

SUSTAINABLE DEVELOPMENT

A theory of change approach to enhance the post-2030 sustainable development agenda

A better approach is needed to assess potential impact and feasibility of proposals

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As the 2030 deadline for the Sustainable Development Goals (SDGs) nears and progress remains limited, researchers are proposing measures to enhance the next, post-2030, agenda to improve implementation (1-3). With more proposals expected in future, we argue for a systematic approach to help researchers and policymakers design and assess them. This requires a theory of change that explains how and why proposals will improve implementation of the next agenda, while also considering their political feasibility. We start by constructing an implicit theory of change underpinning the current 2030 Agenda to revisit how the SDGs were intended to work and identify key successes and failures. We then propose an approach for assessing proposals put forward to improve the post-2030 agenda based on their impact and feasibility.

The adoption of the 2030 Agenda and the SDGs in 2015 as a global roadmap for ending poverty, reducing inequalities, and protecting the environment was a landmark achievement. The SDGs have since met with some success as many countries and cities have localized the goals, are monitoring and reporting progress, and are steadily working towards their achievement. Many businesses have aligned with the SDGs and civil society organizations have endorsed them. Global frameworks like the SDGs can also provide legitimacy, shared expectations and a common language, support coordination, learning and comparison across contexts, and encourage resource allocation and action needed from all countries to address challenges of a global nature.

Ten years on, however, there is little contention that the SDGs have not worked as well as intended in driving change. For example, the goals have not substantially altered institutions, policies, or resource flows (4) and less than 20% of targets are on track for achievement by 2030 (5). There are considerable mitigating factors (e.g., COVID-19, global violent conflicts), however these alone cannot explain the limited progress.

The research community is well-placed to critically reflect on what has and hasn’t worked with the current Agenda and offer proposals that could improve the design of any post-2030 framework. As was the case with the design of the SDGs, proposals for the post-2030 agenda can inform upcoming government-led negotiations on the post-2030 framework which are expected to commence from 2027. While acknowledging the shortcomings of the current SDGs, pragmatic proposals have been made by researchers to extend the timeframe of the SDGs (e.g. to 2045 or 2050) (1) along with various options to strengthen the post-2030 framework to improve implementation. This is warranted given the influential role of science in shaping the SDGs (6, 7) and the much stronger evidence base now available on the transformations needed to achieve them (8). Recent proposals include measures that could be incorporated into a post-2030 framework to better align financing from development banks and multilateral funds with any future goals (1, 2), strengthen global governance and accountability (e.g., a UN Sustainable Development Commission) (2), elevate the role of cities and business (3), expand national policies and institutions (e.g., national

committees, missions, and acceleration plans) (1), or formulate new targets for emerging issues (e.g. artificial intelligence (AI), international spillovers, etc.) (1, 3).

With many more proposals to enhance or reform the post-2030 framework expected in the coming years, an emerging challenge for policy makers, negotiators, and the research community will be to identify those proposals that have the greatest potential to improve implementation. This requires a clear diagnosis of specifically how each proposal would accelerate progress towards sustainable development – in other words, an explicit ‘theory of change’ explaining how it will work and why it will be effective in overcoming barriers that have hampered progress to date.

Furthermore, we must also recognize that proposals will require political consensus for adoption in any future framework. Unanimous adoption of the SDGs in 2015 was partly because they were not policy prescriptive. Proposals that are too specific are more prone to disagreement, often deemed as unrealistic, costly, and politically undesirable. The political context today is even more challenging, being shaped by polarization within and between nation states, rising authoritarianism, worsening inequality and environmental crises, the rise of misinformation, and worsening geopolitical conflicts. These factors will influence whether different proposals are politically feasible at any point in time.

We therefore argue that a systematic approach is needed to assist with designing and assessing the impact and feasibility of proposals for enhancing the post-2030 agenda. Such an approach needs to be grounded in a clear and effective theory of change that explains how and why proposals will accelerate implementation in a post-2030 framework. To develop any theory of change to underpin the post-2030 agenda, we need to return to the foundational assumptions of the 2030 Agenda regarding how the SDGs were intended to work and explore where and why implementation has succeeded or is falling short.

