

UNCHE was the result of years of advocacy stemming from political, social and academic arenas, pushing for strengthened collaboration on environmental issues, both nationally and internationally. Many preparatory discussions and meetings preceded the conference. Some were specifically designed to inform the agenda of UNCHE and led to the establishment of working groups and committees that proved key in the outcome of the conference (Johnson 1972). Reports and perspective pieces were produced ahead of the conference by international organizations, civil society members and scientists (United Nations Economic and Social Council 1968). Two reports were particularly influential. First, the 1971 Founex report was key in shaping the content of the conference by tying environmental concerns with development priorities (Manulak 2022). Second, the 1972 *Limits to Growth* report to the Club of Rome helped emphasize the environmental impacts of economic growth (Meadows and Club of Rome 1972).

The main outcomes of the conference include a Declaration of Principles and an Action Plan for the environment. Whereas the former highlights principles and responsibilities around environmental issues, the latter defined three avenues to address such issues, namely (1) an environmental assessment plan based on monitoring, information exchange and research, (2) an environmental management frame aiming to increase collaboration and planning, and (3) support measures, including information-sharing, professional training and education (United Nations 1973). In addition, UNCHE led to the creation of the United Nations Environment Programme, which plays a central role in coordinating and supporting environmental policies (Ivanova 2021).

UNCHE proved key for shaping and fostering the emergence of global environmental governance, which rippled over the years to ultimately influence the adoption of the Sustainable Development Goals (SDGs). The conference, however, entrenched an approach that tries to address environmental issues while prioritizing economic development. The approach consolidated at UNCHE, closely following the suggestions of the Founex report, placed environmental issues in an inferior, at best equal, position to economic priorities. This approach still pervades global environmental governance, motivating multiple attempts to integrate environmental considerations into the development agenda. The SDGs are one of the most recent iterations of this approach. It is particularly problematic as economic development depends on a healthy environment, not the other way around. Indeed, the focus on economic development remains a priority to many decision-makers, to the detriment of environmental concerns, such as climate change, biodiversity loss, ecosystem degradation and marine pollution.

In sum, UNCHE spurred a series of institutional developments at national and international levels. It will remain a major milestone worth revisiting when studying global environmental politics. However, it is still uncertain if its legacy of agenda-setting in sustainability governance will help bring about the social transformations needed to address contemporary socio-ecological issues.

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United Nations Department of Economic and Social Affairs (UN DESA)

Guísela Almeida de Pereira and Estefanía Charvet

Created in 1945, the United Nations Department of Economic and Social Affairs (UN DESA) supports United Nations member states in bridging global commitments and national development policies. UN DESA provides governments and United Nations bodies with information, policy analysis and advice, capacity-building opportunities and intergovernmental support (UN DESA 2024a). Led by the Under-Secretary-General for Economic and Social Affairs, appointed by the United Nations Secretary-General, UN DESA is based in New York.

With the consolidation of the 2030 Agenda, UN DESA was gradually reformed since 2016 to better engage in the monitoring and review of the Sustainable Development Goals (SDGs). The Division for SDGs, one of the department's nine subunits, coordinated meetings that allowed civil society to contribute to the formulation of the SDGs. It was, however, criticized for not formally reporting back to these contributors on the impact of their inputs, hindering accountability (Sénit et al. 2017). The division acts as the secretariat for the SDGs and is key to the evaluation of the implementation, advocacy and outreach activities around the 2030 Agenda (UN DESA 2024a).

UN DESA generates, compiles and disseminates critical information about the progress of SDG implementation. The department's Sustainable Development Goals Report is the only official UN report that monitors global progress on the 2030 Agenda. UN DESA's reports provide analyses and policy advice, identifying challenges and areas with high potential for SDG acceleration (UN DESA 2024b). UN DESA also helps gather input for the Global Sustainable Development Report, another resource on SDGs, with a

research-policy focus. However, a critical issue remains: most countries lack the capacity to effectively collect and report data on SDG indicators, leading to data gaps in these reports (Bexell 2024). UN DESA's thematic reports and policy briefs inform bodies like the United Nations Economic and Social Council and the High-level Political Forum on Sustainable Development – the latter is mandated to oversee the follow-up and review of the SDGs.

As the secretariat of the High-level Political Forum for Sustainable Development, UN DESA coordinates the preparation and organization of the forum's events. By convening preparatory events and sharing background notes, reports and other inputs to inform discussions, UN DESA aims to shape the High-level Political Forum's agenda and to mobilize member states, United Nations bodies, stakeholders and experts for the implementation of the SDGs (Beisheim and Fritzsche 2022). However, some stakeholders have claimed these materials are not well known nor effectively used (Beisheim and Fritzsche 2022). Through the years, UN DESA convened over 300 side events at the High-level Political Forum, contributing to enriching global dialogues. However, despite UN DESA's efforts, the High-level Political Forum has yet to meet its full potential in providing strategic, actionable and concrete guidance to drive the global sustainability agenda forward (see *High-level Political Forum on Sustainable Development*).

Through advisory services, training, direct assistance and longer-term projects and programmes, UN DESA contributes to capacity development of member states on resource mobilization, inclusive social policies, evidence-based policy and strengthening their institutions, data collection and more. For instance, UN DESA convenes several programmes, regional workshops and events to foster peer-learning and reflection to strengthen Voluntary National Reviews. It also publishes an annual handbook and database with key lessons on Voluntary National Reviews. Nevertheless, while experts have identified improvements in the quality of national reporting about the SDGs, ensuring that countries act on feedback remains a huge challenge (Beisheim and Fritzsche 2022). Recognizing the importance of monitoring SDGs and integrating them into local planning, UN DESA launched in 2022 a demand-driven programme to support local governments in preparing Voluntary Local Reviews.

In conclusion, UN DESA provides the United Nations system and member states with crucial analysis, advice and information to guide policy implementation related to the SDGs. Although its ability to foster concrete recommendations by the High-level Political Forum and address information gaps is constrained by limited data availability and depends on the political will of member states, UN DESA's reports, briefings and capacity-enhancing initiatives have had a pivotal role in shaping the 2030 Agenda. These efforts will continue to be instrumental in driving progress towards achieving the SDGs in the years ahead.

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United Nations Development Programme (UNDP)

Sajid Amin Javed and Michele Joie Prawiromaruto

The United Nations Development Programme (UNDP) was formed in 1965 by the United Nations General Assembly through a merger of two prior entities: the United Nations Expanded Programme of Technical Assistance, established in 1949 and the United Nations Special Fund, founded in 1958 (UNDP n.d.). UNDP reports to the United Nations General Assembly, which approves its budget and policies. UNDP's mandate focuses on eradicating poverty, fostering democratic governance, upholding the rule of law and creating inclusive institutions. Since the adoption of the Sustainable Development Goals (SDGs) in 2015, UNDP has also played a critical role in assisting countries in their pursuit of the SDGs.

UNDP's strategic plan for 2022–2025 encapsulates its mandate within the '3x6x3 framework', consisting of three core directions, six signature solutions and three enablers (UNDP 2021). The first component includes three directions for change: structural transformation, leaving no one behind and building resilience, all driven by the SDGs as the guiding target for country progress. The second part lists six priority areas – poverty and inequality, governance, resilience, environment, energy and gender equality – where UNDP focuses to maximize development impact. The final segment includes three enablers: strategic innovation, digitalization and development financing, which are the operational strategies UNDP uses to assist countries in reaching the SDGs.

The enablers particularly show how UNDP works to support SDG implementation. UNDP provides institutional and governance support to enhance government performance on SDG-related policy issues through strategic innovation. This is especially crucial for developing countries where system transformations are necessary (UNDP 2021). To support digitalization, UNDP aids in building inclusive and ethical digital societies by embedding digital tools across its programmes and fostering inclusive digital policies (UNDP 2021). Development financing relies on voluntary contributions from United Nations member states, multilateral organizations, the private sector and other sources, with unrestricted core resources and earmarked funds for specific initiatives (UNDP 2024). In 2023, UNDP received USD 5 billion in contributions, with 89% from other resources and 11% from core funds, directing USD 1.525 billion to country-specific programmes and USD 359.8 million to development activities, with low-income countries receiving the largest share (UNDP 2024).

