STATE OF THE SDGs
by SOUTHERN VOICE

Global State of the SDGs

Three layers of critical action

Report 2019

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Please cite as:

Southern Voice. (2020). *Global State of the SDGs: Three layers of critical action* (Report 2019). Southern Voice.

"Through focused, data-driven analyses of critical implementation challenges in local contexts, Southern Voice has transcended the risks of considering 17 objectives and 230 indicators. The result is a set of comprehensive insights highlighting how our global implementation strategies must be adapted and strengthened in unique local circumstances."

Laura Chinchilla Miranda
President of Costa Rica (2010-2014) and,
Vice President of the WLA - Club de Madrid

Foreword

I am honoured to introduce Southern Voice's report on the global state of the Sustainable Development Goals. As an important account of progress to date, it offers critical insights into realising the 2030 Agenda and putting the Goals into practice. I want to congratulate the 50-plus think tanks from Africa, Asia and Latin America that are part of the Southern Voice network on their substantial efforts. The report's added value is significant: it builds on and synthesises distinct analyses of country-level challenges for achieving the Goals.

The importance of this initiative cannot be overstated. Global solutions to development challenges must be found through recognition of, and respect for, the complexities and specific dynamics of each locale. Implementing a comprehensive framework for sustainable human development, and understanding the consequences and opportunities for local constituencies, are enormous challenges. Through focused, data-driven analyses of critical implementation challenges in local contexts, Southern Voice has transcended the risks of considering 17 objectives and 230 indicators. The result is a set of comprehensive insights highlighting how our global implementation strategies must be adapted and strengthened in unique local circumstances.

The Southern Voice report also importantly contributes to broadening our perspective. Policy is weighted toward influential central actors and levels; meetings in capital cities and the Global North often reinforce this bias. It is easy to forget that sustainable human development, in all its complexity, is accomplished in local contexts. The engagement and satisfaction of diverse populations is the only litmus test for success. Southern Voice has brought us these perspectives. It balances valuable case study insights into national implementation factors with a cogent call for more integrated, holistic global strategies for social inclusion and human development. As the report eloquently points out, we cannot rely solely on national efforts to achieve sustainable human development if international factors work at cross-purposes.

As Vice-President of the World Leadership Alliance – Club of Madrid, I am proud our 112 Members value these diverse perspectives. We understand that local know-how is key to success. Our Shared Societies Project has worked to promote social inclusion across policy divides for over a decade. While we have worked on specific issue-areas, building inclusive economies and education systems for ethnic, minority, and religious groups, youth and women, we are increasingly convinced that integrated, inclusive policy engagement, taking a whole-of-society approach, is a necessity. For this reason, we find the integrative approach of this report. The three layers of action it presents resonate with what we have learned in this last decade.

The Agenda 2030 for Sustainable Development is our most important opportunity to address these challenges. They range from the local to the global, across a spectrum of human development needs. We cannot fail our responsibilities as leaders and citizens. I commend to your attention this Report, which brings into focus critical parameters and orientations that we must consider to be successful.

Thank you, and please read on. We must heed these voices herein.

Laura Chinchilla Miranda
President of Costa Rica (2010-2014) and,
Vice President of the WLA - Club de Madrid

Preface

Southern Voice's Report Global State of the SDGs: three layers of critical action, is a conceptually innovative, methodologically challenging, and empirically daunting exercise. It is neither an implementation review of the 2030 Agenda for Sustainable Development, nor a traditional country-level tracking exercise of specific Goals and Targets. Rather, it engages in a bottom-up, multifaceted investigation of a holistic and complex global Agenda.

This Report unpacks critical relationships underpinning the 2030 Agenda. It looks into those 'left behind' within diverse development contexts; identifies causal relationships among the Sustainable Development Goals (SDGs) in terms of synergies and trade-offs; and interrogates global governance factors affecting domestic implementation. In doing so, it carefully considers important dimensions of exclusion, including social discrimination, spatial disadvantage, socio-economic status, governance, and shocks and fragility.

The report focuses on the critical nexus between several SDGs: access to quality education (SDG 4), decent and gainful work (SDG 8), and affordable and clean energy (SDG 7). The importance of global partnership (SDG 17) also informs the research. Accounting for country contexts and deploying diverse methodological approaches, this Report explores synergies and trade-offs between varying pairs of SDGs. These interlinkages and their consequences are considered in six Global South countries–two each from Asia (India and Sri Lanka), Africa (Ghana and Nigeria) and Latin America (Bolivia and Peru). These country studies are supplemented by an exclusive survey of regional SDG delivery trends in these three regions.

This Report seeks to consolidate evidence emerging from these country case studies and regional surveys to establish a common set of experiences. Our contributors' findings reinforce that delivering on the promise of the SDGs demands a common, but also differentiable, approach at the country and regional levels. However, data deficits, resource shortfalls, and capacity gaps also loom as a common set of limiting factors.

More than 40 scholars from think tanks in the Global South have contributed to Southern Voice's State of the SDGs (SVSS) initiative. This is a formidable intellectual and organisational undertaking. With this research, Southern Voice aims to move beyond traditional SDG discourses and better understand the 'second generation' challenges of delivering the 2030 Agenda.

I take this opportunity to thank all my colleagues at Southern Voice involved in this pioneering research project, and acknowledge the contribution of all who have supported our efforts in various forms.

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Acronyms and abbreviations

CDP	Committee for Development Policy
CEPA	Centre for Poverty Analysis
CIPPEC	Center for the Implementation of Public Policies Promoting Equity and Growth
CLEWS	Climate, Land, Energy and Water Systems
CSEA	Centre for the Studies of the Economies of Africa
CSO	Civil Society Organisations
DAC	Development Assistance Committee
ECE	Student Evaluation Census
EPZ	Export Processing Zones
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
FLFP	Female labour force participation
GDP	Gross Domestic Product
GPG	Global Public Goods
GSC	Global Systemic Concerns
GRADE	Group for the Analysis of Development
HLPF	High Level Political Forum
HOY	Human Opportunity Index
ICT	Information and Communications Technology
IFF	Illicit Financial Flows
ILO	International Labour Organization
IPoA	Istanbul Programme of Action
IPR	Intellectual Property Rights
ISSER	Institute of Statistical, Social and Economic Research
LDCs	Least Developed Countries
LEAP IBC Model	Long-Range Energy Alternatives Planning - Integrated Benefits Calculator Model
LICs	Low-Income Countries
LMICs	Lower-Middle-Income Countries
LNOB	Leave No One Behind
LPG	Liquefied Petroleum Gas
MDGs	Millennium Development Goals
NGOs	Non-Governmental Organisations
NEET	Not in Education, Employment or Training
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
R&D	Research and Development
PAC	Public Affairs Centre
PCD	Policy Coherence for Development
PCSD	Policy Coherence for Sustainable Development
PPP	Public-Private Partnerships

PSCD	Place-Specific Context Dependency
R&D	Research and Development
SDGs	Sustainable Development Goals
SE4ALL	Sustainable Energy for All
S&T	Sinergies and Trade-offs
SSA	Sub-Saharan Africa
SVSS	Southern Voice State of the SDGs
UIS	UNESCO Institute of Statistics
UN	United Nations
UNDESA	United Nations Department of Economic & Social Affairs
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNITAR	United Nations Institute of Training and Research
UNSDG	United Nations Sustainable Development Group
VNR	Voluntary National Review
WHO	World Health Organization

Global State of the SDGs

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1

Introducing the theme, study design and framework issues

Debapriya Bhattacharya

Background

With the first four-year delivery cycle of the 2030 Agenda for Sustainable Development complete, the global community has accumulated substantial knowledge of the challenges of implementing this ambitious development programme. However, uneven progress across countries and goals has caused growing concern that the Sustainable Development Goals (SDGs) may not be met by 2030. To ensure the next implementation cycle is results-oriented, this chapter seeks to review ground-level evidence and experiences, which it argues are imperative to charting the way forward.

Southern Voice, a network of Asian, African, and Latin American think tanks, sees the 2030 Agenda as an entry point to contribute to the global knowledge system.[1] Building on shared experiences engaging with the Millennium Development Goals (MDGs), Southern Voice's partners place unique bottom-up perspectives on the global Agenda. These scholars highlight the need for developing productive capacity and gainful employment, sustainable production and consumption, enhanced inclusivity, and strengthened institutions.[2] Research undertaken by Southern Voice is focussed on integrating country-level and real-time experiences within the global framework. It also aims to contribute towards the multi-stakeholder follow-up and review process envisaged by the 2030 Agenda.

The perspectives of Southern Voice authors are informed by the annual global review of SDG implementation prepared by the United Nations.[3] Note has been taken of other special reviews and scholarly works.[4]

Developing countries have keenly engaged in implementing the SDGs, and have encountered many shared, and some contextually-specific, challenges and opportunities. The most visible challenges were: (i) aligning national plans and programmes with the global Agenda; (ii) setting up inter-governmental structures and implementation mechanisms; (iii) assessing financial requirements for delivery; (iv) seeking partnership with non-state actors and NGOs; and (v) mapping the data deficit for having an effective monitoring and evaluation system.[5] This exposure to ground realities highlighted for the Global South the importance of informed and forward-looking approaches towards delivery in their respective countries.

Introducing the theme

Because the SDGs are recognised as more sophisticated than the MDGs, the Southern Voice State of the SDGs (SVSS) initiative articulated three interrelated research agendas. The first expands upon the overarching aspiration of 'leaving no one behind' (LNOB). Each country must identify their communities or groups furthest from the development frontier who risk being bypassed by future progress. Exclusion is therefore highly context specific. Identifying what it means to be 'left behind' in specific Global South national contexts is a major focal point of the SVSS initiative and the cornerstone of this report.

The second research agenda investigates how countries can be provided better guidance on prioritising SDGs according to their

1 "Southern Voice envisages a world in which power has been realigned between countries, resulting in fair and equitable engagement on global issues. It aims to advance a world in which people's rights and needs are met and sustainable development is achieved. Thus, Southern Voice aims to contribute to a power realignment in inter-governmental relations on the SDGs. It does so by stimulating, generating, disseminating, and promoting high-quality evidence-based analyses on the SDGs, from think tanks of the Global South. It embeds Southern research in global discourse on the SDGs, to promote space for deliberative evidence-based policy-making and to ensure that governments and the global community are held accountable for effective delivery" (Southern Voice, 2017a).

2 For distinguishing features of Southern Voice perspectives, see Bhattacharya and Ordoñez Llanos (2017).

3 See, UN DESA (2019).

4 See for example, Sachs et al. (2019) and Kharas, McArthur, and Ohno, (2020).

5 See for details, Bhattacharya, et al. (2016).

national demands. Prioritisation of SDGs involves sequencing them, in turn requiring comprehension of the synergies and trade-offs between Goals. Maximizing these synergies and minimizing trade-offs requires contextualised knowledge: interconnections between the goals differ and depend on geography, space, and time. Better understanding these interconnections is also at the core of this report.

The third research agenda considers how global trends and the conduct of international institutions affect domestic delivery of the SDGs. With developing countries increasingly integrating into the world economy, their performance is constantly shaped by factors exogenous to their economy, society and environment. Exploring the influence of these global systemic concerns (GSC) on domestic delivery of SDGs is a strategic issue for the SVSS initiative.

These three research agendas, in contrast to the five challenges above, constitute the 'second generation challenges' of implementation. The present volume reviews the experience of select developing countries during their launch phases of the 2030 Agenda. It analyses challenges emerging out of SDG delivery, and highlights policy perspectives to assist results-driven domestic implementation of the 2030 Agenda. This approach allows us to contribute to the United Nations initiative titled the 'Decade of Action'[6] to deliver the Global Goals (2020-2030).

Design of the study

It is important to note that the SVSS report is not an exhaustive review of all the goals, targets, and indicators of the 2030 Agenda. It does not cover all countries in the Global South, nor does it consider many of the complex structural or inter-sectional issues embedded in the 2030 Agenda. Thus, it is not a 'monitoring report' of SDG progress. Indeed, most of these issues are better addressed by the concerned international agencies within their limitations.[7]

The SVSS focuses on a select set of countries to understand how they seek to change the (political-economic) status quo in favour of inclusive and transformative development. To this end, the core research objectives of the SVSS are to:

- Assess the challenges emanating from the contextualised delivery of the 'leave no one behind' agenda;
- Examine the interlinkages of selected SDG themes from cross-country perspectives; and
- Explore the global systemic concerns influencing national SDG delivery.

Consideration of these three core agendas was preceded by a review of the SDG implementation experience in selected sample countries. This is complemented by an appraisal of regional trends (for details see additional publications of the State of the SDGs). Further, forward-looking study conclusions have led to articulation of the emerging developmental needs of these countries, understood through the prism of a 'collective capability approach'.[8]

Prioritisation of SDGs involves sequencing them, in turn requiring comprehension of the synergies and trade-offs between Goals.

6 For details, see United Nations (2020).

7 United Nations produces annual issues of Sustainable Development Goals Report since 2016. See for example United Nations (2016, 2017 and 2018).

8 See for details, chapter 7.

To develop its conceptual framework, methodological approach, and empirical base, the SVSS has gone through an elaborate process involving brainstorming sessions, workshops, webinars, validation meetings and dissemination events. An 'approach paper' portraying the integrative way of dealing with the concerned issues was an early output of the exercise.[9]

The major building blocks of the SVSS are shown in the Figure 1.1.

Figure 1.1. Flowchart on preparation of SVSS

Consultation meetings: In generating initial idea	**Preparation of the first draft of the approach paper**	**External global development partners & internal Steering Committee meetings**	**Consultations with the network members through webinars**
Initial idea generated through consultation meetings **in Dar es Salaam** (October 2015), Negombo (August 2016) and Dakar (November 2016)	The **first draft** of the approach paper on SVSS was prepared in January 2017	**Two Steering Committee meetings** held on 15 June and 19 September 2017 **Two expert group discussions on SVSS** organised in May and July 2017 in New York	**Three separate webinars** titled "Consultation on Southern Voice's New Global Initiative on Assessing SDG Delivery" held on 1 August 2017 with the network partners in Africa, Asia and Latin America

Southern Voice Research Conference	**Negombo workshop on SVSS methodology**	**Launched the call for research and mobilised research teams**	**Southern expert group meeting in Los Angeles**
SVSS Research Conference, Bangkok on 15-16 November, 2018	Methodological workshop on SVSS initiative held on 18-20 July, 2018	A **call for research was** launched on February 2018. Six institutions for SVSS Country case studies, three institutions for regional surveys, and three for chapter leads were selected in May 2018	In **Guatemala,** (12-13 October 2017) for **in-depth discussion** on the conceptual framework for the SVSS, and to establish overwhelming consensus on the Approach Paper and the ToRs for the call for Research.

Elaborated by the author.

Analytical framework

'Leave no one behind' was adopted as the overarching principle tying together the SVSS research initiative. Consequently, underlying factors leading to exclusion of groups from the fruits of development and possible mitigation approaches are central to the SVSS report. The process of 'exclusion' is explored in the context of specific Goals (SDGs 4, 8, and 7). Additionally, the choice of SDGs reflects the goals discussed at the High-Level Political Forums (HLPFs) of 2018 and 2019.

The overarching principle of LNOB is examined in four domains: social, economic, environmental and institutional. Relevantly, the 2030 Agenda builds on three pillars (social, economic, and environmental), and mentions issues related to strengthened institutions and effective rights under SDG 16. From the perspectives of SVSS authors, incorporating governance and institutional issues as one core building block of the conceptual framework was critical.

9 Refer to Southern Voice (2017b).

The scope of the global systemic concerns considered in the SVSS report includes cross-border relationships in areas such as finance, trade, technology, climate action, support to capacity development, and policy coherence. The scope of synergies and trade-offs analyses are focused on the three selected SDGs. The SVSS report's conceptual framework is illustrated below in Figure 1.2.

Figure 1.2. Conceptual framework: Choice of issues

Unifying themes → Leave no one behind
(through disaggregated lenses: gender, disability, location etc.)

Domains → Social | Economic | Environment | Institutional

Synergies and trade-offs between Goals ← → Impact of global systemic concerns

Quality education

Affordable and clean energy

Decent work and economic growth

Major issues:

- Finance
- Technology
- Capacity-building
- Trade
- Coherence
- International and national policies
- Security

Source: Southern Voice (2017b).

The SVSS initiative is undertaken at three levels: at the national level through country case studies, regionally through the regional surveys, and globally with the global overview. Countries have been selected for in-depth study through a two-stage method. First, two country case studies in each region—Asia, Africa and Latin America—were commissioned. Secondly, a review process of responses received from the Southern Voice partners, as part of an open call for proposals, selected six countries for analysis. These are listed in Table 1.1.

Table 1.1. Distribution of the sample countries by region and level of income

Type	Asia	Africa	Latin America
Lower-middle-income	India	Ghana, Nigeria	Bolivia
Upper-middle-income	Sri Lanka		Peru

Elaborated by the author.

Regional surveys were undertaken independent of the country case studies. They provide a broad sense of the SDG landscape, facilitating better interpretation of the country-level findings. This Report builds on both the country studies and regional surveys, synthesising the findings of each.

Methodological and empirical challenges

Implementing the conceptual framework of the SVSS exercised involved navigating some methodological and empirical challenges. These challenges related to efforts to establish interlinkages between, and reconcile, global targets and indicators with county-specific implications. Some such challenges are mentioned below.

First, developing a common template for country case studies to aid cross-country comparison was difficult, as was establishing a common benchmark year for assessing them. Countries' different development trajectories affect how they set their SDG priorities. These considerations made cross-country comparison of the findings a complex task.

Second, given limited real-time and disaggregate data, an extensive review of implementation status of SDGs was impractical. Cross-cutting (interlinkage) issues concerning the identified SDGs was particularly difficult. Data on global partnerships were missing, as many indicators were in Tier 2 and Tier 3.[10] Reconciling different data sources (including unofficial data) was challenging. This pervasive data deficit was an important factor constraining research.

Third, deriving common policy perspectives regarding SDG delivery was quite difficult. Developing countries operate with different governance structures and levels of institutionalisation. The sample countries were also located at different points of their political cycles. Furthermore, while some were unitary states, the others have federal structures (India and Nigeria).

In view of the above, the SVSS exercise follows an iterative and integrative approach to establish its findings. The six country case studies balance quantitative and qualitative techniques. The three regional surveys, instead of investigating the cross-regional issues, explored dominant trends in the specific region.

The global overview, while making meta-conclusions, endeavours not to lose the granularity of spatial experience. To ensure this iterative and integrative approach, more than 40 researchers and their associates worked as a team under cohesive intellectual leadership.

Layout of the Report

The Report of the SVSS initiative is in three parts. In the first part, following the present Introduction (chapter 1), Chapter 2 expands upon the challenges of delivering SDGs in the Global South. It considers policy alignment, institutional structures, resource

10 According to the United Nations a Tier 2 indicator is conceptually clear, has an internationally established methodology and standards are available, but data are not regularly produced by countries. While a Tier 3 indicator has no internationally established methodology or standards available, but methodology/standards are being (or will be) developed or tested.

situations, participation, and data deficits. This chapter also reflects on regional trends in SDG delivery. Chapter 3 discusses the 'second generation' challenges of SDG delivery: identifying people 'left behind', synergies and trade-offs underpinning SDG combinations, and Çglobal systemic concerns influencing domestic delivery of the 2030 Agenda.The second part contains three chapters (chapters 4, 5 and 6). These core chapters provide cross-country perspectives on the three levels of identified actions. Finally, chapter 7 synthesises the above research, putting forward policy perspectives on developing 'collective capabilities'.

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2

Initial challenges of SDG implementation: Regional trends and country experiences

Debapriya Bhattacharya
Sayeeda Jahan

Introduction

Global South countries embraced the 2030 Agenda for Sustainable Development with great enthusiasm and engagement in its implementation earnestly. Operationalising a universal and holistic development agenda within countries' contextual realities was an extremely challenging endeavour. The initial experience of these countries in adapting the Sustainable Development Goals (SDGs) is instructive, providing useful guidance for mid-course corrections, and for enacting the United Nations' (UN) announced Decade of Action (2020–2030).

This chapter begins by reviewing regional trends across three continents, namely Africa, Asia, and Latin America. This review establishes common features of regional trends as well as their unique manifestations. The chapter then builds on six country case studies to observe lessons emanating from their first three to four years of SDG delivery. The countries covered are Bolivia, Ghana, India, Nigeria, Peru, and Sri Lanka. The analytical framework assessing the country experience (and regional trends) is defined by five 2030 Agenda implementation challenges: aligning the global Agenda with national priorities, setting up a dedicated intuitional structure, resource mobilisation, data mapping, and developing multi-stakeholder partnerships.

The framework of analysis

The 2030 Agenda for Sustainable Development, launched in 2015, is a multidimensional and multilayered development programme. Its 17 Goals and 169 Targets are profoundly interconnected as an indivisible whole. The SDGs epitomise a rights-based approach to a transformative, integrated, and inclusive development paradigm—built on economic, social, and environmental pillars. The means of implementation mentioned in the 2030 Agenda give some guidance to countries, regions, and the global community towards action plans. The overarching aspiration of the Agenda is captured by its powerful commitment to 'leave no one behind'. While national ownership of the Agenda has been underscored, it is expected to be delivered through a multi-stakeholder partnership, supported by an effective global compact.

Understandably, developing countries face wide-ranging challenges while implementing this ambitious global Agenda. National manifestations of these challenges are quite often circumstantial, predicated on economic development, social cohesion, administrative capacity, and political governance. Quite often, ramifications of the implementation process have remained unclear and the way forward uncertain. Thus, one observes varied trends in the regions—South/Southeast Asia, Sub-Saharan Africa (SSA) and LatinAmerica—during the initial years of SDG implementation. To address these many factors, a more granular approach—based on country-level analyses—is appropriate to explore the implementation challenges of the SDGs. Indeed, at the end of negotiations, it was nation-states which were the signatories to the 2030 Agenda.

> **The SDGs epitomise a rights-based approach to a transformative, integrated, and inclusive development paradigm— built on economic, social, and environmental pillars.**

Regional approach. The regional surveys cover SSA (48 countries), South and Southeast Asia (10 countries), and Latin (20 countries). These surveys capture regional developments in initiating the SDGs through multi-method research designs. Extensive reviews of secondary literature, focussing on country-level studies, regional reports, and scrutiny of relevant data and information, were conducted. Relevant trends were also examined through a carefully chosen set of Voluntary National Reviews (VNRs).

Country-level analysis. The country case studies constitute the core component of the Southern Voice on the State of SDGs (SVSS) initiative. They reflect regional variations and the range of development diversity. The countries examined are Bolivia, Ghana, Nigeria, Peru, India, and Sri Lanka. These countries from three continents are either low-income countries (LICs) or low middle-income countries (LMICs). Country experiences have been examined through the prism of the following five dimensions:

- Aligning the SDGs with national planning processes;
- Coordination, management, and leadership of the implementation process;
- Adequacy of financing and other means of implementation;
- Data-related issues and capacities of national statistical agencies; and
- Partnership and stakeholder participation in SDG implementation.

Based on a substantive review of global literature, national policy documents, and findings of studies conducted by Global South think tanks, Bhattacharya, Khan, Rezbana and Mostaque (2016) have identified five key SDG implementation challenges. The scope of these five challenges is presented in Table 2.1. They may be collectively understood as 'first-generation challenges', faced by developing countries as they commenced SDG implementation.

Table 2.1. The framework of country-level analysis of SDG implementation

Challenge	Description
Aligning the SDGs with national planning processes	There is a need to mainstream SDGs into national plans. Also, SDGs must be integrated into local and sectoral development plans. Countries should also prioritise Targets most relevant to their specific contexts, needs, and national development goals.
Coordination, management, and leadership of the SDG implementation process	Delivering a comprehensive and integrated programme needs coordination among government agencies (e.g. ministries and departments) nationally. It requires strong leadership from an agency with the authority to coordinate within the government system.
Adequacy of financing and other means of implementation	Means of implementation are key pre-requisites for delivering the SDGs. They can be financial (including official development assistance (ODA), domestic resource mobilisation (DRM), foreign direct investment (FDI), and public-private partnerships (PPPs), as well as non-financial (such as systemic issues).
Data-related issues and capacity of national statistical agencies	For effective planning, transparency, and accountability for spending and tracking progress in implementation, the availability and accessibility of real-time disaggregated data is critical.
Partnership and stakeholder participation in SDG implementation	Attainment of the SDGs by 2030 requires an effective institutional mechanism that involves all national and international stakeholders, including government, public representatives, civil society organisations, the private sector, academia, international NGOs, international development partners, and common citizens.

Source: Bhattacharya et al. (2016).

Acknowledging the complexity of the SDGs and tracking their delivery, the SVSS studies have adopted a three-dimensional analytical lens. Besides the regional and country-level analyses, this includes an enquiry into three cross-cutting issues, namely: leave no one behind (LNOB), synergies and trade-offs, and global systemic concerns (GSC), underpinning the implementation challenges of the SDGs. While the first two approaches are deployed in this chapter, the third approach informs the discussion presented in the following chapter (Chapter 3).[1]

Regional trends

Notably, the regional dimensions of the Millennium Development Goals (MDGs) were understated, if not missing, issues. Thus, it is of policy and practical interest to explore how regional considerations affect the 2030 Agenda. While one may examine the role of regional cooperation arrangements in implementing the SDGs, it is no less interesting to examine how preparation for their delivery varied within and across regions.

To track the (sub) regional continental trends, three sets of regional surveys were undertaken by the SVSS—covering South and South East Asia (10 countries), SSA (48 countries), and Latin America (20 countries). These surveys were executed through a review of the literature and secondary analysis of relevant global databases (e.g. the World Bank and UNESCO) as well as regional UN databases (e.g. United Nations Economic and Social Comission for Asia and the Pacific and United Nations Economic Comission for Europe). Outputs of other entities, such as the Sustainable Development Goals Center for Africa, and the Regional Observatory on Planning for Development of the ECLAC, were also studied. The VNRs and country-level studies were analysed to identify measures taken to integrate the SDGs, particularly regarding quality education (SDG 4), affordable and clean energy (SDG 7), and decent work and economic growth (SDG 8).

Tracking the initial experiences of these countries indicates the shared resolve of the Global Southto realise the SDGs. This message comes through notwithstanding their unique developmental contexts, national priorities, resource endowments, and institutional structures. Accordingly, the regional reports establish that this common approach of Southern countries reflects the universal nature of the 2030 Agenda. However, the regional surveys also prominently reveal that 'one size does not fit all'.

Africa

In terms of regional policy alignment, substantial convergence was observed between the SDGs and Agenda 2063, adopted by African leaders in 2013 (Kasirye, Ntale & Venugopal, 2020). However, some divergences remain between the two programs in specific targets, indicators and timelines. Our research suggests that at least 65% of the SDGs are strongly matched to the goals of Agenda 2063; the proportion of targets and indicators that are equally matched is only 37% and 40%, respectively (Kasirye, Ntale & Venugopal, 2020). Prior to adopting the SDGs and Agenda 2063, African countries also signed up to the Istanbul

[1] A list of the six country studies and three regional surveys is provided in additional publications of the State of the SDGs

Programme of Action (IPoA) for least developed countries (LDCs) in 2011. The IPoA envisioned that at least half of the countries from the group will graduate from LDC status by 2020. This implies that at least 17 African LDCs should leave the group by 2020. However, the concerned countries did not demonstrate that level of ambition, indicating the risk of that target not being met.

The 'domestication of the SDGs' process in Africa was characterised by common activities involving awareness building and the sensitisation of stakeholders, including political leaders, public representatives, government officials, business leaders, and civil society activists. Country progress on developing institutional structures for SDG delivery varied due to differing levels of administrative capacities and financial resources. Progress in this area was partially dependent on strong national and local ownership, embedded in a coordinated system of governance. For example, localising and mainstreaming the SDGs through planning and capacity building nationally and locally is being attempted in Lesotho.

Some countries in the three regions did undertake assessments of financial resource requirements, revealing huge resource gaps (Kasirye, Ntale & Venugopal, 2020). Due to low domestic tax bases, these countries have programmed for a substantial flow of ODA to implement the SDGs. Recently, foreign loans have grown faster than grants. In view of their infrastructure deficits, African countries have planned substantial investments in the energy sector. Most of SSA has turned to China to close the financing gap. The expansion of mobile banking has led to financial inclusion and opened up new government revenue avenues (Kasirye, Ntale & Venugopal, 2020). In Kenya, funds collected from an excise tax on mobile finance are earmarked to fund universal healthcare.

Regarding data availability, the majority of African countries rate poorly (i.e. with rates below 40%). Only 38% of the 232 SDG Indicators can be tracked in these countries. Prioritising funding for data—important for tracking and monitoring but also for setting realistic domestic targets—remains a critical challenge.

Finally, weak civil societies, underdeveloped private sectors, and limited civic spaces are salient challenges in the region for building partnerships (Kasirye, Ntale & Venugopal, 2020). South-South cooperation, mostly driven by Chinese finance, is an important form of partnership in SSA, aiding capacity building and promoting development. Kenya is a rare country that has managed to significantly involve other partners, such as the private sector, in implementing the SDGs.

Asia

All countries of South and South East Asia have attempted to align their strategies, policies, and planning documents with the SDGs. Several have undertaken initiatives to involve local government institutions in the SDG mainstreaming process (Rahman, Khan & Sadique, 2020). Many have also engaged multi-stakeholder groups in the consultation process. However, the SVSS studies reveal that, at current rates of progress, the Asia and Pacific region may not achieve most of the SDGs.

South Asian countries have completed mapping exercises at various levels by aligning the SDG Targets and Indicators with national plans, and a few have prioritised them nationally (Rahman, Khan & Sadique, 2020). However, an in-depth assessment of interlinkages between the Goals and evaluation of policy interventions remains to be undertaken, with the help of further research, to ensure delivery of the 2030 Agenda.

Countries are gearing up initiatives to establish SDG-related institutions to ensure proper implementation processes. Better coordination is being attempted among different core ministries of central governments—such as Prime Minister's Offices, Ministries of Finance, and Ministries of Planning—for smooth implementation. Only some South Asian countries (e.g. Afghanistan, Bangladesh, and Bhutan) have started mainstreaming the SDGs into an existing or new frameworks. Indonesia and Thailand (from South East Asia) have also completed the mainstreaming process. Bhutan is the only country from South Asia which has a plan for an SDG implementation roadmap.

Most Asian countries have estimated their resource requirements and identified possible sources of funding for implementing the SDGs (Rahman, Khan & Sadique, 2020). The humanitarian aid sector has garnered the highest attention, followed by economic infrastructure—against a backdrop of declining ODA to the social infrastructure and service sectors. The Asia Pacific has a very low level of inter-country cooperation. Financing gaps in the region require significant improvements to mobilise domestic resources and leverage international development cooperation. Attention to the fairness, transparency, efficiency, and effectiveness of tax systems are important to broaden the tax base and efficiently collect tax (Rahman, Khan & Sadique, 2020). Southern providers, such as India and China, have emerged as new funders of development projects in Asia, with Afghanistan, Bangladesh, Bhutan, Maldives, and Nepal being key destinations.

There is a lack of good-quality data at the regional level for Goals related to the social and economic dimensions of the SDGs. According to the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, 2019), only 50 of the 169 SDG Targets are currently ready for progress assessment (one-third of the total indicators). Improving disaggregated data remains a key concern. Reviews reveal that sex-disaggregated data are better available compared to other disaggregated data, but only for a limited number of Indicators. In most Asian countries, data transparency and quality are critical concerns. Many Southeast and South Asian countries (e.g. Bangladesh, Malaysia, Lao PDR, the Philippines, and Vietnam) have undertaken exercises to identify data gaps. These gap analyses suggest that tracking SDGs 12 and 14 will be highly challenging. Many Asian countries are creating separate committees to collect data and coordinate, monitor, and report on the SDG implementation process (Rahman, Khan & Sadique, 2020).

Lastly, countries are making plans to involve other stakeholders in SDG implementation. Interregional collaborations to share best practices are present only in a few cases. For example, the Asia-Pacific Forum on Sustainable Development (APFSD) has emerged as a leading platform for sharing experiences and developing a regional roadmap for SDG

achievement. The South Asian Association for Regional Cooperation (SAARC), in its meeting of ministers on poverty alleviation, held in 2015, decided to revise the SAARC development goals to align with the SDGs.

Latin America

While most Latin American countries tried to align their national plans with the SDGs, SVSS studies indicate that some did not move in that direction. For example, the Bolivian government adopted its 2025 Patriotic Agenda and the Economic and Social Development Plan (2016–2020) without referencing the global Agenda (Andersen, Medinaceli, Maldonado & Hernani-Limarino, 2020). It has been recognised in most of the Latin American countries that national and regional governance coherence is particularly important to address the SDGs. Otherwise, implementation of new policies and goals may get undermined.

Most countries conducted mapping exercises in their VNRs to determine the alignment of their plans with the SDGs (Beneke de Sanfeliú, Milan, Rodríguez & De Trigueros, 2020). Only six countries developed long-term development plans longer than the incumbent president's tenure. 15 of 17 countries in the regional study will have new presidents by the end of 2020. Achieving the SDGs by 2030 requires sustained efforts for more than one presidential period. All countries include at least one Goal from each dimension of development—social, economic, and environmental. Most have prioritised SDG 1 (no poverty) and 3 (good health and well-being), which are continuations of the MDGs.

Six of 17 countries built institutional mechanisms for SDG implementation based on existing structures, with highest-level ministries and secretariats having political and technical responsibilities, dependent on the presidency. Nine countries created commissions, councils, or high-level ad hoc entities, some accompanied by a technical committee (Beneke de Sanfeliú, Milan, Rodríguez & De Trigueros, 2020). Five countries have coordination mechanisms with the participation of at least one ministry in charge of the social, economic, and environmental dimensions.

Coordination mechanisms differ among different levels of government. In most cases, two levels of coordination were set up. Firstly, there is a policy entity to prepare roadmaps to achieve the SDGs and to coordinate and monitor progress. Secondly, there is and a statistical coordination mechanism for data availability and disaggregation. According to their VNRs, four countries have created ad hoc technical committees; others have set up cross-sectoral bodies to coordinate statistical activities. The formal inclusion of non-governmental organisations is not a general practice in Latin America. While most countries in Asia and Africa have developed five-year development plans aligned to the SDGs, Latin American countries opted for ad hoc implementation plans. Chile and Paraguay chose to create separate commissions to coordinate each pillar of the 2030 Agenda, i.e. social, economic, and environmental.

Most efforts to finance the SDGs are aimed at increasing tax revenues and combating tax evasion and avoidance. Increasing debt levels have been observed in the region since 2011. In the past ten years, financial flows to Latin America have been mostly limited to a few

While most countries in Asia and Africa have developed five-year development plans aligned to the SDGs, Latin American countries opted for ad hoc implementation plans.

LMICs (Beneke de Sanfeliú, Milan, Rodríguez & De Trigueros, 2020). Concessional financing for middle-income countries is limited, even when facing significant development challenges, such as in Nicaragua and Bolivia. An underutilised source in Latin America is blended finance for development, the targeted use of concessional funding to complement private capital. Inflows of foreign direct investment (FDI) to Latin America remain well below their peak in 2011. Only nine countries mention triangular, South-South, and bilateral cooperation, or technology and knowledge exchange agreements, as sources of good practices and lessons learned.

Most countries assessed their ability to produce the Indicators required for tracking SDGs. Diverse groups and networks encompassing government, the private sector, and civil society organisations are working to generate data with the necessary level of disaggregation. Innovation in data collection and collaboration across complex data systems is being attempted (Beneke de Sanfeliú, Milan, Rodríguez & De Trigueros, 2020). There is almost no mention of accountability mechanisms in VNRs; this is an area where challenges remain for Latin America. Political will from policymakers at all levels is still needed to make monitoring and evaluating standard practices. Only Argentina, Chile, Paraguay, and Uruguay mentioned evaluating their ability to disaggregate the Indicators. Some countries have considered the Sustainable Asset Valuation (SAVi) mechanism, developed by the International Institute for Sustainable Development (IISD), to help decision-makers assess how environmental, social, and economic externalities affect the financial performance of infrastructure assets and projects.

From the foregoing analysis, the common characteristics of SDG integration and implementation in Asia, Africa, and Latin America are quite evident. However, one should not miss some of the distinguishing features of the respective regions. These critical features are underwritten by their diverse economic endowments, states of social cohesion, institutional capacities, and environmental circumstances—as well as by the nature of incumbent political regimes. Africa remains preoccupied with the issues of poverty, conflict, and foreign aid. Alternatively, trade expansion and environmental sustainability figure prominently across Asian countries. In Latin American nations, the issues of inequality and foreign investment figure more often. Altogether, the challenges of domestic governance and international development cooperation—defining the success of the SDGs—have been underscored by countries across the three regions. These dimensions become clearer once we examine the country-level evidence.

Country experiences

The six-country case studies undertaken as part of the SVSS initiative provide unique perspectives regarding the efforts made, and problems encountered, as countries in the Global Southimplement the SDGs. Table 2.2 presents the basic socio-economic characteristics of sample countries. The focus is on LICs and LMICs across three continents, with varied levels of per capita income, poverty, and human development. Attention was paid to economic differences by noting the role of manufacturing, exports, remittances, and FDIs.

Dependence of these economies on ODA and other official flows (OOF) has been taken into account when deciding on sample countries. In sum, the choice of sample countries reflects enough diversity to derive general conclusions regarding the experience of the Global South in institutionalising the 2030 Agenda.