DEVISING AND APPLYING A THEORY OF CHANGE

There have been many critiques of the SDGs over the past decade which have identified a plethora of shortcomings and recommendations to improve the goals and their implementation. These have generally glossed over a more fundamental issue - that the SDGs were based on flawed or deficient assumptions of how goal-setting would drive action and lacked a clear theory of change (9). However, we argue that it is possible to deduce an implicit theory of change in the 2030 Agenda, expressed in references to how the SDGs were to be implemented to steer transformations. Through content analysis of the 2030 Agenda, we identified these specific references or ‘assumptions’ on how the Agenda was intended to be implemented and grouped them into four main topics: (i) Global goal setting and transformation; (ii) Actors and localization; (iii) Review; and (iv) Means of implementation (see supplementary materials and Table S1). We then mapped these assumptions to develop a framework of the change process envisaged in the 2030 Agenda – what we refer to as an ‘implicit theory of change’ (see the figure).

A central assumption identified from the 2030 Agenda is that the global adoption of the SDGs will lead countries to set national targets and incorporate them into national strategies supported by financing frameworks. This will mobilize actors and resources to achieve the

SDGs and thus transform our world. National monitoring and review processes ensure that strategies are informed by data and evidence and adapted over time. Global review via the UN High-Level Political Forum (HLPF) promotes transparency and accountability. Good governance and means of implementation such as capacity-building, policy coherence, finance, trade, and technological innovation support these processes (see Table S1).

The framework in the figure presents key assumptions as interconnected elements which we then used to systematically diagnose some of the successes and shortcomings of SDGs implementation to date and to clarify how the goals were intended to drive change. While the framework is limited to assumptions from the 2030 Agenda, it demonstrates how the clearer articulation of a theory of change supports initial diagnosis of implementation failures and potential bottlenecks where progress has stalled. It also provides a starting point and opportunity for developing an explicit and more effective theory of change for a post-2030 framework that identifies opportunities to accelerate progress towards sustainable development.

Starting with the adoption of the goals, the central process involves localization of the SDGs and subsequent mobilization of resources and actors to achieve the goals and transform the world. Two additional streams support the central process by providing means of implementation and data and review feedback to guide implementation and increase accountability. Progress in upstream elements intuitively supports downstream elements.

The SDGs have had some notable successes (12, 13). The goals are legitimate and universally adopted by all countries, establish an agreed global definition and direction for sustainable development and are an innovative approach of governing by goals (Figure 1, '1+'). Some countries have localised the SDGs targets into national strategies and made institutional adjustments to coordinate implementation (e.g., Indonesia, Colombia, Finland, Nepal, and Egypt) ('2+'). Governments have consulted widely with stakeholders in localising and implementing the SDGs ('3+'), including through the Voluntary National Reviews (VNRs) which almost all countries have submitted ('4+'). Voluntary Local Reviews (VLRs) have also gained traction, signalling ownership among local actors. There is a robust indicator framework and data available for monitoring ('4+'), and capacity building has improved national statistical capabilities ('5+'). There has also been increased attention to the integrated nature of the SDGs and their interactions as well as policy coordination and coherence ('6+').

However, implementation has also experienced many shortcomings (4, 14). The broad and complex framework of targets has proven difficult to operationalize and has missing elements (e.g. AI, culture, international spillovers) (Figure 1, '1-'). Due to limited national leadership from heads of state and central ministries, some countries are yet to set national targets or develop strategies (e.g., Australia, USA, UK) and some have dismantled earlier efforts (e.g., Sweden, Argentina) ('2-'). Where strategies have been developed by many countries they have not sufficiently mobilized actors, partly because the 2030 Agenda lacks incentives for actors beyond government to engage in implementation (including those likely to resist SDGs policies) ('3-'). There is no obligation for governments to review progress, and VNRs have been superficial and lacked validation ('4-'). At the global level, the HLPF was designed as a peer exchange mechanism and has been unable to hold governments or others accountable for implementation ('5-'). Increased supply of evidence hasn't immediately translated into better decisions as this also requires capacities to utilize evidence in policy processes shaped by political realities and interests ('6-'). Government strategies have lacked prioritization and systematic assessment of the transformations needed to achieve the goals along with implementation barriers and options to overcome them ('7-').