Despite its frameworks and strategic plans, UNDP faces several challenges. These include data gaps, unmet financing needs and deeper criticisms of reinforcing the neoliberal world order. The lack of relevant SDG data has been challenging, particularly in the Global South, limiting the capacity development role of the UNDP. In multiple countries, the unavailability of micro-level data has obstructed effective decision- and policymaking, as the stakeholders are unable to measure, track and trace progress (UNDP 2023). Financially, UNDP has struggled to attract and direct private sector investments towards SDG-related initiatives, especially as funding needs have surged following the COVID-19 pandemic and the war in Ukraine. Core funding for UNDP fell by 4% from 2022 to 2023, marking a second consecutive annual decline (UNDP 2024). Additionally, UNDP's depoliticized approach to development, which often emphasizes technical solutions, has

been critiqued for overlooking the complex social, economic and political power structures that perpetuate poverty and inequality (Telleria 2017).

In response, there are calls for UNDP to focus on SDG acceleration that is more inclusive and nuanced, strengthen partnerships, restructure public and private financing around the SDGs and adopt a more politically aware approach that acknowledges development as deeply interconnected with power dynamics (Southern Voice 2023; Telleria 2017).

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United Nations Environment Programme (UNEP)

Maria Ivanova

Established in 1972 following the first United Nations Conference on the Human Environment, the United Nations Environment Programme (UNEP) is the 'anchor institution' for the global environment, designed to catalyze environmental action and foster collaboration across the United Nations system (Ivanova 2021). Today, UNEP plays a critical role in advancing the environmental dimensions of the Sustainable Development Goals (SDGs), focusing on SDGs 6 (Clean Water and Sanitation), 12 (Responsible Consumption and Production), 13 (Climate Action), 14 (Life Below Water) and 15 (Life on Land).

UNEP's role in supporting the SDGs builds on its core functions of environmental assessment, policy development and fostering international cooperation. One of its most significant contributions to the SDGs has been through scientific assessments, which inform global environmental policy. As the custodian of 25 SDG indicators, UNEP provides essential data for tracking progress on environmental targets. Initiatives like the World Environment Situation Room, which integrates geo-referenced data, remote sensing and earth observation with environmental statistics, have provided policymakers, scientists, businesses and citizens with real-time access to critical information. This has enhanced the ability of countries to monitor progress on sustainable development (Ivanova and Skaredina 2024). UNEP has also developed various scorecards to illustrate how countries and regions are progressing in meeting the environmental targets of the SDGs.

UNEP has promoted an integrated approach that links environmental sustainability with economic and social development, which can be a particularly challenging task in areas where development priorities may conflict with environmental sustainability. UNEP's work on tackling plastic pollution demonstrates how it has integrated environmental goals into broader global development agendas. The *Clean Seas Campaign* and the *Global Partnership on Marine Litter* are two of UNEP's leading initiatives to achieve SDG 12 and address marine ecosystem degradation (UNEP n.d.). They highlight UNEP's capacity to foster international collaboration and promote a circular economy – an essential step in advancing sustainable production and reducing environmental harm.

UNEP's convening power is key to aligning global actions towards shared environmental objectives. The capacity to bring together governments, international organizations, civil society and the private sector is particularly important in addressing cross-cutting issues like climate change, biodiversity loss and pollution, which require coordinated action across multiple sectors. Despite its successes, UNEP's efforts have been hampered by limited financial resources and political constraints. The Environment Fund, once UNEP's major source of financial support, has diminished over time, leading to a reliance on earmarked contributions that limit the organization's flexibility and ability to innovate (Ivanova 2021). Nevertheless, UNEP remains a critical convener of international environmental efforts. Its ability to mobilize partnerships – whether through the Finance Initiative, the Partnership for Environment and Disaster Risk Reduction, or the Partnership for Clean Fuels and Vehicles – demonstrates its ability to foster collective action on pressing environmental problems.

Challenges remain, however. The *Sustainable Development Goals Report 2023* reveals that more than 50% of the SDG targets related to environmental sustainability are showing weak progress or are reversing (United Nations 2023). Armed conflicts and economic disruptions have exacerbated environmental degradation. UNEP's limited capacity and funding further complicate its efforts to lead on global environmental governance (Independent Group of Scientists 2023). Yet, UNEP must build on and continue to strengthen its role as the leading global environmental authority.

In conclusion, UNEP's contributions to the SDGs have been indispensable in maintaining environmental sustainability as a global priority. Through data collection, partnerships and policy advocacy, UNEP continues to guide the international community towards achieving the environmental goals of the 2030 Agenda. Its success will depend on its capacity to be the convener and the scientific authority that guides global decision-making.

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United Nations General Assembly (UNGA)

Leonie Grob

The United Nations General Assembly (UNGA) serves as the principal deliberative and policymaking organ of the United Nations, comprised of all 193 United Nations member states. Since the creation of the United Nations in 1945, the UNGA convenes annually over the course of several months in what are known as 'sessions' to take key decisions for the overall United Nations system, such as the appointment of the non-permanent members of the United Nations Security Council and to adopt resolutions on various issue-specific matters (United Nations 2024a). Following negotiations lasting for two-and-a-half years, the UNGA formally adopted the 2030 Agenda as resolution A/RES/70/1 'Transforming Our World' in September 2015 in New York. Although adopted by all member states, resolutions adopted in the UNGA, including the 2030 Agenda, are non-binding, and the institution does not have enforcement mechanisms to compel implementation. This remains a key critique of both the UNGA and the 2030 Agenda framework (Biermann et al. 2017).

In 2010, the UNGA tasked then-Secretary-General Ban Ki-moon with launching post-2015 discussions as the Millennium Development Goals neared their conclusion. By 2012, the Rio+20 outcome document, *The Future We Want*, laid the foundation for the creation of action-oriented, concise and universally applicable Sustainable Development Goals (SDGs). Subsequently, in January 2013, the SDG negotiations began, aiming to incorporate economic growth, environmental sustainability and social justice into a unified goal-based framework. These negotiations followed a two-track process: the Open Working Groups established and defined the set of 17 goals. In 2015, it transitioned into intergovernmental negotiations, or *post-2015 negotiations*, focused on SDG implementation and monitoring mechanisms. While the post-2015 negotiations followed traditional coalitions and speaking structures within the UNGA, the Open Working Groups allowed for innovative, dynamic and collaborative arrangements (so-called *troikas*) between member states (see *Negotiation of the Sustainable Development Goals*). Therefore, the Open Working Groups are deemed to have democratized the process (Chasek et al. 2016). Additionally, side events to the negotiations, United Nations-led consultations in 88 Global South countries, or the *My World Survey*, involving over 9 million citizens, broadened participation (Sénit 2020).

To ensure effective implementation, the UNGA mandated the High-level Political Forum on Sustainable Development as the primary body for monitoring progress on the 2030 Agenda. Its effectiveness, however, remains contested (Beisheim and Fritzsche 2022). To reinforce the global endeavour to achieve the 2030 Agenda, the UNGA has passed several resolutions, influenced by global advocacy efforts and has hosted numerous conferences to discuss SDG progress. At the Summit of the Future in 2024, world leaders reconfirmed their commitment to the 2030 Agenda. After extensive negotiations, the *Pact for the Future* was adopted to strengthen multilateralism and international cooperation, with dedicated chapters underscoring sustainable development and climate finance as key to global progress (United Nations 2024b). The outcome documents also include the *Global Digital Compact* that commits to bridging global technology and digitalization gaps and the *Declaration on Future Generations* to safeguard long-term

global interests and sustainability. Although regarded as an actionable framework that may pave the way for necessary reforms, the Pact for the Future remains a non-binding, voluntary agreement.