Table 2.2. Profile of the sample countries

Indicator	Bolivia	Ghana	India	Nigeria	Peru	Sri Lanka
Population in million (2019)	11.51	30.42	1366.42	200.96	32.51	21.80
Per capita income in USD (2018)	2731.21	1461.78	1739.90	1583.18	5520.05	3690.47
Share of population with income <USD 1.90-a-day (%) (2018)	4.00	15.00	3.00	46.00	2.00	<3.00
Share of manufacturing (% of GDP) (2018)	10.34	10.46	14.58	9.65	12.94	15.82
Human Development Index (HDI) 2018	0.703, High	0.596, Medium	0.647, Medium	0.534, Low	0.759, High	0.780, High
Merchandise export (% of GDP) (2018)	22.25	22.80	11.69	14.35	22.08	13.37
Remittances (% of GDP) (2018)	3.14	5.78	2.86	5.77	1.46	8.43
FDI (% of GDP)—2018	0.62	4.55	1.54	0.47	2.78	1.82
Total ODA+OOF from DAC countries (% of GDP) 2018	**0.82**	**0.76**	**0.06**	**0.33**	**-0.06**	**0.08**

Source: UNDP (2018-2019).
Elaborated by the authors.

Methodological approach and data sources

It was decided a priori that the six-country case studies (and the three cross-cutting studies) would focus on SDG 4 (quality education), SDG 7 (affordable and clean energy), and SDG 8 (decent work and economic growth). The common narrative for the analysis was provided by the aspirational tag line of 2030 Agenda: 'leave no one behind.' From that perspective, special attention was accorded to the development outcomes of left-behind people (particularly women) in the country contexts.

Country case studies deployed both quantitative (e.g. regression analysis and simulations) and qualitative methods (e.g. life-history and citizen's report card analyses). Some studies opted for mixed methods (e.g. mixing non-linear logistics models with the community-based participatory methods). The country-level empirical analysis was built on individual-, household-, and regional-level data. The studies have extensively used available official data, and also generated purposive primary information. The most common official sources had been the national-level household/living standard censuses and surveys, as well as sectoral datasets (e.g. education, demographics, and health). These reviews of official data were complemented by interviews of

key actors and other stakeholders. The case studies were prepared following robust methodologies, meaning the conclusions derived from these exercises are on firm ground.

In the rest of this chapter, we highlight select findings of the six-country case studies under the five dimensions of our analytical framework described earlier.

Aligning SDGs with national planning policy framework

Policy alignment can support governments and other entities to keep their actions and approaches coordinated, consistent, and integrated to achieve shared goals. A policy alignment 'mindset' helps countries understand the impacts of their policy actions regionally and globally, and tailor their approaches to achieve the Goals of the 2030 Agenda. However, policy alignment has been approached in the literature from various perspectives. It is often studied in connection with the relationships between donors and partner governments, and in relation to the impacts of policies from developed countries on developing countries. Most recently, the alignment of development policies has been widely analysed in the framework of policy coherence for sustainable development (PCSD). Discourse centring on the alignment of national priorities and policies with the 2030 Agenda, as a requirement for successful implementation of the SDGs, is more recent.

The global Agenda of the SDGs is to be implemented in countries through a nationally-owned process, under the leadership of national governments. Accordingly, one of the initial tasks of Global South governments has been to 'align' planning and policy documents with the global Agenda.[2] An overwhelming number of countries surveyed could accommodate key elements of their national mid-term plans within the broad ambit of the SDGs. The exercise also allowed countries to highlight their strategic priorities. However, given its integrated nature, it was understood that such alignment will be a continuous (dynamic) process.

To some countries, however, this was a process to secure the confidence of international development partners. They assessed that the comfort level of development partners in channelling their resources to recipient countries would be enhanced if the latter brought their development objectives in line with the agreed international agenda. On the other hand, most countries in the Global South are members of one or more regional cooperation arrangements. These regional blocs also had well-articulated development plans. Countries had to take account of their regional commitments while revising or drafting their planning documents in line with the 2030 Agenda. For example, prior to the adoption of the Agenda 2030, African countries signed up to Agenda 2063: The Africa We Want in 2013, and the Istanbul Programme of Action (IPoA) for LDCs in 2011. However, the 2030 Agenda does mention that it is aligned with all existing international understandings.

The present body of research shows that developing countries—notwithstanding their unique contexts, policies and

2 This process has been called different things in different countries, such as adaptation, integration, mainstreaming and localisation.

Three layers of critical action

> **SVSS country studies indicate that varying approaches are being followed to align the SDGs with national policies and programmes.**

priorities—largely rearranged their national policies in line with the Agenda 2030. However, this process was quite varied across countries. To some degree, this process contributed to establishing upward vertical coherence between global and national development agendas. Yet, there was the outstanding issue of establishing downward vertical coherence and horizontal coherence among different parts of national governments. All of these government bodies have their specific mandates, policy commitments, and programmatic documents. In this case, horizontal coherence implies coherence among various national government line ministries, whereas vertical coherence relates to synergies among sub-national and local tiers of public administration, as well as with the international commitments of the country.

SVSS country case studies indicate that varying approaches are being followed to align the SDGs with national policies and programmes. The Indian government has introduced several new policy interventions, while strengthening existing policies to address development issues such as malnutrition and hunger, sanitation, basic amenities, education, and women's empowerment. In India, the SDG Targets have been linked to existing flagship government programmes such as Pradhan Mantri Jan Dhan Yojana (Banking for All), Swachh Bharat Abhiyan (Clean India Mission), Skill India, the Mahatma Gandhi National Rural Employment Guarantee Act, and several others. The NITI Aayog, the Indian government's supreme policy outfit, developed a matrix of in-progress and planned policy schemes at the national level to achieve each SDGs.

The Sri Lankan approach has been both ambitious and ambiguous. The Government of Sri Lanka, to align the global Agenda with national priorities, sought to narrow down the 169 Targets to 30 Targets as a first step (Fernando, Arambepola, Niles & Ranawana, 2020). A 17-member expert group was tasked to prioritise some Targets for this purpose using the Stockholm Environmental Institute's interaction model, a scoring method of SDGs. But a final output on policy coherence remains elusive. The National Planning Department (NPD) of Sri Lanka has consulted the agriculture sector to develop a template to identify linkages between their current programmes, projects, and actions and the SDG Goals and Targets. The NPD had been trying to reflect the SDGs in the public investment plan. Thus, developing a broader vision or objectives for delivering on the SDGs continues in the country.

The SVSS country case studies show that several countries included SDGs into their current development plans. For example, Ghana enacted the Ghana Shared Growth and Development Agenda (GSGDA II) (Crentsil, Fenny, Ackah, Asuman & Otieku, 2020). The GSGDA II framework was reviewed and amended in sync with the global SDGs. In line with the 'leave no one behind' agenda, the Ghanaian development policy, enshrined in its Coordinated Programme of Economic and Social Development Policies (CPESDP), has set out four mutually inclusive goals to reflect the development aspirations of the 'Ghana We Want'. This calls for building a prosperous and resilient society, creating opportunities for all Ghanaians, and safeguarding the natural environment.

Nigeria also deliberately integrated the SDGs into its current development agenda, namely into the Economic Recovery and Growth

Plan (ERGP) for 2017–2020 (Adeniran, Onyekwena, Onubedo, Ishaku & Ekeruche, 2020). All VNRs originating from SSA (about 28 countries) have reported progress in integrating the 2030 Agenda into their national development plans. Further, some African countries have developed five-year development plans aligned to the SDGs (Kasirye et al., 2020).

SVSS country case studies further reveal that certain Latin American countries have adopted national policies instead of explicitly referring them to Agenda 2030. For example, the Bolivian government has focused on achieving national objectives through its frameworks: the 2025 Patriotic Agenda and the Economic and Social Development Plan (ESDP) for 2016–2020 (Andersen et al., 2020). Simultaneously, in 2019 it had been working on two parallel processes to integrate and align the 2030 Agenda with national development plans. The first process is a comprehensive assessment of data available for monitoring SDG implementation. The second process, through an UN-supported project, seeks to identify policy combinations and accelerators that can be included in the next five-year ESDP.

The country case studies and SVSS regional surveys bring to the fore explicit intellectual recognition and political initiatives in the Global South to align the 2030 Agenda with national development documents and frameworks. While in most cases countries have tweaked existing documents to bring them in line with the SDGs, some have integrated them in new plans. It is rare, but not absent that countries declare their existing plans to be fit for purpose for the global Agenda. Countries have also strengthened their existing development plans and programmes as well as introduced new ones. These alignment exercises have been implemented through the regular development planning machinery of respective countries, in some cases, with the help of external expert groups.

While there has been substantial convergence between the SDGs and national plans, policies and programmes, some unsettled areas remain concerning targets, indicators, and timelines. Also, in many cases, the SDGs are yet to be mainstreamed into national sectoral and sub-sectoral development plans. Moreover, a spatial reflection of the SDGs through localisation and integration in regional (sub-national) plans remains an unfinished agenda.

Leadership, coordination and management of the implementation process

Effective delivery of the 2030 Agenda requires that governments provide leadership in connecting multilayered, multidimensional and multi-stakeholder elements of the holistic programme through an integrated approach. Such an approach should be able to work across policy domains and promote coherence among them. Further, this approach needs to offer adequate clarity regarding roles and responsibilities—within the government and beyond. SVSS studies reveal that while most countries did construct dedicated mechanisms

to oversee national SDG implementation processes, their structure and scope varied widely.

Country experiences suggest that required institutional arrangements are usually built into existing governance structures, rather than created anew. To endow nodal agencies with adequate political authority, they have typically been located close to the chief executive of the government, i.e. the president or prime minister. In India, it is the National Institution for Transforming India (NITI) Aayog—a policy think tank, under the chairmanship of the country's Prime Minister—in charge of steering the implementation of the SDGs (Nair, Shah & Sivaraman, 2020). Sri Lanka's President spearheads the delivery of the 'Sustainable Sri Lanka 2030 Vision—Strategic Path'. In Nigeria, the Office of the Senior Special Adviser to the President on SDGs (OSSAP-SDGs) leads the implementation of the SDGs as well as the integration of the global Agenda into national development. In Bangladesh, an Office of the Coordinator of the SDGs has been created under the Prime Minister's Office to lead the implementation process. At the apex of the institutional framework in Ghana is the Office of the President of the Republic of Ghana, where there is an SDGs Advisory Unit and a High-Level Ministerial Committee, whose primary mandate is to provide strategic direction for the attainment of the objectives at both national and sectoral levels.

There are a number of variations in Southern countries' attempts to develop institutional mechanisms for providing guidance on the SDG actualisation process. For example, the Minister of Development Planning in Bolivia is presiding over an inter-institutional committee, charged with monitoring the implementation of both the National Development Plan and the 2030 Agenda (Andersen et al., 2020). The Peruvian SDG implementation strategy is managed by three main governmental entities, namely the National Centre for Strategic Planning (CEPLAN), the National Institute for Statistics and Computing (INEI) and the National Working Group for the Fight Against Poverty (MCLCP) (Alcázar, Bullard & Balarin, 2020).

The experience of Latin America is quite instructive in this regard. Six of 17 countries built institutional mechanisms from existing bodies at the highest levels of ministries and secretariats within the presidency of the republic, assigning them political and technical responsibilities. Nine countries created commissions, councils, or high-level ad hoc entities, some of them accompanied by a technical committee. Five countries have coordination instances with the participation of at least one ministry in charge of aspects related to each of the social, economic, and environmental dimensions.

Importantly, countries in the Global Southhave moved forward from the initial phase of understanding and disseminating the 2030 Agenda, to an implementation phase characterised by translating the SDGs into public policies (discussed earlier) and institutions. However, the challenges of realising an integrated programme—cutting across national and local governments, and involving multiple ministries, departments, and institutions—often manifest in administrative turf wars. In order to overcome this challenge, most countries have chosen to vest coordinating responsibility in a supra body (located at a high

political office). Often, this outfit did not have the necessary intellectual capacity to perform its duties. In these cases, the outfit has to depend on another entity with the necessary capacity—usually the planning ministry on department. For example, in Bangladesh, while lead responsibility lies with the SDG Coordinator's Office under the Prime Minister, knowledge support is extended by the Planning Commission.

In India, due to the variety of nodal departments involved in the design and implementation of SDG-enabling policies, programmes, and projects, institutional coordination is emerging as a major challenge (Nair et al., 2020). Similarly, there appears to be weak coordination between OSSAP-SDGs and relevant agencies in Nigeria. The challenges of coordination in these two countries also epitomise the special challenge of a federal state with a constitutionally strong role for state (or regional) governments.

To promote cross-sectoral collaboration, innovative planning instruments that use frameworks and incentives to coordinate cross-ministerial activity are being devised by Southern countries. To this end, in Bangladesh and other countries, mapping of government institutions has been done in the context of specific SDGs to identify lead and associate ministries. However, as this is being done at the Goal level, a complication arose regarding the identification of the appropriate public agency at the Target level. Some countries have created new inter-ministerial commissions to break down silos across sectors as the 2030 Agenda demands strong collaboration. The institutional landscape of Ghana, especially the energy sector, is in tandem with the overall institutional architecture for achieving the SDGs.

Coordination mechanisms among different levels of government in Latin America comprise a two-pronged approach. In most cases, two levels of coordination were set up. Firstly, a policy entity to prepare roadmaps to achieve the SDGs and to coordinate and monitor progress. Secondly, a statistical coordination mechanism for data availability and disaggregation. According to their VNRs, four countries in the region have created ad hoc technical committees, and others have set up cross-sectoral bodies to coordinate statistical activities. However, the SVSS studies indicate that an effective monitoring mechanism to track impacts and progress is yet to gain traction in many countries.

Southern countries have adapted ways to design coordination mechanisms to oversee SDG-based planning and implementation. Country-level evidence suggests that leadership in the SDG implementation process largely lies with the government's administrative apparatus. While most public representatives are quite aware of the dimensions of the 2030 Agenda, they hardly enforce an accountability process in this regard. However, in Sri Lanka, to cover the range of SDGs, four clusters were set up under a parliamentary oversight committee; each is meant to work with the relevant government entities (Fernando et al., 2020). Parliamentary standing committees in the Global South have an uncharted track in this case.

A major responsibility for the actual implementation of the 2030 Agenda lies with local authorities. Regional institutional arrangements have also been established to support the implementation of the SDGs. In

A major responsibility for the actual implementation of the 20230 Agenda lies with local authorities.

Peru, elected officials in national, regional and local governments signed the Governance Agreement for Comprehensive Human Development 2016–2021 to uphold the Goals and Targets (Alcázar et al., 2020). In Bolivia, the Municipal Government of La Paz published a document that describes in detail how the city is equipped to implement the SDGs (Andersen et al., 2020). However, the institutionalisation of the relationship between the central government and local bodies— political and administrative—is gradually gathering momentum as the efforts for 'localisation of SDGs' are gathering increased recognition.

Another level of cross-sectoral cooperation requires national governments to create a joint mechanism with the private sector to ensure their participation in delivering the SDGs. The formal inclusion of non-governmental organisations in governments' institutional structure is not a generalised practise in the Global South. We return to this issue later in this section.

To conclude, evidence from country experiences shows that no single institutional model is intrinsically more appropriate to ensure the coherent and efficient adoption of the SDGs at the national level. The preferred institutional arrangements for sustainable development in each country ultimately depend on the national context defined by a host of factors, including the governance structure and the level of ownership of the global Agenda. This process should be looked upon also as an enterprise in evolution.

Adequacy of financing and other means of implementation

It is no secret that achieving the SDGs would necessitate mobilising a huge amount of resources and efficiently managing and investing them. Global sources (e.g. OECD and UNCTAD) have initially estimated that there is a yearly financing gap in developing countries of USD 2.5–3.0 trillion. The annual funding requirement for implementation of the SDGs in LICs and LMICs is about USD 1.4 trillion. To fund urgent action to combat impacts of climate change, an estimated USD 100 billion will be necessary every year. The global financial system is far from meeting these figures. In fact, the promises of the Addis Ababa Action Agenda (2015) remain largely unfulfilled in this respect.

Such gaps exist not because of lack of financial resources, but because of misaligned incentives and regulations, and difficulties in identifying, measuring, and reporting on sustainable investments. The situation is aggravated because of rising inequality and debt levels, and the devastating impacts of conflict and climate change, especially for the most vulnerable developing countries and communities. Uneven economic growth in developing countries and their limited capacity to expand fiscal space, combined with lack of reforms in the financial sector and capital markets, have intensified the situation further.

SVSS studies remind us that the investments required to finance the 2030 Agenda are complex and vary depending on the Goal area. For example, financial schemes for social sectors (health, education) are quite unlike from investments required for infrastructure development (energy, communication). Financing of the SDGs also

requires a complex mix of public and private actors at national and global levels. Given the fragmented international financial architecture and underdeveloped national financial systems, available funds are often inconsistently deployed, leading to missed cross-sector synergies. There is often a severe dearth of institutional and human resource capacities in weak economies in the Global South, lacking essential competence to deal with such complex financial engineering. A changing development assistance landscape—characterised by changing priorities of traditional providers, the appearance of new actors, and emergent use of new financial instruments—has made the task of resource mobilisation more challenging for these countries.

Some countries tried to estimate their financial needs to implement the SDGs. For example, Bangladesh, in 2017, estimated the additional 'synchronised' cost of implementing the SDGs until 2030 would be approximately USD 928.5 billion, which is about 20% of the accumulated GDP of the country. The need for these resources is expected to increase during the period sequentially. The highest cost was supposed to be incurred for acting on SDG 8 (decent work and economic growth). The financing requirement assessment exercise estimated that the mentioned total amount will be sourced in the following proportions: the public sector (34%), domestic private entities (42%), public-private partnerships (PPP) (6%), non-government organisations (4%) and combined external sources (15%). Regrettably, the results of this ambitious exercise were not reflected in reality.

Sri Lanka has attempted to have agencies set aside regular budget allocations for the SDGs, but the process has not yet been operationalised (Fernando et al., 2020). Templates are still being developed for annual budgets. Support for this exercise, as in many other countries, is coming as technical support from the United Nations Development Programme (UNDP). For Nigeria, financing requirement to meet SDG 4 only has been estimated at USD 34 billion.

In its VNR for 2017, India admitted that the country "is unlikely to gather sufficient revenues for achieving the SDGs". However, the country's NITI Aayog's SDG-Policy mapping does delegate ministries with the responsibility for deploying SDG-related initiatives and schemes to secure funding (Nair et al., 2020).

The Peruvian government, like most developing countries, does not have a separate budget for SDG implementation (Alcázar et al., 2020). Instead, funds are allocated to national programmes tackling development objectives. This follows a results-based scheme and is understood to cater to the SDGs. This approach is administered by the Ministry of Economics and Finance. Some social programming in Peru is externally funded, for instance, UNDP collaborates with the government on several programmes for social protection and basic service provision (Alcázar et al., 2020). However, most of the financing tackling SDG-related objectives is internally mobilised from Peru's national budget.

Almost all countries covered by the SVSS indicated that the demand for resources is highest for the social sector (including emergency relief), closely followed by economic infrastructure. The countries are increasingly recognising that addressing their SDG-related financing gaps would require significant improvements in the mobilisation

of domestic resources, accessing innovative private finance, and leveraging international development cooperation.

In this regard, it may be recalled that the UN has put integrated national financing frameworks (INFFs) in place to address the Addis Ababa Action Agenda and to support the SDGs. Adopting INFFs is a challenging endeavour, as in many countries, capacities are limited, policy reform is costly, and existing financing policies are misaligned due to underlying political constraints. However, there was no guarantee that an INFF would lead to enhanced flow of external resources. As a result, very few countries in the Global South felt inclined to undertake this exercise, with only Bangladesh and Solomon Islands showing interest in this regard.

ODA is one of the most important sources for financing, especially for the world's poorest countries. Amounts flowing into developing countries through ODA had been fluctuating since the adoption of the 2030 Agenda. Country-level data reveals that multilateral sources, including international and regional development institutions, are accounting for a greater share of public development assistance flows. The flows from traditional bilateral providers from the Development Assistance Committee (DAC) countries are either stagnating and/or being multilateralised. Further, a significant portion of their resources is being prioritised for dealing with the influx of migrants in their respective countries. However, the country case studies find that external public finance coming to the Global South could not be assessed against an agreed framework of development effectiveness linked to the delivery of SDGs, with focus on 'leaving no one behind.' Indeed, recipient countries in their VNRs reiterated the urgency of financial assistance from developed countries for climate change mitigation and control of pandemics. They also noted the need for setting clear eligibility standards and ensuring greater transparency concerning ODA regimes. At the same time, as some Southern LICs graduate to LMICs (e.g. Bangladesh and Nigeria) they are facing less concessionary financing terms from multilateral institutions like the World Bank.

Domestic resource mobilisation for SDG financing remains a vital strategy for countries in the Global South. Some countries have shown some progress in this respect. India reported on direct tax reforms as well as the goods and services tax (GST), a uniform and simplified form of indirect taxation. Bangladesh has instituted a modernised version of the value-added tax (VAT) system, whereas Nigeria has launched the Voluntary Assets and Income Declaration Scheme (VAIDS) which offers amnesty to tax defaulters willing to meet their tax obligations. Taxes on mobile transfers in certain Southern countries have been introduced to expand the tax bracket by capturing the informal sector. In Kenya, funds collected from the excise tax on mobile finance are earmarked to fund universal healthcare. The increase in the Bolivian government's tax revenue allowed investment in education to increase (Andersen et al., 2020). In the Southern countries covered by the SVSS study, one notices policy declarations aimed at increasing the tax base, as well as combating tax evasion and avoidance.

In India, financial funding seems to be the biggest challenge for the achievement of the SDGs. The VNR 2017 has admitted that "India is unlikely to gather sufficient revenues for achieving the SDGs".

Adequate funding for the SDGs is an immediate priority with solutions outlined, including improving India's tax–GDP ratio and improving accountability for official development assistance.

The SVSS studies indicate that the fundamental importance of private sector investments in meeting SDGs is recognised in almost all Southern countries. However, concerned policymakers point out that this form of finance cannot replace the role played by public finance in meeting demands for education and health in rural areas. In this connection, it was observed that foreign remittances are frequently used to finance education in countries of origin (e.g. Bolivia). Indeed, remittances play a critical role in many countries in improving the consumption level of migrant families, facilitating their graduation from the poverty level (SDG 1). Stable and predictable flows of remittances have been considered a major source for financing the 2030 Agenda.

Countries are also gearing up to attract FDI because of its well-known benefits. Arguably, for attracting FDI, an investment-enabling ecosystem and long-term policy framework are needed. An inability to do so has punished countries like Bolivia, where the flow of FDI fell, whereas it grew in many countries in Latin America. However, in some countries, FDI flow remains concentrated in the extractive sector (e.g. Nigeria), which does not necessarily facilitate growth and diversification of the manufacturing sector.

Alternatively, blended finance is touted as one of the promising forms of innovative finance, but is yet to find a foothold in the LICs and LMICs in the SVSS studies. There is a reticence of developing countries towards using external concessional finance to leverage private investment for uncertain benefits in areas of the SDGs. Records show that blended finance is not trending in the weaker economies in the South due to market distortions, risk perceptions, and a lack of institutional and regulatory mechanisms.

PPPs (a most recognisable form of blended finance) may provide a partial solution to resource mobilisation challenges of developing countries. However, our studies show that the ambitious programmes of governments in this area are yet to deliver cognisable results.

Southern financial flows (particularly from China and India) are emerging as the most ubiquitous form of long-term support for infrastructure development in LICs and LMICs. Southern providers have emerged as new and prominent funders of development projects in Asia and Africa, and to a lesser extent in Latin America. New Southern financial institutions such as the Asian Infrastructure Investment Bank (AIIB) are making their mark in the region. Recipient countries often express their preference for these sources as against borrowing from the market, in view of their unmet demand for long-term financing for infrastructure development. However, because of these borrowings, most of the concerned African and Asian countries are accumulating an unsustainable debt burden.

Curiously, awareness regarding the impact of global governance on domestic resource mobilisation in the developing South was not captured by the SVSS country case studies. For generating resources for the SDGs, these countries are yet to vigorously deal with such corrupt practices as transfer pricing and illicit financial flows (an

upshot of the current international taxation system). The value of regional (essentially South-South) cooperation is often not adequately emphasised by these countries as a resource for attaining the SDGs.

The major message from the SVSS studies is that resourcing seems to be the biggest challenge in the Global South for achieving the SDGs. While these countries are making efforts to improve mobilisation of various forms of finance, they are gradually coming to the reckoning that the most dependable source of finance is domestic revenue. On the other hand, this group of countries have aligned their national policy frameworks with the 2030 Agenda, but any change in their fiscal priorities is yet to become visible.

Data related issues and capacity of national statistical agencies

To ensure policy alignment, monitor implementation, and assess the progress of the SDGs, the readiness of relevant data is critical. This enhanced demand for data involves availability, accessibility, and usability of real-time, quality evidence concerning the SDGs. The aspiration of 'leaving no one behind' has brought to the fore the need to have disaggregated data of various dimensions. On the supply-side, the weak and under-resourced statistical infrastructure of developing countries is not able to meet this heightened demand. A noticeable political reticence in generating and disclosing data and information has often hindered capacity building progress of statistical institutions in the Global South. However, the introduction of the SDGs in national policy frameworks have given a much-needed impetus for engaging governments in this area, which may ultimately usher in a 'data revolution'.

SVSS studies show that data are relatively more available on indicators inherited from the MDG period—certain indicators concerning SDG 4 on education or reproductive health under SDG 3—than ones newly incorporated into the 2030 Agenda. However, SDG 17, notwithstanding being featured in the MDGs, also suffers from the absence of an empirical descriptor. Country case studies suggest that there is a significant absence of empirical assessment of SDG 16, relating to peace, justice and strong institutions. The same applies to SDG 10 on reducing inequalities. Information on apparently obvious indicators, such as in the areas of SDG 8 (decent work and economic growth) or SDG 7 (affordable and clean energy) is also often missing.

Reviews of the availability of disaggregated data reveal that location-related (urban and rural), sex-denominated (male and female), and income-group-specific data are more available compared to other forms of disaggregation data. Even that is limited to a number of indicators. As the countries in the Global South move to identify the region and communities who are being left behind, awareness regarding missing data grows. Yet, in most of these countries, data quality and transparency remain critical concerns.

The SVSS studies point out that the availability of data for the SDGs varies across regions and countries. Many South East and South Asian countries have undertaken exercises to identify data gaps. The gap analysis suggests it will be highly challenging to track

SDG 12 (responsible consumption and production) and SDG 14 (life below water) for Asia. Many Asian countries are creating separate committees to collect data, and coordinate, monitor, and report on the SDG implementation process.

Countries around the world have developed indicator frameworks to review progress towards the achievement of the SDGs. For example, the Department of Census and Statistics in Sri Lanka has set up a baseline report to collect data on the SDGs. Again, the Department could collect data for only 46 indicators (19%) of the 2030 Agenda. The Sri Lankan agency has identified level of data disaggregation, frequency of data collection, and costs of training equipment as their major challenges (Fernando et al., 2020).

Bangladesh, Malaysia, Lao PDR, the Philippines, and Vietnam have conducted data gap identification exercises (Rahman et al., 2020). In Bangladesh, data for 29% of SDG indicators are readily available, 45% are partially available, and 26% are not available. Bangladesh has designed an 'SDG tracker' to follow up, review, and monitor their SDG implementation progress.

In India, development of an accurate tracker of SDG progress is handicapped due to lack of recent data on governance outcomes, with the latest census being eight years old. It was found that for SDGs 12, 13, and 14, no available data sufficed in accounting for the respective Indicators. The country's Ministry of Statistics and Programme Implementation has developed an SDG India Index considering 13 out of 17 SDGs (except for SDGs 12, 13, 14, and 17), which is based on 62 national Indicators, termed as priority Indicators for India.

It transpires from the SVSS studies on Africa that 56% of SSA countries have been rated 'poorly,' i.e. have data availability at less than 40%. Only 38% of 232 SDG Indicators can be tracked properly in this group of countries. However, there has been an improvement in data availability in African countries following increased execution of censuses and household surveys, and the use of technology in these processes.

For example, Ghana has been made progress in data collection, with the Ghana Statistical Service (GSS) as the national statistics agency (Crentsil et al., 2020). The National Development Planning Commission, in collaboration with GSS, has produced Ghana's SDGs Indicator Baseline Report in 2018, which highlights 70% of the SDG Targets. Similarly, in Nigeria, moderate progress has been made in data collection for sectors such as health, gender equality, and poverty, which are key components of the SDGs. Yet due to infrequent data collection and the lack of robust and disaggregated data, ensuring policy coherence and measuring SDG outcomes continue to be an issue in many African countries.

In many Latin American countries, groups and networks of diverse actors, including governments, the private sector, and civil society organisations are working to generate data with the necessary disaggregation. However, the VNRs of only Argentina, Chile, Paraguay, and Uruguay mentioned their ability to disaggregate the critical indicators. Despite Peru's reliable data provisions, issues remain concerning the estimation methodology of certain indicators (Alcázar et al., 2020).

Scarce funding is a critical bottleneck for the development of national data systems in the Global South.

The current SDG Indicators do not have a single synthetic (meta) Indicator that defines 'decent work'; this issue has been addressed in the SVSS country report on Peru. The National Statistical Office in Bolivia launched a process of formulating a National Strategy of Statistical Development to respond to the needs of monitoring the implementation of the SDGs in Bolivia (Andersen et al., 2020).

Scarce funding is a critical bottleneck for the development of national data systems in the Global South. International support for statistics marked a 5% increase after the launch of the SDGs, and this total amounted to USD 623 million (OECD & UNDP, 2019). This amount accounted for 0.33% of the annual ODA flow. Bangladesh, Bolivia, the Democratic Republic of the Congo, India, Kenya, Mozambique, Nigeria, Rwanda, Tanzania, and Vietnam figured among the top recipients of external support for their national strategies for the development of statistics. With the entry of the Gates Foundation in this area, funding for data on sexual and reproductive health got a boost.

Finally, the need to process administrative data to meet information demands for the SDG Indicators is yet to be fully appreciated in most countries. Similarly, the use of 'big data' (e.g. cell phone and credit card records), originating from the private sector is also yet to gain traction. Moreover, the possibility of blending official statistics with findings of rigorous sample surveys implemented by research organisations, or representative perception surveys of citizens conducted by various NGOs, is not yet recognised officially in the countries of Global South.

Partnership and stakeholder participation

The 2030 Agenda is a multilayered and multidimensional holistic programme, which presupposes its implementation through multi-stakeholder partnerships. This envisaged arrangement encompasses actors located both vertically (from local to global via national) and horizontally (across entities at the same level of governance). The aspirational statement to 'leave no one behind' has further consolidated the need for such an inclusive approach towards implementation of the SDGs. Goal 17 specifically calls for stronger means of implementation and encourages effective public, public-private, and civil society partnerships, building on their respective experience and resourcing from tangible and non-tangible assets. Such an approach will enhance the transparency and accountability process as well as bolster the efficiency of the SDG delivery process.

A strong pursuit of this proposition entails operationalisation of a substantive global partnership, as well as partnerships among national actors—ranging from the central government to local government agencies, to the whole collection of non-state actors, including the private sector and civil society. The SVSS studies suggest that this core aspect of SDG implementation has been addressed varyingly in countries of the Global South. Some have tried to meaningfully address the issue of partnership and participation in implementing the SDGs. For instance, India prioritised building partnerships and participation involving subnational governments and non-state actors. A variety of international organisations, as well as the private sector and local civil

society groups, are engaged in articulating policies and methods of SDG implementation. Nepal has formed SDG implementation committees at provincial, district, and municipality levels. Several Asian countries, including Malaysia and Indonesia, have initiated the 'whole of society approach'.

In the face of Latin America's territorial, ethnic, and linguistic diversity, consultation with these actors has been of high interest (Beneke de Sanfeliú et al., 2020). In an attempt to engage a variety of civil society representatives, post-2015 consultations in Peru had a strong focus to 'leave no one behind'. Thus, outreach consultations included leaders of indigenous groups from the Andes and Amazon, women of Afro-Peruvian descent, members of the LGBTQ community, representatives of grassroots organisations, children, people with disabilities, housekeepers, the young, and people with HIV/AIDS. Indeed, such a process was most visible and intense during a phase when governments were seeking alignment of national development policy frameworks with the global Agenda.

All international development partners in Bolivia have aligned their interventions with both the 2025 Patriotic Agenda and the 2030 Agenda, and are coordinating their interventions through monthly meetings of Group of Development Partners (GruS). Additionally, the United Nations and Confederación de Empresarios Privados de Bolivia (CEPB) signed an agreement to implement the UN's Global Compact Initiative in Bolivia (Andersen et al., 2020). However, due to insufficient information and lack of systematic public-private sector collaboration, very few businesses have been able to incorporate the SDGs into their business model.

In Africa, partnerships are crucial mechanisms to ensure joint implementation of the 2030 Agenda and the Agenda 2063 (Kasirye et al., 2020). For example, in Ghana, several in-country consultations were held to foster citizens' engagements in the adaptation of the 2030 Agenda at the local level (Crentsil et al., 2020). In Nigeria, there had been adequate in-country consultation between state actors, NGOs, CSOs, and international development partners in the agenda-setting of the SDGs (Adeniran et al., 2020). Kenya also has managed to significantly involve other partners, e.g. the private sector, in implementing the SDGs (Kasirye et al., 2020). Furthermore, to foster stronger collaboration and partnerships for the SDG implementation, new coordination and leadership structures have been set up in Nigeria.

The Peoples' Forum for Sustainable Development, attached to the regional commissions of the United Nations, provides a unique platform for non-state actors to meet and exchange experience and do peer learning on SDG delivery across borders.

The second stage of consultation regarding SDG implementation with non-state actors in different countries took place, with varying degree of inclusivity, as these countries prepare their VNRs. Often the concerned governments have pursued this type of consultation on a proforma basis, instead of seriously responding to the observations of participants. Many countries have acknowledged in their VNR reports the role of NGOs in ensuring that no one is left behind, yet civil society reports have highlighted different problems concerning existing partnerships with governments.

> **Civil society in most countries is yet to enforce a process of social accountability, thereby taking its partnership with the government to a new level.**

However, very few countries have institutionalised this consultation process to make it effective and systematic. In Ghana, to foster stronger collaboration and partnership for SDG implementation, new coordination and leadership structures have been set up with the participation of the non-state actors. These new structures are: the SDGs Implementation Coordination Committee, the Technical Committee, and the CSOs Platform for SDGs.

SVSS studies indicate that the quality of public-private dialogue has often been constrained by limited civic space available in certain countries. Global actors have not always emphasised the role of local non-state actors in international dialogues either. The lack of required capacity of non-state actors has, on occasion, inhibited their effective participation in dialogue with governments.

To recapitulate, one observes a tradition in the countries of the Global South where the incumbent government feels it is necessary to go through the notion of consulting non-state actors without committing to act on their inputs. On the other hand, civil society in most countries is yet to enforce a process of social accountability, thereby taking its partnership with the government to a new level. At the same time, understanding the role of the private sector in delivering the 2030 Agenda, beyond SDG 8, turned out to be problematic in most countries. In many, this role is still perceived through the prism of corporate social responsibility. The record of public-private dialogue and joint actions in the Global South seems to fall short of the commitments expressed by governments to the 2030 Agenda.

Summing up

The foregoing reviews of regional trends and country analyses illustrate both common and unique experiences during the initial years of the SDGs in the Global South. One common trait of this process is the interest and initiative demonstrated by regions and countries in embracing the 2030 Agenda.

A focus on eradicating human deprivations and structural changes while introducing the SDGs is evident in all three continents, yet some variations can be noted. While one region emphasised poverty and conflict (Africa), others have highlighted environmental concerns (Asia); and governance- and inequality-related issues (Latin America). Another aspect that stands out in all cases is the absence of any effective regional cooperation mechanisms as yet—supporting delivery of the SDGs. However, there has been one continental programme (in Africa) drawn up in line with the 2030 Agenda.

Countries in the Global South have energetically integrated the SDGs within their respective country contexts. In the process, they have encountered 'first-generation challenges' and resolved them with varying degrees of success. Most countries have satisfactorily adopted the 2030 Agenda within their existing national plans, programmes, and policies. However, the refashioning of policy frameworks is yet to become visible through changes in governments' allocative priorities. On the other hand, countries have, in general, put in place mechanisms dedicated to implementing the SDGs, but the silo approach within public administrations largely continues.

The most serious challenge afflicting countries' SDG implementation plans emanates from their financial resource gaps. The situation is further aggravated by a lack of predictability regarding the flow of international development assistance. The second-most pressing dimension of country-level SDG implementation plans is the data deficit undermining efforts to identify the 'left behind' people, consequently frustrating the possibility of assessing progress at a disaggregate level.

The success of coalescing multi-stakeholder partnerships to achieve the SDGs has been a function of the space allowed for non-state actors in their respective countries. The search for an effective modality for engaging the private sector in promoting the SDGs (beyond its traditional role in enhancing investment, employment, and income—assessed through the prism of corporate social responsibility) is yet to meet with reasonable success.

As Global South countries continue to address the initial challenges of SDG actualisation within their respective realities, they are also gradually taking note of 'second generation challenges' underpinning the continuum of the process. These novel challenges are discussed in the following chapter.

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3

Understanding the second-generation challenges of SDG implementation

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Sayeeda Jahan

Introduction

This chapter considers country-level and regional experiences in addressing three cross-cutting issues underpinning implementation of the 2030 Agenda for Sustainable Development. It consolidates key findings of the country case studies concerning 'leaving no one behind,' synergies and trade-offs between and among Goals, and the impact of global systemic dimensions being addressed within specific contextual realities. These three sets of issues are the 'second generation challenges' of delivering the SDGs—distinct from the initial challenges faced by the countries in Global South.

The analytical framework

The 2030 Agenda is a comprehensive and holistic programme with specific Goals, Targets and Indicators—implemented under country ownership and reflecting national priorities and realities. These discrete programmatic objectives are unified around three area pillars (the economic, social, and environmental). They are also conjoined by a number of principles, including that the success of the Agenda will be judged by the progress of those furthest from the development frontier. To this end, each country must identify the people 'left behind'— marginalised from the mainstream of national development—and adopt specific policies and programmes to overcome this.