Strategies have not created an effective enabling environment to mobilize actors and resources, and there is a lack of global agreement on finance, technology, and capacity provisions ('8-'). Insufficient attention has been given to the governance settings for transformations in diverse political systems ('9-') as well as the 'what' and 'how' of systems transformations to achieve the SDGs ('10-').

Examining the implicit theory of change in the figure highlights some key areas where fundamental assumptions underpinning the 2030 Agenda have succeeded or failed to hold based on the experience of the past decade. A key bottleneck relates to the central assumptions regarding implementation and mobilization of action by all actors and available resources which ultimately leads to transformation. While the adoption of national strategies and the global partnership are assumed to drive these processes, this has not occurred in practice. There are few specifics in the 2030 Agenda on key national transformations, the necessary types and sequencing of policy, finance, capacities and technologies, nor the governance settings needed to navigate transformational processes. Further, the assumption that transformation occurs as a final step in the change process only after the achievement of the SDGs runs contrary to the research literature (8, 11), which underscores that transformations are needed before the goals can be achieved.

The negotiation of the post-2030 agenda provides an opportunity to develop an improved theory of change which unpacks this 'black box' of implementation and transformation. This would benefit from an improved understanding of how goal setting can incentivize implementation by key actors and drive the transformations needed to achieve the SDGs. It would also need to provide greater clarity on implementation requirements, including by identifying common barriers and constraints to the transformations and explain how they will be overcome and by which actors. The implicit theory of change presented in the figure provides a useful starting point for such an endeavour.

AN APPROACH FOR ASSESSING PROPOSALS

Taking a theory of change approach has considerable practical benefits for designing and assessing the impact of proposals for the post-2030 agenda. Firstly, it demonstrates that proposals offering 'more of the same' are unlikely to be impactful in improving progress towards the SDGs. For example, proposals for new goals and targets are likely to face the same implementation challenges experienced with the current framework. They would also further increase the scope and complexity of the SDGs which have been criticized as too complex to operationalize.

Clarifying the theory of change offers a way to more clearly explain and assess the logic behind proposals that seek to improve implementation of sustainable development in a post-2030 framework. For example, proposals for improving global governance by replacing the HLPF with a more authoritative body (e.g. a UN Sustainable Development Commission) could increase accountability of countries to the UN which may encourage improved implementation by national governments. However, it would not necessarily incentivize implementation by other actors (e.g. businesses, consumers, intermediaries, etc.) who play a crucial role in transformations. Alternatively, proposals to better align financing from multilateral development banks with the SDGs or for greater integration of the SDGs with existing UN conventions and funds (e.g. the UNFCCC and Green Climate Fund) could provide financial resources to developing countries to implement their development strategies. However, additional financing from these sources may prove marginal compared to what is needed to achieve the SDGs, and such proposals do not address the fundamental redirection of financial flows from unsustainable towards sustainable development as required for

transformations. As such, while different proposals will have merit in addressing implementation challenges, it remains less clear how and why they will improve implementation in a way that accelerates transformations and progress towards the SDGs. Taking a theory of change approach helps to explain this logic and assess the comparative and combined impact of different proposals.

In addition to their impact, another important factor to consider when assessing different proposals for the post-2030 framework is their political feasibility. This is particularly important given that the post-2030 negotiations will take place in a more volatile and fragmented political landscape compared to when the SDGs were adopted. For example, proposals to open negotiations on new goals and targets are likely to result in political disagreements and risk backsliding on hard-won SDGs in the existing framework. Proposals to change the UN architecture to promote accountability are also likely to face considerable political hurdles in an era of declining multilateralism and nation state resistance to increased UN oversight. Proposals to better align existing UN agreements and multilateral financing with the SDGs would appear to face fewer political hurdles, but their impact may be limited.