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United Nations Secretary-General (UNSG)

Michele Joie Prawiromaruto

In accordance with Article 97 of the Charter of the United Nations, the United Nations Secretary-General is appointed by the United Nations General Assembly upon the recommendation of the Security Council (United Nations 1945). Formally, the United Nations Secretary-General serves as the 'chief administrative officer of the Organization' and is entrusted with the responsibility to perform functions that have been entrusted by the United Nations Security Council, United Nations General Assembly, Economic and Social Council and other United Nations organs (United Nations n.d.). However, since the inception of the United Nations in 1945, the role has significantly extended beyond its original administrative and diplomatic functions to encompass broader responsibilities, reflecting the evolving global political landscape and the increasing complexity of international affairs (Haack 2018), which is also reflected in the activities of the current United Nations Secretary-General.

António Guterres, the ninth Secretary-General of the United Nations, assumed office on 1 January 2017 and has shaped the role within the context of contemporary global challenges during his time in office (United Nations n.d.). As each United Nations Secretary-General defines their tenure by addressing the most pressing issues of their time, in his 2021 vision statement, Guterres identified 'making peace with nature and climate action' as one of his key imperatives for the subsequent five years (Guterres 2021, 7). This vision explicitly referenced the Sustainable Development Goals (SDGs) as a negotiated blueprint to achieve these objectives (Guterres 2021, 8). In alignment with this focus, the 2023 annual report highlighted sustainable development as one of the eight

key priorities established by the United Nations General Assembly, emphasizing the need to scale up support to countries' needs and priorities to realize the 2030 Agenda (United Nations 2023).

To fulfil these priorities, the United Nations Secretary-General has undertaken several initiatives, including scaling up financing for development, engaging with marginalized groups, maintaining momentum on climate action, supporting gender equality and enhancing regional collaborative platforms. For instance, one notable effort has been the active promotion of reforms to multilateral development banks and addressing sovereign debt distress to scale up financing for sustainable development (United Nations and Secretary-General 2024, 8). Additionally, the appointment of resident coordinators, who serve as the highest-ranking representatives of the United Nations development system in various countries, has been a critical step in providing the necessary resources and coordination to support the SDGs (United Nations and Secretary-General 2024, 11).

Furthermore, the role of the Cabinet of the United Nations Secretary-General – consisting of the Executive Office and the Senior Management Group – has similarly evolved in response to the growing complexity and scope of the United Nations work (Ramcharan 1990). The Cabinet, particularly through the efforts of key members such as the Under-Secretary-General for Economic and Social Affairs, who heads the United Nations Department of Economic and Social Affairs, plays a vital role in advancing the United Nations development agenda. The United Nations Department of Economic and Social Affairs specifically focuses on promoting sustainable development, advancing economic growth and addressing social issues. Despite initiatives and concerted efforts by the United Nations Secretary-General and his cabinet, their efforts have not yet proven to be highly effective in compelling governments to prioritize the SDGs. Therefore, while these initiatives underscore the commitment of the United Nations Secretary-General towards advancing the SDGs, considerable work is still needed to achieve the intended transformative impact.

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United Nations Statistical Commission

Citra Kumala and Virgi Sari

Founded in 1946, the United Nations Statistical Commission (UNSC) is a leading body in the global statistics system, bringing together Chief Statisticians from 24 member states worldwide. It oversees the United Nations Statistics Division and operates under the United Nations Economic and Social Council. The Commission plays a central role in driving international statistical endeavours by setting global standards, developing concepts and methodologies and supporting their implementation both internationally and nationally (United Nations Statistics Division 2024). Its core mandate is to coordinate global statistical efforts, improve data practices and standardize development indicators to ensure quality and comparability across member states.

Aligned with its mission, the UNSC plays a crucial role in the implementation, monitoring and evaluation of the Sustainable Development Goals (SDGs). It coordinates the development and production of SDG indicators. The commission coordinated efforts to develop a standardized framework for monitoring the SDGs, leading to the adoption of the global indicator framework for the SDGs and targets of the 2030 Agenda in 2017 (United Nations General Assembly 2017). This framework provides a standard for SDG global monitoring, guides policy and ensures accountability of member states (International Institute for Sustainable Development 2022). The Commission reviews the framework annually to ensure effective SDGs monitoring. For example, these efforts identified redundancies within SDGs indicators, revising the current list from 244 to 232 indicators (United Nations 2018). UNSC also supports member states to develop their own indicators to improve SDG monitoring at national level.

Building on its mandates, the UNSC focuses on strengthening member states' statistical capacity to support effective SDGs monitoring and implementation. Shortfall in statistical capacity at the global and national levels hinders the ability to assess the impact of SDGs (Georgeson and Maslin 2018; Dang and Serajuddin 2020), with some countries lack the capacity to measure progress across all SDGs indicators (World Bank 2016). To address these challenges, the Commission established the High-level Group for Partnership, Coordination and Capacity-Building for Statistics in 2015 to support the 2030 Agenda for Sustainable Development. This group consists of member states with regional and international agencies as observers and aims to build a global alliance for sustainable development data (United Nations Statistics Division 2024). Among its key contributions is the adoption of the Cape Town Global Action Plan for Sustainable Development Data to address critical gaps in national statistics and coordination identified for the 2030 Agenda. Addressing these gaps is vital to enhancing the use of country-generated statistics in calculating global SDG indicators (United Nations Statistics Division 2024). The Commission also facilitates knowledge exchange among member countries, enabling them to share best practices and address country-specific data concerns, contributing to a more unified strategy for monitoring the SDGs.

Despite continuous efforts to support member countries, the UNSC's role in ensuring quality monitoring of SDG progress remains challenged by uneven statistical capacities and limited country-specific data infrastructure. For instance, when SDG indicators require disaggregation by specific sub-groups (for example, gender or disability), existing data or survey often lack the necessary design to support this. Member countries also

often face difficulties in operationalizing SDG indicators due to a lack of consensus on the definition of key concepts or the unavailability of necessary data.

Overall, the UNSC plays an important role in addressing data gaps in SDGs monitoring, particularly the lack of scientifically robust indicator definitions applicable across a wide range of national contexts (Schmidt-Traub et al. 2017). Through a collaborative approach, the Commission ensures that SDG indicator definitions and data collection align with international standards. Its support in strengthening member states' statistical capacities also enables countries to produce reliable data that informs policy, enhances accountability and accurately measures SDG progress.

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Universality

Carole-Anne Sénit

Along with integration, universality is one of the key principles of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). It is extensively emphasized in the text of the 2030 Agenda, with 29 occurrences throughout the outcome document of the negotiations. Universality defines the scope for the implementation of the 2030 Agenda: globally, the SDGs are applicable to all countries across the Global North and Global South. This represents a major difference and upgrade compared to the predecessors of the SDGs, namely the Millennium Development Goals, which were to be implemented only by developing countries.

Within countries, universality also relates to the applicability of the goals to all groups and communities, with the ambition of 'leaving no one behind'. This applicability to all

is reflected in the ambition of some of the goals, which seek to achieve universal access to specific rights, public goods and services, such as health coverage (SDG 3), sexual and reproductive health and reproductive rights (SDG 5), safe and affordable drinking water (SDG 6), affordable and reliable energy (SDG 7), the internet (SDG 9) and safe, inclusive and accessible green and public spaces (SDG 12). Given its universal character both in terms of applicability and ambition, the 2030 Agenda and the SDGs are considered a major breakthrough in the global negotiations related to sustainable development.