The presence of 17 Goals, 169 Targets, and 231 Indicators does not presuppose that they are tackled in an additive fashion. Inclusion of all Goals and Targets in national development strategies may not generate incremental results; there may be synergies and trade-offs between and among them. Each country, while identifying its national SDG priority framework, is expected to consider such potential synergies and trade-offs at least at the Goal level, if not at the Target level. Such an approach will optimise countries' paths to SDG achievement and maximise the outcomes of national efforts.

Furthermore, although the SDGs are implemented nationally, all Southern economies are connected with the global economy through international trade, investment, and migration. Global rules concerning intellectual property rights and access to technology often determine the nature and pace of national development. There are also many global commitments under the 2030 Agenda, including disbursement of official development assistance (ODA), which are important enablers of SDG implementation at the national level. No less important is counteracting the fallouts of climate change through concerted global initiatives. Countries falling into conflict situations, promoted by regional and international factors, is emerging as an added concern. Thus, SDG 17 emphasises the need for 'coherence' of global policies and institutions supporting the delivery of the SDGs and allowing 'policy space' for developing countries.

These three aspects characterising delivery of the SDGs also distinguishes them from the implementation of the MDGs. The MDG agenda did have issues such as poverty alleviation, gender rights, and environmental concerns embedded across its eight goals, but national-level prioritisation of goals and targets was not consciously

pursued. These interlinkages among goals and targets were not adequately recognised, and the effectiveness of global partnership (MDG 8) remained the 'weakest link'. The SDGs seek to break this 'silo approach'—both nationally and globally.

Table 3.1. Framework of the analyses

Issues	Description
Leave no one behind	In all the countries studied, multidimensional vulnerabilities are observed. Although each variable is important, it is their overlapping which determines the likelihood of certain groups being left the furthest behind. Exclusion criteria are not static, but rather dynamic, changing over time.
Synergies and trade-offs	A synergy is a situation where policies related to one theme support the accomplishment of Goals and Targets related to that theme and also increase the accomplishment of other inter-related goals. A trade-off is a situation where policies in one area negatively affect the possibility of achieving other Goals and Targets.
Global systemic concerns	Global systemic concerns refer to aspects of development beyond the scope of national governments. Agenda 2030 recognises these issues primarily in Goal 17, addressing international governance rules on finance, technology, capacity-building, and trade.

Source: Southern Voice (2017).

The main components of the conceptual framework deployed to analyse cross-cutting issues for the SVSS studies derive from Figure 1.2 presented in Chapter 1 of the Report. The three cross-cutting issues allow for multiple definitions, so to avoid conceptual ambiguity, each country case study mainly follows the definitions of leave no one behind (LNOB), synergies and trade-offs (S&T) and global systemic concerns (GSC) mentioned in the SVSS Approach Paper (Southern Voice, 2017). Table 3.1 presents the scope of the three cross-cutting issues addressed in the present and subsequent chapters.

Evidence has been provided from the six-country studies (Bolivia, Ghana, India, Nigeria, Peru, and Sri Lanka).[1] These countries are either low-income countries (LICs), or lower-middle-income countries (LMICs). To explore the synergies and trade-offs between SDGs, the studies focus on access to quality education (SDG 4), decent and gainful work (SDG 8), affordable and clean energy (SDG 7), and global partnerships (SDG 17). The implications of global systemic concerns have been investigated through the flow of international finance, access to technology and automation of industries, cross-border proliferation of arms, and coherence between national and global policies.

In the following section, we consolidate the overarching messages emanating from the three-dimensional investigation described above.

1 Details of the country studies may be found in the list at the end of the report.

Manifestations of the second-generation challenges of SDG delivery—an overview

Although Global South countries are yet to fully absorb the cross-cutting issues in their national planning and operational frameworks for SDG implementation, they are addressing them in other efforts. The importance of bolstering this aspect of SDG delivery is brought out by the SVSS country case studies. The studies reveal the manifestations of choices involved in identifying the left behind, prioritising specific SDGs, and mitigating fallouts from global processes.

While all the three cross-cutting issues will be discussed in detail in Chapters 4, 5, and 6, in the present section, we tease out the overarching messages of these three-dimensional enquiries. The key findings have been consolidated in Table 3.2. However, we pick each of these three cross-cutting issues below to delineate the commonality and uniqueness of the country-level and SDG-specific experiences.

Table 3.2. Key findings on cross-cutting issues at the country level

Country	Leave no one behind	Synergies and trade-offs	Global systemic concerns
Bolivia	Young, urban, non-indigenous males are the group mostly left behind in the education system	Bidirectional relationship between SDG 1 (Poverty alleviation) and SDG 4 (Education)—enhancing in both directions and having no impact on output	Technological shifts and unrestrained out-migration or 'brain drain' (with negative net migration) are influencing the state of education
Peru	Youth those are neither in education, employment or training (NEET) are left behind (SDG 8). They are in precarious employment condition (without living wages, job stability, and access to social benefits)	The major S&T: SDG 4 and SDG 8 Enhanced human capital (SDG 4) increases productivity (SDG 8), creates unidirectional synergy	Large disparities in ICT access along the lines of geographical regions—differentiated by rurality and socio-economic development—has turned the global push for ICT in education from an asset to a problem
Ghana	Low level of education, poverty level and disadvantaged place of residence are key determinants for falling furthest behind in access to clean energy	Access to clean energy improves health status of the poor—provides unidirectional synergy	Absence of adequate research and development (R&D) support from international development partners is impeding access to energy-efficient technologies
Nigeria	Gender, regional disparity, and rural-urban differences are key factors triggering exclusion	Bidirectional synergy between education (SDG 4) and gender equality (SDG 5) — enhancing both ways	The outcome of quality education is highly dependent on external factors like access to technology, proliferation of arms, and availability of foreign aid
India	Overlap of constrained access to resources, social norms, and safety issues (especially in the workplace) are deterring factors for female labour force participation	Provides neutral bidirectional relationship between education (SDG4) and gender equality (SDG5) as contextual social norms are more important for the trade-offs	Constrained access to technology and skills, in the face of the impending fourth industrial revolution (4IR), is having disproportionate adverse impacts on the female workforce
Sri Lanka	Locational advantage including nature of labour (resident or migrant) plays a decisive role in being left behind	The major S&T: SDG 8 and SDG 12 Economic growth causes wasteful consumption and hence produces unidirectional trade-offs between decent work (SDG 8) and sustainable consumption and production (SDG 12)	The adoption of automation and new technologies at the global level shapes the labour market, disadvantaging women in the workforce (particularly the garment industry)

Source: Collated from Adeniran, Onyekwena, Onubedo, Ishaku & Ekeruche (2020); Nair, Shah & Sivaraman (2020); Crentsil, Fenny, Ackah, Asuman & Otieku (2020); Andersen, Medinaceli, Maldonado & Hernani-Limarino (2020); Alcázar, Bullard & Balarin (2020); Fernando, Arambepola, Niles & Ranawana (2020).

The LNOB principle at the country level

The leave no one behind (LNOB) principle was proposed as the first of five core principles for the post-2015 framework. The preeminence of this principle comes from the experience of the MDGs, when national-level successes were not necessarily matched in disadvantaged and marginalised populations. Experience suggests that such differential achievement of the MDGs was prompted by prevailing social disparities and exclusionary practices linked to place of residence, income level and asset status, gender, ethnicity and other identities, disability, and life cycle issues. These groups of people remained highly vulnerable to market-related shocks and natural disasters. Moreover, poor quality of political governance may further accentuate the disadvantaged position of these vulnerable people. Accordingly, by making LNOB the leitmotif of the 2030 Agenda, it was made an imperative that we pursue a disaggregated assessment of each SDG achievement. In this way, the issues were related not only to eradication of extreme poverty but also made promoting social justice and equity an irreplaceable requirement for successful delivery of the 2030 Agenda.

The country case studies establish a broad similarity among the factors predicating socio-economic (and political) exclusionary trends. These factors manifest themselves in different degrees of intensity in different national contexts. Moreover, left behind groups are victims of multiple exclusionary processes, leading to overlapping vulnerabilities. One would need to isolate the second-order factors responsible for the situation. Critically, no one set of aggregate or second-order factors are more responsible for delivery of all SDGs within a country; there is wide variation in this regard. We also note that those left behind are not a static group, but rather different dynamics affect them constantly—changing the dominant nature of their vulnerabilities.

The aforementioned observations may be illustrated through the country experiences concerning delivery of SDG 4 (quality education) and SDG 8 (decent work and economic growth). While geographical location (rural/urban, remoteness) and gender stand out as the common discriminating factors in the realisation of both SDGs, the former is more dominant in access to decent work, while the latter is more critical for access to education. Country-level inhibiting specificities (second-order factors) may be also be noted in delivering the two SDGs. For example, in Nigeria and Bolivia, physical disability of children has been identified as an obstacle to access to education; in India, gender norms and agency problems are considered to be more of an impediment. Interestingly, while Bolivia highlights the disadvantaged circumstances of young, non-indigenous men living in urban areas, Nigeria and Peru underscore the marginalised position of the indigenous and ethnic minorities. Changing developmental circumstances (e.g. remote areas getting connected with new infrastructure projects) may transform the nature of vulnerability. For example, in India, the absence of adequate safety for women travelling from home to workplaces through newly built roads is pronounced. In Sri Lanka, the disadvantaged situation of women workers is expressed not through limited access to general education, but limited acquisition of skills to deal with new technologies. In Nigeria, internal conflicts have been affecting economic progress and social cohesion.

To sum up, there is an overall similarity among factors perpetuating the disadvantaged position of certain groups in different countries. However, a closer look reveals second-order discriminating factors, which are not the same across countries. Constellations of unfavourable factors need to be considered in the context of their changing dynamics, implying that the identification of the left behind must be a continuous process. This would, of course, demand availability of updated databases with necessary levels of disaggregation. Moreover, the overlapping sources of vulnerability of the left behind prompt us to look at the cross-sectionality of these factors. The last issue is quite instructively exposed through the discussion on synergies and trade-offs between and among SDGs.

Synergies and trade-offs

The interconnected nature of the 2030 Agenda requires policymakers to address the SDGs as an 'indivisible whole'. Goals and Targets are mutually reinforcing in most but not all cases. However, managing this dimension of SDG implementation is fraught with both significant conceptual and operational intricacies. A dearth of necessary data has further complicated the practical aspects of this task. Though there is recognition in the Global South of the need to understand the interlinkages of the SDGs, countries are yet to make discernible progress in this regard as their national priority frameworks for the 2030 Agenda have already been prepared. However, understanding these interlinkages is gradually becoming more significant as countries try to identify conditions for maximising their efforts, and take on mid-course corrections. The subject is attracting further attention for strengthening the impact of SDG implementation initiatives on the left behind.

The SVSS country case studies, aiming to make a contribution in this area, explored the nature of synergies and trade-offs in parallel pursuits of certain SDGs within specific developmental contexts. In total, 11 unique pairs of SDGs have been analysed as part of this effort, applying diverse methodological approaches to yield common but unique outcomes. The country case studies have used quantitative, qualitative, and mixed approaches in their investigations. Use has been made of logit models, factor analysis, counter-factual simulation, trend and network analysis, textual analysis, interviews, focus groups discussions, and literature reviews. The studies illustrated that synergies and trade-offs are occurring at various levels, including the individual, household, regional, and national. Beyond location dependency, the dual processes of synergies and trade-offs are conditioned by timeframes, technology, and governance-related factors. No less interesting had been the findings about the direction of the two sets of interactions.

The incidence of synergies (positive relations) between SDGs was observed in more cases than otherwise (neutral or negative). For example, access to affordable and clean energy (SDG 7) positively relates to good health and wellbeing (SDG 3). Similarly, quality education (SDG 4) had positive interactions with decent work (SDG 8) in Peru, and gender equality (SDG 5) in Nigeria. However, the narrative becomes complicated when one finds that quality education

had a 'neutral' effect on poverty (SDG 1) in Bolivia, and on gender equality in India. These neutral relationships are bidirectional. Such divergent results for similar sets of SDGs are explained by the level of income inequality (Peru), timeframe dependency (Nigeria) and place-specific context (Nigeria), as against social norms and practices (India) and the nature of public policy (Bolivia).

The rare case demonstrating trade-offs was the relationship between decent work and economic growth (SDG 8) and responsible consumption and production (SDG 12), as economic growth causes wasteful consumption. The adverse relations observed in Sri Lanka between the mentioned SDGs are supposed to be caused by distorted pricing policies of the government. However, the concerned study points out that the relationship is unidirectional; a reduction of wasteful production and consumption may not lead to a reduction of economic growth.

This brief expose of the problematic interface between different pairs of SDGs has major policy implications for enhancing the SDG strategy of developing countries. First, in view of their national priority frameworks of the SDGs, each country will need to establish the interrelationship of these identified goals and targets within its own context to maximise synergies and reduce trade-offs. Second, there is a great role for public policies as well as social norms and practices in nurturing synergies and mitigating trade-offs. Third, these explorations must be repeated as the observed relationships are time-dependent, implying a currently positive relationship may turn negative in the course of time and vice versa.

Addressing global systemic concerns

Global systemic concerns refer to aspects of development beyond the scope of national governments, impacted upon by the conduct of global policies and institutions. Global systemic concerns are relevant because they influence the delivery of SDGs in national contexts, and bear on a country's ability to accomplish the core objectives of the 2030 Agenda—including leaving no one behind. Global factors are given effect in the country context through cross-border transactions in the factor and product markets. These transactions are delimited by global regulatory and institutional frameworks, as well as conditioned by external market powers. Thus, the transmission channels of these international influences include export of goods and services, flows of finance and investments, intellectual property rights, and ICT regimes, as well as the behaviour of global commodity and capital markets. Migration, climate change, and internal and cross-border conflicts are imparting additional pressure on these relationships. The terms of such international exchanges often militate against the LICs and LMICs, as they have marginal participation and voice in shaping global rules and regulations and the nature of their practice.

Incorporation of SDG 17 into the 2030 Agenda is a de facto recognition of the relevance of global factors in delivering the SDGs at the country level. The promised 'global partnership' is supposed to ameliorate disadvantages experienced by weaker economies of the Global South through support in areas including access to concessional finance, product markets and technology. Intentions have been also expressed

under SDG 17 to inculcate 'coherence' in global policies and institutional conduct to provide a level playing field for developing countries. The efficiency gains from improved functioning of global markets and institutions could enhance the resource base of LICs and LMICs.

Curiously, this implementation challenge of the SDGs has remained one of the understated dimensions of delivering the 2030 Agenda. The significance of global partnership and its inadequate state of affairs have received limited attention in the VNRs presented by developing countries. The role of South-South cooperation and regional integration in the context of SDG delivery have remained quite inconspicuous in these presentations at successive High-Level Political Forums (HLPFs). Arguably, as the LICs and LMICs advance further, they will become more integrated with the world economy and the influence of global factors will be more prominent in their respective economies. Indeed, managing global factors will emerge as one of the key challenges of SDG implementation in these countries.

Guided by the above perspectives, the SVSS country case studies make critical contributions to improving our understanding of the implications of global systemic concerns for efficient realisation of the SDGs. The country case studies maintain that global factors could have both positive and negative impacts on national implementation. To investigate global factors, the studies adopted quantitative and qualitative methodologies, using secondary and primary data. These methodologies ranged from key-person interviews to causal loops, design evolution, and transmission mechanisms framework analyses. The studies examined the nature of global interfaces with national SDG implementation efforts in areas such as the flow of concessional finance, access to technology and innovation, expenditure on research and development, and peace and security. Challenges posed by the impending fourth industrial revolution (4IR)—a double-edged sword—are showing up as an issue of grave concern.

The Nigerian case study reveals that varied external factors, ranging from limited foreign aid to cross-border proliferation of arms, are affecting its education sector. More than half of the schools in north-eastern Nigeria are closed due to violence inflicted by 'Boko Haram' which translates to 'Western education is a sin'. Regional wars and conflicts have left Nigeria and other similar countries with large numbers of out-of-school children, putting achievement of SDG 4 under serious threat.

The Sri Lankan case study exposes that the deepening of automation and adoption of new technologies at the global level are bringing about major structural changes in the country's labour landscape. The feminised apparel industry workforce is unable to upgrade its skills to take advantage of the potential productivity and income growth brought on by the unfolding 4IR. Women labourers are being relegated to low-paid, often informal, jobs. This implies that the objective of generating decent jobs (SDG 8) is being challenged by new technologies.

Indeed, a number of country case studies expose how global circumstances are affecting the acquisition of skills and capabilities in the face of the unfolding technological transformation. Large

Incorporation of SDG 17 into the 2030 Agenda is a de facto recognition of the relevance of global factors in delivering the SDGs at the country level.

Evidence from Ghana shows that flows of foreign aid to schooling have been valuable in increasing access to education, although there is a gap in its contributions to improving education quality.

disparities in ICT access along the lines of region, rurality, and socio-economic level have turned the global push for ICT in education from an asset to a problem in Peru. In failing to transition to high-skilled, high-productivity industries, Peru is caught in a middle-income trap of unsustainable growth. At the same time, the Indian case study indicates that even though an overwhelming number of women utilised internet resources, it was mostly for accessing social media, while only a marginal share used it for e-banking or accounting. This alludes to a lack of formal, technology-enabled financial inclusion of women that could impact their economic empowerment and reduce time spent on unpaid work or errands.

Evidence from Ghana shows that flows of foreign aid to schooling have been valuable in increasing access to education, although there is a gap in its contributions to improving education quality. However, a paucity of research and development (R&D) support from development partners is impeding access to energy-efficient technologies. On the other hand, technological shifts and unrestrained out-migration or 'brain drain' (with negative net migration) are influencing the state of education in Bolivia. A considerable section of the Bolivian population are emigrants residing abroad, and they include many highly skilled professionals. This perverse functioning of the global labour market is depleting the countries of the Global South of much-needed national capabilities for successfully realising the SDGs.

The country case studies also suggest that regional cooperation and global partnerships can narrow inequalities in access to household energy when funded adequately and implemented equitably. However, sustainable energy remains a contentious issue for many countries heavily dependent on fossil fuels. Geo-political dynamics and economic interests can impact countries' abilities to provide affordable and clean energy.

The evidence provided by the SVSS studies brings forward two major messages. First, the Global South must be mindful about the defining contributions that advantageous interface with global factors could make in achieving the SDGs. Thus, these countries will need to effectively incorporate global dynamics into their national SDG implementation strategies. Second, the Global South, while considering positive international interfacing of their economies, is putting a higher premium on access to technology, acquisition of world-class skills, and greater investment in R&D. These stand in contrast to traditional aspirations for more foreign aid, export markets, and FDI.

Summing up

As the countries in the Global South move forward to actualise the multidimensional and multilayered SDGs, they will encounter challenges distinct from those tackled during the initial years of the 2030 Agenda. Three concerns among these 'second generation challenges' of SDG delivery stand out. These are (i) identification of those left behind (and pushed behind) in the development process, (ii) understanding the synergies and trade-offs involved in simultaneous pursuit of the goals and targets, and (iii) appreciation of the influence of global rules, regulations and institutional arrangements on domestic

processes of SDG implementation. Addressing these three sets of implementation issues are fraught with conceptual, operational, measurement, and data predicaments. Country experiences suggest that most have already taken on board the first challenge, while awareness and capacity around the second and third challenges are quite limited.

The complex and comprehensive nature of the SDGs demands a common but differentiated approach across countries. This was compellingly exposed by the varying composition of the 'left behind'. As may be expected, gender was a major discriminating factor (militating against women) in almost all countries, but spatial locational factors (beyond the rural-urban divide) and quality of education emerged almost with equal force in defining the marginal status of those left behind. No less remarkable were the factors that brought about second-order and overlapping vulnerabilities (e.g. identity issues and social norms). The development process of countries has been paralleled by the changing profile of the left behind. However, there has been little evidence that identification of the left behind has led to changes in allocative priorities of governments' budgets.

The importance of understanding the interlinkages of the SDGs is being gradually recognised by governments in developing countries. However, there is widespread belief among policymakers that these interlinkages are almost always synergistic, with little recognition of the concerned trade-offs. However, as countries chart their optimum pathway—guided by their nationally prioritised SDGs—to have maximum impact in the shortest possible time, the deliberations concerning synergies and trade-offs between and among Goals will gather momentum. Yet locating synergies and trade-offs at the level of Targets will still remain analytically and empirically hazardous. At the same time, persisting turf wars among different administrative entities at the country level will impede the realisation of synergies and minimisation of trade-offs among a select set of SDGs.

The international dimensions of SDG delivery at the country level is yet to receive requisite policy attention in Southern countries. Systematic analysis of transmission channels of the impact of global markets and institutions on domestic circumstances is largely absent. Regional cooperation has only in a few instances (more in Africa, less in Asia) been explicitly incorporated in country strategies for SDG achievement. Countries in the Global South are yet to show critical enthusiasm regarding demand for coherence among global policies. On the other hand, the country case studies reveal that demands on traditional modes of global partnership (e.g. the flow of concessional finance and access to export markets) are giving way to demands for access to frontier knowledge and know-how (particularly in the area of information technologies). However, the benign indifference of international development partners regarding the specific Targets of SDG 17, in the context of their overall enthusiasm about the 2030 Agenda, is quite striking.

Finally, the three issues highlighted here need to be considered discretely within specific country contexts, but they must also be considered as a composite task—to be explored through their circular causation. For example, countries would need to establish how global

systemic concerns may facilitate the generation of synergies and reduction of trade-offs between and among SDGs, with a view to having the maximum positive impact on the wellbeing of those left behind. This can very well be a substantive research agenda in the future.

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Leave no one behind:
a cross-country synthesis

Ibrahima Hathie

Introduction

The concept to leave no one behind (LNOB) is at the core of the 2030 Agenda for Sustainable Development. Paragraph 4 of the World Leaders' Declaration adopted in September 2015 states:

> As we embark on this great collective journey, we pledge that no one will be left behind. Recognising 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 LNOB concept encompasses individuals, groups, and countries. It underscores that no one should be left behind and highlights the need to achieve sustainable development for all nations, peoples, and segments of society. More importantly, the resolution insists that priority must be given to the most deprived.

The commitment of the UN member states to leave no one behind implies that they should take explicit measures to (i) end extreme poverty in all its forms and allow the left behind to catch up with those who have made progress; (ii) reduce the inequalities and vulnerabilities that undermine a person's ability to escape poverty; and (iii) end group-based discrimination that leads to unequal outcomes for the marginalised (Organisation for Economic Co-operation and Development [OECD], 2018; Stuart & Samman, 2017).

Leaving no one behind, therefore means going beyond overall averages and ensuring that progress is made for all population groups on a disaggregated scale (United Nations Development Programme [UNDP], 2018). Since people often do not have the same capabilities to take advantage of opportunities, equality in terms of access and opportunity does not necessarily lead to equality in the outcome achieved (Sen, 1999). The better off generally possess assets, are well educated, and have access to social capital (Van Kesteren, Altaf, & de Weerd, 2019). Reducing inequalities implies an irredeemable move towards equal opportunities and equal outcomes for all (Fukuda-Parr & Hegstad, 2018).

The LNOB concept is intrinsically linked to social exclusion. According to De Haan (1999), social exclusion has two main characteristics. On the one hand, it is a multidimensional concept in the sense that people can be excluded in many areas of life, such as education, housing, employment, and citizenship. On the other hand, social exclusion involves a focus on social relations, processes, and institutions that cause deprivation. For example, a group of people may be excluded due to their identity or by landowners who prohibit access to land or habitat; political elites may exclude other groups based on legal rights; and labour markets may prevent categories of individuals from obtaining access to employment.

In assessing exclusionary processes, several authors (Addison, Harper, Prowse, Shepherd, Barrientos, Braunholtz-Speight, & Moore, 2008; Khan, Combaz, & McAslan Fraser, 2015; United Nations Sustainable Development Group [UNSDG], 2019) have pointed to five dimensions

of exclusion: (i) social discrimination, (ii) spatial disadvantage; (iii) socio-economic status; (iv) limited citizenship; and (v) insecurity and shocks.

The concept of intersectionality helps us understand the multiple disadvantages that place several groups further behind and sometimes make them invisible. This is the case, for instance, when a group is located in a remote area, is of the lowest socio-economic status (income poor), and belongs to an ostracised minority (Khan et al., 2015; UNDP, 2018).

> **Poverty, inequality, and exclusion are closely linked to LNOB and are multidimensional.**

Poverty, inequality, and exclusion are closely linked to LNOB and are multidimensional. Indeed, most people who are socially excluded are poor (Hickey & Du Toit, 2007). Similarly, there are also many connections between group inequalities (or horizontal inequalities) and social exclusion (Khan et al., 2015; Stewart, 2004). Horizontal inequalities arise between culturally defined groups and are exacerbated when there is an overlap of cultural identities with inequalities in political, economic, and social dimensions (Stewart, 2004). In contrast, vertical inequality concerns inequality among individuals or households.

While there is extensive discussion on the implications of LNOB, we know little about what exclusion looks like at the country level. Therefore, the main aim of this analysis is to contribute to closing this gap. We will seek to answer two key research questions: (i) What does exclusion look like in a given country? (ii) What does it mean to be left behind?

This LNOB chapter will also look at the connections and interlinkages between three Goals: SDG 4 (quality education), SDG 7 (affordable and clean energy), SDG 8 (decent work and economic growth). For instance, the connections between education, employment, and clean energy can help identify left-behind groups that are often overlooked. Identifying those left behind at the country level and how they are excluded will further our understanding of the root causes of LNOB and will help design policies that address this issue. To illustrate the challenges, the chapter will refer to the six country case studies (Bolivia and Peru in Latin America; Ghana and Nigeria in Africa; and India and Sri Lanka in Asia) of the State of the SDGs initiative.

This chapter is divided into five sections. The next section presents the conceptual framework. It articulates how the concepts of extreme poverty, inequalities, and exclusion are interlinked to generate lasting unfavourable conditions within which certain groups of people are trapped. A taxonomy is proposed and serves as a tool to compare and contrast different LNOB approaches. Section 3 uses country studies to explore how LNOB is experienced in different settings and contexts. Section 4 analyses the set of policy responses proposed in each country case study and determines whether those responses are similar in different circumstances. The last section presents concluding remarks.

Conceptual framework

Conceptualisation

As noted in the introduction, horizontal inequality and social exclusion are two closely related concepts. Khan et al. (2015) point out that these two concepts are multidimensional and encompass social, economic, and political forms of exclusion. But it is when horizontal inequalities are severe that they lead to social exclusion.

Horizontal inequalities exist when groups with similar characteristics experience disadvantages or privileges related to their membership of categories such as gender, race, ethnicity, religion, age, or disability. Horizontal inequalities are, therefore, understood as those that affect groups for which there is no economic justification for their different level of development (Klasen & Fleurbaey, 2018).

Unlike these group-based inequalities, vertical inequality (extreme inequality) refers to inequality among individuals or households. Here, the focus is on people who are at the bottom of the distribution of a key well-being indicator such as income, education, or health. It highlights the concentration of power and wealth among the elite (Fukuda-Parr, 2019).

Ramos Pinto (2014) argues that horizontal and vertical inequalities are not separate dimensions, pointing to the interrelationships between social categories (horizontal) and resource inequality (vertical). In fact, social systems use categories such as gender, ethnicity, race, or religion to allocate individuals and households to roles and positions which allow them to access key resources and advantages. Access to these resources can play a central role in shaping institutions and policies that reinforce individuals' gains. As a result, Pinto suggests focusing both on horizontal and vertical inequalities for achieving a successful 2030 Agenda.

Doyle and Stiglitz (2014) call for eliminating extreme inequalities (vertical) as they tend to hamper economic growth and undermine social stability. Because the very rich tend to spend a smaller percentage of their income compared to the poor, high inequalities of incomes and assets (greater concentration), result in lower aggregate demand generating slower economic growth. Likewise, this concentration of power (monopoly) generates higher inefficiencies due to rent-seeking. Doyle and Stiglitz (2014) draw attention to the importance of inequality of opportunity, which is both the cause and consequence of unequal outcomes. This results in economic inefficiency because many individuals fail to realise their full potential due to the prevalence of inequalities of opportunity. One manifestation of this is the lack of socio-economic mobility that condemns individuals born in precarious situations to remain at the bottom of the social pyramid for their whole lives.

The link between discrimination and social exclusion is also worth noting. Discrimination results in unfavourable treatment of one or more individuals on the basis of social categories such as gender, race, ethnicity, religion, disability, social class, or age. It can take the form

of direct or indirect discrimination. Direct discrimination occurs, for instance, when an individual is denied access to an education or health service because of identity considerations. The indirect form is more pernicious and results from formal or informal rules affecting social categories without targeting them openly (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2017). The United Nations Report on the World Social Situation 2016 rightly underlined that discriminatory norms and behaviours are widespread and constitute a key driver of social exclusion (United Nations, 2016). Discrimination has a huge impact on social inclusion as it affects people's opportunities, well-being, and sense of agency (United Nations Department of Economic and Social Affairs [UNDESA], 2018).

This quick overview of the main concepts around LNOB shows how interconnected they are, in particular how social discrimination influences social exclusion, as well as the strong similarities between horizontal inequalities and social exclusion. It also appears that vertical inequalities are little mobilised in the conceptualisation of LNOB and have, therefore, given rise to criticism (Fukuda-Parr, 2019).

As mentioned earlier, several authors propose five main dimensions of exclusion that can be used to identify those left behind (Addison et al., 2008; Khan et al., 2015; United Nations Economic and Social Comission for Asia and the Pacific [UNESCAP], 2017; UNSDG, 2019). There is a broad consensus on the social, spatial, economic, and political dimensions. There are, however, a few noticeable differences (Table 4.1).

Table 4.1. Dimensions of exclusion according to selected authors

	Variables/ Authors	Addison et al., 2008	Khan et al., 2015	UNESCAP, 2017	UNSDG, 2019	Altaf, 2019
Dimensions of exclusion	**Social**	Social discrimination	Social status or identity	Discrimination, marginalisation	Discrimination	Relational
	Spatial	Spatial disadvantages	Spatial factors	Geographical disadvantage	Geography	
	Economic	Limited employment opportunities	Economic status	Socio-economic	Socio-economic status	Material
	Political	Limited citizenship	Rights and citizenship		Governance	
	Insecurity and shocks	Insecurity traps			Vulnerability to shocks	
	Migration		Migration			
	Hidden population			Hidden population		
	Hard to reach			Hard to reach		
	Cognitive					Cognitive

Source: Addison et al. (2008); Khan et al. (2015); UNESCAP (2017); UNDP (2018); UNSDG (2019); Altaf (2019). Elaborated by the author.

The work of Addison et al. (2008) is particularly relevant in the framework of the SDGs since it is concerned with issues related to chronic poverty and identifies the following characteristics:

- Social discrimination: Chronically poor people often have social relationships that can trap them in exploitative links or prevent them from accessing public and private goods and services. Several factors, such as class and caste systems, gender, religious and ethnic identity, and age can be the source of these unbalanced relationships.
- Spatial disadvantage: Remoteness, political exclusion, and weak economic integration can all contribute to the creation of intra-country spatial poverty traps. Even within cities, some urban areas can face serious disadvantages that include poor or non-existent public services, precarious living conditions, and high levels of violence.
- Limited employment opportunities: When economic growth is limited or concentrated in enclaves, job opportunities are very limited and result in exploitation of the poorest people. Living in precarious conditions, the most vulnerable survive without the possibility of accumulating assets or investing in their children's education.
- Limited citizenship: In general, the chronically poor have neither a meaningful political voice nor effective political representation. They live in societies that deny them their most basic rights.
- Insecurity: People suffering from chronic poverty also live in precarious situations. They often have to resort to survival strategies to cope with risks, which undermines their ability to make long-term investments (such as asset purchases) that could potentially alleviate their poverty.

Similarly, Khan et al. (2015) state that social exclusion is multidimensional and contextual. They identify social, spatial, economic, political, and migration as dimensions of exclusion.

- Social discrimination refers to discrimination on the basis of social status or racial identity. These discriminatory processes are often deeply rooted in informal institutions; they might also result from policies embedded in formal institutions.
- The spatial dimension of exclusion portrays disparities between advantaged and disadvantaged areas, including rural and urban areas. Often, physically deprived spaces are occupied by culturally and economically marginalised groups.
- Economic exclusion refers to power relations, targeted government policies, or group lobbying, which can result in an unequal distribution of resources and the accumulation of wealth. Economic exclusion also refers to the inability to access labour, credit, or insurance markets.
- Political exclusion refers to the denial of citizenship rights. In such circumstances, access to resources, institutions, or decision-making processes is denied to specific groups within society.
- Exclusion can also occur with migration, when rural-urban migrants are unable to benefit from the same political, social, and economic rights as their urban counterparts, condemning them to low-paid jobs and dwelling in slums (Khan et al., 2015).

The individuals or groups suffering from compounded or overlapping disadvantages are most likely to be the furthest behind.

The recent guide produced by the UNSDG (2019) focuses on five LNOB factors that can demonstrate who is left behind, to what degree, and why. These factors are: (i) discrimination on the basis of assumed or ascribed identity or status; (ii) geography, that is groups isolated or excluded due to location with aggravating factors such as environmental degradation, lack of transport, or technology; (iii) socio-economic status, especially multidimensional poverty and inequalities; (iv) governance i.e. laws, policies, institutions preventing participation in decision making; and (v) vulnerability to shocks such as natural disasters, conflict, and economic shocks. The UNSDG framework shares the social, spatial, economic, and political dimensions with Addison et al. (2008) and Khan et al. (2015) to characterise those left behind.

UNESCAP (2017) proposes five criteria to identify target subgroups of the population likely to be left behind. The first criterion consists of subgroups that are 'hard to reach' for several reasons, including minority, occupation, or illness. The 'hidden population' represent the second criterion and includes subgroups whose public acknowledgement may pose critical threats to their members (e.g. LGBT, HIV, and AIDS). The third criterion regroups those who are "excluded, marginalised or discriminated against" (UNESCAP, 2017). These subgroups are often known but mostly ignored (age, sex, religious minority, or ethnicity). Finally, the fourth and fifth criteria consist respectively of subgroups vulnerable to socio-economic conditions and geographically disadvantaged sub-populations (by climate, remoteness, or poor infrastructure).

The analytical framework of UNESCAP has several similarities with the preceding authors, in particular in the use of three dimensions of exclusion: social discrimination, geography, and socio-economic status. However, this framework introduces two dimensions that are absent in the above propositions: the 'hard to reach' and the 'hidden population' categories.

Altaf (2019) differentiates between the poor and the extremely poor. She insists on the need to better conceptualise the latter group and to identify the causes pushing people into extreme poverty. Although she acknowledges Addison et al.'s dimensions of exclusion (2008), she introduces a new categorisation of well-being: material, relational, and cognitive. The material dimension cuts across the economic aspects of exclusion. These are occupation, employment, and income; access to housing, land, and livestock; and access to basic social services (education, health, water, and sanitation). The relational dimension indicates how extremely poor people have limited access to essential social networks (lack of social capital), including family, community, and other formal and informal institutions. The cognitive dimension focuses on self-exclusion. Altaf (2019) shows that extremely poor people tend to self-exclude from several processes. Self-image, autonomy and agency, or feelings about one's power to change or influence an existing situation might be decisive factors inhibiting the capabilities of the most vulnerable. This dimension is the main contribution of Altaf (2019) to the well-documented aspects of exclusion.

Most authors analysing the concept of LNOB reach a consensus on its five main dimensions (Addison et al., 2008; Khan et al., 2015; UNSDG, 2019). It is certainly worthwhile to add the cognitive dimension.

However, instead of creating a sixth category, we can integrate the concept of self-exclusion in the broader context of the 'discrimination' dimension, extending it to factors that lead people to self-exclude. This implies using methods of investigation that allow a better understanding of this cognitive dimension. Likewise, the migration dimension proposed by Khan et al. (2015) is an integral part of the social discrimination dimension. In our analysis, we will thus rely on the following five dimensions: (i) social discrimination; (ii) spatial disadvantages; (iii) socio-economic status; (iv) governance; and (v) shocks and fragility (Table 4.2).

Table 4.2. Dimension of exclusion retained for the analytical framework

Dimensions of exclusion	Definition
1. Social discrimination	Exclusion based on identity: gender, ethnicity, age, class, disability, sexual orientation, religion, nationality, indigenous, migratory status.
2. Spatial disadvantage	Exclusion due to location; remoteness; intra-country poverty traps; disparities between rural and urban areas; geographically disadvantaged areas; physically deprived spaces.
3. Socio-economic status	Disadvantages in terms of income, life expectancy and educational attainment; limited employment opportunities; workers excluded, totally or partially, from three basic markets: labour, credit, and insurance.
4. Governance	Exclusion due to ineffective, unjust, unaccountable or unresponsive laws, policies, and institutions; lack of voice and participation (includes informal and traditional governing systems); limited citizenship.
5. Shocks and fragility	Vulnerable to setbacks due to the impacts of climate change, natural hazards, violence, conflict, displacement, health emergencies, economic downturns, price or other shocks.

Source: Addison et al. (2008); Khan et al. (2015); UNESCAP, (2017); UNDP (2018); UNSDG (2019); Altaf (2019). Elaborated by the author.

Overall, the severity of the conditions in which deprived groups evolved is mostly dependent on intersectionality. The underlying hypothesis is that individuals or groups suffering from compounded or overlapping disadvantages are most likely to be the furthest behind. Furthermore, we shall also consider those who suffer the most extreme of difficulties or discrimination in one or several areas. A contextualised assessment is key to identify who is left behind and propose effective policy responses. The methodology subsection provides an overview of how we apply this using country case studies.