With many more proposals for the post-2030 agenda anticipated over the coming years, this dual assessment of impact and feasibility provides an intuitive approach based on a theory of change to both design and assess proposals. This dual assessment could help identify and prioritize proposals that are more likely to be reasonably impactful and feasible, and avoid those that are less feasible and likely to have less impact. Assessing the impact of proposals can be done by reviewing their relationship with the theory of change and explaining how and why they will improve implementation, the actors involved, the barriers they face, and how these will be overcome. As this will depend on the validity of fundamental assumptions regarding the change process, it will be important to advance on our implicit theory of change. Here, the research community can play a key role by drawing on learnings from SDGs implementation and critical reflection and revision of underlying assumptions. Assessing the political feasibility of proposals can be done by considering factors such as cost, degree of policy prescription, and whether they have political buy-in (e.g. from key negotiating blocs such as the European Union, the “Group of 77” countries at the UN and China, African Group, etc.), noting that the political landscape is dynamic and can change rapidly. As such, the feasibility of proposals may increase or decrease over time as we move towards 2030. The approach should therefore remain adaptive to new learnings as they emerge from research and as the political landscape evolves.

Negotiations on the post-2030 agenda are set to commence in 2027 and provide an opportunity for proposals from the scientific community to design a more effective framework to improve implementation in a post-2030 context. With proposals already emerging and many more expected in coming years, the theory of change approach outlined in this paper provides a way to clearly explain and assess how and why different proposals will improve implementation while also considering their political feasibility. However, given the shortcomings in the foundational assumptions of the 2030 Agenda, we argue that an explicit and more robust theory of change should be developed to underpin the post-2030 global sustainable development agenda. The research community is well-placed to assist with this task. We acknowledge that a more robust theory of change will not solve all granular implementation challenges. However, it would provide a more solid foundation upon which societal actors can drive implementation on the ground.

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10.1126/science.adz5704

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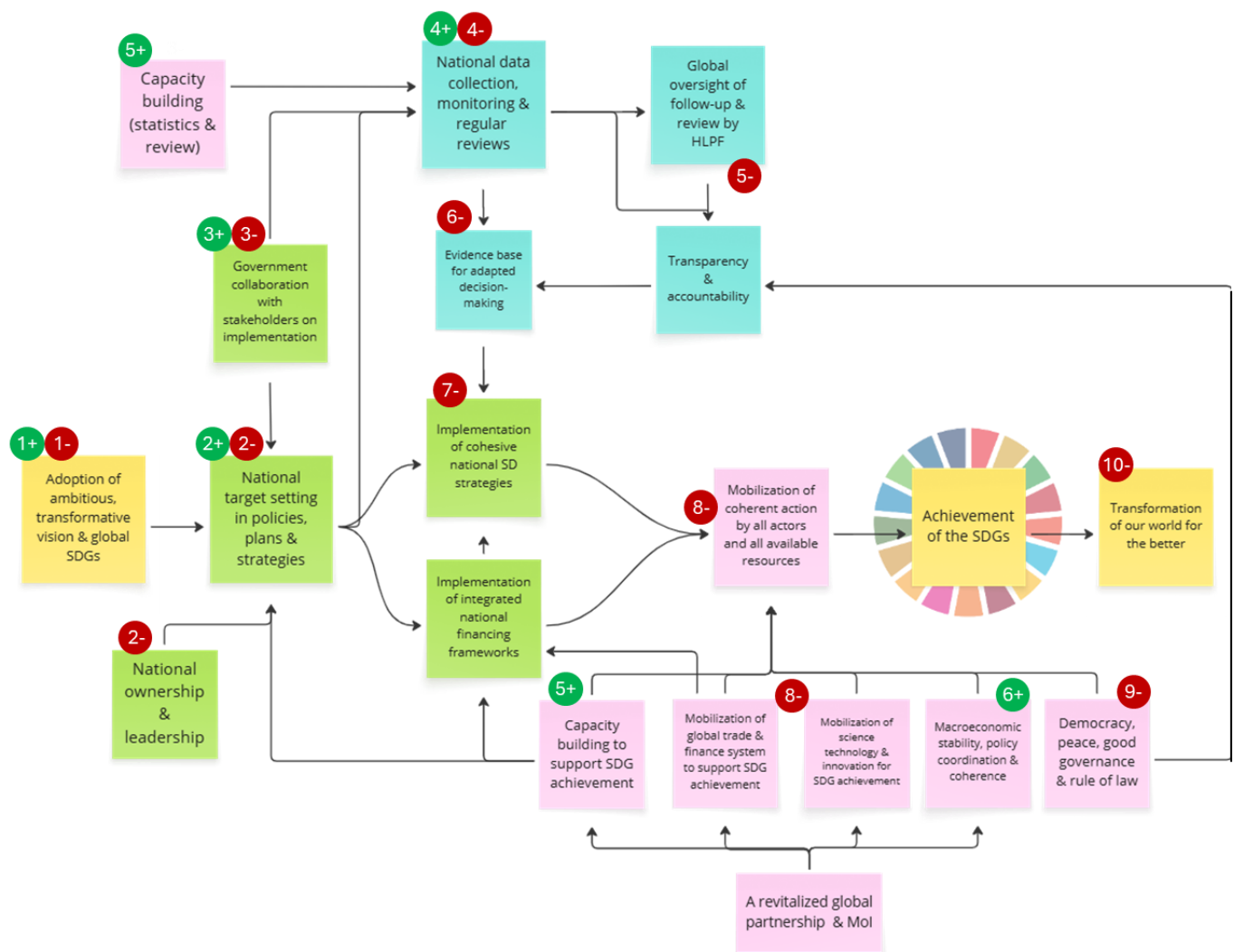