However, research has shown that SDG implementation fails to uphold the promise of universality that the 2030 Agenda set out for the world in 2015. First, on the basis of ambition, implementation efforts show that there is insufficient progress to achieve most of the goals and targets that seek to ensure universal access to public goods and services (United Nations 2023). Second, in terms of universal applicability within countries, while the adoption of the SDGs has raised the saliency and uptake of the principle of 'leaving no one behind' in policy discourses and agendas, their national implementation has failed to advance the inclusiveness of vulnerable groups and communities (Sénit et al. 2022). This suggests that the universal reach of the SDGs within countries is far from realizing. Third, in terms of universal applicability between countries, SDG implementation is conditional on national circumstances and priorities. Recognizing this condition was key to ensuring the success of negotiations and the adoption of a global agreement. However, this resulted in countries tending to prioritize the goals and targets which can be easily achieved, leaving behind more challenging goals (Forestier and Kim 2020). For developed countries, for instance, this widespread cherry-picking is reflected in an insufficient focus on goals such as reducing unsustainable consumption (SDG 12) or phasing out fossil fuels (linked to SDGs 7 and 13), to name a few (Biermann et al. 2023). Finally, research has questioned the universality of the SDGs, which may have promoted a dominant Western narrative in global media, academia and civil society (Sénit and Biermann 2021). Scholars indeed show that by suggesting a unified 'humankind' embarking collectively in SDG implementation, the universal framing of the SDGs masks unequal consumption and emissions patterns among and within countries, perpetuating colonial injustices in global sustainability governance (Adelman 2018).

Overcoming these challenges to accelerate SDG implementation requires reforming the global goals by including a degree of differentiation, with developed countries committing to more ambitious targets (Biermann et al. 2023). It also requires that all state and non-state actors engaged in SDG implementation commit to reaching the furthest group and the furthest goal behind first.

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UN Sustainable Development Solutions Network (SDSN)

Amber Webb

Established in 2012, the UN Sustainable Development Solutions Network (SDSN) was formed to merge global expertise with policy action to advance progress towards sustainable development. Working under the auspices of the United Nations Secretary-General, the organization operates on a mandate to mobilize the world's leading knowledge institutions and leverage their strengths to promote and accelerate practical solutions for sustainable development. Guided by the Sustainable Development Goals (SDGs) and the Paris Agreement, SDSN centres its mission on the question of how to organize strategies to achieve the 17 SDGs (Sachs et al. 2019).

SDSN was founded by Jeffrey Sachs, economist and former Special Adviser to the United Nations Secretary-General (2001–2018) and Ban Ki-moon, United Nations Secretary-General (2007–2016). SDSN strives to advance major programmes of work at the intersection of science and policy. SDSN's efforts in three key areas – data and research, education for sustainable development and the mobilization of scholars and practitioners across national and regional networks – aim to advance the movement to achieve the SDGs. Through these pillars of work, SDSN seeks to develop and enrich a global knowledge commons, which is continually informed by evolving expertise and utilized by policymakers, practitioners and educators around the world.

Data and research are at the foundation of SDSN programmes. Since 2016, the SDSN has published the Sustainable Development Report to track and rank the performance of all UN member states on the SDGs (for example, Sachs et al. 2024). The report combines data and analyses produced by international organizations, national statistical commissions, civil society organizations and research centres. Furthermore, it assesses national progress towards SDG indicators, as well as the important spill-over effects that create impacts beyond national boundaries. The Sustainable Development Report offers an overview of annual development progress with key recommendations applicable to a wide array of stakeholders. Other SDSN reports, produced in partnership with renowned experts and institutions, contribute to the network's expertise. Notable works include such publications as the World Happiness Report, Global Commons Stewardship Index and Net Zero Pathways reports.

Building on its expertise in data and research, SDSN has developed several educational projects to disseminate knowledge on sustainable development. SDSN's SDG Academy is a notable example, which offers education and training initiatives. With a philosophy

that achieving the SDGs will require an intergenerational approach, the SDG Academy offers a robust open-access library of content, accredited graduate degree programmes and multiple communities of practice to enable sector-specific progress. As early adopters of digital innovations such as massive open online courses, the SDG Academy has reached over one million learners with its content and programmes.

The mobilization of national and regional networks of experts has been a core component of SDSN's mission since its foundation. SDSN Networks provide expertise that feeds into its data and research programmes. Over 1,900 institutions currently comprise more than 50 national and regional networks coordinated by the SDSN secretariat. The networks focus on distinct projects and priorities in line with their local contexts and challenges, while also coming together in forums aimed at global cooperation. The networks operate to translate the latest expertise in sustainable development into action.

SDSN has operated since the SDGs were first introduced into development discourse following the United Nations Conference on Sustainable Development (Rio+20). At the time, the details of the SDGs were very much up for debate and discussion, but it was clear that only a global movement could achieve the scope of what was envisioned (Sachs 2012). The establishment of SDSN aimed to address this need, and the network's efforts are continually focused on refining methods of progress through complex solutions and emerging innovations. Through a comprehensive approach, grounded in data and mobilizing a wide range of stakeholders, SDSN establishes pathways to achieve the 2030 Agenda and the SDGs.

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V

Voluntary Local Reviews

Kerstin Krellenberg, Florian Koch and Julia Wesely

Voluntary Local Reviews are the local equivalent of Voluntary National Reviews and represent a flexible and voluntary form of SDG reporting at the local level. However, unlike Voluntary National Reviews, Voluntary Local Reviews are not officially integrated into the United Nations governance architecture for the 2030 Agenda. At present, there is no formal definition or mandated structure of what exactly constitutes a Voluntary Local Review or what it must include.

Nonetheless, organizations such as the United Nations, the European Commission, city networks and think tanks have published various guidelines to develop Voluntary Local Reviews. As of September 2024, around 245 municipalities and regional governments worldwide had published a Voluntary Local Review (Global Observatory on Local Democracy and Decentralization 2024), including cities such as Bonn (Germany), Cochabamba (Bolivia), Melaka (Malaysia) and Mwanza (Tanzania).

These Voluntary Local Reviews differ in their scope, structure, content and methodology, as there is no institutional peer-review system at a supra-local level or binding guidelines for cities. For example, some Voluntary Local Reviews report on all SDGs, others focus only on the SDGs that are particularly relevant to their municipality, while some provide in-depth reviews for the SDGs that are on the agenda of the annual High-level Political Forum on Sustainable Development.

However, all Voluntary Local Reviews share a common orientation towards the SDGs and have an international scope. The former implies that Voluntary Local Reviews assume a comprehensive lens on social, ecological and economic sustainability aspects, while the latter means that Voluntary Local Reviews are attuned to local-global dynamics rather than seeing the locality as an isolated entity.

One motivation for municipalities to develop a Voluntary Local Review is the opportunity to fulfil the city's commitments to sustainable development and systematically operationalize the SDGs at the local level (Ortiz-Moya and Reggiani 2023). Voluntary Local Reviews also offer cities the opportunity to internationalize by presenting the reviews at events such as the High-level Political Forum on Sustainable Development, thus fostering international dialogues and peer-learning. This reflects the growing role of local and regional governments in implementing the SDGs and their increasing desire to

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become international actors. Voluntary Local Reviews are seen as drivers of SDG localization and can promote innovation in data and sustainability measurement, enhance transparency, serve strategic purposes and help overcome institutional fragmentation (Narang Suri et al. 2021). However, disparities in municipalities' capacities to produce Voluntary Local Reviews exist, even within the same national context (Croese and Parnell 2022).

Three features are central to the Voluntary Local Review process. The first one relates to the selection of indicators and data. Since there is no binding format for Voluntary Local Reviews, each local government can decide which SDGs, indicators and data to include. While this flexibility risks 'cherry-picking' SDGs (Ortiz-Moya and Kataoka 2024), it also allows municipalities to prioritize local needs and define relevant SDG indicators, while seeking appropriate data sources to monitor progress (Koch et al. 2023). Second, the lack of a common and predefined methodology for creating a Voluntary Local Review allows each locality to design its own process. Involving various actors from public administration and embedding sustainable development more holistically within municipal actors, as well as engaging with civil society, can strengthen local-level dialogue, even though it makes the process more complex. The third feature relates to the long-term perspective. Many municipalities have published not just one, but several Voluntary Local Reviews over the years, illustrating that a Voluntary Local Review is not a static document but part of ongoing sustainability management. Furthermore, the elaborated Voluntary Local Review indicators and data can be used continuously in online SDG monitoring platforms, such as Open SDG, to provide up-to-date information on local SDG implementation (Ortiz-Moya and Reggiani 2023).