Methodological approach

In the first part of this section, we carried out an overview of the recent literature on LNOB, and documented the key factors that can help identify who is left behind and why. The five dimensions of exclusion will serve as a framework to analyse the LNOB concept and to operationalise the concept of intersectionality in different contexts. Table 4.3 provides a summary of the approach.

The identification strategy for LNOB will seek to answer two key questions: (i) What does exclusion look like in a given country? (ii) What does it mean to be left behind? This strategy will comprise three main parts:

- Conduct an analysis by dimensions of exclusion to characterise commonalities among the countries' LNOB conditions;
- Analyse the specificity of the LNOB from a country perspective and through SDGs;
- Drawing on intersectionality, explore the connections between access to education, employment, and clean energy to identify left-behind groups that are often overlooked.

Table 4.3. Overview matrix of country case studies

Approach	Country case studies					
	Bolivia	**Peru**	**Ghana**	**Nigeria**	**India**	**Sri Lanka**
Scope	Left behind in current education system	Left behind in quality education and decent work	Assess household energy use and identify furthest behind	Drivers of exclusion in quality education outcomes	Female labour force participation	Socio-economic conditions and risks of being left behind in decent work
Type	Quantitative	Mixed methods	Mixed methods	Quantitative	Mixed methods	Qualitative
Methodology	Regression analysis; simulations of joint density functions	Non-linear logistic model; community-based participatory	Decision tree analysis; logistic regression	Logistic regression; mediation analysis	Citizen report card; textual analysis; statistical analysis; factor analysis	Life stories
Data sources	Ministry of Education; Standard Bolivian household surveys	Student evaluation census; Young Lives survey; Peruvian household survey	Ghana living standard survey; 2010 housing and population census; energy policies; key informant interviews	Demographic and health surveys	Census of India; household questionnaire	In-depth interviews of workers and industry professionals
Level of analysis	Individual	Country, individual	Country, region, individual	Country Demographic and health surveys	Country, region, individual	Individual

Source: Adeniran, Onyekwena, Onubedo, Ishaku & Ekeruche (2020); Nair, Shah & Sivaraman (2020); Crentsil, Fenny, Ackah, Asuman & Otieku (2020); Andersen, Medinaceli, Maldonado & Hernani-Limarino (2020); Alcázar, Bullard & Balarin (2020); Fernando, Arambepola, Niles & Ranawana (2020). Elaborated by author.

This identification strategy is reflected in Table 4.4, where the dimensions of exclusion (rows) display interesting commonalities and show those most prominent dimensions. Likewise, SDGs/country (columns) portray the country's specificity based on targeted SDGs.

Analysis of the country case studies might lead to a better understanding of the drivers of LNOB and thus allow for better formulation of policy interventions. We will look into the set of policies presented and the underlying circumstances of their formulation. We will also compare and contrast the different policy responses and indicate similarities and uniqueness where relevant. The analysis of the country studies through the lens of LNOB will shed light on how proposed policies can address the needs of those left behind. It will also discuss the policy implications of the results.

Table 4.4. Key factors of being left behind in selected countries

Countries		Bolivia	Peru	Ghana	Nigeria	India	Sri Lanka
SDGs		4	4, 8	7	4	8	8
Dimensions of exclusion	**Social discrimination**	Gender, ethnicity, disability, children with parents in prison	Gender, indigeneity, disability	Gender	Gender, disability, nomadic, Almajiri	Gender, norms	Gender
	Spatial disadvantage	Remote areas	Rural/urban; regional disparity	Regional disparity	Rural/urban; regional disparity		Residents / migrants
	Socio-economic status	Income	Socio-economic level, education	Education, poverty status			
	Governance					Structure and agency	Rules, regulation, collective organisation
	Shocks and fragility				Displaced (conflicts)	Safety (travel for work)	

Source: Adeniran et al. (2020); Nair et al. (2020); Crentsil et al. (2020); Andersen et al. (2020); Alcázar et al. (2020); Fernando et al. (2020).
Elaborated by author.

Who is left behind and why?

In this section, we will discuss the three dimensions of exclusion found on the country case studies: social discrimination, spatial disadvantage and socio-economic status.

Social discrimination

The analysis of the social discrimination dimension highlights four main variables: gender, ethnicity/indigeneity, disability, and mobility. Gender issues are key determinants of access to quality education and decent employment, and cut across different configurations depending on regions, countries, and levels of education and training.

Statistics show that gender disparities tend to shrink globally. In 2000, 54% of children, adolescents, and out-of-school young people were female, whereas from 2016, the gap disappeared, and girls out-of-school now represent only 50% (UNESCO Institute for Statistics, 2018). These results, however, conceal large differences by region and school age. Primary-age girls are at a disadvantage everywhere, except in Latin America and the Caribbean, where young boys are more likely to be out-of-school. This region displays the same characteristic for lower secondary adolescents and upper secondary youth. Results of the latter school-age group are closer to gender parity (UNESCO Institute for Statistics, 2018).

In Sub-Saharan Africa, girls of all ages are more likely to be excluded than boys. At primary school, 23% more girls than boys are out of school

(UNESCO Institute for Statistics, 2018). In Asia, efforts are still needed at the primary level, where girls are also more likely to be out-of-school than boys. On the other hand, at the adolescent level, the situation is favourable for girls in Southern Asia and Eastern and South-Eastern Asia. Only Central Asia has favourable statistics for boys. With regard to the upper secondary level, there are also wide disparities in favour of girls in Eastern and South-Eastern Asia.

Despite progress made in boys and girls' enrolment, children and adolescents are in school but are not learning. According to UNESCO Institute for Statistics (2017), six out of 10 children and adolescents in the world are not achieving minimum proficiency levels in reading and mathematics. The situation is more dramatic in Sub-Saharan Africa and in Central and Southern Asia. In Sub-Saharan Africa for instance, it is estimated that 202 million children and adolescents (88%) will not be able to read proficiently when they complete primary and lower secondary. Likewise, 81% of children and adolescents in Central and Southern Asia are not achieving minimum proficiency levels in reading. The Eastern and South-Eastern Asia region presents relatively better learning outcomes with 31% of children and adolescents not reading proficiently. Similarly, in Latin America and the Caribbean, the rate of children and adolescents not reading proficiently is 36%. However, in this region, more than half (53%) of adolescents in lower secondary do not achieve minimum proficiency in reading, while only 26% children in primary fail to do so. In contrast, in North America and Europe, only 14% of children and adolescents are not achieving minimum proficiency in learning (reading and mathematics). The recent World Development Report 2018 corroborates these findings (World Bank, 2018).

When analysed through a gender lens, access to quality education shows contrasting characteristics depending on regions of the world and specific countries. For instance, women are excluded from quality education in Nigeria. Overall, only 19% of women can read in comparison to 32% of men (Adeniran et al., 2020). Further disaggregation shows that gender disparity in quality education is more pronounced in the northern regions. Also, for men, all regions record above the national average (24%), with the exception of the north-east of Nigeria. In contrast, women display results below the national mean in all regions except the south, mainly due to the fact that girls tend to be more distracted from learning than boys given their household chores such as fetching water and firewood for cooking (Adeniran et al., 2020).

In contrast, in Peru, there is no negative gender gap between the performance of primary-aged boys and girls (girls have a small lead of 1% in reading). The same is true for secondary students in reading but in mathematics, girls lag as they are 3.8% more likely to be left behind than boys (Alcázar et al., 2020).

In Bolivia, the gender gap between boys and girls is being closed. With data from 2007 and 2017, Andersen et al. (2020) portray a dramatic change in the participation rate, with the gender gap between boys and girls closing. The implementation of the education revolution has also generated a sharp drop in repetition rates from 7.3% in 2011 to 4% in 2017 for boys, and from 4.8% to 2.1% for girls in the same period. Girls also have lower drop-out rates through primary and secondary education every year since 2000, corroborating overall results in

Latin America (UNESCO Institute for Statistics, 2018). It is only in tertiary education where we note a small gender gap in favour of men with 50.6% of women versus 57.0% of men studying (Andersen et al., 2020).

While gender gaps are closing in education and as a result, in many instances, girls are less likely to be left behind in education, the gaps are pervasive in the labour market. In several regions of the world, women still earn less than men, are more likely to be unemployed, and work in precarious conditions.

According to Alcázar et al. (2020), in Peru, being a woman is strongly associated with being left behind in decent work. It increases the likelihood of being Not in Education, Employment or Training (NEET) by 10.7% and of working precariously by 12.4%. Being female and having a young child in the household raised the probability of being NEET by 27.7% and of being precarious by 40.3% compared to men with no children present in the household. Another gendered difference relates to having a spouse or cohabiting with a partner. Women were 18.4% more likely to be NEET if they cohabited while men in a similar situation had 6% less chance of being NEET. The same trend is observed with precarious employment. Cohabiting females were 10% more likely to be working precariously than single women, while cohabiting males were 3.1% less likely to be precariously employed than single males. These figures indicate the strong presence of gender roles in Peruvian households. Women choice is limited to stay at home and fulfil domestic chores or access inadequate jobs in the labour market (Alcázar et al., 2020).

In India, gender discrimination is observable at the household level and at the workplace. Informal practices and norms play a crucial role in perpetuating this gender discrimination both at the household level and in the workplace. For instance, barriers to education related to married life and motherhood may largely explain the labour participation decision of Indian women (Nair et al., 2020).

The case of the garment sector in Sri Lanka illustrates how gender in a specific context might lead to exclusion (Fernando et al., 2020). Rural women residing near the Export Processing Zones (EPZs) can organise collectively even for night shifts. With the ability to accommodate the shift basis of work at large firms and to take care of domestic chores at the same time, these rural women workers are in a much better position than migrant women.

In the work ecosystem, there is a clear difference between large firms and small and medium-sized firms. The former is known to offer more decent working conditions, more non-monetary benefits and better job security. Small and medium-sized firms, however, expose workers to more frequent dismissals at short notice for various reasons including automatism. This also explains why women tend to leave these small and medium-sized enterprises to migrate to EPZs, where large firms operate.

These large firms often implement women empowerment programmes with specific skill-building activities (e.g. sewing, language, or computer skills). However, these companies are missing essential elements for the advancement of women, namely maternity and childcare. The lack

Although gender gaps are closing in education, they are still pervasive in the labour market.

of facilities for babies and early childhood, in general, is a barrier to women's progress. Beyond these companies, the lack of formal social security institutions that can take care of these needs means that married women are often at risk of being left behind (Fernando et al., 2020).

Although the gender issue is strongly present in the dimension of social discrimination, other factors such as ethnicity and indigeneity are also important. In Latin America, indigeneity is still a discriminating factor in education, especially beyond primary school. In Peru, at the primary-age, indigenous students are not being left behind. In contrast, at the secondary age, indigenous students were 15.1% and 18.1% more likely to be left behind in reading and mathematics, respectively, compared to non-indigenous students (Alcázar et al., 2020). In Bolivia, in general, non-indigenous people are more likely to go to school than indigenous people. Based on the 2007 and 2017 household surveys, it appeared that, by 2017, the gap has vanished: all children, irrespective of their ethnic group attend primary school, and the gap at secondary school has almost been closed. Differences persist however, at the tertiary level, where 58% of non-indigenous and 26% of indigenous tertiary-aged youth go to school (Andersen et al., 2020).

Disability is another key factor in social discrimination. In Nigeria, children with disabilities, who often need specialised training or teaching procedures, have to cope with poor funding and an insufficient number of qualified staff. As a result, the majority of children with disabilities do not benefit from adapted services to support their needs (Adeniran et al., 2020). In Peru, disability is also a determinant of being left behind. Alcázar et al.'s (2020) analysis show that disability increased the probability of being NEET by 25.8% and of working precariously by 12.9%. In Bolivia, government efforts have allowed the enrolment of about 11000 students in schools designed for students with special needs. About 8000 students with disabilities are also studying in regular schools. However, Andersen et al. (2020) have shown that about half of the children with disabilities aged five to 19 are not enrolled in the formal education system.

Mobility (or lack of) is another social discrimination factor when we look at the quality of education and decent employment. In Nigeria for instance, mobility prevents a significant number of children from gaining access to quality education. It is estimated that more than 10 million nomadic pastoralists and migrant fishing groups live in Nigeria, of which half is composed of school-age children. Despite efforts by authorities, most of these nomadic children remain out of school. Designing a system that adapts to mobility is the key to success. However, because basic education is an institutional responsibility of the State, children moving across states are difficult to account for (Adeniran et al., 2020).

Children displaced by conflict also suffer discrimination in access to quality education. Because Nigeria has been prone to violent conflict, especially in the north, it is estimated that 1.7 million people have been internally displaced. About 56% of these are children (Adeniran et al., 2020). In spite of combined efforts by the government, donors, and the private sector to address the problem, quality remains a challenge in an environment not conducive to adequate learning. As a result, one

can assume that displaced children are systematically excluded from quality education.

In India, the lack of mobility is one of the constraints women face. Menstruation norms which restrict women's mobility are likely to hurt women's participation in the labour force. Although safety in the workplace may be an issue, as 2% of currently working and previously working women reported they dealt with harassment in the workplace, the most worrying issue relates to safe travel to and from work. Women's access to safe transportation is a huge challenge and could contribute to exacerbating the precarious situation of women being left behind. According to the available data, 37.8% of respondents considered that the journey to the office was the least secure. Since the majority of women use buses (40.8%) or walk (40.9%), making these means of transport and the journeys of walkers safe is imperative. Working women living in deprived areas where public transport is not very secure are likely to be left behind (Nair et al., 2020).

The lack of mobility in Bolivia is linked to children whose parents are in prison. It is estimated that 2150 Bolivian children live in prison with their parents without proper care, especially as it relates to access to quality education (Ministry of Education of the Plurinational State of Bolivia, 2015).

In Sri Lanka, mobility is experienced differently. Migrant workers often experience severe conditions linked to their disconnection with their area of origin. Since they cannot have two successive days of rest, they cannot return to their land regularly. Living around the EPZs, they are perceived as outsiders and are recognised neither by the local authorities nor by the local communities. Consequently, they live in ghettos, suffering social prejudices and stigmatisations. They are most likely to be left behind (Fernando et al., 2020).

Spatial disadvantage

Spatial disadvantage is another important dimension of exclusion. Two variables are often taken into consideration: rural/urban relations and regional disparities.

Rural areas often suffer from problems of access to quality education, access to clean energy, and decent employment compared to urban areas. In Nigeria, for instance, only 21% of primary school children in rural areas were able to meet the minimum quality requirements, while 31% of children in urban areas were able to perform well. In urban areas, all regions in Nigeria exceeded the national average. In contrast, in rural areas, only the south-east recorded above average. The weak performance of rural residents can be attributed to the poor learning environment manifested through the lack of economic opportunities and insufficient access to good social and economic amenities. In sum, the environment for learners and teachers largely explains why children in urban settings perform better than their rural counterparts (Adeniran et al., 2020).

The same trend is observed in Peru. For primary students, being in rural schools and in single-teacher, single-classroom schools meant they were more likely to be left behind. Alcázar et al.'s analysis showed

that the effect of rurality was stronger for secondary-age children. They were 14% more likely to be left behind in both reading and mathematics than their urban counterparts (Alcázar et al., 2020).

In Ghana, electricity is widely used for lighting by urban households (90%) while only 58% of rural households rely primarily on electricity for lighting. Overall, rural households are 14.3% less likely to have access to electricity for lighting than households in urban areas. In terms of clean cooking, rural households are 13.6% less likely to use clean and improved fuels for cooking than their urban counterparts (Crentsil et al., 2020).

A similar story can be seen with respect to employment in Peru. The probability of being in precarious employment was 14.8% more likely to happen for rural individuals than urban ones. For instance, job precarity was much more probable in the Andean highlands (20.4%) and the Amazon rainforest (19.8%) contexts than in Lima. In contrast, the condition of NEET is largely urban. Thus, youths were most likely to be NEET if they came from Lima than if they came from Andean or Amazon regions (Alcázar et al., 2020).

Beyond the rural/urban issue, we can analyse the variables 'access to quality of education', 'access to clean energy' and 'decent employment', in terms of regional disparities. The Andean highlands and the Amazon rainforest are good examples both in terms of exposure to job precarity and more difficult access to quality education. Children in the Amazon region, for instance, had the most significant probability of being left behind compared to those in Lima (Alcázar et al., 2020).

The analysis of Nigeria's six geopolitical regions suggests significant disparities in education. Looking at the north (north-east, north-west and north-central) and south (south-east, south-west and south-south), the study shows that, on average, education performance is better in the south than in the north. The gap in performance in terms of quantity is, however, more extensive than the estimated shortfall in quality. For instance, on aggregate, the regional gap in enrolment in 2017 between north and south was about 20 percentage points, while the quality gap was 5 percentage points. The south faces issues of quality when the north has to cope with both quality and quantity (Adeniran et al., 2020).

In Ghana, regional disparities are also prevalent in the energy sector. When compared to the Greater Accra region, the probability of household access to clean cooking fuels is 10.2% and 25.2% lower in the Western and Northern regions respectively. In contrast, in the Brong-Ahafo, Northern and Upper West regions, the likelihood exceeds 20%. Likewise, households in regions other than the Greater Accra region are less likely to have access to electricity from the national grid for lighting the household.

When comparing rural households through regions, it appears that those in the Western, Greater Accra, Central, Volta, and Ashanti have greater access to electricity than rural households in the Eastern, Northern, Upper East and Upper West regions (Crentsil et al., 2020).

Socio-economic status

Although less prevalent, the socio-economic status dimension of exclusion is also important and can be seen in quality education, access to clean energy, and decent employment.

In Peru, at the primary-age in mathematics, "a child from a family with a very low socio-economic level has 16% more chance of being left behind in the Student Evaluation Census (ECE) than one from the highest wealth level" (Alcázar et al., 2020). The data on Young Lives (YL) longitudinal study on Peruvian child poverty confirm and extend these findings; children belonging to low-income families are 21.5% more likely to be left behind than those at a better-off socio-economic level. The analysis provided additional insights: Underweight children are more likely to be left behind at eight years old by 5.6% in mathematics and 10.4% in reading; likewise, children who did not read for fun were 10.9% more likely to be left behind in primary-age mathematics than those who did.

In Bolivia, using the same data for 2007 and 2017, Andersen et al. (2020) show that the income gap by the end of secondary school has closed. Indeed, in 2007, 76% and 90% of 17-year-olds from poor households and non-poor households, respectively, were in school. By 2017, the gap between the two groups was closed with 90% of 17-year-olds from poor families in school compared to 92% for non-poor households.

Socio-economic status has proved to be determinant in terms of decent employment. In Peru, extreme poverty increased the probability of NEET by 7.2% and the probability of labour precarity by 27.5% in comparison to the reference group. The effects of socio-economic income were three to four times stronger on precarious employment than on the NEET across all poverty levels.

When considering access to clean energy, we notice in Ghana that non-poor households (above the national poverty line) are 16.1% more likely to use clean and improved fuels for cooking than the very poor households. Likewise, wealthy households are more likely to use clean energy sources for lighting compared to poor households. Non-poor and poor households are respectively 21.5% and 10.9% more likely to have access to electricity than extremely poor households.

This rapid overview highlighted the importance of the dimensions of social discrimination, spatial disadvantage, and socio-economic status when addressing issues of exclusion in access to quality education, access to clean energy, and decent employment. It also pointed to the importance of context which we illustrate through gender and mobility. Gender-based discrimination does not always affect women. In Bolivia, for instance, young non-indigenous men living in urban areas are the group mostly left behind. Similarly, in Peru, depending on the subject (reading or mathematics), either boys or girls are marginalised. This demonstrates the importance of having disaggregated data to refine the analyses taking into account multiple dimensions.

Although gender-based exclusion is pervasive, it does not always produce the same outcomes. In Peru, enormous progress has been achieved in closing the gender gap. However, those who completed

> **Mobility as a factor of exclusion has several meanings depending on the country and local conditions.**

education are not always able to access employment, highlighting the fact that access to education can still result in a different type of exclusion to opportunities. In India, even though gender-responsive policies are in place, these are not effective due to social norms and cultural practices that place women in disadvantaged positions.

Mobility as a factor of exclusion has several meanings depending on the country and local conditions. In Nigeria, it takes the form of economic and social activity (pastoralism) or is the result of the conflict. Each of these cases requires special care. In India, it is rather social norms and practices (menstruation) or insecurity during mobility (to and from work,) that must be addressed. In Sri Lanka, on the other hand, mobility is labour-related (rural migrants vs rural residents). At the same time, in Bolivia, it is the lack of parental mobility that causes problems for children's education.

The issue of intersectionality

Intersectionality explains to a large extent the severity of the conditions faced by disadvantaged groups. The underlying hypothesis is that individuals or groups suffering from compounded or overlapping disadvantages are most likely to be the furthest behind.

From the analysis of exclusion in access to quality education, access to clean energy, and decent employment, three main dimensions emerged: social discrimination, spatial disadvantage (rural/urban, regional disparities), and socio-economic status. These dimensions are often interrelated: social discrimination is sometimes superimposed on socio-economic status, spatial disadvantage strengthens socio-economic status, while spatial disadvantage, social discrimination, and socio-economic status mutually reinforce each other. Individuals or groups at the intersections of these different dimensions are particularly affected. These overlapping disadvantages thus create groups whose fate is to hold the attention of policymakers.

In Nigeria, three variables (gender, regional disparity, and rural/urban) are essential determinants of exclusion from quality education. Their impact is heightened when they interact, thus creating subgroups suffering from overlapping disadvantages and susceptible to being the furthest behind, such as rural girls from the north.

In Peru, several examples show how overlapping disadvantages may lead to specific groups of children being susceptible to exclusion in education. For instance, with primary-aged reading and primary-aged mathematics, gender, socio-economic status, and spatial disadvantages overlap. Thus, in primary-aged reading, the most left behind are boys from families at the lowest socio-economic level whose parents did not complete primary education. Those boys attending rural public schools in the Amazon region, are 32% more likely to be left behind than girls from high socio-economic levels in multi-teacher urban schools in Lima. Likewise, with regards to primary-aged mathematics, the furthest behind are girls, who share the same characteristics as the boys above. They are 64% more likely to be left behind than boys from high socio-economic levels in multi-teacher urban private schools in Lima (Alcázar et al., 2020).

These two profiles show how compounded disadvantages (gender, low socio-economic level, rural public school, and a remote region) can plague groups of children and leave them behind. We also notice that boys or girls are more affected depending on the subject (reading or mathematics).

Further up the education ladder (secondary-aged), we observe similar patterns. Indigeneity, socio-economic level, rurality, and remoteness weigh more on the probability of being left behind in quality of education. Thus, the most left behind in secondary-aged reading were indigenous boys who did not attend pre-school, come from families at the lowest socio-economic level, and with parents who did not complete primary education. They attend rural public schools in the Andean highlands and are 86% more likely to be left behind than non-indigenous girls who attended pre-school, from high socio-economic levels, and parents with higher studies, attending urban private schools in Lima (Alcázar et al., 2020). Likewise, the most left behind in secondary-aged mathematics are girls who display an identical profile to the one above. These girls are 90.6% more likely to be left behind than non-indigenous boys who attended pre-school, from high socio-economic levels, and parents with higher studies, attending urban private schools in Lima (Alcázar et al., 2020).

In Bolivia, intersectionality in access to quality education displays interaction between gender, ethnicity, and spatial disadvantage. Although the gender gap has almost closed, we still note, in tertiary education, a small gender gap in favour of men, with 50.6% of women versus 57.0% of men studying (Andersen et al., 2020). Besides gender, these differences at the tertiary level include indigeneity. Indeed, at the tertiary level, 58% of non-indigenous and 26% of indigenous tertiary-aged youths attend school. Remoteness is also a trigger for exclusion. Rural riverine communities, Guaraní communities, and populations in remote border areas have often suffered from exclusion from public services. Indigenous women from rural communities located in remote areas are likely to be the furthest behind in terms of access to quality education.

In the context of decent work in Peru, we see two different situations. On the one hand, NEET is where gender and urban factors intertwine; on the other hand, precarious employment overlaps for gender, rurality, ethnicity, and socio-economic status. In the first case, we note that women are overrepresented among NEET (66.8% of women), and 71% of those NEET live in an urban environment and are non-indigenous (Alcázar et al., 2020). In contrast, indigenous and rural people are overrepresented in precarious employment as well as women (62.2%).

Policy implications

The above analysis has shown that social discrimination and spatial disadvantage are two important dimensions of exclusion and must be taken seriously if we are to leave no one behind. Variables such as gender, ethnicity/indigeneity, disability, and mobility are key drivers of the social discrimination dimension, and their management must integrate any LNOB strategy. The same is true of regional disparity and rural/urban relations. These exclusion factors are even heavier

when they overlap, highlighting groups with multiple disadvantages and likely to be the furthest behind. We present below the policy implications of the above analysis.

Address overlapping disadvantages through a comprehensive development strategy

The literature review and the case studies have shown the extent to which left behind people suffer from overlapping disadvantages. Therefore, it is essential that interventions are comprehensive. There is sufficient evidence that development programmes can succeed in reducing poverty but fail to take care of the most vulnerable (van Kesteren et al., 2019; Altaf, 2019). A holistic intervention should not only promote asset transfer but also include skills training and coaching. Taking a local community approach would ensure inclusion of extremely poor people. Besides the comprehensive development strategy, it is often necessary to provide targeted interventions to improve people's resilience from various climate and economic shocks. Social protection interventions are proving increasingly effective in reaching the extreme poor, including through productive safety net programmes and cash transfers. In certain circumstances, these policies are essential in addressing the cases of extremely poor people (elderly or severely disabled) who require permanent or long-term assistance (Klasen & Fleurbaey, 2018; Altaf, 2019).

To address these overlapping disadvantages, it is necessary to pay attention to the social dimension of exclusion. Variables are dependent on local situations, such as ethnicity, indigeneity, disability, and mobility, and are, most of the time, context specific. It is therefore crucial that data be made available for relevant policy design. However, given the pervasive nature of gender discrimination, policies should be designed through a gender mainstreaming lens.

Conceptualise contextually and mainstream the principle of leaving no one behind

Reaching extremely poor people is often challenging and requires well-thought targeted interventions based on a context-specific conceptualisation of the group. Altaf (2019) has shown that the extreme poor are distinct from the poor and are often invisible and voiceless. Understanding the contours of this category demands a better understanding of the concept of multidimensional human well-being, lifetime dynamics, and the issues of agency and structure. In addition, policymakers should be sensitised to adopt a 'special LNOB lens', providing more weight to the well-being of the most vulnerable groups (Reinders et al., 2019; Van Kesteren et al., 2019).

Conceive a policy of territorial development that mainstreams spatial equity

The case studies confirmed the importance of regional disparities and the inequalities between rural and urban households. These geographic dimensions play a key role in excluding large sections of the population. Therefore, it is imperative that development strategies are not blind to these spatial realities and take a decisive option to rebalance the territories (Reinders et al., 2019).

> **Social institutions are often the source of discrimination and exclusion.**

Improve the quality of governance and drive for transformative social change

Governance issues were raised in the India and Sri Lanka case studies, particularly on the impact of governance systems on women, minorities, marginalised groups, and those living in extreme poverty. When formal institutions do not work properly, the lack of transparency and respect for the law will initially affect the weakest, such as the extremely poor. Social institutions are often the source of discrimination and exclusion. Gender equality, social inclusion, and increased agency should be at the core of the agenda if we are to succeed in leaving no one behind. This transformative social change includes giving voice to the most deprived and empowering civil society organisations that represent these marginalised groups.

Promote structural transformation of the economy and boost productive employment

A comprehensive development strategy should be based on inclusive development conditioned upon structural transformation and granting growth with productive employment (promote decent jobs in good working conditions with good remuneration and stability). One way of achieving this objective is by investing in small businesses with a clear goal of creating spill-over effects within the broader economy (Reinders et al., 2019; Van Kesteren et al., 2019). These efforts should also include provision of basic services (infrastructure, finance, education, health) that would enable the potentially left behind to build their capacities and engage in gainful employment.

Conclusion

The international community has pledged to leave no one behind in the implementation of the Sustainable Development Goals. This means ending extreme poverty in all its forms, reducing inequalities and vulnerabilities, and ending group discrimination. The analysis of the case studies revealed, among other things, three interesting elements:

- Country context matters for tackling exclusion and mainstreaming the LNOB principle. The case studies showed the importance of contextual analysis. For instance, gender-based discrimination does not always affect women. In Bolivia, young non-indigenous men living in urban areas are the group mostly left behind. Likewise, in Peru, depending on the subject (reading or mathematics), either boys or girls are marginalised. Despite huge progress made in closing the gender gap in education in Latin America, it appears that access to education may result in a different type of exclusion to opportunities as evidenced by the case in Peru. Mobility as a factor of exclusion is another example of the necessity for contextual analysis. This variable encompasses economic and social activity in Nigeria (pastoralists), social norms and practices (menstruation) or safety (travel) in India, and migration in Sri Lanka.

- Intersectionality, i.e. overlapping disadvantages superimposed on individuals or groups, is widespread and requires a holistic intervention. In education, we have seen that spatial disadvantages (rural/urban, regional disparities) and social discrimination (gender, disability, nomadic) are key factors in exclusion or deprivation. For example, girls from northern regions of Nigeria, living in rural areas, are an example of groups suffering from these multiple disadvantages. The same is true for Peru, where girls (or boys depending on the subject) of indigenous origin living in the Amazon region are most likely to be left behind.

- Social discrimination and spatial disadvantage are two prevalent dimensions of exclusion that most characterise the furthest behind. In all the case studies, regional disparities and the rural/urban relationships have been key to explaining why certain groups struggle to meet the minimum level of well-being. Therefore, territorial development and spatial equity must be placed at the heart of public policies. On the other hand, it appeared from the case studies that social discrimination (gender, indigeneity, ethnicity, mobility) was widespread and represents a serious factor in group exclusion.

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5

Leveraging synergies and tackling trade-offs among specific Goals

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Introduction

The notion of sustainable development embodies a compromise between those who prioritise social development, economic development, or the environment. The engagement of developed and developing countries with this Agenda has been largely achieved owing to this compromise (United Nations Environment Program [UNEP], 1992; United Nations Conference on Environment and Development [UNCED], 1992; Machingura & Lally, 2017). Long-term sustainable development requires understanding that resources are limited and development is only sustainable within those constraints (Weitz, Nilsson, & Davis, 2014).

The 2030 Agenda for Sustainable Development has taken this approach further by recognising these three pillars (economic development, social development, and environmental protection) are not isolated components, but deeply intertwined. While most of the 17 Sustainable Development Goals (SDGs) relate to one pillar, many embed all three. Advocates present this as an 'indivisible whole' (International Council for Science, 2017).

All SDGs are interconnected by design and interact in multiple ways. These interactions, however, are not always positive. In some cases, efforts aimed at achieving one Goal may hamper the realisation of others. Synergy—where policies to accomplish one Goal also help fulfil others—is one possible outcome. A trade-off—where policies to accomplish one Goal undermine others—is another possible outcome.

The need to analyse synergies and trade-offs in implementing the 2030 Agenda has become clear in the literature (Weitz, Carlsen, Nilsson, & Skånberg, 2018). It is critical because isolated policy initiatives can result in (i) incoherent policies, (ii) adverse impacts on policies in other areas, (iii) lost opportunities for maximising synergies, (iv) policy impact being delayed in unforeseen ways; and (v) impaired prioritisation and sequencing actions, resulting in less efficient or effective resource use (Mainali, Luukkanen, Silveira, & Kaivo-Oja, 2018; Weitz et al., 2018).

Policy coherence (a specific target under SDG 17) is one of the most pressing cross-cutting issues in the 2030 Agenda. According to a review by Organisation for Economic Co-operation and Development (OECD, 2018), the vast majority of Voluntary National Reviews (VNRs) presented by member countries of the United Nations to the High Level Political Forum (HLPF) highlighted policy coherence as one of the greatest difficulties in the implementation of the 2030 Agenda (United Nations Department of Economic and Social Affairs [UNDESA], 2017).

This chapter analyses synergies and trade-offs among SDGs as part of Southern Voice's flagship initiative, State of the SDGs (SVSS). Its major contribution is its scope and specificity. Incorporating findings from studies with diverse methodologies, conceptual approaches, and data sources, this chapter analyses a subset of SDGs, contrasting findings from country case studies with previous research on the same linkages. No previous study has been found to do this specifically.

Following this introduction, the second section will explore debates on synergies and trade-offs among SDGs, focussing on key concepts,

methodological approaches, and the use of data. The third section will introduce six case studies, producing a framework integrating findings from each. Finally, the fourth section will outline lessons learnt and policy implications for governments and other policy stakeholders. Along with the chapters on global systemic concerns and the 'leave no one behind' principle, this chapter provides an evidence-based perspective to support implementation efforts of the 2030 Agenda for Sustainable Development.

Analysing synergies and trade-offs among SDGs: State of the art

The research and policy agenda on synergies and trade-offs is not new. However, its application in the context of the 2030 Agenda is relatively recent. This section will first contextualise and conceptualise synergies and trade-offs as part of a broader analytical tradition related to policy coherence and coordination. It then presents a review of the main methodological approaches. Finally, it will review the main data sources and evidence from country case studies.

Conceptualisation

Understanding synergies and trade-offs: context, emergence, and definitions

SDG linkages are gaining relevance in sustainable development debates, especially regarding domestic 2030 Agenda implementation and the effective and efficient use of resources through policy coherence. Drawing on previous literature regarding fragmented domestic government action and incoherence in international development interventions in Global South countries, this section briefly outlines these two developments and their contribution to this new field of study. It also outlines how this has informed the analytical framework presented in section 3.

Fragmented government action in national contexts

Interaction between fragmented policies is a long-standing issue in government and public management (Peters, 2018). Policy coordination, coherence, integration, and alignment have emerged as important concepts in understanding this process (Tosun & Leininger, 2017). Policy coordination refers to the exchange of knowledge and information and the definition of rules and responsibilities amongst actors (Cejudo & Michel, 2015). Coherence describes consistency between the individual objectives of each established initiative. Policy integration refers to policy design and implementation processes that build on previously coordinated and coherent policies towards a common goal (Cejudo & Michel, 2015).

Fragmented action in international development strategies: From the donor-recipient paradigm to policy coherence for sustainable development

The perils of policy fragmentation in development contexts were recognised at the turn of the century. Globally, transnational

development initiatives were inspired by a 'foreign aid' or 'donor-recipient' paradigm, involving Northern-dominated diagnoses of development challenges in countries in the South (Knoll, 2014). Initiatives designed and implemented under this paradigm often lacked coherence (Dijkstra, 2013). Consequently, many initiatives did not produce the desired results. The OECD began addressing these issues in the 1990s through the policy coherence for development framework (OECD, 2014). Policy coherence for development recognised that many non-aid and seemingly 'domestic' policies of donor countries had important transnational implications on development objectives (Knoll, 2014).

Notwithstanding its importance, policy coherence for development was still strongly based on a North-South paradigm and understood coherence as a primarily Northern responsibility (Knoll, 2014). Not until pre-SDG debates did paradigms around policy coherence shift towards universal approaches. This move entailed recognising and engaging with multiple development stakeholders and shifting from the idea that 'non-aid' policies should 'do no harm' to a proactive approach emphasising collective management of synergies and trade-offs (Knoll, 2014).

In this context, the policy coherence for sustainable development approach and framework were conceived. It seeks to foster synergies across economic, social, and environmental policy areas, identify trade-offs, reconcile domestic policy objectives with internationally agreed goals, and address negative spill overs of domestic policies (OECD, 2014). The adoption of the 2030 Agenda and the Paris Agreement in 2015 established a strong foundation for 'coherent implementation' of SDGs (United Nations, 2019b).

Defining synergies and trade-offs

The management of synergies and trade-offs is central to the policy coherence for sustainable development approach. It emphasises the interplay between local, subnational, national, and international levels of action, combining insights from literature on domestic-centred policy coordination/coherence/integration, as well as international literature that began with the development of policy coherence for development in the 1990s.

This chapter analyses the first objective in the policy coherence for sustainable development approach (foster synergies across economic, social, and environmental policy areas) but will not explore the second and third objectives. These primarily concern the alignment of domestic policy goals with international objectives, and the mitigation of transboundary and intergenerational negative spill overs of domestic policies.[1]

Synergies and trade-offs analyses are increasingly used in the international development community to foster critical understandings of policy interactions and to promote coordination and coherence in implementing the 2030 Agenda domestically. While the sustainable development literature tends to use the terms synergies and trade-offs to denote two distinct scenarios of either mutually-beneficial or zero-sum policy outcomes (Weitz et al., 2018); some significant

[1] This decision was made because of two issues directly related to the SVSS initiative and the structure of this Report in particular. The second policy coherence for sustainable development objective is excluded from the analysis in this chapter because of the nature of the evidence produced in the SVSS country case studies (which all analyse synergies and trade-offs among goals exclusively in national contexts). This is related to an overarching conceptual decision in the initiative to develop the third policy coherence for sustainable development objective (which focuses on the interplay between the domestic and the transnational) primarily in the global systemic concerns chapter.

conceptual difficulties remain unsolved by this dichotomy. Some see synergies and trade-offs not as qualitatively distinct categories but as two sides of the same coin (Corning, 1998). Synergy can arise in many different forms, consistent with the notion that "sometimes, wholes are not greater than the sum of their parts, just different" (Mainali et al., 2018). A trade-off could, therefore, be understood as a 'negative synergy'.

We adopt a definition of synergies and trade-offs that can serve as a common denominator among different conceptual approaches. This will allow successful integration of the findings from the case studies, which use divergent methodologies, in section 3. Synergy describes where the implementation of policies benefits the targeted issue as well as untargeted issues. A trade-off describes an alternative situation where the implementation of policies targeting one issue undermines the possibility of achieving others. Finally, 'no-change' (neutral) describes where targeting one issue neither promotes nor undermines another.