Figure. Implicit 'Theory of Change'. Framework of assumptions regarding the change process envisaged in the 2030 Agenda in relation to 1. Global goal setting and transformation (yellow); 2. Actors and localization (green); 3. Review (blue); and 4. Means of implementation (pink). Green numbers (with '+' symbol) denote successes and red numbers (with '-' symbol) denote shortcomings. Starting on the left with the adoption of the goals, the central process then involves national target setting and implementation and subsequent mobilization of resources and actors to achieve the goals and transform the world (right). Two additional streams support the central process by providing means of implementation (Mol) and data and review feedback to guide implementation and increase accountability. See main text for numbering of successes (green) and shortcomings (red).

Supplementary Information

Methods

Through inductive content analysis of the 2030 Agenda text [10], we extracted specific references on how the Agenda was intended to be implemented to lead to improved outcomes and iteratively coded and grouped them into categories (**Supplementary Table 1**). The coding and categorization process was completed by two authors for consistency and the codes, categories and outputs from the analysis were discussed among five authors in the research team. First, the text was read by the research team to gain familiarity and important sections of text or ‘assumptions’ relating to implementation were identified. These assumptions were coded based on different aspects of implementation emerging from the text and the codes were then compared and grouped iteratively into the four main categories: 1. Global goal setting and transformation; 2. Actors and localization; 3. Review; and 4. Means of implementation. Duplicative or repetitive references to implementation were also merged while retaining source references in the text (**Supplementary Table 1**).

Following the inductive content analysis, systems mapping methods were then used to map and link key assumptions together in a summary framework using the collaborative Miro software (Figure). The process began with the first category of assumptions and then moved sequentially through the remaining categories one-by-one. In each stage, the research team iteratively translated and positioned the assumptions on the diagram with connecting arrows representing a logical implementation sequence, whereby progress on upstream elements intuitively supports downstream elements. This iterative mapping process allowed the assumptions to be translated into a coherent and simplified visual representation, or what we refer to as an ‘implicit theory of change’.

The framework was then reviewed/discussed/validated in a participatory workshop with all of the co-authors which enabled input from a diverse researchers from developed and developing countries and who have been working for the past 10 years at the science-policy interface on SDGs research and implementation. The framework was first presented with a guided walkthrough of how the framework was developed. This started with a simplified version of the framework which included mapped assumptions from only the first category. The framework diagram was then expanded to sequentially incorporate assumptions from each of the remaining three categories. Participants were invited to reflect on whether the framework adequately captured important assumptions and intuitively represented relationships, and to suggest additions, clarifications, or refinements, with adjustments to the framework made in-plenary using the Miro software. Once the framework had been refined, participants were then invited to discuss in plenary and in breakout groups where specific assumptions have worked well or haven’t worked well (i.e. the successes/shortcomings identified in Figure). We call the framework an ‘implicit ToC’ from the 2030 Agenda – but the assumptions that underpin it are explicit and directly extracted from the text.