Ultimately, the publication of a Voluntary Local Review is not an end in itself but a tool for fostering more sustainable local development. As such, the latest United Nations Habitat handbook outlines approaches for creating action-oriented Voluntary Local Reviews (United Nations Habitat 2024).

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Voluntary National Reviews

Mark Elder

Voluntary National Reviews are a core element of the follow-up and review process for the Sustainable Development Goals (SDGs), as mandated by the 2030 Agenda for Sustainable Development (para. 79). These reports are the basis for the annual review in the High-level Political Forum on Sustainable Development. Every year, about 30 to 40 countries submit reports and make short presentations to facilitate mutual learning. The contents are summarized in an annual synthesis report prepared by the United Nations Department of Economic and Social Affairs. As of 2023, 189 member states had submitted at least one Voluntary National Review and many countries submitted two or more. The United States and Myanmar were among the few countries which had not participated in this reporting exercise (United Nations Department of Economic and Social Affairs 2023).

The Voluntary National Reviews have no fixed format, although various guidelines and suggestions on preparing and organizing the reports have been recommended by the United Nations Secretary-General and others (Committee on Development Policy 2023). In practice, Voluntary National Reviews' formats and scope of coverage have varied widely, for example, their length and which SDGs and cross-cutting topics were covered (De Oliveira 2022; Elder and Newman 2023). The preparation process of a Voluntary National Review varies among countries, including stakeholder engagement procedures; multi-stakeholder participation is recommended and 83% of Voluntary National Reviews in 2021 included information on this (De Oliveira 2022).

Generally, countries report their progress on the SDGs and related topics. Common topics include efforts and challenges in implementing the SDGs, institutional processes for implementing the SDGs, implementation policies, integrated approaches to implementation, stakeholder engagement, the process for developing the review, involvement in international cooperation and themes such as 'leave no one behind' (De Oliveira 2022).

At the subnational level, many local governments have developed Voluntary Local Reviews (Ortiz-Moya and Reggiani 2023). These are generally not well-coordinated with national Voluntary National Reviews. While some have been presented at side events of the High-level Political Forum, national governments do not officially allow presentations of a Voluntary Local Review at the High-level Political Forum itself or recognize the contribution of Voluntary Local Reviews to the process.

The effectiveness of Voluntary National Reviews in promoting SDG implementation is mixed. The Committee on Development Policy, a subsidiary body of the United Nations Economic and Social Council advising it on SDG implementation, reviewed the Voluntary National Reviews from 2017–2021. It concluded that, on the one hand, Voluntary National Reviews are 'a valuable tool of review and follow-up [and] have contributed to the integration of the SDGs in national development plans, the broad embrace of the 2030 Agenda commitments and mobilized many initiatives' (Committee on Development Policy 2023, 9). On the other hand, despite steady improvement, currently the 'Voluntary National Reviews do not provide adequate substantive content […] for mutual learning

and to foster transformative change' (Committee on Development Policy 2023, 9). Also, the Voluntary National Reviews

> are largely descriptive and lack analytical depth and policy focus, […] do not match the ambition of the agenda or its integrated concept [and] are systematically underreporting on the most transformative aspects of the agenda, including the means of implementation, inequality, environmental sustainability and structural constraints.
>
> (Committee on Development Policy 2023, 9)

The SDGs' sheer complexity could be one reason for this: with 169 targets and 232 indicators, many countries, especially from developing regions, may lack sufficient statistical and analytical capacity to comprehensively report their progress in implementing the SDGs. Fundamentally, Voluntary National Reviews are voluntary, limiting their ability to encourage more ambitious SDG implementation.

Recommended improvements to the process of Voluntary National Reviews include a clear focus on learning lessons; more attention to integrated approaches, human rights and respect for planetary limits; identification of key challenges; and more focus on transformation and means of implementation (Committee on Development Policy 2023). To make Voluntary National Reviews more effective, the scientific community and non-governmental organizations should also expand their monitoring. Currently, there is insufficient review of policies and implementation efforts even though Voluntary National Reviews discuss them extensively (Elder 2020; Elder and Newman 2023). Future assessments should examine policies and budgets more intensively, including assessing their effectiveness.

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Vulnerability

Sujoy Subroto

The notion of 'vulnerability' has garnered widespread attention in global policy discussions, and reducing vulnerability has become central to achieving the 17 Sustainable Development Goals (SDGs), particularly in areas such as climate action (SDG 13), no poverty (SDG 1), reduced inequalities (SDG 10), good health and well-being (SDG 3), zero hunger (SDG 2) and clean water and sanitation (SDG 6), sustainable cities and communities (SDG 11) and global disaster risk reduction.

The concept of vulnerability is still evolving, and scholars draw on different epistemological traditions to approach it theoretically and empirically (Hufschmidt 2011). Generally, vulnerability is understood as a function of exposure, sensitivity and adaptive capacity (Engle 2011). The Sendai Framework for Disaster Risk Reduction 2015–2030, which defines vulnerability as '[t]he conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards' (United Nations Office for Disaster Risk Reduction n.d.).

Some scholars argue that vulnerability should be analysed as a coupled social-ecological system (Berrouet et al. 2018; Turner et al. 2003). Here, the biophysical dimension is characterized by the frequency and severity of specific hazards, their outcomes and exposure, while outcomes and impacts are shaped by social preconditions, especially social structures, power relations and other intersecting factors (such as caste, gender, race, religion or ethnicity) that determine access and entitlements and shape adaptive capacity (Clay 2022). Different human vulnerability to environmental hazards and climate change thus results from a combination of spatial, social, economic, historical and political factors (Barnett 2020).

In a similar vein, critical scholars warn that this dominant discursive framing of vulnerability should not be taken for granted and should rather be approached with caution. Considering the disjuncture between policy ideals and practice, Barnett (2020), for example, argued that vulnerability is fundamentally a matter of political economy. Powerful actors and institutions that create vulnerability often devise market-based solutions or create politicized agendas under the regime of climate adaptation (Paprocki 2018) to inject their own interest and maintain their legitimacy and authority over decision-making at the expense of marginalized actors, who are most at risk. This can ignore their agency, amplify inequalities, perpetuate systemic exclusion and obscure the root cause and drivers that create vulnerability in the first place.

In sum, vulnerability can be understood as a specific condition or perceived experience that arises from the interplay of biophysical and social, political and economic factors and actors across scales and levels. This dynamic process mediates exposure and sensitivity and determines adaptive capacity, leading to differentiated outcomes, for example, in the event of disaster or hazard.

Given the interconnected nature of the SDGs, evolving dynamics of risks and the challenges of implementing actions, it is imperative to identify the overarching issues and unique vulnerability contexts of countries, communities, sectors and ecosystems. This approach can help prevent crises, enhance risk response, build adaptive capacity to cope with shocks and strengthen overall resilience. Addressing the multifaceted dimensions,

differentiated exposure and disproportionate outcomes of vulnerability requires amplifying the voices and agencies of affected communities and devising solutions that are based on their traditional knowledge, lived experiences and practices, which are all crucial for ensuring just social and climate transitions and achieving the SDGs.

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W

World Bank

Susan Park

The World Bank is one of the largest multilateral development finance lenders (Park 2022). It is also a knowledge broker to developing states for economic growth and meeting the Sustainable Development Goals (SDGs). More recently, the World Bank has burnished its green credentials through its activities in climate finance, including hosting the new Loss and Damage Fund under the Paris Agreement. The International Bank for Reconstruction and Development (known as the World Bank) lends approximately USD 20 billion per annum for development through its loans, technical assistance and guarantees to developing countries at or near market rates for projects and programmes. It works with other parts of the World Bank Group that provide low-interest grants and loans, private sector investment and political risk. Perennial debates have been as to whether a bank, that requires loan repayments, can be a development institution.