Synergies and trade-offs in focus: dimensions and levels of analysis

Trade-offs and synergies can be evaluated across multiple levels and dimensions. First, they can arise and be analysed at individual, household, local, state or province, national, regional, and international levels. Interactions between the policies in different sectors at each of these levels are embedded in wider dynamics of vertical external coherence (i.e. of policy initiatives belonging to different sectors and different administrative levels), adding further complexity to the analysis (Nilsson, Zamparutti, Petersen, Nykvist, Rudberg, & McGuinn, 2012).

Second, many dimensions contextualise the assessment of specific synergies and trade-offs. They provide deeper insight into elements shaping interactions between SDGs and targets (International Council for Science, 2017). They include directionality, as well as dependency factors, such as place-specific context dependencies (trade-offs or synergies can vary from one spatial context and scale to another), governance dependency (a trade-off can be the result of poor governance), technology dependency (the application of technology can mitigate or eliminate apparent trade-offs), and timeframe dependency (some interactions develop in real time, while others show significant delays). The framework in section 3 will study these contextual dimensions further as when integrating findings from the country case studies.

The literature on Ecosystem Services adds one further caveat regarding reversibility. The likelihood that a targeted issue—if constrained by advances in another related area—will return to its original 'neutral' condition once the trade-off is resolved may vary in different contexts (Haase & Schwarz, 2012).

Methodological approaches to measuring synergies and trade-offs

There are two broad classifications for methodological approaches to studying the Goals: their qualitative or quantitative nature, and their systemic or non-systemic approach. A systemic approach allows for more complex analyses that go beyond observing how pairs of SDGs interact directly. It allows the researcher to capture effects related to the whole system, including indirect effects of one SDG on another, as mediated by a third Goal or Target (so-called 'second-order interactions') (Weitz, Carlsen, Skånberg, Dzebo, & Viaud, 2019).

Quantitative approaches

Many researchers have proposed quantitative methodological approaches, which can complement some qualitative designs, as will be analysed in the last subsection (mixed approaches).

On the systemic side, scenario analysis and quantitative modelling tools are the main alternatives to produce meaningful outputs that can inform policy decisions. These approaches can support prioritisation and sequencing decisions with concrete evidence from unexpected feedback loops among goals and targets (Weitz et al., 2019). In advanced stages of implementation, modelling specific interventions designed for different sectors (and assigned quantifiable goals) is useful for providing a nuanced view of the combined effect of all interventions (Millennium Institute, 2019).

Allen, Metternich, and Wiedmann (2016) reviewed 80 models and found common strengths and weaknesses. The dynamic nature of many models and their national scale are essential to support 2030 Agenda implementation efforts at the domestic level (Allen et al., 2016). Two particular models (Threshold 21 and International Futures) were deemed the most robust. The strength of the former was flexibility of application to a wide variety of national contexts; the strength of the latter was its ease of access and affordability (Allen et al., 2016).

The iSDG model, created by the Millennium Institute and based on Threshold 21, is a welcome development that has been expanded to cover all 17 SDGs (Collste, Pedercini, & Cornell, 2017). It is an interactive simulation model to help policymakers and experts achieve the SDGs. It contains 30 linked model sectors within the three dimensions of sustainability. The model maps key feedback loops between and within sectors, and nonlinear relationships and time lags that generate the complex systemic behaviours characteristic of interactions between SDGs (OECD, 2016a).

A disadvantage of this type of methodology is the lack of integration of variables from all three dimensions. Only a few models—including the recent iSDG—incorporate the variables necessary for to application to all 17 SDGs. Variables related to social development are notably absent from most of these approaches (Allen et al., 2016).

Another disadvantage of quantitative modelling tools is that there are few repositories where this wide variety of models are listed, analysed

> **Trade-offs and synergies can be evaluated across multiple levels and dimensions.**

and compared. The launch of the web-based platform Modelling Tools for Sustainable Development Policies has helped address this challenge. Therein, UNDESA presents a suite of five modelling tools that it and the United Nations Development Programme (UNDP), currently use in country contexts. The tools are: economy-wide modelling; integrated assessment of climate, land, energy, and water systems (CLEWS); energy systems dynamic modelling; geo-spatial electrification access modelling; and household-survey-based tools for micro-simulation of socio-economic impacts and electricity consumption. The tools' overarching goal is to improve government assessment of interlinkages across development dimensions and the impact of alternative policies may have in different sectors (OECD, 2016a).

Finally, even though different quantitative approaches share a systemic basis, few truly account for complex interactions among Goals from different policy areas, and for spatial and temporal dynamics (Obersteiner, Walsh, Frank, Havlik, Cantele, Liu, & Van Vuuren, 2016; Neumann, Anderson, & Denich, 2018).

On the non-systemic side, some quantitative studies have employed pairwise correlations between Goals using data for their indicators. However, this approach has fallen short of moving from correlational analyses to the key question of causal inference (Pradhan, Costa, Rybski, Lucht, & Kropp, 2017), so they will not be presented at length here.

Qualitative approaches

Other studies have taken a qualitative approach, which identifies and assesses links among SDGs and targets. Consultations with policy experts, practitioners, and stakeholders, as well as complementary literature reviews based on secondary sources, are key data sources.

Nilsson et al. (2012) evaluate Goal linkages through a policy coherence analysis. Other authors have resorted to network analysis—the qualitative identification and coding of links on the basis of theory and available secondary evidence. Weitz et al. (2014) assess connections between SDGs using three complementary approaches: (i) screening for interactions among proposed targets; (ii) exploring the nature of interactions between targets (interdependent, constraining, and reinforcing); and (iii) identifying 'nexus targets' between sectors. Le Blanc (2015) is a further example of pure network analysis.

Some authors propose 'scoring' approaches for identifying and measuring the intensity and direction of interactions. The best-known scoring framework, by Nilsson et al. (2016), is currently regarded as the standard among scoring-based qualitative approaches (Weitz et al., 2019). Its advantages include ease of use, and more detailed comparisons than methodologies using binary scoring systems (positive/synergy vs. negative/trade-off) (Weitz et al., 2019).

This approach, especially when used alone, still faces challenges. A truly systemic approach requires time- and resource-intensive inclusion of all Goals and Targets; each linkage needs to be assessed qualitatively (Weitz et al., 2019). Aggregation of groups of indicators at the goal level is a possible workaround, but comes at the expense of the traceability and transparency of qualitative assessments

(Weitz et al., 2019). Expert and stakeholder judgements, used to set scores, may also not align (Weitz et al., 2019).

Mixed approaches

Other emerging methodologies and frameworks bridge the gap between qualitative and quantitative approaches, usually from a systemic perspective. Mainali et al. (2018) combine qualitative network analysis with Advanced Sustainability Analysis (ASA). The latter is a quantitative method conceptualising synergy as statistical interaction between two independent variables that makes their combined impact greater than sum individual impacts.

The initial scale presented by Nilsson et al. (2016) has been expanded upon and applied to SDG linkages in particular settings. Weitz et al. (2018) and Weitz et al. (2019) add quantitative components that result in mixed approaches. Weitz et al. (2018) analyse Goal interactions by building a cross-impact matrix, populated with results from a scoring exercise with experts (the authors) using the Nilsson et al. (2016) framework. This gives the approach a strong systemic advantage. Cross-impact matrix data is then visualised through network analysis techniques, and quantitative techniques are applied to identify positive and negative interactions. An advantage of this approach is that the authors can take second-order effects into account, and determine whether positive linkages have system-wide or limited impacts (Weitz et al., 2018). A weakness is that the quality of the analysis depends on the subjectivity of expert judgements.

Weitz et al. (2019) show how mixed approaches can be implemented with a highly systemic perspective. The authors apply a 'SDG Synergies approach' to the European Union, but only to a specific set of Goals and Targets. Building upon the network analysis and quantitative techniques first used by Weitz et al. (2018), they use a seven-point scale to assess interactions with data from experts, stakeholders, and secondary sources. However, the selection of only some Goals and Targets, as well as difficulties scoring interactions at a regional rather than national scale, makes differences among countries less discernible.

Use of data and evidence in analyses of synergies and trade-offs

The choice of methodological approach has implications for the data selected for analysis. Data quality and availability can limit eligible approaches and the scope of analysis, as will be noted when analysing the country case studies in this chapter.

Existing approaches use primary and secondary data sources. Primary sources are often used in studies applying qualitative methodologies, and involves coding indicators based on expert judgements and interviews with policy-relevant stakeholders for domestic contexts (Nilsson et al., 2016).

Secondary data sources are prominent in studies with quantitative approaches, and include national household surveys, international

organisation databases, and data from national records (Mainali et al., 2018). Secondary data and evidence are sometimes used in qualitative frameworks to complement data from expert judgements.

Research gaps and contributions

This study contributes to addressing two gaps. First, it analytically centres national-level evidence of linkages, offering a comparative perspective on results obtained from applying different methodologies to data in various countries. Second, it helps bridge the gaps between evidence of synergies and trade-offs and policy recommendations. The literature on policy coherence for the 2030 Agenda implementation has made great progress on the identification of cross-cutting institutional recommendations for maximising coherence among all goals. However, thematic and sectoral policy recommendations, and how specific policy changes implemented by line ministries can help maximise specific synergies, or minimise a particular trade-off, remain underexplored.

In the following section, the analysis will firstly centre on comparing new evidence on linkages with previous research to help contextualise findings and identify potential dependency factors. Secondly, it will derive thematic policy recommendations from these factors to guide policy design and implementation.

Synergies and trade-offs among SDGs in the Global South: insight from the SVSS initiative

The State of the SDGs initiative selected three SDGs (4, quality education; 7, affordable and clean energy; and 8, decent work and economic growth) for analysis of implementation efforts in six countries from the Global South (Peru, Bolivia, India, Sri Lanka, Ghana, and Nigeria). This selection takes into account the Goals reviewed during the High Level Political Forum in 2019, as well as Southern Voice's expertise.

Each case study team chose no more than two of these three SDGs for analysis. Teams focussed on the three cross-cutting issues underlined by SVSS. For synergies and trade-offs, they selected one to four additional SDGs to create pairs of goals and analyse their interaction in each country. Finally, each concluded with a section on the policy implications of the analysis.

The SVSS country case studies are heterogeneous in approach. Some chose quantitative methodologies, while others used mixed approaches. Data came mostly from secondary sources, but some case studies included the results from primary data collection strategies. Levels of analysis also differ; case studies diversely consider interactions between SDGs at a national, local, or individual level.

The aim of this section is to develop an integrated analysis, on the basis of an original framework developed for this Report, that can effectively galvanise action by policy makers on the findings from all six countries.[2]

2 A few methodological caveats need to be mentioned here. Given that in most case studies, non-systemic approaches to synergies and trade-offs were selected, this chapter could not produce an overarching systemic framework to integrate findings, because the focus was expected to be on exploiting original SVSS research. Therefore, the analysis in section 3 is conducted at the level of direct (first-order) SDG interlinkages. This has obvious limitations in light of the discussion presented in section 2. The objective of this chapter, as shown in the preliminary section is not, however, to make a necessarily innovative methodological development, but to present a framework for analysing and comparing new national-level evidence, as well as bridging the gap between these findings and concrete policy recommendations for decision-makers.

Section 3 will first present an original framework to standardise and compare country synergies and trade-offs exercises in a visual matrix (Table 5.1). This section also considers the subcomponents of the framework and the findings central to identifying concrete policy implications. Second, this section will consider five of the eleven pairs of SDGs from the country studies. For each of these five pairs, evidence on the linkage between the two in previous research, followed by results of this set of studies, are discussed.[3] The goal is to ascertain whether new evidence on these SDG pairs matches previous evidence; what new insights policymakers and international stakeholders should bear in mind regarding policy coherence; and explore potential country-specific dependency hypotheses that could explain unforeseen results (International Council for Science, 2017).

Framework

The original framework developed for this study and presented in Table 5.1 builds upon the literature review and context identified in section 2, and takes into account the contextual restrictions mentioned at the beginning of this section. It is organised into two main categories for analysis.

The first category is approach. This identifies differences and commonalities among the methodological approaches in the six cases, and whether a methodology or conceptual framework about synergies and trade-offs is extant in the literature or represents a new approach. Approach includes five dimensions: type (quantitative, qualitative or mixed); methodology; data sources; level of analysis; and contextual limitations. The Appendix 1 describes these dimensions in more detail.

The second category is findings. This draws upon the synergies and trade-offs sections of the cases to map out the 11 different pairs of SDGs analysed: SDGs 4 (quality education) and 1 (no poverty); SDGs 4 (quality education) and 5 (gender equality); SDGs 8 (decent work and economic growth) and 5 (gender equality); SDGs 7 (affordable and clean energy) and 3 (good health and well-being); SDGs 4 (quality education) and 10 (reduced inequalities); SDGs 8 (decent work and economic growth) and 4 (quality education); SDGs 7 (affordable and clean energy) and 5 (gender equality); SDGs 4 (quality education) and 3 (good health and well-being); SDGs 8 (decent work and economic growth) and 12 (responsible consumption and production); SDGs 7 (affordable and clean energy) and 13 (climate action); and SDGs 7 (affordable and clean energy) and 15 (life on land) (see Table 5.1).

This section focuses on four of the above pairs analysed in at least two country studies (see matching pairs marked in colours in Table 5.1). To ensure full representation of all case studies, the section will also add a focus on a fifth group of SDGs (7, 3, and 5), a triad that will allow us to incorporate findings from the Ghanaian case study, given the close relationship among energy, health, and gender dimensions it highlights. The linkages to be analysed in depth are:

- SDGs 4 (quality education) and 1 (no poverty)
- SDGs 4 (quality education) and 5 (gender equality)
- SDGs 8 (decent work and economic growth) and 5 (gender equality)

- SDGs 8 (decent work and economic growth) and 4 (quality education)
- SDGs 7 (affordable and clean energy), 3 (good health and well-being), and 5 (gender equality)

For each pair, the framework highlights a series of analytic dimensions. These are: type of interaction (synergy, trade-off or neutral, with the first category also capturing cases with 'untapped' or 'unrealised' synergies, labelled thus in the framework); a brief description of Goal interaction; directionality (unidirectional or bidirectional); and identification of potential dependency factors underlying the linkage.

Regarding the 'type of interaction' category in Table 4.1, some examples clarify when an interaction is not clearly a synergy or trade-off. Many studies detected neutral linkages, i.e. where progress on one SDG had no apparent impact on another. Some, however, are defined by the authors as 'untapped synergies' because linkages can become positive if specific dependency factors are addressed. This is the case in the relationship between education and work outcomes for young people in Peru. In other cases, closely interrelated SDGs with some positive progress on the first goal could become synergistic, but are ultimately negative because of limited or no progress on the other. This is the case in Ghana, where limited adoption of clean fuels triggers negative health outcomes for households. Full implementation of clean energy would translate to positive progress in the health dimension.

This section includes an infographic (Figure 5.1) that summarises the findings category, as presented in Table 5.1.

Table 5.1. Matrix for cross-sectional analysis of synergies and trade-offs in country case studies

Country	Country case studies					
	Peru	**Bolivia**	**India**	**Sri Lanka**	**Ghana**	**Nigeria**
Approach						
Type	Mixed	Quantitative	Mixed	Mixed	Mixed	Quantitative
Methodology	Logistic regression (logit model)	Counter-factual simulations of joint density functions	Exploratory factor analysis, confirmatory factor analysis, structural equation modelling and textual analysis	Trend analysis, network mapping and interviews	Integrated benefit calculator of the LEAP model and focus groups for qualitative approach	Network analysis based on quantitative data and Spearman correlation analysis; qualitative literature review
Sources of data	Young Lives Survey, EAHO (household survey), ECE (education evaluations) and interviews	Time series of cross-sectional country household surveys	Primary data collection (questionnaire) and secondary data analysis (Census 2011; administrative data; PMKVY guidelines) (questionnaire) and secondary data analysis (Census 2011; administrative data; PMKVY guidelines)	Primary and secondary data collection through interviews	Various (Ghana Statistical Service indicators, and others)	Primary (in-depth interviews) and secondary (Nigeria demographic and health surveys)

Level of analysis	Individual	Individual	Household	Individual	Country, region & individual	Country
Contextual limitations mentioned by authors	Sample sizes in longitudinal survey, especially when considering specific populations	Limited data availability	Data scarcity	Data limitations and interview stigmas	Model has limitations for assessing social targets	Data limitation to measure education quality
Findings						
First SDG selected by the case study	4 (quality education)	4 (quality education)	4 (quality education)	8 (decent work and economic growth)	7 (affordable and clean energy)	4 (quality education)
Second SDG selected by the case study	8 (decent work and economic growth)	n/a	8 (decent work and economic growth)	n/a	n/a	n/a
S&T first pair	1 (no poverty)	4 (quality education)	4 (quality education)	8 (decent work and economic growth)	7 (affordable and clean energy)	4 (quality education)
	4 (quality education)	1 (no poverty)	5 (gender equality)	5 (gender equality)	3 (good health and well-being)	1 (no poverty)
Type of interaction	Synergy	Neutral	Neutral	Neutral	Synergy	Synergy
Interaction description	Lower socio-economic level is associated with being left behind in education	More schooling years do not explain poverty reduction	Level of education shows no correlation with women empowerment	Gender social norms reduce synergy effects for women	Polluting household fuels are an important cause behind air-pollution related deaths	Quality education leads to poverty reduction and this leads to greater access to education
Directionality	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Unidirectional	Bidirectional
Possible dependency	PSCD: Characteristics of education	PSCD: Quality of education	PSCD: Social norms, quality of infrastructure and education	PSCD: Unpaid care and domestic chores; sexual harassment on public transport and workplace	Timeframe dependency	PSCD: Gender inequality
S&T second pair	5 (gender equality)	4 (quality education)	8 (decent work and economic growth)	8 (decent work and economic growth)	7 (affordable and clean energy)	4 (quality education)
	4 (quality education)	10 (reduced inequalities)	5 (gender equality)	4 (quality education)	5 (gender equality)	3 (good health and well-being)
Type of interaction	Neutral	Neutral	Neutral	Synergy	Synergy	Synergy
Interaction description	Girls do just as well or better at school but are likely to be left behind at work (untapped synergy)	More years of schooling do not explain income inequality reduction	Declining female labour force participation and limited access to decent work is associated with lower women's autonomy	Enhanced human capital increases productivity. However differential effects depending on the type of worker	Clean energy benefits women's health and frees some of their time	Quality of education increases awareness of and access to healthcare services
Directionality	Bidirectional	Unidirectional	Bidirectional	Unidirectional	Unidirectional	Unidirectional
Possible dependency	PSCD: Gender norms and unpaid work	PSCD: Quality of education	PSCD: Gender norms, safety and unpaid work	Engagement of private sector; adaptation to changing apparel industry	PSCD: Restrictive gender norms	PSCD: Gender norms

S&T third pair	4 (quality education)	4 (quality education)	n/a	8 (decent work and economic growth)	7 (affordable and clean energy)	4 (quality education)
	8 (decent work and economic growth)	8 (decent work and economic growth)	n/a	12 (responsible consumption and production)	13 (climate action)	5 (gender equality)
Type of interaction	Synergy, but not tapped for all groups	Limited synergy	n/a	Trade-off	Synergy	Synergy
Interaction description	Being left behind in education is associated with being left behind in decent work	More years of education make only minor contribution to labour earnings, especially for men	n/a	Economic growth causes wasteful consumption	Clean energy reduces greenhouse gas emissions	More gender-equal norms remove barriers to girls' access to education, and quality education helps deconstruct unequal norms
Directionality	Unidirectional	Unidirectional	n/a	Unidirectional	Bidirectional	Bidirectional
Possible dependency	Quality education and economic autonomy keys to untap synergy	Low labour demand for highly-skilled workers	n/a	Governance	Time frame	Place-specific context
S&T fourth pair	n/a	n/a	n/a	n/a	7 (affordable and clean energy)	4 (quality education)
	n/a	n/a	n/a	n/a	15 (life on land)	8 (decent work and economic growth)
Type of interaction	n/a	n/a	n/a	n/a	Neutral	Synergy
Interaction description	n/a	n/a	n/a	n/a	Life on land improves without clean energy	Enhanced human capital increases productivity
Directionality	n/a	n/a	n/a	n/a	Bidirectional	Unidirectional
Possible dependency	n/a	n/a	n/a	n/a	n/a	PSCD: Stage of economic development

Note. N/a=not applicable (used in cases where only two or three SDG pairs were analysed for synergies and trade-offs). PSCD=place-specific context dependency. Matching colours identify matching pairs of SDGs (dyads which will be analysed together in the following section).

Source: Adeniran, Onyekwena, Onubedo, Ishaku & Ekeruche (2020); Nair, Shah & Sivaraman (2020); Crentsil, Fenny, Ackah, Asuman & Otieku (2020); Andersen, Medinaceli, Maldonado & Hernani-Limarino (2020); Alcázar, Bullard & Balarin (2020); Fernando, Arambepola, Niles & Ranawana (2020).

Compiled by the authors.

Figure 5.1 (below) visually synthesises the findings category in the Table 5.1 and presents the six main SDGs chosen for in-depth analyses. Arrowheads denote directionality. An arrow on both ends of a line indicates a bidirectional interlinkage, whereas an arrow on only one end indicates a unidirectional relationship, as well as its precise direction. Colours indicate whether the relationship is synergistic (green), neutral (grey) or a trade-off (red). Labels identify which SDG pair is present in which country study.
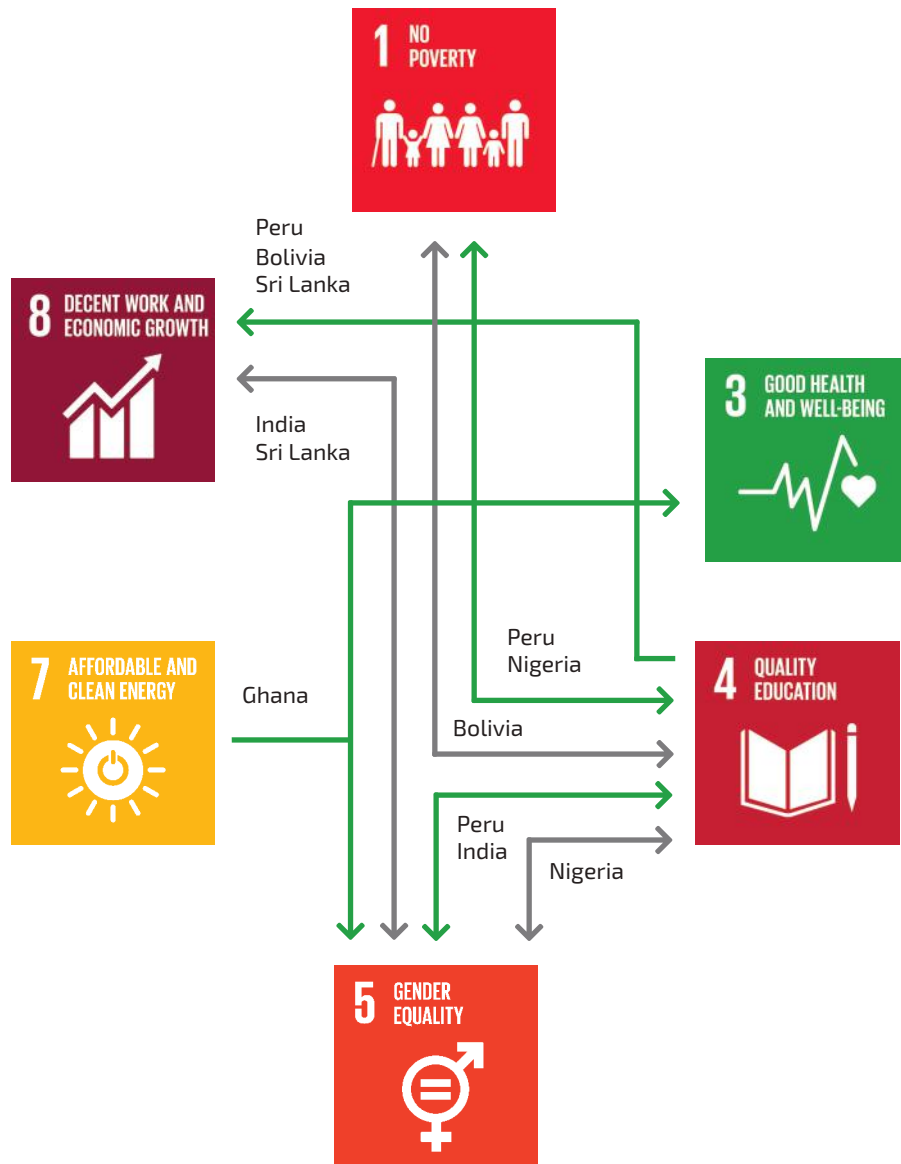
Note. As shown in Table 5.1, no trade-offs were found in the SDG groups selected for in-depth analyses. This is why there are no red arrows in the infographic.
Compiled by the authors.

SDG interlinkages in country contexts: findings in focus

This section contextualises and assesses the five SDG pairs selected for an in-depth comparison. It begins with a brief literature review of each case, focussing both on SDG-specific research and on insight from the broader policy area, before outlining findings from the cases. Although most synergies are well-known both in developed and developing countries, specific circumstances sometimes prevent them from emerging. Consequently, it is important to identify dependency factors to determine the specific policy responses necessary to promote coherence and profit from synergies.

SDGs 4 (quality education) and 1 (no poverty)

State of knowledge

Alleviating poverty requires universal and inclusive access to basic resources and social protection systems (FAO, 2015). Providing inclusive and quality education is one of the most powerful and proven tools for sustainable development (World Bank, 2018). However, educational progress in some developing countries is hindered by poverty, armed conflict, and emergencies. Measuring if poverty impedes education, or if education helps alleviate poverty, is useful in determining whether SDGs 4 and 1 are in synergy or introduce trade-offs.

Oxaal (1997) understands the relationship between education and poverty in two ways: education as reducing poverty in the long term, or poverty as constraining educational achievement. Education as a poverty reduction strategy is usually analysed at the individual and country level. Individually, education provides valuable skills and knowledge that can reduce income poverty by increasing the wages of a more qualified labour force (Hanushek, 2013). Granting universal access to education—one dimension of multidimensional poverty—decreases personal deprivation. Evidence shows that education brings resilience, empowers individuals, and aids individual, household, and community development (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2017).

Macroeconomically, education is recognised to reduce income inequality. A study conducted by the United Nations Children's Fund (UNICEF, 2015) of 114 countries from 1985-2005 revealed that one extra year of schooling reduces the national Gini coefficient by 1.4 percentage points. UNESCO (2017) has argued that nearly 60 million people could escape poverty if everyone 15 years old and over had just two more years of schooling.

Poverty as a constraint on educational achievement can be analysed at the macro- and micro-level. Macroeconomically, lower-income countries generally show lower levels of enrolment and fewer average years of education (UNESCO, 2017). Microscopically, children living in poor households usually receive less education than in richer households. For infants, this can create gaps in cognitive and language development (Rubio-Codina & Grantham-McGregor, 2019). This implies a violation of children's rights, and is detrimental to their skills development, negatively affecting life trajectories (Cecchini, Filgueira, Martínez & Rossel, 2015).

Reducing poverty (SDG 1) would help reduce barriers affecting education; investment in quality education (SDG 4) would have a positive impact on poverty reduction. This indicates that while SDGs 1 and 4 are goals in themselves, there is also space for bidirectional synergies.

The strong synergy here has also been addressed by Agenda-specific literature. Pradhan et al. (2017) quantitatively analysed SDG synergies, identifying positive or negative correlations, from indicators developed by the Inter-Agency and Expert Group on SDG Indicators, using the nonparametric Spearman's rank correlation analysis. Their findings

reveal that SDGs 1 and 4 have significant synergistic relations, ranking second in the top 10 synergy pins, eclipsed only by SDGs 11 and 13 (Sustainable Cities and Communities, and Climate Action). Le Blanc (2015) ranked SDG 1 as possessing the third-most linkages with other Goals.

Vladimirova and Le Blanc (2016) studied the relationship between SDG 4 (quality education) and others. Analysing 37 global reports produced by United Nations organisations, the authors found that education is recognised as facilitating other SDGs. They also argue that there are endogeneity issues with the link between SDGs 4 and 1 (no poverty). Quality education helps to relieve poverty by increasing people's income and resilience, benefiting minorities and preventing intergenerational transmission of poverty. This positive impact can be constrained by limited educational access and rising educational requirements for labour market entry. However, poverty reduction also improves education by diminishing differences in service quality accessible to people with different incomes. Nonetheless, the study noted children from lower-income backgrounds likely receive less, and worse, educational services than those from higher-income households.

Although compelling, this evidence does not causally link SDGs 1 and 4 to explain this synergy. More research is needed on the synergies and trade-offs of specific policy interventions. The methodology developed by Mainali et al. (2018), using a mixed approach and historical data, offers a good starting point for analysing the relationship between four SDGs. One goal this research focuses on is SDG 1 (no poverty), which was found to have strong synergies with other SDGs. The study concludes that the potential for synergies and trade-offs is context-specific, and depends on policies to emphasise those linkages.

Insight from Peru, Bolivia, and Nigeria

The Peruvian, Bolivian, and Nigerian case studies each analyse the synergies and trade-offs between SDGs 1 (no poverty) and 4 (quality education).

In the Peruvian case, Alcázar, Bullard & Balarin (2020) find potential for a strong synergy between SDG 4 (quality education) and 1 (no poverty) at the individual level. Occupying the lowest income quintiles was an important variable predicting poor educational indicators among adolescents and young adults. Primary students living in poverty were 5% more likely to lag in reading scores and 16.1% more likely to lag in mathematics. Students from the lowest socio-economic levels in secondary school were 10.2% more likely to lag in reading and mathematics (Alcázar et al., 2020).

The strong relationship between poverty and access to education is linked to barriers to accessing decent work later in life (Alcázar et al., 2020), which can reproduce income poverty and reduce economic autonomy. The relationship between education and poverty is frequently bidirectional. Barriers in one dimension create negative outcomes in the other. The Peruvian case shows these effects have an intergenerational dimension; children with lagging educational outcomes frequently have poor parents who faced educational access barriers when young. (Alcázar et al., 2020).

> **Quality education helps to relieve poverty by increasing people's income and resilience, benefiting minorities and preventing intergenerational transmission of poverty.**

The association between education and poverty means that policies designed to address either can have cascading effects. Peruvian case evidence suggests that evidence-based policy reforms targeting one Goal will produce positive effects on the other. Some place-specific context dependencies should be taken into account in education policies to ensure that reforms successfully address barriers preventing vulnerable groups from accessing education. These include: proper assignment of resources and quality infrastructure to strengthen learning environments (including access and transportation considerations, especially in rural regions), policies with socio-educational components to bolster individual trajectories, and synergies between school and care facilities.

In Bolivia, income poverty has significantly decreased in the past 15 years (Andersen et al., 2020). However, the case study shows that educational gains (measured in additional years of education) in the 1999-2014 period have not contributed to reducing extreme or monetary income poverty (Andersen et al., 2020). An apparently neutral relationship between the two policy dimensions and SDGs exists where a synergy was expected. These results are striking. The authors suggest that, given that Bolivian educational investment is amongst the highest in Latin American countries (an average 7% of its gross domestic product [GDP]), this neutral linkage could even become a trade-off if those resources could have been used more efficiently (Andersen et al., 2020).

However, this analysis focuses on years of schooling rather than on quality, which is also a key characteristic of SDG 4. Quality is one major difference between the Millennial Development Goal (MDG) and SDG education targets. A synergies and trade-offs analysis that does not include educational attainment and results is inherently limited, and prevents consideration of why education length does not contribute to a reduction in monetary poverty. The Bolivian case study illustrates this issue, lacking data on the quality of education nationally (Andersen et al., 2020). It is impossible to know whether this lack of significant contribution from education to poverty reduction can be traced back to education itself or to challenges regarding its quality and relevance (Hanushek, 2013). Quality is therefore a probable space-specific context dependency factor in this case. Problems related to poverty measurement are also important to contextualise the findings, including the exclusion of data on family production and auto consumption in the latest income poverty headcounts (Andersen et al., 2020).

In Nigeria, Adeniran et al. (2020) corroborate the close interrelationship between poverty and education. The authors categorise the interaction between poverty eradication and quality education as 'indivisible'; progress on one goal simultaneously affects progress on another (Adeniran et al., 2020). They conclude that higher quality education leads to poverty reduction. But higher incomes also lead to higher quality education, in a virtuous cycle that reduces the intergenerational transmission of poverty (Adeniran et al., 2020). The authors also note a dependency factor: gender inequality. Social norms may prevent young girls from going to school (Adeniran et al., 2020).

In conclusion, the Bolivian, Nigerian, and Peruvian cases suggest synergies between SDG 1 and 4, consistent with international evidence

and literature. The Peruvian case illustrates a positive relationship between poverty reduction and quality education at the individual level but notes an impact disparity between different socio-economic sectors. In Bolivia, the missing link between education length and poverty reduction could be explained by a methodological bias; data related to family production in the measurement of poverty and to education quality is lacking. Finally, the Nigerian case evidences synergies between SDGs 1 and 4, which are 'indivisible' according to the authors.

SDGs 4 (quality education) and 5 (gender equality)

State of knowledge

Gender inequalities in education have diminished globally, but girls still face discrimination and gendered gaps in primary, secondary, and tertiary education. This is one factor preventing women's full participation in the labour market. For instance, in North Africa, only 1 in 5 women hold non-agricultural jobs. Globally, women hold more than 30% of seats in at least one chamber of the national parliament in only 46 countries (United Nations, 2019a). The synergy between SDGs 4 and 5 can encourage the participation of women and girls in all political, economic, and public spheres, providing real opportunities for autonomy.

The UNESCO Resources on Gender Equality (2019) regarding SDGs for educators establish the importance of education for gender equality. During early childhood, children learn to cohabit with other genders; in primary school, they learn the impact of gender roles on identity and equal treatment. In secondary school, this understanding expands to the social construction of gender, including gendered roles, professions, sports, and households. This has enormous consequences on their development. Home, school, and professional gender stereotypes have important implications on educational outcomes (Díaz Langou, De León, Florito, Caro Sachetti, Biondi, & Karczmarczyk, 2019). Addressing gender inequalities from a young age would reduce horizontal segmentation in higher education and the labour market later in life.

Quality education that mainstreams gender considerations can greatly contribute to gender equality, expanding opportunities and raising aspirations for work outside the house (United Nations Population Fund [UNFPA], 2014; World Bank, 2007). It empowers women to fight against discrimination and for their rights (UNESCO, 2013-2014; UNDP, 2010). In particular, comprehensive sex education has positive impacts on girls' and women's education levels and independence (Montgomery & Knerr, 2018; UNESCO, UNAIDS, UNFPA, UNICEF, UN Women & WHO, 2018).

Despite these positive correlations, synergies can be diminished by implicit social norms, biases, and stereotypes, preventing highly educated societies from achieving gender equality (Díaz Langou et al., 2019). For quality education to improve gender equality, it is important to include a gender perspective aimed at minimising discrimination (UNESCO et al., 2018). Moreover, quality education and gender equality can address gender norms and discrimination that see fewer girls than boys attend rural schools (UNESCO & UNICEF, 2015; FAO, 2015).

From a 2030 Agenda perspective, the literature illustrates correlations and synergies between quality education (SDG 4) and gender equality (SDG 5). Pradhan et al. (2017) note this, although SDGs 4 and 5 were below the top 10 synergy pairs. Le Blanc (2015) ranked all Targets by linkages with other Goals and found that SDGs 4 and 5 ranked 8th and 7th, respectively, including several linkages between each other.

Vladimirova and Le Blanc (2016) also demonstrate synergies between SDGs 4 and 5. United Nations global reports show quality education can improve opportunities for girls and young women by raising their aspirations and promoting paid work outside the household. Moreover, higher educational attainment for girls can positively change gender norms. They also analyse the impact that gender equality progress has on education. Through reducing early marriage and promoting sexual and reproductive rights, gender equality lowers barriers that marriage or pregnancies place on women's education. Older women's economic empowerment can also boost household income, improving children's school attainment. That this is a long-term process is identified as a challenge; the impact of education can remain low while these negative stereotypes and practices still exist. Vladimirova and Le Blanc show that including a gender perspective in policy implementation, including affirmative action around school attainment and gender-sensitive teaching can mitigate these challenges.

In conclusion, although the studies suggest there are synergies between quality education and gender equality, most of the evidence is not context specific. Which specific policies work in each context to bolster links and progress the Agenda requires greater study.

Insight from Nigeria, India, and Peru

The Nigerian, Indian, and Peruvian case studies each analyse synergies and trade-offs between SDGs 4 (quality education) and 5 (gender equality).

In Nigeria, Adeniran et al. identify strong synergy between education access and gender equality. Education improves women's autonomy, reproductive and sexual rights, household decision making, and job opportunities (Adeniran et al., 2020). There is a consensus that this relationship is bidirectional. Moreover, improving access to education reduces child marriage, a widespread practice harmful to girls' rights and future prospects.

In India there are untapped synergies between SDGs 4 and 5. The research illustrates potential links between targets 4.3 (ensuring equal access for all women and men to affordable quality technical, vocational, and tertiary education), 4.4 (increasing the number of youth and adults who have relevant skills for employment, decent jobs, and entrepreneurship), and 4.5 (eliminating gender disparities in education and ensuring equal access to all levels of education and vocational training for the vulnerable), with target 5.5 (ensuring women's full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic, and public life).

Two policy challenges impair guaranteeing these synergies. First, training centres lack adequate infrastructure, such as childcare

services, accessible transportation, or appropriate equipment, deterring women's participation in training schemes (Nair et al., 2020). Second, training schemes fail to provide women with relevant skills; and attaining higher education does not correlate with higher economic participation for Indian women (Nair et al., 2020). Education is perceived more as a status symbol than employability enhancer (Nair et al., 2020), increasing the probability that women will be left behind.