Supplementary Table 1. Assumptions expressed in the 2030 Agenda ^[10] regarding the theory of change

1. Global goal setting and transformation
<ul style="list-style-type: none">• The <i>2030 Agenda</i> and SDGs represent a supremely ambitious and transformational vision (<i>p3, para 7</i>) and the goals are universal and transformative (<i>p3, para 2</i>) and integrated and indivisible (<i>p1, Preamble; p3, para 5; p6, para 18; etc.</i>).• If we realize our ambitions across the full extent of the <i>Agenda</i>, our world will be transformed for the better (<i>p2, preamble</i>).• The SDGs will guide decisions (<i>p6, para 21</i>) and stimulate action over the next 15 years (<i>p1, Preamble</i>).
2. Actors and localization
<ul style="list-style-type: none">• Governments have primary responsibility for follow-up (<i>p11, para 47</i>) and countries commit to pursuing policy coherence and an enabling environment for sustainable development at all levels (<i>p28, para 63</i>).• The importance of national ownership and leadership is stressed (<i>p11, para 46</i>) and the role of national policies and development strategies cannot be overemphasised (<i>p28, para 63</i>).• Each government is responsible for setting its own national targets and will decide how targets should be incorporated into national planning processes, policies and strategies (<i>p13, para 55</i>).• Cohesive nationally owned sustainable development strategies, supported by integrated national financing frameworks, will be at the heart of our efforts (<i>p28, para 63</i>).• Governments and public institutions will work closely with regional and local authorities, subregional institutions, international institutions, academia, philanthropic organizations, volunteer groups and others (<i>p11, para 45</i>) and the private sector (<i>p28, para 60</i>).• Public policies and the mobilization and effective use of domestic resources are central to pursuing sustainable development (<i>p29, 66</i>).
3. Review
<ul style="list-style-type: none">• To support accountability to our citizens, we will provide for systematic follow-up and review (<i>p11, para 47</i>).• Governments have primary responsibility for follow-up and review at all levels (<i>p11, para 47</i>) while the high-level political forum (HLPF) will have the central role in overseeing follow-up and review at the global level (<i>p11, para 47</i>).• Countries will conduct regular and inclusive reviews of progress at national and sub-national levels with contributions from indigenous peoples, civil society, private sector and others (<i>p33, para 79</i>).• The goals and targets will be reviewed based on a global indicator framework and data produced by national statistical systems (<i>p34, para 83</i>).• Availability of quality, accessible, timely and reliable disaggregated data is key to decision-making (<i>p12, para 48</i>).• Follow-up and review processes will be voluntary and country-led, inclusive and participatory, rigorous and based on evidence and require capacity building (<i>p31-32, para 74a,d,g,h</i>).
4. Means of implementation
<ul style="list-style-type: none">• The goals won't be achieved without a revitalized and enhanced global partnership and comparably ambitious means of implementation (<i>p28, para 60</i>).• The global partnership will facilitate intensive global engagement in support of implementation of all the Goals and targets, bringing together Governments, the private sector, civil society, the UN system and other actors and mobilizing all available resources (<i>p10, para 39</i>).• Specific means of implementation are Finance/Technology/Capacity-building/Trade/Systemic Issues (policy and institutional coherence, multi-stakeholder partnerships, data, monitoring and accountability) (<i>p26-27, Goal 17</i>).• National development efforts need to be supported by an enabling international economic environment, including coherent and mutually supporting world trade, monetary and financial systems, and strengthened and enhanced global economic governance (<i>p28, para 63</i>).• Processes to develop and facilitate the availability of appropriate knowledge and technologies globally, as well as capacity building are also critical

(p28, para 63).

- Democracy, good governance and the rule of law, as well as an enabling environment at the national and international levels, are essential for sustainable development (p4, para 9; p9, para 35).
-