The World Bank is relatively autonomous from its member states, who sit on its Executive Board and who make general policy decisions for the World Bank and the International Monetary Fund at the annual and spring meetings. Bank management can shape the lending activity of its borrowers, which is determined by internal policy debates (Cormier and Manger 2021). Nevertheless, there are correlations between its largest contributor, the United States and loans to United States allies (Vreeland and Dreher 2014).

The World Bank has been at the forefront of debates over how to green development. It began in the 1970s with guidelines for environmental impact assessments and piecemeal policies for mitigating the environmental and social impact of development. By the early 1980s it would be embroiled in transnational activist campaigns documenting how its loans were contributing to deforestation, biodiversity loss and pushing people off their lands. From the 1980s to the 2000s, environmentalists would continue to push the World Bank to have environmental and social 'safeguard' policies for their projects, backed by increased transparency and accountability mechanisms.

The Inspection Panel provides project-affected people the right to recourse should they be harmed because of the World Bank not following its policies pertaining to deforestation, biodiversity and involuntary resettlement, for example. Imbodied in its environmental and social framework, there are now comprehensive policies to ensure sustainable development, including Free Prior and Informed Consent. Nevertheless, the World Bank has been criticized

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for its biodiversity public-private partnerships that struggle to meet their goals (Kramarz 2020). Campaigns by environmentalists and member states have also sought to ensure the World Bank does not lend for new fossil fuel projects, which have long been undertaken on the basis that energy is fundamental to poverty alleviation and economic growth.

The World Bank aims to achieve the SDGs mainly through its aspirations to end extreme poverty and boost shared prosperity. It seeks to do so through the provision of finance, data and helping borrowers implement the SDGs through country level uptake. In terms of SDG 13 on climate action, the World Bank only agreed to align its lending to the Paris Agreement in 2019 (Volcovici et al. 2021). As a financier, the World Bank is both a creator and governor of climate finance markets. By 2010, it was managing one-sixth of the carbon finance market (Alberola and Stephen 2010). Scholars have noted that climate finance tends to follow the same power dynamics as development finance in terms of being donor-driven, which complicates the World Bank's country-owned policy approach.

There is also scepticism as to whether carbon markets contribute to reducing emissions. There are mixed views on the World Bank becoming the interim host and secretariat for the impending UNFCCC Loss and Damage Fund. It will be a financial intermediary fund with an independent board housed in the World Bank. Yet, the World Bank was the interim secretariat for the Global Environment Facility and is now one of its executing agencies. Both the Loss and Damage Fund and the Global Environment Facility provide more financing for communities to tackle climate change, while the World Bank provides a range of support for implementing the SDGs.

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World Commission on Environment and Development (WCED)

Valentina Brogna

Sustainable development is known as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. We owe such a definition to the report Our Common Future, published by the World Commission

on Environment and Development (WCED) in 1987. The WCED, also called 'Brundtland Commission' from the name of its chair Gro Harlem Brundtland (at the time Norwegian Prime Minister) (Brundtland 2005), was a catalyst for sustainable development to be subsequently transposed into policy commitments, agendas and objectives (Borowy 2014).

This special commission was established in December 1983 by the United Nations General Assembly, owing to disappointing results of the United Nations Environment Programme (UNEP). Indeed, UNEP had assessed the impact of its environmental policy activities and found that, particularly, state implementation had lagged (Nohl 2024). Therefore, the purpose of the WCED would be 'to propose long-term environmental strategies for achieving sustainable development by the year 2000 and beyond' (United Nations General Assembly 1983) as foundation for UNEP environmental perspective for 2000 (Reiser 2023).

The creation of the WCED saw opposing interests. The United States and the United Kingdom feared that the WCED would propose too strict recommendations against economic growth and the Soviet Union tried to stop its creation (Manulak 2022). UNEP also tried to control the process. At the same time, North-South politics played out in disagreements over the geographical composition, the role of the secretariat and the respective responsibilities of its chair and vice-chair (Manulak 2022). In the end, 23 independent commissioners composed the WCED – 12 from the Global South, 7 from the Global North and 4 from Communist states (Borowy 2021) – with a strong secretariat. Brundtland got political control, with support from financing countries (Manulak 2022).

The WCED aimed at a substantial agenda for change: an environmental agenda alternative to the standard one that focuses on pollution and resource management. Such an agenda would switch the focus from environment to development, allowing for a nexus between the two. The outcome report contained many social issues in a tripartite understanding of sustainable development (economic, social and environmental dimensions) (Borowy 2021). It balanced three main views about environment *and* development: systemic (natural resources are limited), liberal (economic growth can combat poverty and pollution) and structural (developing countries' economic growth can support environmental protection). In so doing, it showed a pro-growth bias (Borowy 2021). The WCED supported an increase of aid to developing countries, but it led to fears of 'green conditionalities' and adjustment of trade preferences in their favour (Manulak 2022, 146–150). It also foresaw sustainable development mainstreaming into the overall United Nations system.

From 1984 to 1987, the WCED held 9 meetings and 8 site visits in different countries, commissioned 75 studies and received hundreds of reports (Manulak 2022; Nohl 2024). Its working process was long – comprising discussion of studies and controversial topics during meetings, with experts and public hearings, text revision, further discussions – but it led to a dense report, 'Our Common Future'. The diversity of commissioners' worldviews (Borowy 2021) meant strong contrasts in negotiations around several considerations: balancing environment and economy; North and South interests; intergenerational justice; scientific evidence and political feasibility (Borowy 2014). Yet it also gave an example of global deliberation on potentially irreducible sustainability issues. The legacy of the Brundtland Report is perceivable today in global governance through the concept of sustainable development.

Despite significant challenges since its inception, which materialized a North-South divide around environmental protection and developmental concerns, the WCED had a foundational role in bridging the two concepts. It problematized their link and defined sustainable development, which today has its full place in global governance with the 2030 Agenda for Sustainable Development.

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World Health Organization (WHO)

Cornelia Ulbert

The World Health Organization (WHO) was founded in 1948 as a specialized agency of the United Nations to achieve the 'enjoyment of the highest attainable standard of health' (WHO 2020, 1) worldwide. For about 50 years since its establishment, economic development was seen as a prerequisite for a better state of health (Dagron and Hasselgård-Rowe 2023). Only from the early 2000s onwards, WHO explicitly acknowledged that good health was a means to further economic development.

Health is one of the central goals of the 2030 Agenda, with Sustainable Development Goal (SDG) 3 focusing on ensuring healthy lives and promoting well-being for all at all ages. Thematically and normatively, achieving universal health coverage is the most prominent SDG 3 target (3.8), ensuring social justice and uniting health policies under a single framework. With its focus on the underlying determinants of health shaped by political, economic and social factors, SDG 3 is a good example of the complex interlinkages between the SDGs. This is also reflected by the concept of global health governance, which acknowledges that in a globalized world, coping with health risks and the capacity to influence health determinants, do not rest with states and international organizations alone, but depend on the collective efforts of governments, international organizations, civil society and private actors like businesses and philanthropic foundations (Frenk and Moon 2013).

Therefore, WHO has broadened its reach beyond its traditional constituency of member states. To ease civil society's concerns about the undue influence of corporate actors and private foundations on WHO's work, the organization adopted a 'Framework of Engagement with Non-State Actors' in 2016. Since then, it has continuously developed its regulatory framework for engaging with the various types of non-state actors seeking to influence and work with WHO (WHO 2018).