The research also highlights potential synergy between SDG 4 and target 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). For this to be realised, training should provide financial education that provides women with money management skills (Nair et al., 2020).

In Peru, Alcázar et al. (2020) find a neutral linkage, where a synergy is expected, between SDG 4 and the economic autonomy targets in SDG 5. Although girls do just as well or better at school than boys, they are much more likely to be left behind in the labour market (Alcázar et al., 2020). Harmful gender norms in adolescence portray women as less skilled in specific areas such as science, technology, engineering, and mathematics (STEM); it is harder for girls to see themselves in these careers and this can cause poorer academic performance in those subjects (Spencer, Steele, & Quinn, 1999). Even when academic performance at school is not significantly gendered, this does not hold in labour market participation. Peruvian women are 10.7% more likely than men to be neither in employment, education, or training (NEET) and 12.5% more likely to work in precarious conditions (Alcázar et al., 2020).

Other contextual factors, including unfair distribution of care responsibilities, prevent young Peruvian women profiting from the intuitive synergy between SDG 4 and gender economic autonomy targets in SDGs 5 and 8 (decent work and economic growth). Progress towards all SDG 5 targets (especially 5.1, 5.4, and 5.6, related to discrimination, care work, and sexual and reproductive health rights), would help realise this synergy (Díaz Langou et al., 2019).

In conclusion, knowledge and evidence show a potential synergy between SDGs 4 and 5. Quality education for women and girls should contribute to their empowerment and reduce gender inequalities. More gender equal countries are likely to provide better education opportunities for women. The three country cases confirm this potential synergy, but the Indian case highlights how women's access to training has not led to more economic autonomy. As noted before, the impact of quality education on gender equality depends upon deconstructing harmful gender norms through mainstreaming the gender perspective.

SDGs 8 (decent work and economic growth) and 5 (gender equality)

State of knowledge

Women's growing labour force participation since the mid-20th century has had positive outcomes for gender equality. However, women are more likely to work in worse paid sectors, lower-level positions, and the informal economy, contributing to the gender pay gap (Díaz Langou et al., 2019).

The relationship between economic growth and gender equality has long been researched. Goldin (1995) sees this relationship as U-shaped: women's labour market participation is high in low-income contexts, but decreases when new technologies and economic growth replace women's paid work with non-paid household work. Participation rises again when female education increases, fertility rates lower, and marriage and childbearing are delayed (World Bank, 2012). Implicitly based on a male breadwinner model where women's work complements men's, these predictions may not hold in more gender-equal societies.

Gender gaps are also evident, but less significant, in high-income countries; women remain overrepresented in low-paying occupations and under-represented in the top income groups (Atkinson, Casarico, & Voitchovsky, 2018). While economic growth contributes to gender equality, specific policy interventions accelerate the process. The World Economic Forum's Global Gender Gap Report (2017) states that, without changes in current trends, it would take 100 years to close the global gender gap.

Duflo (2012) concludes that economic development alone is insufficient to resist pervasive stereotypes and improve key dimensions of women's empowerment. Nonetheless, this empowerment is essential from a human rights perspective. Affirmative action towards this Goal can contribute to maximising the impact economic growth has on gender equality.

There is consensus a positive correlation exists between gender equality, decent work, and economic growth (Díaz Langou & Brest, 2018). McKinsey Global Institute (2015) notes that annual global GDP could be 60% higher by 2025 if women's labour force participation were equal to men's. Macroeconomically, gendered labour gaps slow economic growth because talent pools are underutilised and human talent is underinvested in (Booz & Company, 2012; Blackden, Canagarajah, Klasen, & Lawson, 2006). Bertay, Dordevic, and Sever (2018) hypothesised that reducing gender inequality should disproportionately benefit female-dominated industries. There is evidence that more diverse workspaces contribute to better outputs and productivity, and that higher female participation has positive impacts on firms' economic performance (International Finance Corporation, 2015; Credit Suisse Research Institute, 2014; Cuberes & Teignier-Baqué, 2011a; Cuberes & Teignier-Baqué, 2011b).

Equally compelling evidence shows women's access to jobs, cash transfers, education, credit, land, and other assets aids poverty

reduction, fertility decline, children's welfare and agricultural productivity (Barrientos & DeJong, 2006; Blumberg, Cooper, & Schindler, 2005; Kabeer, 2003; Quisumbing & Mallucio, 2003). However, extant gender discrimination in access to jobs, education, health, and political representation all testify to the persistence of gender inequalities in life choices and chances.

The potential synergy identified between SDGs 5 and 8 is consistent with existing scholarship. Pradhan et al.'s (2017) study reveal that, despite synergies between SDGs 5 and 8, negative statistical correlations exist. Miola, Borchardt, Neher, and Buscaglia (2019) analyse synergies and trade-offs between SDGs; while SDG 5 has almost no trade-offs with other SDGs, SDG 8 has room for possible trade-offs.

Benson Wahlen (2017) analyses the link between gender equality and other SDGs. Gender equality, she argues, is an "enabler and accelerator" for all other SDGs. The first target (ending all forms of discrimination against women and girls), enables equal and decent education and labour market access. Moreover, the promotion of economic empowerment and financing has direct implications for economic growth: ensuring women's economic rights increases labour market participation and boosts productivity, especially when women's leadership is encouraged. The report also highlights the positive impact on economic activity that women's good health has. Despite these positive linkages, Benson Wahlen (2017) identifies two implementation challenges: the absence of gender-sensitive data; and insufficient investment on gender equality.

> **Under some circumstances, economic growth can create synergies with gender equality but should be combined with affirmative action policies to prevent trade-offs arising.**

Potential synergies between decent work, economic growth and gender equality would clearly be positive. Advancing gender equity would reduce obstacles to female empowerment and enable women's full, and positive, labour market participation. Under some circumstances, economic growth can create synergies with gender equality but should be combined with affirmative action policies to prevent trade-offs arising.

Insight from Sri Lanka and India

The Sri Lankan and Indian SVSS case studies analyse the synergies and trade-offs between SDGs 8 and 5.

Sri Lanka has seen major advances toward specific SGD 5 targets. Maternal health, female literacy rates, and educational attainment at all levels have improved (Fernando, Arambepola, Niles & Ranawana, 2020). However, women's labour market access and employment quality are not yet prioritised. This is particularly problematic because automation—notably in the apparel industry—is transforming the traditional world of work (Fernando et al., 2020).

Sri Lanka's female labour force participation rate remains low. Only 34% of women work, a figure consistent over several years (World Bank, 2018). Unresolved childcare demands, and serious sexual harassment on public transport and in the workplace, thwart women's full participation in the labour force (Fernando et al., 2020). Women who nonetheless work face lower salaries and become concentrated in less dynamic sectors of the economy (Fernando et al., 2020).

This compromises the SDG 8 equality principle and the possibility of achieving SDG 5. Limited access to better work becomes a reinforcing dynamic that mutually compromises their economic autonomy, household power, and human rights (Benavente & Valdés, 2014). That low incomes prevent women from hiring professional care services to, in turn, participate in the labour market illustrates that this relationship is bidirectional (Fernando et al., 2020).

In India, certain workforce sectors are increasingly feminised (Nair et al., 2020). Women are typecast into jobs reproductive of sexual divisions of labour, such as caregivers and educators. They are also overrepresented in the informal economy, which prevents their access to social protection. Together with declining female labour force participation, these outcomes reinforce the challenges of creating a virtuous cycle between SDGs 5 and 8. Higher education does not translate into better job opportunities for women: university graduates and middle-school dropouts register similar activity levels (Nair et al., 2020). This may be because skilling schemes training does not match labour market needs, or because women do not know about training options.

Guaranteeing decent work opportunities for women could certainly foster gender equality. The Indian case study argues that providing access to formal jobs, which guarantee parental leave schemes and access to basic infrastructure, can have a significant effect on women who are not currently working (Nair et al., 2020). Yet, as described, women are mostly employed in the informal economy and face obstacles related to workplace infrastructure deficiencies, transport safety, and lack of agency.

The case studies and the previous literature review illustrate synergies between decent work, economic growth, and gender equality. Economic growth alone is insufficient to guarantee gender equality, especially in the labour market. Moreover, like India and Sri Lanka's case studies show, advances in literacy rates and educational attainment do not necessarily cause better working conditions for women.

SDGs 8 (decent work and economic growth) and 4 (quality education)

State of knowledge

Education positively impacts economic growth and facilitates decent work through different mechanisms: human capital, technology, productivity, and exports. For Mankiw, Romer, and Weil (1992), education increases human capital, which is inherent to the labour force in the augmented neoclassical model. It also increases the transmission of technology (Nelson & Phelps, 1966; Benhabib & Spiegel, 1994) and an economy's capacity to innovate new processes, technology, and products (Lucas, 1988; Romer, 1990; Aghion & Howitt, 1998). Some studies emphasise the impact of education, particularly at the secondary and tertiary levels, on workers' productivity, arguing this produces higher earnings, better working conditions, and knowledge spillovers that promote entrepreneurship and growth (World Bank, 2007).

In contrast, Hanushek (2013) argues that there is an oversized preoccupation with school attendance and completion in developing countries, while school quality and cognitive skills are underestimated. Conversely to the focus of education access, participation, and enrolment in the MDGs, the SDGs focus on quality and learning outcomes, endorsing their positive correlation with economic growth (OECD, 2016b).

Educational gaps between developed and developing countries, especially in terms of literacy, school attendance, and university enrolment, illustrate the importance of decent work and economic growth (UNESCO, 2017). Educational quality data is scarcer, because this is a multidimensional issue involving students, professors, infrastructure, political will, and budgets. Jaureguiberry, López, and Zoido (2018) found that Latin America's investment in education, although increased over the past decade, is still less than the OECD average—especially in secondary and tertiary sectors. The authors argue more, better, and more efficient investment is required. This evidence reinforces that economic growth can contribute to quality education by boosting investment, but is insufficient to guarantee universal educational access independently.

Consequently, both synergies and trade-offs between these two SDGs are possible but this depends on policy implementation in each country. While universal education improves the skills and qualifications of future workers, economic growth and decent work do not necessarily conversely lead to a better education.

In Le Blanc's (2015) classification of SDG interlinkages, SDG 8 was ranked fourth, and SDG 4 eighth. While the author identifies a connection between these two Goals, there are fewer total interlinkages compared to other pairs of SDGs. This illustrates that synergies or trade-offs depend upon the form public interventions take.

Vladimirova and Le Blanc (2016) review United Nations reports and analyse the relationship between quality education and economic growth, finding education increases workers' productivity and income. Secondary and tertiary education promote knowledge spillovers and entrepreneurship; skilled labour can, in turn, increase exports and investment. Additionally, economic growth creates a higher demand for skilled workers, technological innovation, and 'green skills'. The increased household income produced by economic growth can also reduce child labour and improve children's access to education, especially for girls. However, constraints and challenges may create trade-offs, such as a growing gap between the skills traditional education provides and those the job market requires. Unpaid household work reduces women's available time for education and labour market participation. The authors propose policy interventions, including higher education investment, raising education attainment outcomes, facilitating school-to-work transitions, and incentivising skills development.

In conclusion, despite considerable scholarship that suggests a positive relationship between economic growth, decent work, and quality education, studies dedicated to the synergies and trade-offs in these contexts are scarce. This has important consequences for SDGs

4 and 8 given scholars suggest that potential synergies could easily become trade-offs if not accompanied by efficient public policies. Specific and contextual research would contribute to closing this gap and help policymakers promote synergies and minimise trade-offs.

Insight from Nigeria, Sri Lanka, Peru, and Bolivia

The Sri Lankan, Peruvian, Bolivian, and Nigerian case studies analyse synergies and trade-offs between SDGs 4 and 8.

Robust evidence in Nigeria has found a close relationship between quality education, decent work, and economic growth. Proficiency in reading and basic mathematics and the labour supply quality are positively linked. Educational attainment fosters interest in labour market participation at individual and aggregate levels, particularly in women and young people (Adeniran et al., 2020). However, this interlinkage is conditional on other factors. Labour market opportunities and gendered social norms, for instance, might preclude women's educational attainment translating into more secure and better-quality jobs (Adeniran et al., 2020).

In Sri Lanka, there is evidence that the strong link between educational attainment and decent work is conditional on the type of activities workers perform. Skills development leads to improved working conditions and remuneration, but this synergy is stronger for non-routine cognitive workers than for manual workers (Fernando et al., 2020). Advances in automation transforming the apparel industry reduce private sector incentives to hire and develop low-skill workers, in turn affecting training policies for vulnerable groups. A key insight of Fernando et al.'s study is that synergies and trade-offs are not black-and-white. Two SDGs, or even two specific targets, might have a positive and negative relationship at the same time, depending on the population studied (Fernando et al., 2020). For male citizens, skilling programmes related to SDG 4 may positively influence job opportunities expressed in SDG 8. However, this might widen the gap between workers who cannot access these programmes, particularly women responsible for childcare.

Interlinkage between SDGs 4 and 8 in Peru has been identified by Alcázar et al. (2020). This is a strong unidirectional synergy. Progress in education is associated with better individual outcomes in the labour market. Using the Young Lives (YL) longitudinal data, the authors indicate that Peruvians left behind in mathematics or reading in childhood and adolescence are likely to be in a NEET situation at 22 years old (Alcázar et al., 2020).

The authors note that several dependency factors, including quality education, are an aspect of SDG 4 intrinsically connected with labour market outcomes later in life. Interventions to improve learning outcomes, rather than only attendance, are therefore critical to ensure that positive changes in education mutually reinforce decent work. The apparent 3.2% reduction in probability of precarious work, which each additional year of education seems to produce, disappears when educational quality is considered in Peru (Alcázar et al., 2020).

A synergistic relationship between quality education and decent work does not emerge automatically in all circumstances. As the Peruvian

Advances in automation transforming the apparel industry reduce private sector incentives to hire and develop low-skill workers, in turn affecting training policies for vulnerable groups.

case shows, there is an important gendered dimension to this SDG interlinkage. Women are more likely to be neither in employment, education, or training, which is a common scenario throughout the region. This circumstance obscures that these young women shoulder a great burden of unpaid care and domestic work (De León, 2017). Indigeneity and rural contexts are also important place-specific context dependencies, particularly because of their impact on work indicators (Alcázar et al., 2020).

In Bolivia, the synergy between SDGs 4 and 8 is more limited. Andersen et al. (2020) show through simulations that additional years of education would only modestly contribute to mean and median labour earnings: USD 390 and USD 277 adjusted by purchasing power parity, respectively. The counterfactual simulations also show that if schooling distribution is kept constant, the share of 'good' and 'living' jobs[4] available would not have changed (Andersen et al., 2020). This is consistent with the mixed evidence about the impact of education on labour demand.

The Bolivian case facilitates a detailed focus on the relationship between education and wages for workers with varying levels of educational attainment. Gender is an important variable. Women's wages increase significantly with higher education levels. For instance, young women who studied for 12 to 15 years have hourly wages 63% higher than women who studied for less than six years (Andersen et al., 2020). In contrast, the wage distributions for groups of men with zero to five, six to 11, and 12 to 15 years of education are almost the same, with the last level only helping very low wage occupations. Higher education, however, is very beneficial for men (a 79% increase in wage level) (Andersen et al., 2020). The group that benefits the least from longer stays in the Bolivian education system is young, urban, non-indigenous men. Wage levels only jump after 16 years of education (Andersen et al., 2020).

These outcomes suggest a very challenging scenario for synergy between SDG 4 and 8, which is limited by one main dependency factor: labour market dynamics. The Bolivian labour market favours cheap manual labourers, such as construction workers, maids, and mining workers (Andersen et al. 2020). Highly educated university graduates work for free as interns in limited workplaces requiring highly-skilled workers. The authors connect this to global economic forces; the Bolivian economy has specialised in unprocessed primary exports with low added value so growing sectors in the labour market (like construction) reward on-the-job experience rather than formal schooling (Andersen et al., 2020). Not until this is addressed will the synergies between SDG 4 and 8 increase significantly for all kinds of workers.

In conclusion, it is crucial to restate the broad consensus that better education does facilitate economic development. The Nigerian and Peruvian cases support this. However, the effect can be hindered by harmful gender norms, as shown in the Sri Lankan case. Therefore, the mainstreaming of a gender perspective in education is important. The case of Sri Lanka also highlights the importance of connecting education with labour demand, since low-skilled workers benefit less from education in the labour market. Bolivia's case shows remarkable

4 'Good' jobs correspond to those providing enough earnings to cover two international poverty lines. 'Living' jobs, on the other hand, provide enough earnings for only one international poverty line (Andersen et al., 2020).

differences in the welfare of its general and indigenous population; when median incomes rise, wealth distribution effects negatively affect education and economic growth for some groups. However, the Bolivian case study analyses education only through years of schooling, which cannot account for its quality.

SDGs 7 (affordable and clean energy), 3 (good health and well-being) and 5 (gender equality)

State of knowledge

The 2030 Agenda strongly promotes long-term environmental sustainability, on account of evidence that current production and consumption trends damage the environment and social well-being. Seven of 17 SDGs directly reference environmental issues,[5] and despite the consensus on their urgency, the environmental component of sustainable development remains hard to achieve due to its relationship with the current system of production and distribution. This lack of coherence affects synergies between SDGs: according to Pradhan et al.'s (2017) statistical analysis of SDGs, all of the top 10 trade-off pairs are integrated by SDG 12 (responsible consumption and production) or 15 (life on land). In order to achieve policy coherence, the current paradigm of consumption and production must be challenged.

SDG 7 promotes access to affordable and clean energy. The 2030 Agenda posits that guaranteeing this would contribute to other Goals, such as reducing climate change, technological innovation, human health and well-being, and environmental protection (UNDP, 2015). According to the World Health Organization (WHO), clean energies also contribute to good health and well-being. 3.8 million people die each year for reasons related to air pollution and inefficient use of solid fuel.[6] This specifically affects the most vulnerable social groups, who struggle accessing cleaner forms of energy. Energy systems are supported by a diverse array of workers who are physically exposed to pollution on a daily basis and suffer greater health risks (Wang, 2015).

Renewable and efficient energy choices help to displace emissions from fossil-fuelled electrical generating units (EGUs) (Buonocore, Luckow, Norris, Spengler, Biewald, Fisher & Levy, 2015). Some regions in the United States would save up to between USD 5.7 million and USD 210 million per year in health- and climate-related costs, depending on which renewable energy options are installed. This positive correlation is also evident in the way SDG 3 itself is framed. Target 3.9 aims to reduce the incidence of death and illness from air pollution and contamination, and target 3.9.1 aims to reduce mortality rates from household pollution.

UN Women reports that women and girls accounted for 60% of 4.3 million premature deaths caused in 2012 by indoor air pollution, due to the amount of household work they are responsible for. Girls and women would benefit greatly from affordable and clean energy, in health and non-health outcomes. A brief by Shankar (2015) for the Global Sustainable Development Report emphasises the role cleaner energy options have in freeing up more time for women and girls to study.

5 SDG 6 focuses on clean water and sanitation, SDG 7 calls for affordable and clean energy, SDG 11 stresses the need for sustainable cities and communities, SDG 12 is responsible consumption and production, SDG 13 calls for climate action, and SDGs 14 and 15 are related to life on water and land.

6 27% of the above die of pneumonia, 18% from stroke, 27% from ischaemic heart disease, 20% from COPD or Chronic Obstructive Pulmonary Disease, and about 8% from lung cancer (WHO, 2016).

In addition to the above synergies, the promotion of good health and well-being and gender equality are also positively correlated. This is especially true when health is understood comprehensively to include physical, social, and psychological dimensions (WHO, 2006). According to UNDP, more than one in three women globally have experienced physical or sexual violence. Sexual and reproductive health rights in developing countries are limited and poorly enforced, affecting access to contraceptive methods, information regarding safe and consensual sexual practices, and maternal mortality. Lastly, the expanding gender agenda has reduced biases that influence how women are medically diagnosed and treated. Research has recently identified that symptoms of heart attacks are different for men and women, which can lead to incorrect diagnoses and negative health outcomes (Tomaszewski, Topyla, Kijewski, Miotla & Wacinski, 2019). In sum, the literature review indicates that the promotion of affordable and clean energy in fact also promotes good health and gender equality, and that there are several areas for synergies among them. These findings are also supported by the specialized literature on synergies and trade-offs among SDGs.

The International Council for Science (2017) argue that SDGs 3 and 7 are strongly positively correlated—particularly for urban residents. The length of time needed to observe the results, challenges related to geographical diversity, the need for strong political will during implementation, and dependence on specific technology all affect the realisation of this synergy. As for the link between SDGs 7 and 5, their study detects an overall synergy. It adds that, since women are mostly responsible for domestic work, they are directly positioned to gain from cleaner and more accessible energies when performing these tasks (notwithstanding that this burden ought to be redistributed between the genders in accordance with SDG 5).

The International Council for Science (2017) also studies the relationship between good health and gender equality, observing a synergy. Gender equality, they argue, contributes to prioritising women's health issues, which can indirectly improve child health outcomes. Pradhan et al.'s (2017) statistical analysis of SDGs offers further evidence: the interlinkage between good health and gender equality is ranked ninth in the top 10 synergy pairs.

In conclusion, although there is a strong case for synergies between these three SDGs, the nature of this interlinkage depends on the context, location, and norms present. To correctly specify the impacts, greater analysis of synergies and trade-offs in different country contexts is required.

Insight from Ghana

The Ghanaian case evidences strong synergies among SDGs 3, 5, and 7 but also helps to identify some important dependency factors.

The LEAP IBC model shows strong and positive interlinkages between SDGs 3 and 7. Under the 'business as usual' scenario, in which policy targets and implementation go on as expected, the number of deaths attributed to air pollution from household fuels would continue to rise steadily towards 2030. The elderly are most vulnerable, especially in

> **There are several areas for synergies among affordable and clean energy, good health and gender equality.**

rural households where clean energy is used less (Crentsil et al., 2020). Some unexpected findings have also been made. Under a scenario that sets stricter targets and policy reforms for cleaner energy, only very few deaths associated with household fuel exposure would be avoided. This synergy is potentially untapped in this case: the health benefits associated with the use of cleaner energy sources are not preventing air-pollution-related deaths (Crentsil et al., 2020). However, the number of avoided casualties begins to rise steadily over time suggests a potential timeframe dependency. Given that the elderly (over 70) and adults between 50 and 70 account for the vast majority of household-fuel related deaths, reduced exposure to polluting fuels for a limited time would not counteract the severe health hazards of a lifetime of exposure. If the policies behind the clean energy transition are sustained over time; however, their impact on air-pollution-related deaths will grow as newer generations profit from living in pollutant-free households.

Regarding the SDG 5 and 7 interlinkage, women working at home described physical symptoms associated with exposure to unclean cooking fuels. Unclean sources of energy, including firewood, especially affected their daughters, who (more so in rural areas) become involved in food preparation and other domestic activities involving fuel. There is, therefore, a strong unidirectional (SDG 7 to 5) synergy between both policy dimensions at the individual level. Cleaner energy options—particularly electricity for cooking and lighting—would prevent negative impacts on women and girls' health (particularly in rural Ghana) and also free time from firewood collection to work outside the household (Crentsil et al., 2020). However, many interviewees recognised that restrictive gender norms could prevent progress towards SDG 7 being translated into synergies with the economic-autonomy targets in SDGs 5 and 8 (Crentsil et al., 2020). When Ghanaian women did not have to fetch firewood, gender mandates could still prevent fulfilment outside the household. As in other cases of interlinkages with SDG 5, norms are an important dependency factor. In conclusion, the evidence from Ghana's case study corroborates previous knowledge of the relationships between SDGs 3, 5, and 7.

Conclusion and policy implications

This final section identifies lessons learned for tackling trade-offs and maximising synergies at the country level among selected SDGs from a policy coherence perspective. This builds upon policy implications identified in each country case study, and adds relevant inputs from the literature review on usual interlinkages (as mentioned in Section 3). The section also assesses considerations common to all SDG interlinkages and policy areas, and their implications for national institutions, information systems, and monitoring and evaluation initiatives. This analysis will incorporate a political economy perspective to identify the potential factors governments and relevant stakeholders should consider when prioritising policies to maximise synergies and tackle trade-offs.

Specific lessons learnt and recommendations for maximising synergies and mitigating trade-offs in the context of SDG interlinkages.

For the purpose of this section, the SDG pairs that the country studies and this chapter focused on are now organised in three overarching groups to avoid repetition. We will present specific recommendations for maximising synergies and minimising trade-offs among SDGs 1, 4, and 8; SDGs 4, 5, and 8; and, SDGs 3, 5, and 7.

SDGs 1 (no poverty), 4 (quality education) and 8 (decent work and economic growth)

There is widespread consensus that ending poverty in all its forms, promoting access to quality education for all, and guaranteeing decent work opportunities are positively correlated. Reduction of both income and multidimensional poverty is positively associated with educational access and attainment. This, in turn, facilitates inclusive labour trajectories and reduces intergenerational poverty transmission. However, in order to achieve synergies between these Goals, conditioning factors that are obstacles to this virtuous cycle must be understood.

Four out of the six SVSS case studies offer insight on how to maximise this synergy in different territories. The previously identified dependency factors offer a good explanation for these divergent results. In Peru and Nigeria, the bidirectional synergy between SDGs 1 and 4 is mainly associated with the fact that a lower socio-economic level is related to being left behind in education. Although Bolivia also meets that condition, evidence of such a synergy is unavailable because there is no visible effect of more schooling on future earnings. Quality of education works as a dependency factor that can either prevent or contribute to the positive impact of the synergy. As for the relation between SDG 8 and 1, the Sri Lanka case shows that the synergy can be encouraged by private sector engagement. Lastly, the relation between SDG 8 and 4 depends again on the country. Where evidence from Peru and Nigeria show a synergy among these Goals, the Bolivian case study presents a limited synergy, conditional upon demand for highly-skilled workers. These findings help identify good practices and recommendations to achieve these three SDGs and seize the synergies among them.

There are two ways in which households access income that are relevant to understanding poverty reduction. First, it is fundamental to guarantee a basic, nationally-defined level of income for every family. It is of paramount importance to put in place a cash transfer system that protects vulnerable families, particularly those with children and adolescents. This recommendation is in line with the ILO's Recommendation 2020 on Social Protection Floors, that seeks to establish income guarantees for populations, not in the labour market. A study conducted by CIPPEC with an input-output approach analysed the economic impact of increasing the conditional cash transfer system in Argentina, finding that a state investment of 0.6% of GDP to improve it would create more than 133,000 jobs, reduce child poverty by 25%, and increase the country's GDP by 0.7%, hence contributing to economic growth (Díaz Langou, Caro Sachetti, Karczmarczyk, Bentivegna, & Capobianco, 2019). Moreover, the study suggests that 56% of the initial investment would be recovered through tax collection.

Second, it is critical to promote employability development policies to facilitate labour market access. Training, intermediation, and publicly financed internship programmes hold great potential to improve access for lower-skilled workers (Levy Yeyati, Montane, & Sartorio, 2019). However, sociodemographic differences should be considered. Gender critically delineates who profits from these types of policies. Given the sexual division of labour, which places almost exclusive responsibility of unpaid care work and domestic chores on women, it is critical to secure childcare services that allow women to participate in these programmes. As the studies from Nigeria and Sri Lanka showed, the care provision burden is a major obstacle for women's uptake of education and training opportunities (Fernando et al., 2020; Adeniran et al., 2020). Income security must, in turn, also be combined with access to quality public services such as healthcare and education.

Guaranteeing completion of mandatory levels of education is critical to meeting SGD 4. Gender roles play a critical part in explaining school dropout in boys and girls. Opportunity costs related to early labour participation play a huge role in preventing boys from completing their studies, while unpaid care and discrimination are critical obstacles for girls. Policies, including mentorship and economic incentives programmes, should take these facts into account to improve boys' and girls' trajectories. Nigeria's case study is a perfect example of this: restrictive gender social norms operate to the detriment of girls' school attendance, particularly in poorer areas (Adeniran et al., 2020).

Education quality is also important. Educational attainment does not necessarily translate into better learning outcomes. The case studies from Nigeria and Bolivia highlight that improvements in school attendance and completion do not imply improved literacy or numeracy (Adeniran et al., 2020; Andersen et al., 2020). It is therefore essential to adapt curricula to the demands of a changing world of work by accounting for geographical and cultural differences focusing on developing abilities such as critical thinking, resilience, STEM, and arts, to contribute to ongoing learning beyond school. There is a pressing need to close the gaps in the quality of education received by urban and rural populations, as the Peruvian case highlights.

It is also important to engage private sector actors to reduce the gap between school curricula and labour market expectations. This could facilitate access to decent work opportunities. As Sri Lanka's case demonstrates, skills development programmes hold great potential if they are oriented to the cognitive skills demanded by the transformation of the apparel industry and not to routine manual skills (Fernando et al., 2020). Moreover, the private sector can be incentivised to directly improve public services. The UNDP proposes the implementation of social and development impact bonds (SIBs & DIBs), public-private partnerships through which the private sector pay for social services, creating public sector savings. Government or aid agencies repay the private investors upon project success, who will receive both the capital they invested plus interest. This is common practice in developed countries, but quite unusual in developing countries, given the higher risks for investors. One of the first social impact bonds implemented in a developing country was in India and aimed at improving girls' education. The Educate Girls Development Impact Bond financed an Indian NGO called 'Educate Girls', which ran from 2015 to 2018, and

was very successful in achieving its enrolment and learning targets (Kitzmüller, McManus, Buddy Shah, & Sturla, 2018).

In short, reducing poverty and guaranteeing access to quality education are closely linked with promoting decent work opportunities. However, it is fundamental to take into account local specificities and conditioning factors in order to truly unlock such synergies.

SDGs 4 (quality education), 5 (gender equality) and 8 (decent work and economic growth)

The potential positive interlinkages between quality education, gender equality, and decent work are clear. Quality education at all levels can foster positive gender norms and also enhance access to decent work opportunities for women. The relationship also works in the opposite direction: decent work can improve women's agency and their economic autonomy, thus reinforcing gender equality. Yet the case studies highlighted that challenges remain in unleashing these potential synergies.

All the case studies, except Ghana, present evidence of how the synergies among these three SDGs work in a specific context. In most cases, they present themselves in a limited way, mainly because of restrictive gender norms. The link between SDGs 4 and 5 is analysed in India, Peru, and Nigeria. In India, the relationship between these Goals is neutral; the level of education shows no correlation with women's empowerment. This could be an untapped synergy suppresed by India's restrictive gender norms and infrastructure and education quality. The same problem arises in Peru, where even though girls do just as well or better at school than boys, they are likely to be left behind at work due to the gender division of labour. Only in Nigeria is the synergy among these Goals apparently fully acknowledged. The same appears to be true for the relationship between SDG 8 and 5, since gender social norms reduce synergy effects on women in India and Sri Lanka. The dependency factors here are the unpaid care and domestic work, and sexual harassment on public transport and in the workplace. Lastly, in the relationship between SDGs 4 and 8, although there is evidence of a strong synergy, it can be limited through the quality of education and the country's economic specialisation. These findings suggest that it is necessary to tackle those issues which are limiting synergies among SDGs, mainly restrictive gender norms, unpaid care and domestic work, low-quality education, and lack of job possibilities for women.

A series of recommendations are offered. First, it becomes paramount to implement policies that contest restrictive gender norms, prejudices, and stereotypes. As cultural and social transformations take place, it is necessary to take an intergenerational approach, designing gender-awareness initiatives for the general public, workplaces, and schools, as gender roles start being defined at an early age. Social norms on menstruation in some countries, such as India, also reduce women's agency and mobility (Nair et al., 2020). Where relevant, period taboos should be addressed and dispelled with public campaigns, bearing in mind different socio-cultural contexts. The international evidence suggests that sexual education with a gender and human rights perspective secures women's autonomy and rights (Montgomery & Knerr, 2018). Countries could also implement affirmative action policies

Three layers of critical action

to promote women's active participation in leadership positions and non-traditional sectors, creating positive role-models that alter young girls' trajectories (Beaman, Duflo, Pandre, & Topalova, 2012).

Care work is a key barrier to women's education and employment. The case studies show how caregiving and other domestic activities affected women and girls' lives. Indian women stated that motherhood and marriage were key deterrents to joining the labour force (Nair et al., 2020). In Peru, women were less likely to be in employment, education, or training due to care responsibilities (Alcázar et al., 2020). There are several policies which could alleviate care responsibilities for women organised under three categories: those who provide time, services, or money (Pautassi, 2007). In the first category, policies that provide time to care; the main policy intervention is parental leave schemes, which must foster co-responsibility of care between the genders in the household. Secondly, it is also important to provide care services: ensuring women's access to childcare facilities and articulating timetables with working hours to alleviate women's time poverty. The last group of policies provide money to care and are usually represented by transfer programmes which can also have positive effects on the national economy. These initiatives should also consider a complementary scheme for the informal economy, as in some countries a relevant share of women works in precarious conditions.

To catalyse the positive effects of education on labour outcomes, quality and relevant curricula at all levels is critical. Improving educational attainment in Bolivia and Peru did not necessarily translate into better labour participation for women, but improved learning outcomes can benefit labour inclusion (Alcázar et al., 2020; Andersen et al., 2020). This highlights the need to implement teaching and evaluation techniques that ensure that students are gaining knowledge. Appropriate training and education courses must be designed. Curricula and learning materials, especially in skills training and in tertiary education, must mainstream a gender perspective and include contents that are relevant for current and future labour markets. Governments should support research on the future of work while encouraging the private sector to provide training options that meet labour needs.

In addition, it is necessary to ensure employment opportunities for women. The Peruvian case study showed that girls attained equal or better overall results in basic schooling, but were more likely to be left behind in the labour market (Alcázar et al., 2020). It is also essential to address tacit and explicit discrimination against women in the labour market, including encouraging unbiased recruiting and promotion processes, and implementing affirmative policies, both in the private and public sector. As women register higher informality levels, formalisation policies are important.

Safety appeared as a major concern, especially in India (Nair et al., 2020). Women make choices related to their education and labour participation based on whether they feel safe and free from violence risks. Policies need to be implemented to prevent harassment and gender-based violence at the workplace, at educational and training institutions, in the streets and public transport facilities. Formal procedures should allow women to denounce if those situations occur and raise awareness on the need for women to speak up. Complementary initiatives can include

market decentralisation strategies and entrepreneurship programmes that consider teleworking as an option, as these can significantly reduce women's commuting needs and associated risks.

Overall, maximising synergies and eliminating trade-offs requires all these policies to contemplate intersectionalities. The case studies showed that some groups of women are especially disadvantaged. That is why gender equality functions as an enabler for the achievement of other SDGs and the tapping of synergies (Wahlen, 2017). Policy approaches to achieving SDGs 4, 5, and 8 should cater to the needs of these and other vulnerable populations to prevent them from being left behind.

Finally, policy coherence is vital to catalyse the synergies. This implies generating integrated planning, budgeting, and monitoring and evaluation processes at the national and subnational level with a gender perspective. A coherent and integrated approach to gender equality, decent work, and quality education also calls for collaboration with the private sector, civil society, and international organisations.

SDGs 3 (good health and well-being), 5 (gender equality) and 7 (affordable and clean energy)

Unlocking the synergies among SDGs 3, 5, and 7 requires specific policy changes to address limiting dependency factors. Promoting simultaneous progress on affordable and clean energy and health and well-being necessarily requires a gender perspective, as the analysis of the Ghanaian case demonstrated.

Appropriate types of clean energy sources for each context need to be identified. The situation of rural households in Ghana, where primary cooks (mostly women) use biomass energy sources like charcoal or firewood, should be prioritised for energy policy interventions. In these cases, quick action is essential to help households move away from dangerous and polluting solid biomass sources. The switch to clean cooking fuels and efficient stoves cannot wait for electrification and the expansion of the power grid, even though there is consensus that access to electricity is the ultimate goal, conferring many health, education, work, and gender benefits (ENERGIA, World Bank ESMAP & UN Women, 2018). Liquefied petroleum gas (LPG) cookers are a clean and versatile solution for rural areas with difficulties accessing and affording clean energy. Existing policies, such as Ghana's Rural LPG Promotion Program, need to be scaled up and strengthened, and the results and impact evaluated for implementation in other contexts (Asante et al., 2018).

Access barriers at the household level must be considered when promoting clean energy fuels and technologies. Cultural considerations related to traditional fuels, lack of access to appropriate information, limited time to devote to fuel transitions, and restrictive gender norms are all relevant. Restrictive gender norms mean that, even if progress towards clean and efficient fuels for cooking is made (with positive implications for SDGs 3 and 7), this does not heighten women's economic autonomy in line with SDG 5. Initiatives should be tailored to local-level needs and designed in a participatory fashion with users (ENERGIA, World Bank ESMAP & UN Women, 2018).

Secondly, it is paramount to promote and invest in decentralised and sustainable clean energy technologies and infrastructure, with a clear gender perspective. Decentralised, sustainable energy production infrastructure (including solar energy systems at the household, mini-grid, or community level) is an affordable and effective solution for electricity access in a growing number of development contexts worldwide. The role of local women entrepreneurs is critical for the success of these local solutions. As well as the involvement of women in energy supply chains (as entrepreneurs and employees, particularly in non-traditional roles) is a win-win situation (ENERGIA, World Bank ESMAP & UN Women, 2018; ENERGIA, 2019).

Finally, at the broader policy and regulation levels, it is critical to mainstream the gender perspective in governance mechanisms and energy institutions at all levels of government and promote women's participation in them through the design of capacity-building initiatives for women in non-traditional roles (United Nations Industrial Development Organization & UN Women, 2013).