Already for implementing the Millennium Development Goals, WHO used the instrument of partnerships, which has developed into a norm for governing the implementation of the SDGs (Sondermann and Ulbert 2021). Over more than two decades, WHO has promoted and hosted many formal global health partnerships and has been managing many networks. One partnership explicitly dedicated to furthering the attainment of SDG 3 is the Global Action Plan for Healthy Lives and Well-Being for All, a collaborative platform of 13 agencies working in health, development and humanitarian response led by WHO. The Global Action Plan for Healthy Lives and Well-Being for All resumed its work in 2019 to accelerate country progress on the health-related SDG targets. However, due to the negative impact of the COVID-19 pandemic, after five years, the overall record of the partnership is still somewhat mixed (WHO 2023).

Consequently, in reaction to the outbreak of the COVID-19 pandemic, WHO started to promote the concept of 'One Health'. It is defined as an 'integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems' (One Health High-Level Expert Panel 2023, 4). In 2021, WHO, the Food and Agriculture Organization, the World Organization for Animal Health and the United Nations Environment Programme (calling themselves 'Quadripartite') founded the One Health Initiative. This initiative is supported by a 'One Health High-level Expert Panel' and is based on a rapidly extending One Health community of researchers and practitioners. In contrast to the Global Action Plan for Healthy Lives and Well-Being for All, the One Health Initiative explicitly addresses 9 out of the 17 SDGs.

The One Health Initiative is the culmination point of the WHO's learning experience in implementing the SDGs. It reflects core insights of research on the SDGs: transforming Global Health Governance must be based on a coherent concept, respecting planetary integrity, acknowledging interlinkages and including different communities to be able to implement the goals on multiple levels. It remains to be seen if concepts like 'One Health' will contribute to breaking up the silos of thematically isolated problem-solving approaches. However, since a major part of WHO's funding depends on voluntary contributions, like with many international organizations, its impact on achieving the SDGs is considerably restrained by a lack of financial means, which has been aggravated by the withdrawal of the United States by the Trump Administration announced in January 2025.

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World Summit on Sustainable Development (2002)

Loïc Cobut

The World Summit on Sustainable Development (WSSD) was held in Johannesburg, South Africa, between 26 August and 4 September 2002. It took place ten years after the Earth Summit and aimed to reaffirm the will of states to commit to sustainable development (United Nations 2002). The decade preceding the WSSD was marked by particular attention to integrating development and environmental concerns, rather than addressing them separately (Morin et al. 2020). This has been concretized by the eight Millennium Development Goals (MDGs), adopted in 2000 at the United Nations General Assembly, which aimed to halve extreme poverty as well as to ensure environmental sustainability.

The main outcome from the WSSD is the promotion of public-private partnerships. These partnerships may be defined as 'institutionalized transboundary interactions between public and private actors, which aim at the provision of collective goods' (Schäferhoff et al. 2009, 455). In the United Nations system, these partnerships are referred to as Type II agreements to distinguish them from the politically negotiated agreements, regarded as the primary outcome of the summit (Hale and Mauzerall 2004). Type II agreements represent various activities such as advocacy, exchange of knowledge, research and development or the creation of markets.

On the one hand, these partnerships mark an evolution in global environmental governance as they embody a governance system where non-state actors create new types of collaboration in a system commonly seen as being under strict state control. On the other hand, it is notable that only a few of these partnerships concerned environmental protection, as most of them pertain to issues of social and economic development (Morin et al. 2020).

The outcome of the WSSD received some criticism. Critics questioned how public-private partnerships help reach the goal of sustainable development. Biermann et al. (2007) identified three governance deficits that had to be addressed at the time of the WSSD: participation, implementation and regulatory deficits. These partnerships were seen as a tool to enhance the participation of various actors, such as non-governmental organizations (NGOs), businesses and vulnerable groups, in implementing effective sustainable development policies. However, the two objectives, broad participation and effective policy implementation, did not evolve together as anticipated. Furthermore, the partnership system failed to address the regulatory gap, as it focused on voluntary collaborations that were not intended to close the participation or implementation gaps. These three objectives ultimately contradicted each other, resulting in governance deficits

(Biermann et al. 2007). A second criticism underlines that the promotion of public-private partnerships reflected the political strategy of the business sector to stabilize its hegemony and design a governance system inclusive of corporate interests (Schäferhoff et al. 2009). Another criticism of the WSSD outcomes points out that it failed to address the coloniality of sustainable development strategies as well as the associated development industry (Ndlovu-Gatsheni 2020; Brogna 2023).

In conclusion, the WSSD sought to combine development and environmental concerns through public-private partnerships. However, those partnerships failed to successfully combine those two subjects as much as they failed to increase participation, prevent corporate capture and address the coloniality of sustainable development strategies. Nevertheless, it is noteworthy that the WSSD contributed to broadening global sustainability governance by widening participation opportunities for ordinary people (Seyfang 2003), and such legacy was reflected in the negotiation process of the Sustainable Development Goals (SDGs) after a decade.

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World Trade Organization (WTO)

Noémie Laurens

International trade has the ambiguous potential to foster and hamper the achievement of the Sustainable Development Goals (SDGs). On the one hand, it allows countries to access larger markets, thus boosting production and creating jobs. The resulting economic growth may fund infrastructure projects, enhance education and healthcare services and improve living standards. It may also stimulate innovation and the diffusion of

environmentally friendly technologies. On the other hand, trade may lead to negative outcomes, such as environmental degradation, increased pollution and lower employment in some sectors. Additionally, free trade can exacerbate inequalities within and between countries, as its benefits are not always evenly distributed.

The World Trade Organization (WTO), established in 1995, plays a central role in global trade, facilitating negotiations, settling disputes and overseeing the implementation of trade agreements among its member countries. With the advent of the SDGs in 2015, there has been an increasing emphasis on aligning global trade practices with social, economic and environmental objectives.

One prominent example of the WTO's contribution to the SDGs is its efforts to curb harmful subsidies. In 2015, the Nairobi Decision eliminated export subsidies in agriculture (SDG Target 2.b). This decision prevents advanced economies from artificially boosting their agricultural exports through subsidies, thereby levelling the playing field for farmers in poor countries. Moreover, after 20 years of discussions, WTO members adopted the landmark 2022 Agreement on Fisheries Subsidies (SDG Target 14.6). The latter prohibits certain subsidies that encourage unsustainable and illegal fishing practices. Another notable area where the WTO contributes to the achievement of SDGs is its various development-friendly policies. For instance, the Aid-for-Trade programme supports developing countries, particularly least-developed countries, in integrating into the global economy. Aid-for-Trade projects support all SDGs, with SDGs 9, 7 and 2 attracting the most disbursements (World Trade Organization and Organisation for Economic Cooperation and Development 2024, 104). In line with SDG Target 8.a, which calls donors to increase Aid for Trade, disbursements reached an all-time high of USD 51.1 billion in 2022.

Despite these laudable accomplishments, the WTO's implementation of the SDGs shows important shortcomings. First, the WTO's primary focus on free trade may overshadow sustainability objectives. For instance, WTO rules may discourage countries from implementing stringent social and environmental regulations to avoid potential trade disputes (Eckersley 2004). Some scholars even argue that encouraging economic growth is incompatible with environmental SDGs (Hickel 2019). Second, despite Aid-for-Trade and so-called special and differential treatment (SDG Target 10.a), there are still significant gaps in addressing the needs of the most vulnerable countries. Contrary to SDG 17, between 2015 and 2019, there was no change in the level of tariffs faced by least-developed countries' products in developed regions, and the share of duty-free least-developed countries' products decreased by 1.4% (WTO 2021). Third, the WTO's consensus-based decision-making often results in lengthy negotiations and delays in launching crucial reforms (Hoekman and Mavroidis 2021). This may lead to prioritizing the interests of the most powerful countries and impede the timely achievement of the SDGs, particularly those requiring immediate action, such as SDG 13 (climate action). This is most notable in the difficult talks around the Doha negotiations: the fossil fuel subsidy reform and the liberalization of environmental goods have been on the WTO's and its Trade and Environment Committee's agendas for years (Deere Birbeck 2019).