Common lessons learnt and recommendations for maximising synergies and mitigating trade-offs in national implementation of the 2030 Agenda

For implementation efforts to succeed, policy area collaboration must be employed. Given the interdependency of the SDGs, silo approaches would not only be insufficient but also potentially harmful for sustainable development (OECD, 2018). The proposed approach includes identifying and managing synergies and trade-offs in the most efficient way possible, as well as addressing policy conflicts and transboundary or intergenerational effects of domestic and international interventions (Donoghue & Khan, 2019). The lack of knowledge on which actions could trigger negative or positive ripple effects can lead to risks and suboptimal decisions. These must be mitigated in order to keep all countries on track and guarantee the commitment to leave no one behind (Donoghue & Khan, 2019).

Consequently, the 2030 Agenda poses two main challenges for policymakers: on the one hand, it urges them to incorporate an interdisciplinary and integrated approach between different sectors of government; on the other, it challenges the short-term focus and puts long-term sustainability in the spotlight (Donoghue & Khan, 2019). This last issue is particularly difficult for developing countries, where every need is urgent and electoral campaigns may put greater incentives on the most pressing issues.

National strategies for policy coherence

More contextualised research on policy coherence, and how synergies and trade-offs take place in different scenarios, is needed. The six case studies offer a good starting point.

The contextual approach has been gaining prominence in Development Economics since the beginning of the 21st century. It rejects the notion of 'one-size-fits-all' strategies for development (Rodrik, 2008).

Consequently, although international evidence is helpful in identifying good practices, each country should define its own strategy according to institutional mechanisms, needs, and priorities. The Voluntary National Reviews that countries present annually to report their progress in the implementation of the 2030 Agenda are useful. According to them, policy coherence is one of the main challenges governments face when putting the SDGs into practice (OECD, 2018). They also offer the possibility to study how different countries use diverse strategies according to their needs (Fukuda-Parr, Bruckner, Hegestad, Kuehner, & Tavares, 2018). This approach responds to the paradigm shift from MDGs to SDGs, which is, in turn, strongly connected to the differences between policy coherence for development and policy coherence for sustainable development. This shift revolves around the understanding that development is a multidimensional problem that, therefore, requires multi-directional approaches (Mackie, Ronceray, & Spierings, 2017).

Policy coherence requires a strong political will, the integration and adaptation of existing institutions to new actors, sectoral political consensus-building, and the implementation of new administrative processes. Five of the eight building blocks identified by the OECD for coherent implementation relate to national activities: (i) political commitment and leadership; (ii) policy integration; (iii) long-term planning horizons; (iv) policy and institutional coordination; and (v) subnational and local involvement.

The OECD (2018) argues that (i) political commitment and leadership refers to the commitment and leadership that national governments need to successfully implement the 2030 Agenda. It should be accompanied by a broad political consensus among different parties, give incentives for different levels of government, and be stated clearly and widely, both inside and outside government (OECD, 2018). Although most countries have publicly advocated in favour of the 2030 Agenda, the commitment can be expressed in different ways. While some countries created new and local strategies, like France's roadmap to implement SDGs, others used pre-existing national plans and adapted them to align with the 2030 Agenda (Mexico with its National Development Plan and the Netherlands with the 'Confidence in the Future' coalition agreement). In the case studies, Ghana, Nigeria, and Peru integrated the 2030 Agenda into existing national development plans. Although this may be helpful if the national strategy is pre-existing and well-functioning, it could also be detrimental for the 2030 Agenda as national plans may take priority.

The second building block, (ii) policy integration, refers to interactions between economic, social, and environmental interventions that maximise synergies and minimise trade-offs to ensure coherence between different policies. The OECD (2018) argues that, in order to guarantee integration, it is necessary to employ specific budget and governance measures. There are multiple ways of fostering policy integration. Chile released new legislation on education, labour, and taxation that explicitly sets out to advance the 2030 Agenda, while Denmark uses integration as a criterion when analysing new legislative proposals. A second group of countries have developed specific working groups dedicated to integrating different policies, such as Switzerland's Federal Council. A third strategy is inclusion of policy

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integration incentives in national budgets. For example, Mexico's set of Guidelines for the Programming and Budgeting Process determines dates, actions, and elements on which different federal sectors should agree. Our case studies show that this is a daunting challenge for most developing countries. Although some of them have made great efforts in developing institutional strategies for policy integration, in practice most interventions are fragmented and thus require the strengthening of sectoral institutional mechanisms while simultaneously promoting opportunities for integration.

The third element is establishing (iii) long term-planning horizons that exceed electoral cycles. The 2030 Agenda calls for policies with a long-term impact on sustainable development. There is little compatibility between electoral cycles and the implementation of the SDGs. As a solution, the OECD (2018) illustrates how some countries, such as Belgium and Slovenia, developed national strategies with a 20- or 30-year timeframe. This poses an extra challenge for developing countries where economic instability often hinders long-term planning.

Fourth, it is important to have clear (iv) policy and institutional coordination which, according to the OECD (2018), refers to "assigning responsibility for overall coordination at the appropriate level". This is of crucial importance for national coherence: there should be coordination between entities of a sector (horizontal coordination), and also among different levels of government (vertical coordination). This helps maximise synergies and minimise trade-offs, promotes the sharing of information, and more efficiently allocate resources. Donoghue and Khan (2019) argue that to promote national coordination, it is necessary to include other ministries in the oversight functions, such as finance, planning, foreign development, and environmental offices. They endorse pre-existing mechanisms of horizontal and vertical coordination between different agencies and levels of government, as Chile, Portugal, and the Netherlands did by giving their Ministry of Foreign Affairs the coordinating role. Lastly, they suggest that it would be useful to give the coordinator the capacity to allocate resources.

The last element necessary for enhancing national coordination is (v) subnational and local involvement. The 2030 Agenda and the SDGs call for an integrated approach and are committed to leaving no one behind. Implementation should reach every individual, which is impossible without the cooperation of the government representatives that are closest to the people. In addition, they can identify gaps and needs that are possibly invisible to higher levels of government (OECD, 2018). According to SDSN (Kanuri, Revi, Espey & Kuhle, 2016), 65% of the SDG targets depend on the engagement and participation of local and subnational governments. Moreover, they have a huge budgeting power: in 2015 subnational governments conducted almost 60% of the investment in the OECD area and 40% worldwide (Organisation for Economic Co-operation and Development & United Cities and Local Government, 2016). Approaches differ internationally: in Finland, there are representatives of all cities and regions in the National Commission on Sustainable Development, while in Estonia municipalities have action plans that include the main objectives of sustainable development.

International strategies for policy coherence

SDG interactions are context specific. However, in an increasingly globalised world where interactions between different countries occur on multiple levels, it is important to analyse how these interactions affect the objectives of the 2030 Agenda. Some aspects of the SDGs transcend national frontiers, especially in terms of environmental issues, production, and consumption. In addition, comparing the experiences of different regions and countries is useful in identifying the mechanisms through which synergies and trade-offs take place.

These issues strictly relate to the sixth building block identified by the OECD (2016a): analysing and assessing the potential of different policy effects on well-being in every possible aspect. As the OECD mentions, more study is required of the effects of interventions, whether they are 'hera and now', 'elsewhere' or 'later'. Each country should consider how their development strategies impact other countries' and regions' well-being. This approach is strictly related to the shift from policy coherence for development to policy coherence for sustainable development: from a developed-developing and Northern-sided view, to one where every country was acknowledged at the same level, and domestic and international goals should reconcile (Knoll, 2014). To truly understand the impacts of every policy intervention, both through action and omission, some countries included the relationship between domestic and foreign actions in their SDGs implementation process. Germany, in Rule N°12 of its SDG plan (German Sustainable Development Strategy), includes an assessment of how Germany's actions affect other countries either positively or negatively. In addition, both Germany and Belgium have committed to actions promoting public goods and services to create positive externalities to other actors. These issues will be developed further in the global systemic concerns chapter.

In order to achieve international coherence, it is also pressing to guarantee the engagement of different stakeholders, and align actions and incentives between every stakeholder to minimise conflicting priorities. The OECD (2018) argues that this goal is best achieved by establishing dialogue regarding common challenges between stakeholders. If all actors were included in the design and implementation of the SDGs, both at local and international levels, this would undoubtedly create a more representative and legitimate process, enhancing its chances of succeeding (Donoghue & Khan, 2019).

Institutional practices for policy coherence

Policy coherence requires national and international strategies, and also specific institutional practices, to progress the 2030 Agenda and increase actors' capacities to manage SDG interlinkages. It is imperative to build the capacity of agencies focused on SDG-related goals. The last building block identified by OECD (2016a) is useful: monitoring and reporting. Identifying targets and indicators is important to track progress, solve bottlenecks, and profit from low-hanging fruits. Moreover, they can inform policymakers on evidence-oriented practices that enhance interventions, and provide feedback from past interventions, help identify synergies and trade-offs, and collect evidence from transboundary and long-term impacts.

Other useful institutional practices contribute to policy coherence. The OECD's 2018 Report on policy coherence for sustainable development collects lessons from good institutional practices globally. The first is the development of contextual studies regarding the implementation of the 2030 Agenda. The Stockholm Environment Institute and the International Council for Science developed a conceptual framework to identify correlations between SDGs that enable a detailed analysis (OECD, 2018). Its application in Sri Lanka and Mongolia captured some relevant institutional practices for policy coherence that coincide with OECD building blocks, such as strong government participation and the potentialities of designing a strategic process with measurable targets. The six case studies here are also a great step forward in this regard.

The second good practice refers to the instrumentalisation of budgeting processes to monitor investments and offer incentives for the inclusion of the SDGs in ministries' planning efforts (Lobos Alva & Rueff, 2019). Moreover, some countries also encourage their ministries to include a description of how their actions would impact positively or negatively on the 2030 Agenda.

The third strategy refers to drawing specific schemes of implementation, or 'roadmaps', that include different sectors and detail their policy interventions in favour of the 2030 Agenda (OECD, 2018). This strategy has proven useful in identifying interlinkages between the different targets and potential synergies and the actions of different sectors. However, in most cases, these roadmaps did not include all 17 Goals, rather they focused merely on national priorities. This problem should be addressed to promote a truly systemic understanding of the Agenda.

Lastly, the fourth strategy is the instrumentalisation of SDGs through parliamentary or interministerial commissions. Some countries have created specific committees dedicated to analysing the impact of draft legislation on the SDGs, while others have included that function in pre-existing committees.

The six SVSS case studies offer great examples of how institutional practices for policy coherence are implemented in developing countries. In Bolivia, although the 2030 Agenda is not a government priority, there is an inter-institutional committee that leads the monitoring of both the country's long-term development plan and the Agenda which is presided by the Minister of Development Planning. Sri Lanka initially opted for a similar strategy, with the Ministry of Sustainable Development charged with the implementation of the 2030 Agenda. However, in late 2017, Sri Lanka's strategy changed when an act of parliament set in motion the creation of a Sustainable Development Council, charged with developing a Sustainable Development Action Plan and Policy, under the Ministry of Environment. Despite the verbal commitment to the 2030 Agenda, the lack of policy coherence in the institutional framework poses a challenge for SDG implementation, exacerbated by limited indicators and data, and the difficulties with incorporating SDGs into the budgeting process. Bolivia's and Sri Lanka's experiences show that, although specific ministries can act as good protagonists in SDG implementation, it is also necessary to mainstream the 2030 Agenda vertically and horizontally.

> **The six SVSS case studies offer great examples of how institutional practices for policy coherence are implemented in developing countries.**

In Peru, three different institutions coordinate SDG implementation. Despite this, the case study authors argue that the SDGs are mostly missing from public policy discourse and practices. Consequently, Peru still faces multiple obstacles to achieving them. Ghana's case is similar because both have resorted to an institutional arrangement combining eminently statistical and political institutions. In Ghana, the National Development Planning Commission and the Statistical Service are responsible for SDG implementation, while the 2030 Agenda is also integrated into the country's development plan (the Medium-Term National Development Policy Framework 2014-2017/2018-2021).

In India, the institution in charge of integrating the 2030 Agenda into domestic public policies is the National Institution for Transforming India (NITI Aayog). It is also responsible for its implementation and monitoring and was, therefore, in charge of the creation of the SDG India Index, which assesses India's SDG progress in the different states and union territories. It was also in charge of producing a Voluntary National Reviews in 2017, which was unfortunately disqualified after its evaluation techniques were questioned. In Nigeria, the 2030 Agenda is integrated with the national development plan related to economics and human capital (the Economic Recovery and Growth Plan 2017-2020). In this case, the Office of the Senior Special Adviser to the President is responsible for overseeing its implementation. However, the case study shows that Nigeria is not currently on track to achieve the SDGs by 2030, with financial scarcity being one of the main issues the country must address in order to succeed.

This review shows how effective institutional designs must be built on a robust diagnosis of existing coordinating mechanisms, tailored to each specific context. They must also be accompanied by strong and comprehensive monitoring, evaluation, and reporting capabilities with a strong political commitment behind them, in the context of complementary national and international strategies for promoting coherence in the implementation of the 2030 Agenda.

Closing remarks

Sustainable development is a shared endeavour. It must involve and include stakeholders from all sectors and levels of government. It must also reflect the three thematic pillars of the 2030 Agenda. The 2030 Agenda for Sustainable Development has made substantial progress in recognising this shared and integrated nature and has mainstreamed this consensus through an internationally agreed set of Goals and Targets for the first time. Therein lies one of the main strengths of the Agenda.

However, this same strength is particularly exacting for implementation efforts at the country level, especially given that (in many cases) countries already have trouble implementing coherent policies among domestic line ministries. Policy coherence strategies at the national and international levels, with a focus on the institutional arrangements that make them happen, are critical to making efficient and effective use of development resources. In this way, it will guarantee everyone's rights and leave no one behind, contribute to economic development, and safeguard environmental sustainability.

Conducting synergies and trade-offs analyses in domestic country contexts is a crucial starting point for diagnosing these potential clashes between policies and development efforts and working on their mitigation, as well as for exploiting available synergies. This chapter presented a state-of-the-art analysis of what is currently known about synergies and trade-offs at the global level, both in general and in connection with specific groups of SDGs. It then built upon the six SVSS country case studies to conduct a cross-cutting analysis of their findings about the SDGs they had in common. To the authors' knowledge, this is the first attempt to build a framework that integrates SDG synergies-and-trade-offs findings from multiple country studies using diverse methodologies, in one report. More research is needed to analyse synergies and trade-offs in other countries (or at the regional level), with a focus on other SDGs and, crucially, with the use of systemic methodologies and the best available data sources. The SVSS effort is, however, a start that hoped to shed light on the key issues, from a Global South perspective. As we enter the 2020s and the countdown to 2030 begins, it is paramount to delve deeper into the interlinkages among SDGs to boost implementation efforts everywhere and for everyone.

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6

Addressing global systemic concerns while implementing SDGs at country level

Shehryar Khan Toru
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Introduction

The ongoing debates in the context of globalisation and global governance systems implicitly recognise that global systemic concerns impact the delivery of the Sustainable Development Goals (SDGs) in the national context, including in their relation to accomplishing the objective to leave no one behind (LNOB). The debates recognise that global systemic concerns, for example, climate change, migration, and technological change, could pose challenges and opportunities. It is in this context that literature also recognises that global systemic concerns (GSCs) will have consequences for the 2030 Agenda. In this regard, the Southern Voice initiative tries to systematically navigate how selected GSCs could impact the attainment of SDGs.

For the purpose of our analysis, and ease of reader's understanding, we loosely define GSCs as changes of complex nature which could or could not be triggered by the act of a single country but has impacts (negative or positive) which could potentially impact several countries (e.g. conflict), regions (e.g. natural and man-made disasters), or the entire globe (e.g. climate change).

Efforts to deal with GSCs also need to go beyond national-level interventions. There needs to be regional and global efforts, particularly geared towards enhancing the capacities of national and subnational governments in developing countries to deal with or mitigate the impacts of such challenges.

The specific objectives of this chapter are to:

- provide an understanding of how systemic concerns may be regarded as cross-cutting issues while formulating policies for the SDGs;
- conceptualise and identify some key GSCs which could impact the factors of production in developing economies;
- understand how GSCs shape global partnerships—with the aim to combat any adversity (e.g. pollution) and harness opportunity (e.g. technology).

Context

In this section we present a case of three distinct challenges in the areas of technology, energy, and finance, and how these have triggered GSCs. Since the financial crisis of 2008, the emergence of systemic risks is now not thought to be limited to the domain of finance; it also includes a host of other risks, emanating from changes in climate, cybersecurity, technology, migration and so on (Renn, Lucas, Haas, & Jaeger, 2017). According to the World Economic Forum (2016), despite the positive impacts of several technological shifts, uneven access to technology could negatively affect existing jobs.

This also has implications for inequality. For instance, automation could remove the need for many forms of conventional labour; a relocation of jobs and industry could also occur (Schwab, 2016). According to a study by Dobbs, Madgavkar, Barton, Labaye, Manyika, Roxburgh, Lund and Madhav (2012), the world economy could witness a surplus of low-skilled workers along with a shortage of high-skilled workers.

In the energy sector, the appetite for clean and affordable energy has prompted governments to rethink decades-old structures of electricity generation and distribution. The growth of renewable energy, intuitively seen as a more sustainable way forward, seems to be driven by private financial gains. This could potentially pose an impediment to countries that are reluctant to invest or do not have resources to transition towards sustainable energy for all (Zeshan & Ahmed, 2013; Ahmed, 2017). The provision of energy to marginalised segments of the population remains a challenge for most developing economies (International Renewable Energy Agency, 2018).

It is important to understand here that changes in global finance, technology, and energy are not mutually exclusive. They can all occur in one time and space, and can also have an impact in one or more forms—often unanticipated by policymakers. In the sections that follow, we will make a case for improved national and global governance mechanisms to assess and respond to GSCs.

Methodological approach

Our approach to addressing the objectives involves an extensive literature review. Due to space constraints, not all strands of literature can be presented here. However, we provide a framework of analysis (based on the available literature) and highlight key gaps in the literature and how such gaps may be bridged through this work.

The team also presented a previous version of this paper at Southern Voice meetings to receive feedback. These meetings included two research workshops on the State of the Sustainable Development Goals (SVSS) hosted by Southern Voice. On the sidelines of these meetings, we had the opportunity to conduct 25 key informant interviews from experts from South Asia, Latin America, and Africa. The team also hosted a focus group discussion on this subject at the 21st Sustainable Development Conference in Islamabad.

Most importantly, we used the SVSS country case studies to look at how various GSCs could impact SDGs.

Framework of analysis

Our framework of analysis (Figure 6.1) is grounded in the literature around global governance. We identify four levels of analysis to fully explore the possible impacts of GSCs. At the first level, we are particularly keen to make use of the approach provided in Thakur and Langenhove (2006) to understand global governance. However, the framework is not limited to one strand of debate and provides room to incorporate views from others cited in sub-sections below. Second, we refer to global policy problems that require agreement through global governance arrangements. At a third level, we explore the transmission mechanisms which could impact, both positively and negatively, the national pursuit of SDGs. We define the fourth level of analysis as any study around the national-level implementation framework of the 2030 Agenda.

> **The debates recognise that global systemic issues, for example, climate change, migration, and technological change, could pose challenges and opportunities.**

Figure 6.1. Framework of analysis

Elaborated by the authors.

Global governance

We take the lead from Thakur and Van Langenhove (2006) in explaining how innovative global governance arrangements can be put in place. They argue that collective interests can be articulated, rights and obligations established, and differences mediated between various countries and global actors through cooperative problem-solving approaches. They favour defining global governance as "governance for the world without world government" (Thakur & Van Langenhove, 2006).

The manifestation of global governance beyond immediate borders means that nation states entrusted with the responsibility of safeguarding their citizens from the harmful effects orchestrated by external entities and transnational flows, are now increasingly coming under pressure to adopt a defensive stance against 'outsiders'. Nation states face the inevitable task of forging collaboration and partnerships between diverse transnational players (Figure 6.2) (see Scholte, 2005).

Figure 6.2. Actors in global governance space
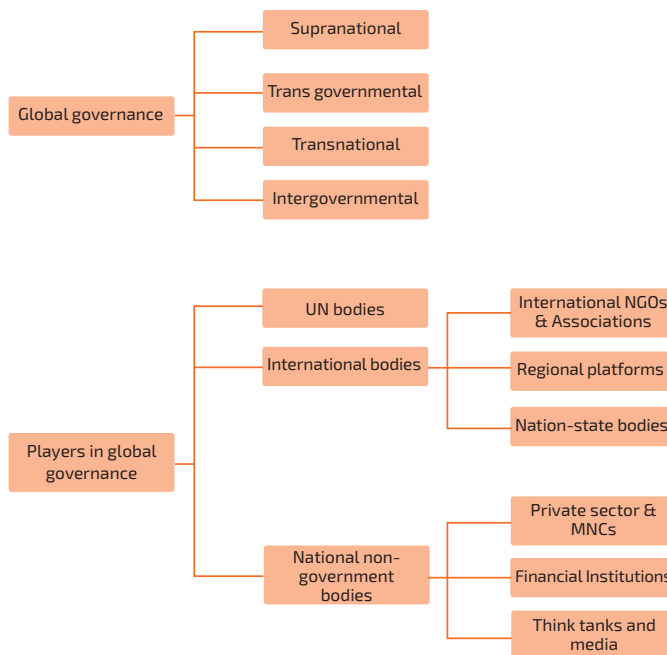
Note. CSOs=civil society organisations; MNCs=multinational corporations; International Associations could include platforms such as World Business Council
Source: Adapted from Klaus Dingwerth and Philipp Pattberg (2010).
Elaborated by the authors.

A related question is how to make these partnerships work for developing countries and remain strong over time. Likewise, do global governance arrangements understand the complexity of the challenges faced by developing countries—particularly in relation to barriers to achieving SDGs? For example, a key challenge that developing countries face includes embedding the LNOB notion into national plans and budgets. This pursuit can be either eased or made challenging by GSCs. In both scenarios, governance arrangements beyond national borders can help countries with constrained resources and knowledge.

Global governance arrangements for GSCs

In the context of this study, we define GSCs as global policy problems that require agreement through global governance mechanisms. For example, since the financial crisis of 2008, the emergence of systemic risks is now not thought to be limited to financial risks, but also includes a host of other risks, emanating from changes in technology, trade and tariff wars, cyber-attacks, and so on (Renn et al., 2017).

Technological innovation around the world is redefining work practices. According to the World Economic Forum (2016), despite technological shifts bringing economic benefits, uneven access to technology could negatively affect existing jobs as many of them could become obsolete, yet it may also create new ones. In the future, technology would dominate production of new products, which itself requires upgrading of skill-sets so that the public and private sectors develop the capability of dealing with technological sophistication (World Economic Forum, 2016).[1] This is closely linked to how technology platforms could be cartelised by large private sector corporations. The debate around how to regulate the internet (or whether to regulate it at all) is inconclusive.

Technological sophistication coupled with trade liberalisation in the recent past has exerted pressure on firms to lower their production costs. The firms previously operating in major enclaves of populated cities have shifted employment to the periphery, a strategy adopted to lower production costs and become less dependent on traditional unskilled labour (Ulrichs, 2016). The diminished demand for unskilled labour has implications for the well-being of society (Benería, 2001; Chen, 2012).

The adoption of sophisticated and economic machines could, at least in a transitory sense, give rise to informality in the labour market. The transition phase, in the foreseeable future, may see an increase informal labour around the world, posing a challenge to the attainment of SDG 8 (decent work and economic growth). As pointed out by Schwab (2016), the new work environment may or may not be in line with the ambition of sustainable production or decent jobs. As technological change is an irrefutable reality, presenting business opportunities to advanced countries, and posing a risk to developing countries. Questions remain on whether existing global governance systems will be able to accommodate the desires of both developed and developing countries.

One could argue that technology's impact on developed economies also requires in-depth evaluation. For example, in recent years, inequality

1 There is a growing body of literature now on the need to improve public-private dialogue mechanisms at a national level to achieve such objectives. For example, see Nazir & Ahmed (2019).

and its consequences have received much attention in the literature. Several forms of inequalities can be exacerbated as a consequence of technological change (Schwab, 2016). According to McKinsey (2012, p. 2), "the global economy could face a potential surplus of 90 to 95 million in low-skill workers and a shortage of about 38 to 40 million high-skill workers by 2020". Moreover, there is a high probability that technological change will impact the poor and marginalised.

According to Díaz Langou, Caro Sachetti, Rivero, Beneke de Sanfeliú, Drakeman, Ochoa, Robino, Branisa and Sorgner (2018), "wide gender gaps persist; women participate less in labour markets, their employment conditions are worsening, they face glass walls and ceilings, and they are discriminated by the law" (p.2). The evolving pattern of production and the restructuring of work practices have an unequal transboundary effect as some countries may be more affected than others. The inevitability of interconnections across diverse domains of knowledge and technological advancements has implications for local people and nation states. The negative or spill-over effects of technology could engulf and affect women more than men (Benería, 2001; Kabeer, 2012; Salzinger 2003).

According to Pyle and Ward (2003), the gendered effects under the globalisation of trade are more pronounced as they are seldom considered by trade organisations when crafting policies. In many African and Latin American countries, and certain regions of Asia, women who run small businesses in the agricultural sector become redundant due to cheaper imports under the regime of "unequal trade liberalization" (Pyle & Ward, 2003, p. 466).

Many have attempted to propose how some or most of the GSCs could be mitigated through global governance arrangements. The concept of global public goods (GPGs) has also received attention. We, however, note here that if any entitlement is recognised as a global public good then losing this could also be a global systemic issue.

Theoretically, GPGs are defined as "public goods whose benefits reach across borders, generations, and population groups" (Kaul, 2000). While recognising that basic education can be evaluated from different perspectives, such as public goods theory, a recent policy discourse makes reference to the conceptualisation of basic education from a 'western-centric' perspective (Menashy, 2009). Elsewhere, Kaul (2013) argues that the global aspect of public goods is primarily driven by globalisation. The theory of GPGs has several implications when viewed in terms of donors or internationally conceived definitions, thus implying a shift towards marketisation of education (or other social services).

For instance, transnational flows may be aimed at directing incentives for domestic actors. However, the pay-offs may benefit the private sector at the cost of national public goods (World Bank, 2017). The global community is facing difficulties in the delivery of public goods because of multiple centres and decision-making processes (Cepparulo & Giuriato, 2016). For instance, education has been considered not only a public good but also a private good, making it excludable, and meaning that the provision of education is

Several forms of inequalities can be exacerbated as a consequence of technological change.

not the sole responsibility of the public sector. Thus, the traditional sphere of governance has become 'multilayered and transboundary' (Figure 6.2).

Transmission mechanisms

Understanding the transmission mechanisms through which GSCs impact national-level outcomes is necessary to ultimately formulate a policy response. In this part of our framework of analysis, we describe the transmission mechanisms through which GSCs could impact the pursuit of SDGs at the national level. As part of this, teams studied GSCs specific to select economies. In Table 6.1, we show transmission channels through which GSCs impact socio-economic welfare, using examples from our country case studies.

This also draws from the transmission mechanisms identified by Nissanke and Thorbecke (2010). They split the channels into: growth, technological, institutional, informational and vulnerability channels.

There are instances where identification of transmission mechanisms may not be straightforward. For example, how could the global changes in oil and energy markets impact the pursuit of sustainable production in developing countries? There is a race to find cheaper and cleaner energy, however, developing economies may not have the finances or technical expertise to participate in this research and development. Eventually, being left behind also has implications for environment, health, and competitiveness of enterprises.

Table 6.1. Global systemic concerns and transmission mechanism

Country	Global systemic concern	Transmission mechanism	Impact on SDG implementation
Sri Lanka	Upgrading of a main value chain and automation of the apparel industry has implications for local workforce, in particular the female workforce.	-Growth channel -Technology channel	Automation influences Goal 8 and pursuit of productive and decent employment.[2] In the short term this could bring painful adjustment (with increased transitory unemployment). In the longer term, and if appropriate policy interventions are made in favour of upgrading human resource capacities, this could boost productivity and inclusive growth prospects.
India	Declining female labour force participation due to technology, automation of production processes.	-Growth channel -Technology channel	Pursuit of technology without skilling and capacity building leads to increase in gender gaps (seen in education, skills attainment, and formal employment) and also threatens Goal 4 outcomes; timely interventions will also help Goals 8 and 5.[3]
Bolivia	Technological and knowledge advancements leave Bolivia's students behind.	-Technological channel -Informational channel -Institutional channel	Current education attainment does not follow internationally recognised metrics; hence it is difficult to monitor Bolivia's progress towards Goal 4. This has implications for long-term learning outcomes and productivity. Greater online connectivity of schools could lead to faster spread of modern teaching methods and content, ultimately helping education goals.

2 Automation impacts poverty and welfare via channels of employment and migration (see Bughin et al., 2019).

3 The need for quick productivity gains in agriculture and industry are displacing the female workforce. Women remained overrepresented in clerical, service, sales work, and elementary occupations (Nair, Shah, & Sivaraman, 2019).

	Changes in development priorities could affect education outcomes.	Institutional channel	Lack of concessionary financing can put pressure on scarce resources in developing countries.[4] There is a need to put concessionary financing for human resource development back on the global Agenda. Improving domestic resource mobilisation could also help.
Nigeria	Lack of new and emerging technologies in global education and learning space could widen education and skills gaps and make catch-up difficult for developing countries.	-Technology channel -Information channel	Technology influences Goal 4 outcomes through e-learning tools; lack of access to information and communications technology (ICT) facilities could result in widening inequalities; will impact Goals 4 and 10, and indirectly other related Goals.
	Arms proliferation and illicit financial flows could affect education outcomes and other SDGs.	-Vulnerability channel -Institutional channel	Arms proliferation backed by private illicit financing could threaten education outcomes particularly for youth cohort; an institutional response backed by regional and global actors in this space will be required.
Peru	ICT advancements in the education sector unable to reach rural communities; education quality gap expected to expand.	-Technological channel -Institutional channel	GSCs impact youth in select regions through restricted access (or lack of) to ICT tools and necessary technology (e.g. internet) to access education resources. This has implications for Goals 4 and 10 and indirect impacts on other Goals. Appropriate policies to address this must augment interventions related to technical and vocational education training with appropriate ICT-related infrastructure.
Ghana	Weak access to cleaner forms of fuel and technology impacts Goal 7 outcomes.	-Technological channel -Institutional channel	Lack of access to clean energy will also impact Goal 3 outcomes. There is a case for building global partnerships to address this concern in developing economies; it will also have positive spillovers for Goals 12 and 13.

Source: Adeniran, Onyekwena, Onubedo, Ishaku, & Ekeruche (2020); Nair, Shah, & Sivaraman (2020); Crentsil, Fenny, Ackah, Asuman, & Otieku (2020); Andersen, Medinaceli, Maldonado, & Hernani-Limarino (2020); Alcázar, Bullard, & Balarin (2020); Fernando, Arambepola, Niles, & Ranawana (2020).
Elaborated by the authors.

The bulk of renewable energy investment is led by the private sector, globally accounting for more than 90% in 2016 (International Renewable Energy Agency & Climate Policy Initiative, 2018). The growth of renewable energy driven by financial private gains could potentially pose an impediment to those countries that are reluctant to invest or do not have resources to transition towards sustainable energy for all (Khan & Ahmed, 2015).

A key question remains that once more efficient forms of energy have been introduced in advanced economies, what will be the fate of inefficient production processes in the developing world? There are multiple transmission mechanisms at play here, many of which have not yet been anticipated.

4 Institutional channels and weak availability of concessionary financing could slow down or halt progress towards Goal 4.

National implementation of 2030 Agenda

It is essential to have an adequate level of understanding about GSCs and the channels through which they impact the national implementation of the 2030 Agenda (Table 5.1); particularly in the ability to fulfil the promise of 'leaving no one behind'. Continuing with the renewable energy example discussed above, we understand that the attainment of SDG 7 is subject to ensuring that countries that heavily rely on fossil fuels meet domestic energy consumption, by providing affordable and reliable modern energy to those who are left behind. However, developing countries, heavily dependent on fossil fuels, are struggling to acquire access to sustainable energy (Burke & Stephens, 2017).

Most of these countries realise that nation-state involvement in the provision of energy to the marginalised segments of society is important (International Renewable Energy Agency, 2018), and that for an equitable spread of clean energy, technically diverse, locally appropriate, and low-cost renewable technologies may be the way forward. However, there is a weak understanding across the developing world regarding: i) how volatile energy markets could weaken their drive towards SDG 7, and ii) what the implications for local production and output would be once advanced economies configure their industry using more efficient energy inputs thereby becoming vastly more competitive.

The development partner organisations, particularly those under the umbrella of the United Nations, are perhaps best placed to help in this context. Through various mechanisms and channels, international actors may have an indirect effect on domestic policies (World Bank, 2017). For instance, international actors can influence or change the incentives of domestic actors through aid conditionalities. Similarly, a government, by adhering to international treaties or development benchmarks, may be forced to adopt suboptimal policies, such as abandoning progressive taxation (Tanzi, 1995, as cited in Scholte, 2005). Compliance with fiscal austerity to reduce external debts could potentially mean compromising on the quality of state-provided services, such as "education, healthcare, nutrition and unemployment insurance" (Scholte, 2005, p. 324).

Similarly, for SDG 1, Lustig (2018) argues that advanced countries and multilateral systems need to protect the poor through aid and flow of capital reaching the poorest of the poor. Likewise, in the case of SDG 10, inequalities can be mitigated if donor programmes support redistributive fiscal policies in developing countries that are part of the programme aid.

How country case studies illustrate transmission channels

In this section, we will analyse the findings from the SVSS country case studies. We will show in detail how the various transmission channels are at play in each of the countries. While the technology appears to be a more commonly cited channel in our case studies, we argue here that technology is at play in tandem with other channels. This understanding

of the interaction of two or more channels becomes essential for policymakers and those who wish to design and implement a response.

How do technology and growth priorities accentuate GSCs?

Technology will continue to define future forms of growth, which, in turn, has a bearing on who is left behind. We see in Sri Lanka that upgrading a main value chain and automation of the apparel industry has implications for the local workforce, in particular the female workforce (Fernando, et al., 2020). The industry is already struggling to cope with fast-changing global product standards. A greater integration of Sri Lanka into global value chains implies a faster shift towards automation, accompanied by the apparel sector becoming more sophisticated, thus the replacement of routine cognitive work by machines.

Sri Lanka will not have much choice on production processes. The competitors will start moving towards more automated systems which will transform the apparel industry globally. The routine manual work will be taken over by other sophisticated means. Sri Lanka is not new to these challenges, as other industries had started to face the negative effects of automation much earlier (Fernando et al., 2020). Gradually, workers in the manufacturing industry are being displaced by the diffusion of automation technology.

It is expected that a vast majority of workers who lose their jobs may not have access to social security. Several of them may not even have formal contracts (Khan, Javed, Batool, Hussain, Mahmood, & Ahmed, 2016; Ishfaq, Ahmed, Hassan, & Javed, 2017). Migrant workers, especially female workers, working in small factories across Sri Lanka which are outside the designated industrial zones, work for longer hours, are not paid on time, and have to cope with the stigma of being 'outsiders' (Fernando et al., 2020). Similarly, female migrant workers in the apparel industry are unable to secure decent working conditions. More recently, there is a higher tendency of women migrating to urban centres in search of better job opportunities.

Employers will continue to be hard-pressed to adopt better technologies to remain competitive in the medium to longer term. This is apparent in India, where the declining female labour force participation rate could, among other reasons, be attributed to fast-changing desires to automate existing production processes. Evidence shows severe gender disparities across most employment categories in India. While female labour force participation, especially in rural areas, drastically declined, the number of male entrants in the labour force increased over time (Nair et al., 2020). An alarming reality is that the 15 to 24-year age group constitutes the majority who have dropped out. India's study makes reference to how GSCs influence the restriction of women's access to and participation in the labour market (Nair et al., 2020).

In view of this, women are overrepresented in the informal labour market, including in the domestic help sector. This might imply less bargaining power of women in general, which keeps them under informal contracts. Part of the issue is due to social norms and structures; the way women have been perceived to take on a certain

> **Employers will continue to be hard-pressed to adopt better technologies to remain competitive in the medium to longer term.**

role in society restricts their preferences for mobility across skills attainment and occupations. A negative implication of this is reduced or low female participation, in turn having implications for long-term growth and productivity.[5]

The country study argues that women's lack of access to technology, especially those who are predominantly employed in the informal sector, also needs careful analysis (Nair et al., 2020). The majority of women are excluded from digitisation, which highlights the global effect of the industrial revolution in furthering the marginalisation of women. It has been noted that women would likely be affected by automation and digitisation of the workforce, thus outstripping demand for traditional labour and skills. As sectors, such as agriculture, become more sophisticated over time, it will negatively affect the demand for a female workforce. It is further argued that women who do not have skills commensurate with automation would be more vulnerable. The combined effect of global systemic concerns related to globalisation of technology and the digitisation of industry would lead to displacement of women and reduction in their employment. Moreover, due to climatic changes affecting agricultural produce, 56% of women employed in the agriculture sector would be at risk of losing their livelihood (World Bank, 2018a).

This argument is also endorsed in Gent (2017), which takes the lead from the World Bank Group's assessments and argues that automation threatens 69% of existing jobs in India. Between 1991 and 2013, India's working-age population rose by 300 million, whereas the economy could only absorb an additional 140 million. This is not encouraging from the viewpoint of the young and unemployed, especially at a time when leading enterprises in India are cutting costs and jobs. Such job cuts have been announced in textiles, the automotive sector, and even in services sectors such as banking and finance. The recommendations here include (among others broadly shown in Figure 6.3) identification of future jobs which grow with automation and require human creativity, and training a greater number of people in such jobs and as quickly as possible, perhaps through virtual means.

Figure 6.3. How may countries respond to the changing nature of work

Note. Adapted from World Development Report 2019: The changing nature of work, from the World Bank (2019).

5 See also for South Asia-wide discussion on the subject: Yaseen & Ahmed, 2016; Ahmed & Qadir, 2018; and Khan & Ahmed, 2014.