In summary, through its various initiatives and agreements, the WTO holds the potential to support multiple SDGs. However, the organization faces numerous challenges, including criticisms of prioritizing trade liberalization at the expense of sustainability, a cumbersome decision-making process, an overall lack of binding sustainability commitments and a significantly weakened dispute settlement mechanism. Addressing these issues is essential for the WTO to ensure that trade acts as a catalyst for achieving the SDGs.

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Y

Youth

Yi hyun Kang

Youth is a flexible term with varying definitions by country and organization. The United Nations (UN) defines youth as persons between 15 and 24, but many global youth platforms have different membership criteria, up to 30 or 35 years of age.

Youth have been considered vital actors for sustainable development since the United Nations Conference on the Human Environment in 1972. More formal recognition of the importance of youth was realized at the 1992 Earth Summit when Agenda 21 listed children and youth as one of the nine major groups, acknowledging the need to mobilize the creativity, ideals and courage of youth for sustainable development (United Nations 1992). Subsequently, the Major Group of Children and Youth was established as an independent mechanism for youth participation in sustainable development. With more than 8,000 members worldwide that consist of youth-focused organizations and individuals under 30, the Major Group of Children and Youth seeks to foster participation in the United Nations processes beyond sustainable development.

As the world faces climate change, biodiversity loss and pollution, young people are becoming more vocal, urging everybody to act for environmental protection. While youth-led climate movements have received heightened attention since the late 2010s, youth have already been active in international environmental negotiations, and the number of youth participants has steadily increased over the last three decades since the Earth Summit (Orsini and Kang 2023). The forms of youth participation in international negotiations vary. While most youth attend as non-governmental observers, more and more countries send national youth delegates. Additionally, the United Nations General Assembly agreed to establish the United Nations Youth Office in 2022, aiming to facilitate the integration of youth voices in the United Nations system.

The growing number of youth participants in global sustainability politics and the institutionalization of their engagement by states and UN agencies are widely seen as a positive experience of participatory governance. However, whether such phenomena are leading to meaningful youth participation remains questionable. For example, although youth representatives were active during the negotiations on the 2030 Agenda for Sustainable Development, the final text hardly incorporated youth claims (Orsini 2022). Youth participants in climate and biodiversity negotiations also point out that they are

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increasingly invited to participate on many occasions, but they doubt that their voices are reflected in the outcomes of decision-making processes. Such behaviour of non-youth actors has been criticized as 'youth-washing' or tokenism (Sloan Morgan et al. 2023).

Financial constraints are another critical factor that challenges the more meaningful participation of young people in sustainable development governance. Global youth platforms such as the Major Group of Children and Youth are run by volunteers who do not receive remuneration (Marquardt et al. 2023). Most UN youth delegate programmes continuously experience budgetary limitations (Future Agents NOW 2023). The lack of resources can make youth participation dependent on a few resourceful individuals, undermine the legitimacy of youth participation or even make youth vulnerable to co-optation. Furthermore, it causes high turnover and fatigue among active members of youth platforms.

Although many conditions are unfavourable, youth have made efforts to engage in and contribute to sustainable development. Youth representatives actively form alliances with other actors, such as women and indigenous groups. All global youth platforms have promoted capacity-building by organizing their own events and facilitating youth-led action at multiple governance levels. Such efforts have strengthened the effectiveness of youth participation in global sustainability governance over time.

In addition, youth can help accelerate the implementation of the Sustainable Development Goals. For example, youth-led environmental movements have changed the political landscape, as we saw in the results of the 2019 European elections held after the Fridays for Future movement emerged. Also, youth-led initiatives at national and subnational levels have contributed to implementing the SDGs such as gender equality (for example, Choonara et al. 2018). To maximize the potential of youth's contribution, it would be necessary to recognize youth as agents of change and promote their meaningful participation at all levels of sustainable development governance.

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Annex

The 17 Sustainable Development Goals

Goal 1. End poverty in all its forms everywhere

1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day.

1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.

1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.

1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions.

1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under five years of age and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.

2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.

2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.

Goal 3. Ensure healthy lives and promote well-being for all at all ages

3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.

3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.

3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

3.4 By 2030, reduce by one-third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.

3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents.

3.7 By 2030, ensure universal access to sexual and reproductive healthcare services, including for family planning, information and education and the integration of reproductive health into national strategies and programmes.

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate.

3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health and, in particular, provide access to medicines for all.

3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.

3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.

4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.

4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.

Goal 5. Achieve gender equality and empower all women and girls

5.1 End all forms of discrimination against all women and girls everywhere.

5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.

5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation.

5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.

5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences.

5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.

5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.

5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.

Goal 6. Ensure availability and sustainable management of water and sanitation for all

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

6.b Support and strengthen the participation of local communities in improving water and sanitation management.

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.

7.3 By 2030, double the global rate of improvement in energy efficiency.

7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil fuel technology and promote investment in energy infrastructure and clean energy technology.

7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support.

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7% gross domestic product growth per annum in the least developed countries.

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value-added and labour-intensive sectors.

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the ten-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.

8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities and equal pay for work of equal value.

8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training.

8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.

8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants and those in precarious employment.

8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.

8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.

8.a Increase Aid-for-Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries.

8.b By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization.

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

9.2 Promote inclusive and sustainable industrialization, and by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances and double its share in least developed countries.

9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit and their integration into value chains and markets.

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.

9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.

9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.

9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.

Goal 10. Reduce inequality within and among countries

10.1 By 2030, progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average.

10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.

10.4 Adopt policies, especially fiscal, wage and social protection policies and progressively achieve greater equality.

10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations.

10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions.

10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.

10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements.

10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes.

10.c By 2030, reduce to less than 3% the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5%.

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage.

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.

11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.

11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels.

11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.

Goal 12. Ensure sustainable consumption and production patterns

12.1 Implement the ten-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.

12.2 By 2030, achieve the sustainable management and efficient use of natural resources.

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.

12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.

12.c Rationalize inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.

Goal 13. Take urgent action to combat climate change and its impacts*

13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

13.2 Integrate climate change measures into national policies, strategies and planning.

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.

13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience and taking action for their restoration in order to achieve healthy and productive oceans.

14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.

14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.

* Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.

14.5 By 2020, conserve at least 10% of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

14.6 By 2020, prohibit certain forms of fisheries subsidies that contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.

14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.

14.b Provide access for small-scale artisanal fishers to marine resources and markets.

14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.

15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods and strive to achieve a land degradation-neutral world.

15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.

15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.

15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.

15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.
15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.
15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.
15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.
15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

16.1 Significantly reduce all forms of violence and related death rates everywhere.
16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children.
16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all.
16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime.
16.5 Substantially reduce corruption and bribery in all their forms.
16.6 Develop effective, accountable and transparent institutions at all levels.
16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels.
16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance.
16.9 By 2030, provide legal identity for all, including birth registration.
16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.
16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime.
16.b Promote and enforce non-discriminatory laws and policies for sustainable development.

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

Finance

17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.

17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7% of ODA/GNI to developing countries and 0.15 to 0.20% of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20% of ODA/GNI to least developed countries.

17.3 Mobilize additional financial resources for developing countries from multiple sources.

17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate and address the external debt of highly indebted poor countries to reduce debt distress.

17.5 Adopt and implement investment promotion regimes for least developed countries

Technology

17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level and through a global technology facilitation mechanism.

17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed.

17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology.

Capacity-building

17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation.

Trade

17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda.

17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020.

17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple and contribute to facilitating market access.

Systemic issues

Policy and institutional coherence

17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence.
17.14 Enhance policy coherence for sustainable development.
17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development.

Multi-stakeholder partnerships

17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.
17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

Data, monitoring and accountability

17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.
17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product and support statistical capacity-building in developing countries.