Will institutional reform keep pace with evolving GSCs?

Recent research on this subject focuses on the kind of institutional response required to enable countries to manage fast-changing technology. It could be in the workplace or otherwise, seen as a GSC across most case studies. We not only discuss this but also highlight the need for institutions and their policies to evolve as a response to various vulnerabilities faced by the poorest.

Chuah, Loayza, and Schmillen (2018, p. 4) argued:

> In the long run, technological innovation would bring about higher incomes and quality of life, including more leisure. Even in light of the challenges brought about by the Fourth Industrial Revolution, this prediction is attainable for the entire population and not only for a privileged few—but only if public institutions promote equality of opportunities, generate an educational system that favours flexible skills and creativity, and use redistribution policies to share the proceeds of technological gains. With proper public institutions, instead of raging or racing against the machine, we can race with the machines toward a better future.

Innovations in education and skills development

The interplay of two transmission channels, i.e. technology and institutions, is seen in the case studies of Nigeria, Peru, and Ghana. For example, the adoption of technology for achieving quality education across Nigeria is seen as a challenge with respect to lack of funding and intellectual property rights (IPRs) (Adeniran et al., 2020). Considering regional disparity, especially in the South East of Nigeria, and the observed gender-related inequalities in the Northern region, the potential benefits or adoption of ICTs (unless accompanied with complimentary pro-poor policies) would further enhance inequalities in quality education (Adeniran et al., 2020). The systemic concern at the global level relates to property rights, which means investors or entrepreneurs would extract benefits from technology (required for provision of education). Hence, there are transaction costs and externalities which must first be analysed before fully embracing them.

The case study of Peru looks at SDG 4 (quality education) and SDG 8 (decent work and economic growth) from global perspectives wherein changes in education and work have implications for the marginalised and left-behind groups. Alcázar et al. (2020) focus on Peruvian youth (between the ages of 15 and 29 years) termed as 'marginalised groups' and who are also left behind in accessing quality education and decent employment opportunities. The marginalisation of left-behind groups is analysed along with socio-economic characteristics, such as ethnic background, geographical location, and urban and rural dimension (Alcázar et al., 2020). This analysis shows how GSCs impact youth in select regions of the Andean highlands and the Amazon rainforest through restricted access to public services. The selection of youth along gender, education, and employment lines was sought prior to holding in-depth interviews on life stories.

In the context of globalisation and technology, the authors argue for the positive gains of technological literacy at an individual level. Besides improving access through the adoption of remote learning in areas where public services have yet to reach marginalised groups, technology can provide access to a variety of skills in today's labour market. Conversely, ICT can negatively contribute to furthering inequalities in education. For instance, in the case of marginalised youth in rural and remote areas, accessing technology and the internet is more problematic due to resource constraints. Moreover, the universal or pre-designed modern literacy programmes may not align with indigenous or traditional systems of schooling.

As empirically demonstrated by Alcázar et al. (2020), the system of education in Peru is characterised by the low quality of education. The adoption of the global shift in ICT could widen inequalities in marginalised youth as many vulnerable groups struggle to acquire decent jobs and, therefore, become increasingly trapped in the left-behind classification. The Peruvian government introduced ICT in education, i.e. improving physical access to computers to cater for the quality deficit, however, Alcázar et al. (2020) observe a wide-ranging disparity in ICT access in rural and poorer areas.

Another worrying reality in Peru regards access to the internet, which is significantly skewed in favour of urban areas. According to official data, while there is 65% internet access in urban areas, only 10% of rural schools can access the internet. What is rather more troubling is that the ICT access gap has actually been widening in rural and urban primary and secondary schooling in the past 10 years. In Latin American states, there is a global recognition of the positive contribution of internet access when applied in a tailored fashion, along with compatible instruction for its implementation. In Peru, ICT programmes lack coherence with local systems of learning and teaching, especially when taking into account the socio-economic trends, and geography and the remoteness of schools. Most of the distance learning schemes in Peru piloted and implemented by the local Ministry have not attained intended results for reasons such as misplaced objectives and not knowing the reasons for ICT programme failure.

In the pursuit of SDG 4, there are two particular global systemic obstacles which are counterproductive in narrowing inequalities. The first relates to the widening of inequalities witnessed between the affluent and the marginalised caused by inequitable access to computers. Marginalised groups are disadvantaged in accessing ICT locally because of lack of infrastructure and low incomes.

The second relates to the universal application of ICT around the world without recognising the gender aspect. In Peru, technological literacy is gender biased, i.e. the adoption of technological shift is not only male oriented, but also indicates adverse implications for indigenous women and children, who are unable to adopt modern technical skills because of cultural and language barriers. The globalisation of technology is also undermining Peru's national policy of youth employment viewed in terms of bridging the gap between urban and rural cognitive skills and educational outcomes.

While the positive aspect of remote learning could significantly improve the quality and coverage of education, Peru's rural schools suffer weaknesses that are primarily attributed to the inability of the national government to accept how the fourth industrial revolution is transforming labour markets around the world. The adoption of Peru's Education for Work Program (EPT) was essentially designed to offset the implications of the global push for ICT. The EPT programme, however, has not adequately responded to labour market trends, especially with the adoption of technologies being inconsistent with supply and demand.

Transitioning to sustainable energy for all

The study of Ghana focuses on SDG 7 and examines stark differences between urban and rural access to affordable, reliable, and modern energy services (Crentsil et al., 2020). The transmission channels of technology and institutions are at play here. Rural dwellers rely on traditional sources of energy, such as wood and polluted fuels, to meet domestic energy needs. It was noted that access to clean energy is dependent on individual, social and ascribed attributes, such as gender, ethnicity, religion, and place of birth (Crentsil et al., 2020). According to the Human Opportunity Index (HOI), which takes into account inequality of opportunity, Crentsil et al. (2020) note that the highest inequality in terms of access to energy is witnessed in the upper east and northern regions.

The attainment of SDG 7 indicates two 'means of implementation' for accessing resources and technology. The first relates to international cooperation on clean energy and investment in energy infrastructure. The second relates to greater investment in technology to cater for the modern energy demands in developing countries. In order to address household energy needs in Ghana, the authors have identified the following global systemic concerns.

The case study points to weak availability of external financing (Crentsil et al., 2020). The achievement of sustainable household energy needs is positively correlated with external financing. In improving access to clean cooking and in the provision of LPG[6] in rural areas of Ghana, around 80% of the funding came from donors, namely: United Nations Development Programme (UNDP), African Development Bank (ADB), and U.S Agency of International Development (USAID) (Crentsil et al., 2020). In the future, a deficit in funding infrastructure through public investment will have to be bridged by private sources. As local private sectors may not be able to bridge the gap on their own, there is a need for state intervention in crafting national policies to attract foreign capital. The inability of the state to arrange foreign investment could have adverse effects on energy inequalities and the implications for the health of households.

In addition, systemic issues related to limitations in research and development in new technology are reflected in the example of Ghana. In the past, households in Ghana benefited from energy efficient technology for improved cooking stoves. There is a positive correlation between research and innovation for reducing household energy inequalities, however, the imported stoves were not aligned with traditional cooking practices (Crentsil et al., 2020).

6 Liquefied Petroleum Gas (LPG) is an alternative source of fuel used in houses for cooking. It is obtained during the process of refinement of petroleum.

As we know, localisation means customising energy needs, and developing countries such as Ghana lack resources.

The third systemic area pertains to weak global partners in the energy sector. Although it is now well known that a billion people are without electricity (Daly, 2018), the global community lacks business models to deliver basic infrastructure towards this goal, despite the existence of initiatives such as Sustainable Energy for All (SE4ALL). Under the global quest for sustainable energy, it is important to efficiently use scarce electricity to meet human needs in industry, residential premises, and commercial buildings. The carbon capture, storage and its usage are equally important in a developing country setting. However, there is a suboptimal policy emphasis around the use of carbon. There is a need to design transition policies which address the adjustment faced by local coal-mining communities and the companies providing energy locally.

Meeting energy consumption through distributive policies requires global financing on a much larger scale. Currently, only half of the required funding for achieving SDG 7 is secured. At a local level, institutions and enterprises have the backing of vested interests for pursuing continuous reliance on fossil fuel. Hence, policy coherence at the national level requires greater attention. The energy planners could benefit from public-private partnership, i.e. if investors and regulators enter into a win-win solution for doing business. This could also contribute to making the task of planning for SDGs and the nationally determined contributions (NDCs) under the Paris Agreement much easier (also see Wagner, 2017).

To conclude, institutions and their policies need to evolve to mitigate the negative impacts of technological change. The understanding of institutions and people remains weak on this subject. More dynamic labour markets are required which, in turn, need skills to cope with future demand,[7] safety nets for the excluded,[8] and progressive tax and public spending measures.[9] With such a response, Chuah et al. (2018) note that it will be possible to acquire the right skills in time to transform replacing technologies into enabling technologies for workers in developing economies.

Institutional channel of GSC propelling exclusion

This section looks at how GSCs are impacting exclusion in education through information asymmetries. The Nigerian case study argues that the fourth industrial revolution is an opportunity only if LNOB considerations are duly addressed (Adeniran et al., 2020). Youth in rural communities are often left behind in educational attainment. The gaps increase as they climb the hierarchy of schooling and learning.

The lack of availability of timely and well-programmed external development assistance implies that Nigeria struggles to achieve quality education and target exclusion. Despite donors and state-induced grants for education, there is a significant financial gap which ultimately needs to be bridged to achieve SDG 4. An estimated USD 34 billion (at 2018 prices) is required to achieve early childhood, primary, and secondary education. While the authors identify private

7 See Card, Kluve, & Weber, 2018; OECD, 2017.

8 See World Bank 2013, 2018b.

9 See Freeman, 2015.

and external sources of funding for education, the feasibility and social benefits of such sources would have to be evaluated.

In this regard, the study proposes e-learning and related tools which have positive externalities (technology channel) for youth in rural areas (Adeniran et al., 2020). This, however, requires a large investment in infrastructure to ensure sustainable and cost-effective e-learning.

The situation in Bolivia is similar. In this case, however, we see an interplay of three different transmission channels, i.e. information, institutions, and technology.

Bolivian policymakers embarked on several reforms for countering exclusion. According to Andersen et al. (2020), international development organisations funded reforms in the education sector, including technological adoption. However, these were met with mixed success as Bolivia has a low score for connectivity indicators compared to other countries in the region.

Moreover, in the past two decades Bolivia has yet to undertake a comprehensive assessment in order to identify how technology can benefit education. The inability to carry out regular impact assessment of interventions in the education sector is primarily attributed to (institutional) deficiencies which are prevalent in the planning and administration (Andersen et al., 2020). In addition, certain exogenous global systemic trends also continue to affect the attainment of SDG 4 in Bolivia.

For example, the rise in global commodity prices has contributed to Bolivia's major export industry, creating an upsurge in capital-intensive and labour-driven service sector. However, implications for educational attainment may not be favourable.

The mining sectors benefited from the commodity boom, which lasted from 2006 to 2014, thus appealing to young people who abandoned school to work in the industry (Andersen et al., 2020). The young people were more interested to the industry due to the low return on education. That children drop out from schools and are attracted to the mining industry is highly significant in areas such as El Alto, Santa Cruz de la Sierra, as these sites offered work opportunities to young men. Moreover, the commodity boom had a cascading effect on the agriculture industry, attracting unskilled labour to benefit from the 'windfall profits' which occurred from the rents accrued from the natural resource industry.

Three knock-on effects were also witnessed. First, diminishing returns on education were reinforced over time due to the lack of policies which incentivised higher quality education. Second, an increase in deforestation adversely affected SDG 15 (life on the land). Finally, an appreciation of the exchange rate had contributed to the growth of the construction industry, thus witnessing an increasing demand for young men. According to Andersen et al. (2020), the prominence of extractive sectors in Bolivia has contributed to low demand for skilled labour.

As witnessed in Peru, the education sector in Bolivia faces challenges to rise up to the emerging technologies in terms of better connectivity (Alcázar et al., 2020; Andersen et al., 2020). In response to the deficit

Bolivia has yet to undertake a comprehensive assessment to identify how technology can benefit education.

of modern methods and tools of learning, Bolivia's initiative of one computer per student has not been a success and is also unlikely to transform traditional education practices.

Unrestrained migration is also influencing the state of education in Bolivia. The negative effect of migration is affecting the long-term productivity of the middle class, which is caused by the brain drain of highly skilled people (Andersen et al., 2020). The migration of skilled people also adversely affects the supply side of the education sector. The highly capable and qualified educationists exit the local market in search of more lucrative and stable opportunities abroad. Moreover, there is no strategy for luring back the diaspora abroad, who could play an instrumental role in the dissemination of ideas and knowledge transfer. As of now, there is very little to indicate that the benefits of migration exceed the cost in Bolivia.

Policy responses

This section outlines policy options available to deal with the impact of global systemic concerns. We also refer to country-level case studies and suggestions therein on how to embed 'leave no one behind' in global and country-level responses. For the ease of understanding, policy prescriptions to systemic issues are discussed under global and national-level responses.

While the design of policy responses is important, it will be equally important to consider sequencing. Given the inequalities at the national level it is recommended not to have a one-size-fits-all approach. Regions lagging in socio-economic endowments may require higher levels of policy and operational support. This aspect has been explored through two related angles in the literature, explained below.

Welfare and state

The literature around "technologies of government" discusses methods adopted by the government to operationalise interventions, which establish linkages between the state authorities and citizens (Rose & Miller, 1992). The way governments operate and take decisions has been studied to determine how institutions seek to successfully enlist the support of citizens, and mobilise resources and procedures in the pursuit of achieving welfare goals.

There is close connection between 'welfarism' and state. Evidence shows that Western states acquired the status of 'welfare states' by ensuring economic progress, high employment, health and housing, and "through state planning and intervention in the economy" (Rose & Miller, 1992, p. 22). This was achieved through an "extensive bureaucratically staffed apparatus for social administration" (Rose & Miller, 1992, p. 22).

Governance and institutional capacity

Countries with a skilled and educated workforce are in a much better position to take advantage of, for example, technological advancement and the fourth industrial revolution. Citizens in economies with

relatively better infrastructure have opportunities for both wage- and self-employment and are globally connected (Grindle, 2000).

Conversely, in poor countries, despite globalisation, a segment of citizens are marginalised and, in the case of the poor, face extreme difficulties in securing livelihood opportunities. As a consequence, most developing countries are unable to deal with GSCs at the national level. The persistent governance gaps in developing countries, and lack of local solutions, have contributed to underdevelopment and institutional decay (Ahmed, Ghaus, Iqbal, Azizul, Mirza, & Mutambala, 2014).

One of the most important areas in improving state capacity for the effective provision of social service is the alignment of political leaders with well-trained and capacitated technocrats on the one hand, and the establishment of technical research and policy implementation units for diagnosing how best to implement public policies, on the other.

Alongside capacity building, reforms to ensure tenure for civil servants is essential. Evidence suggests that capacity building in an environment of frequent turnover (such as the civil service) may not render desired results (Ahmed & Qadir, 2018; Planning Commission of Pakistan, 2011). Grindle (2000) also explained how a government's capability can be enhanced through public sector's adoption of information technology. Having infrastructure that can take internet connectivity to remote areas improves monitoring and evaluation of interventions.

Effective institutions and good governance conditions vary from country to country, so dealing with systemic issues would have to be adaptive, considering the peculiarity of the challenge and its transboundary effects (Currant, 2018; Curran, Dougill, Pardoe, & Vincent, 2018).

A key question here is how countries should respond to GSCs in the milieu of weak institutions and governance gaps. Since political and state contexts vary, it must be acknowledged that there are no straitjacket or one-size-fits-all options to deal with global systemic concerns at the national level effectively.

Desired country responses

Countries need to be proactive in reforming public service delivery in response to GSCs, and ensure that these reforms reach marginalised and disadvantaged groups. This section describes some country-level proposals that could be pursued.

Embracing technological change

Technological change emerges as a key GSC in most of the country studies. However, the access to technology and how it interfaces with the vulnerable requires a whole-of-government approach. Taking the case of Sri Lanka, the challenge is threefold. First, Sri Lanka will need to invest in higher labour standards and skills. Creative and design aspects of the apparel industry, for example, will still require human brain power. Second, for displaced workers active labour market policies be needed to enable the affected workers to secure jobs in other sectors. Moving to other sectors, though, depends on technical

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and vocational training. Third, there would be many displaced female workers who could face extreme difficulties in managing a transition to a new sector for wage employment. For this cohort, opportunities for retraining, self-employment, and micro credit and insurance facilities will be required (Ahmed, Nazir, Gregory, Faraz, Ace, Nabil, & Agyeben, 2019).

Sustained investment in skills and labour standards

The country study of Bolivia highlights the challenges involved in the implementation of SDG 4 (Andersen et al., 2020). Conscious policy intervention may be designed to help improve retention of children in school and prevent early dropout. It is thought that such an intervention may also be complemented by orientation on skills with market demand. This, however, will require sustained investment in apprenticeship and internship programmes. The famous international restaurant "Gustu" is cited as an example of providing jobs to disadvantaged youth. Such success stories can be replicated across the country through local-level fiscal incentives.

The country study of Peru also highlights the importance of LNOB in state-designed social interventions (Alcázar et al., 2020). Moreover, the problems of access to education in rural areas require deliberative efforts and state intervention in the provision of ICT tools. In pursuing SDG 4, it is recommended to ensure that the marginalised, and especially the youth, are not affected by the informal labour market and its pitfalls. Access to technology and its interface with the vulnerable segments of society requires a whole-of-government approach. We suggest that better results may be achieved by developing inter-agency linkages.

Use gender-responsive lens to respond to GSCs

The state and the apparel sector in Sri Lanka will need to recognise the demands on women. The general principle should be for the state to take care of those responsibilities which usually fall unevenly on women, for example, care for the elderly and children. In addition, the apparel sector needs to adopt flexible work regimes in the case of women's quest for industrial employment.

The case study from India prescribes that to deal with the challenges involved in the implementation of SDGs 4 and 8 (through a gender lens), it will be important to adopt those skills that are relevant to the demands in the goods market (Nair, et al., 2020). The performance, course selection, and placement procedures of the skilling industry requires institutional changes. For instance, public-private partnerships have the potential to improve the existing skilling regime. In rural and peri-urban areas, adequate safety and travel measures should be implemented for women employed at local industries. The enforcement of anti-harassment laws should be ensured to protect the women from various forms of harassment. The benefits of e-technology and e-governance tools should be available for women, which reduce transaction costs.

> **Access to technology and its interface with the vulnerable segments of society requires a whole-of-government approach.**

Governments in developing economies need to demand a global response

In the case of several GSCs, developing economies need to join hands and present a coalition that collectively demands change. This will also help likeminded civil society organisations and international NGOs in the North to hold their leaders accountable. Together these coalitions can present the case where, for example, education providers and suppliers of e-learning tools will need to ease restrictions on intellectual property rights. Similarly, arms proliferation will need discouragement through a synchronised response by multilateral agencies through effective measures, such as better accounting for the arms trade and controlling illicit financial flows across borders. Additional concessional finance with improved monitoring and evaluation systems is required to sustain pro-welfare programmes. We discuss the need for a global response further in the following section.

Taking a broader approach to institutional reform

Better institutional capabilities are not just required to manage the effects of technology. Rather a whole-of-government approach is necessary so that institutions in other spheres also keep pace with fast evolving GSCs. As we see in the case of arms proliferation, the authors of Nigeria's case study argue that this continues to affect schooling. The easy acquisition of small and light weapons is facilitated by global illicit flows of finances aided by criminal groups. The presence of extremist organisations—funded by internal or external networks—is particularly responsible for the displacement of people and creating disincentives for children to acquire education, especially in the North Eastern region of Nigeria. Due to protracted insurgency, many schools are converted to accommodate internally displaced persons. Hence, the acquisition of education is compromised since additional finances are more likely to be spent on fighting terrorist' networks. In this case, institutions responsible for service delivery in education need to work hand-in-hand with the relevant law-and-order departments.

Global-level policy options

Policy coherence: an integrated approach to SDGs

In the adoption of the 2030 Agenda, and also the Addis Ababa Action Agenda, UN members made a commitment to "pursue policy coherence and an enabling environment for sustainable development at all levels and by all actors" (Organisation for Economic Co-operation and Development [OECD], 2016, p. 15). The SDG target 17.14 relates to the means of implementation, i.e. "to enhance policy coherence for sustainable development" (OECD, 2016, p. 15; Morales, 2018).[10]

The High-Level Political Forum on Sustainable Development has also stressed the need to devise tools and approaches which help enable countries to align their polices with universal goals. For instance, the nationally determined contributions framework is a useful tool to establish potential synergies across various actors and helps achieve the Goals under the Paris Agreement on Climate Change and the 2030 Agenda.[11] The challenge of policy coherence is also closely tied to

10 Policy coherence could fall into two areas; vertical and horizontal. Vertical coherence means policy alignment between multiple levels of governance. Horizontal coherence implies alignment of policies across policy domains at global, regional, and national levels of governance (Mallows, 2015).

11 For more information about this initiative, please visit: https://klimalog.die-gdi.de/ndc-sdg/

ensuring SDGs' prioritisation at national level, in line with the country's political economy.

Dealing with arms proliferation

The Nigeria country study makes a case for multistakeholder partnerships to address the challenge of arms proliferation (Adeniran et al., 2020). There are international rules for combating the spread of arms, which require nation states to carefully embed policies into sectoral frameworks. However, recent efforts to only deal with this issue through national-level intervention seem to have failed in most developing countries, which has led to the suggestion to help these countries raise integral systems for border controls, inland security, and better coordination of national security agencies with regional and international security platforms (Rana, 2016; Transnational Alliance to Combat Illicit Trade [TRACIT], 2019).

Dealing with illicit financial flows

The issue of arms proliferation, the use of drugs, and other illegal activities are closely linked to the availability of illicit financing. The transfer of illegitimate money from developing countries is a global concern, as it affects sovereign states (Ahmed, 2018). Variants of illicit financial flows (IFFs) include tax evasion, regulatory abuse, financing criminal activities, and political funding. Arguably all forms of IFFs undermine the achievement of the 2030 Agenda, which stresses the need to combat illegal financial transactions (SDG 16.4). IFFs erode social progress. Losses caused by illicit financial outflows reduce the amount of public resources available for the provision of education and other public services.

A number of suggestions across the literature, such as the creation of multistakeholder partnerships, have been considered to mitigate negative consequences of illegal transactions on SDGs. For example, in several Latin American countries, youth in poor and rural areas are more prone to falling prey to activities in the IFF ecosystem. Multilateral security institutions could partner with governments to assist them to reach poor and disadvantaged localities. Actions could range from improved provision of internet connectivity in remote areas to improving the skills of local teachers and trainers through distance learning strategies. More straightforward partnership strategies aim at tackling weak mechanisms of international cooperation. Hybrid partnerships between international organisations, national and local governments, NGOs, the private sector, and philanthropic organisations are essential to increase transparency and better coordination.

Easing restrictions to access of knowledge through liberal intellectual property rights

A global assessment is required to think of ways in which intellectual property rights regimes can be eased for developing economies trying to access necessary knowledge, skills, and technology to achieve the SDGs. A part of this can be addressed through global-level interventions which empower multilateral organisations to buy

intellectual property rights on behalf of the poor and marginalised through national governments. However, this could result in negatively impacting incentives for future innovation. An alternative solution might be more liberal trade in technologies and ICT services to help developing economies towards access to better production methods and capacity building (Wahlen, 2018).

Capacity building in issues of global governance

Most capacity-building initiatives for developing economies focus on national-level issues. There is very little to suggest that representatives from the South also receive orientation with the objective of better contributing to the discourse around various global governance themes. For example, cybersecurity and global internet governance are areas where North and South are expected to work together. Perhaps the United Nations Institute of Training & Research (UNITAR) is best placed to identify which GSCs require capacity-building interventions and how to make these available.

Mobilising resources for developing economies

Funding constraints continue to be a cross-cutting issue in the country case studies. SDG 17 calls on developed countries to mobilise financial resources from multiple sources to assist the South in the timely achievement of SDGs. Across most of the discourse it is observed that financing for SDGs is discussed in a manner which is often limited to national-level needs of countries. Our suggestion here is to revisit the Addis Ababa Action Agenda, which provides a consensus on key global public goods, and look into the practical difficulties of sharing the global burden of financing such goods. It has been suggested that the impact measurement framework formulated by the OECD Development Assistance Committee may provide some lessons for such work.

Conclusion

GSCs remain a reality and influence developing countries in multiple ways and through different channels, re-enforcing the thinking that if the risks are not appropriately managed, there would be consequences. To address the negative implications of GSCs, we highlight some global challenges in the foreseeable future and then discuss plausible solutions.

Our key point of departure and the context of engaging with alternative ways of dealing with GSCs is that the world is increasingly becoming more integrated through technology and related channels, with unpredictable results. This chapter makes use of country-level studies to document challenges posed by GSCs, and how global or national-level responses could help. The key recommendations are:

- National efforts are required to study country-specific GSCs, predict consequences, and frame responses.
- These national-level efforts must be complimented by regional platforms, as several GSCs, including climate change and disaster risk, may not be addressed through the good intentions of a single country.

National efforts are required to study country-specific GSCs, predict consequences, and frame responses.

- At a global level, advanced countries need to invest resources in improved understanding of GSCs. It is equally important to encourage creation of evidence around local-level solutions to adapt to GSCs that particularly affect the South. This can also be achieved through building capacities in developing countries in both government and non-government spaces. Advanced countries also need to see how their policies towards artificial intelligence could impact the rest of the world and what this could mean for sustainable production and consumption.
- Global governance institutions need to promote a better understanding of GSCs. Intergovernmental forums usually involve political leadership and civil service at a national level. Civil society organisations, think tanks, and the private sector should also be provided with a clear role when it comes to tackling GSCs.
- Going forward, policy think tanks will need support to strengthen South-South knowledge partnerships to fill the knowledge gaps which are seen while addressing GSCs and require a regional or global response.

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7

Collective capabilities for the Decade of Action

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Introduction

This Report explored barriers and solutions to fulfilling the promise of leaving no one behind; a promise central to the SDGs. Our cross-country and regional analyses show that SDG progress in the Global South has been mixed. On the one hand, national governments have made critical progress in aligning policy frameworks with the Agenda and garnering widespread acknowledgement of the importance of not leaving the most vulnerable behind. On the other hand, weak coordination among relevant stakeholders and poor horizontal coherence remain impediments to achieving the Goals. Siloed work continues to undermine national governments' abilities to address systemic problems and create the conditions necessary to end poverty.

Three layers of analysis and action to progress the 2030 Agenda have been connected together in the Report, and discussed in depth in its previous chapters. Ibrahima Hathie explored who is excluded from achieving the Goals. Exclusion, as a global phenomenon, is more complex than ever. Individuals and groups experience overlapping forms of discrimination, which constrain their capabilities and opportunities to lead decent and fulfilling lives. A better understanding of what it means to be excluded in the Global South is crucial, but not enough; it is important to understand how the Goals are interconnected to build integrated policies that leave no one behind. For this reason, the team lead by Gala Diaz Langou delved into the links between the Goals in their chapter. Policymakers should integrate different levels and types of exclusion into their analyses, but also need maximise positive impacts and minimise often overlooked trade-offs. But even a well-integrated and coherent national policy is not enough to achieve the 2030 Agenda; a global perspective is required. Vaqar Ahmed and Shehryar Khan Toru demonstrated that with such a global Agenda, policies cannot be thought of only within national borders or frames of reference. Their analysis explores these global systemic concerns and their impact on national policies. Regulation of global technological goods and services, trade regimes, climate change agreements, and global security policies and strategies were all identified as global systemic concerns. Governments need to respond to these global issues to ensure that they do not exacerbate inequality and exclusion. Further, the global community must take into consideration how they impact states and implement best-practice governance arrangements.

The Report underscores how complex it will be to accomplish the 2030 Agenda. While the targets and indicators are valuable tools in monitoring accomplishments, working on each Goal in isolation will not yield the desired results. We must look to approaches that can serve the Agenda as a whole. Given the importance of the upcoming decade for the implementation of the SDGs, this concluding chapter focuses on how collective capabilities can address the issues identified in previous sections.

Refocusing efforts on collective capabilities for the 2030 Agenda

A common thread emerging from the Report is that narrowly focused policies are not enough to ensure no one is left behind. Rather, the 2030

Agenda requires us to think about collective capabilities and integrated actions.

Individual and collective capabilities are intertwined. While certain capabilities are available directly to the individual, others need to be hosted by organisations or networks of organisations, such as in a school system or the productive sector of an economy. 'Collective capabilities' refer to the real opportunities available to a group, community, or country. Realising collective capabilities is crucial to developing collective agency: the capacity to define common goals. Furthermore, collective capabilities enable collective action: the ability to act effectively (Pelenc, Bazile & Ceruti, 2015).

For too long, development has been equated to targeting individual needs (Amsden, 2012; Andreoni & Chang, 2016). As a result of the interest in individual capabilities over the last decades, many development policies and programmes have also focused on the individual. The capabilities approach has enabled us to see that the expansion of individual capabilities allows people "to live a life they have reason to value" (Sen, 2000 p.18). These capabilities, including literacy, good health, and political freedom, depend on the provision of basic education, health care, and a social safety net. Existing frameworks, such as the Human Development Index (United Nations Development Programme, 2019) and the Multidimensional Poverty Index (Oxford Poverty, Human Development Initiative & United Nations Development Programme, 2010) have thrown a spotlight on the living conditions of individuals beyond income levels, including additional measures of wellbeing.
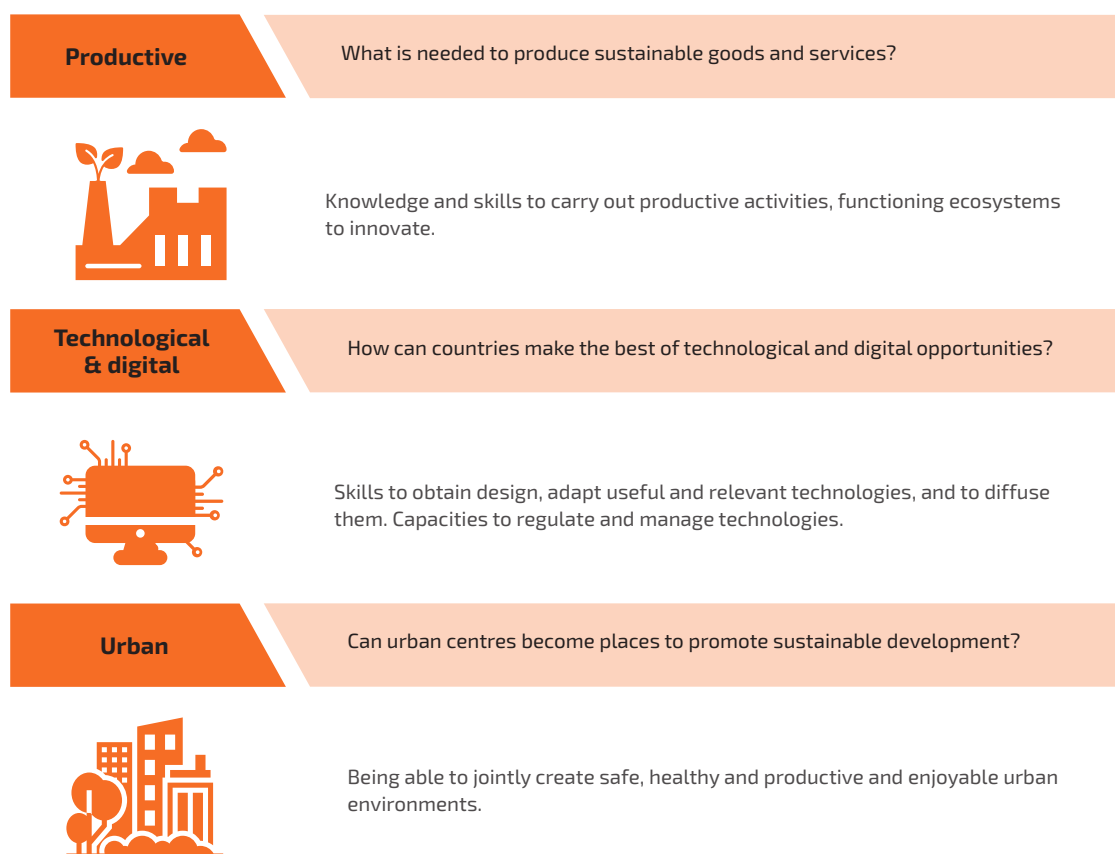
Focusing on the individual has its limitations. Take, for example, employment generation, an issue explored throughout this Report. The widespread focus on the individual has translated into policies that target the education and qualification of job-seekers. A simple expectation is that improving these will automatically stimulate the demand for employment. However, a leap from better-qualified individuals to above-subsistence employment is only possible through the transformation of productive structures and investment in new industries, to create more jobs and entrepreneurial opportunities (Amsden, 2012). Industrial limitations, and social norms and values, affect the possibility of turning education into employment. For example, expectations about the role of women in society may impede their ability to join the labour market.

Focusing on collective capabilities is not to ignore individual ones. What is required is a better interplay between individual and collective capabilities. Otherwise, the investment and effort put into developing individual capabilities will not translate into the systemic transformation required to achieve the 2030 Agenda. Peoples' ability to choose a life they value is highly dependent on acting with others who value similar things (Evans, 2014). In this sense, individual capabilities depend on collective capabilities. At the same time, persons with more individual capabilities can become more active members of groups and communities. If countries and international agencies focus on strengthening collective capabilities over the upcoming decade, this may lead to the transformational change envisioned in 2015. Fortunately, many of these capabilities are already enshrined in the

> **Realising collective capabilities is crucial to developing collective agency, the capacity to define common goals.**

2030 Agenda. What they require is greater attention and energy, as well as a framework for analysis and translation into action and policies.

What do collective capabilities mean in the context of the 2030 Agenda? To clarify how collective capabilities support the 2030 Agenda, and how to think about them in practical terms, they can be organised into different types. Collective capabilities will always require some level of cooperation and coordination, between individuals or organisations. Figure 7.1 summarises some of the most critical collective capabilities and how they relate to the achievement of the SDGs. There are different ways in which one can think about these capabilities and the level of analysis. In this section we summarise three that have overarching relevance to the 2030 Agenda: productive capabilities, technological and digital capabilities, and urban capabilities. These serve as examples and inspirations tto reflect upon the importance of collective capabilities across different policy sectors.

Figure 7.1. Collective capabilities for the 2030 Agenda

Productive — What is needed to produce sustainable goods and services?

Knowledge and skills to carry out productive activities, functioning ecosystems to innovate.

Technological & digital — How can countries make the best of technological and digital opportunities?

Skills to obtain design, adapt useful and relevant technologies, and to diffuse them. Capacities to regulate and manage technologies.

Urban — Can urban centres become places to promote sustainable development?

Being able to jointly create safe, healthy and productive and enjoyable urban environments.

Elaborated by the authors.

Productive capabilities

Productive capabilities refer to the personal and collective knowledge and skills that allow companies to work, and the production of goods and services to take place (Andreoni & Chang, 2016). They shape countries' competitive assets and productive structures, which in turn are generate employment and economic growth (Amsden, 2012).

Having individuals with quality education is important, but insufficient to develop a territory, such as a city or a state, and to produce goods and services. Productive structures are complex social institutions that depend on various forms of cooperation and knowledge. Development requires collective and systemic efforts to accumulate productive knowledge through constructing better organisations and cross-fertilising ideas that can transform individual entrepreneurial energy into collective entrepreneurship. The Economic Complexity Index (ECI), which measures how complex a national productive system is, reaches similar conclusions: the tacit knowledge to produce different goods and services is central to how countries progress from exporting raw materials to more complex goods and services (Hausman, Hidalgo, Bustos, Coscia, Chang, Jimenez, Simoes & Yildirim, 2006). This knowledge, which is not individual but collective, is critical for development. Productive structures are essential for development since they either assist or prevent the generation of sustainable growth that translates into long-term poverty reduction in countries

Since productive capabilities are not the same in all countries, differentiated approaches are required to support productive transformation. An important first step is assessing which goods and services countries produce, and how these can evolve. In the context of the 2030 Agenda, institutions and norms that allow people from different backgrounds, with different skills and personal capabilities, to participate in the productive sector should be established. The case studies carried out for this report (Fernando, Arambepola, Niles & Ranawana, 2020; Nair, Shah & Sivaraman, 2020; Alcázar, Bullard, & Balarin, 2020) point to many women remaining outside of the productive sector: not necessarily because of a lack of skills or education, but due to social and cultural factors.

Productive structures need to be inclusive, not only by targeting the poor through policies in the informal sector or small enterprises, but also by improving market governance. Rules to create new companies, competition, financial intermediation, and rules of contracts are critical requirements. As highlighted in the chapter on global systemic concerns, national arrangements need to consider how local productive sectors are connected to the global system – and ensure that these issues are incorporated into policies.

Further, productive capabilities must include not only the knowledge and skills to produce goods and services, but also reduce the impact of the economy on the environment, and promote decent jobs and equal opportunities. The case study on the garment sector in Sri Lanka (Fernando et al., 2020), highlights a broader challenge: countries that develop productive capabilities for certain economic sectors, such as fast fashion, are often not environmentally sustainable. In the context of the 2030 Agenda, policies and programmes to enhance productive capabilities must transition towards a more sustainable model of production and consumption.

Technological and digital capabilities

Technological capabilities include the knowledge to make useful investments in technologies, and to design or adapt these technologies to local contexts. These capabilities are closely related to productive

capabilities (Lall, 1982), and can encompass energy, agricultural, construction, manufacturing, and transportation technologies. For example, in respect of energy, countries do not only need access to new, more environmentally friendly technologies, but also the capabilities to identify the appropriate mix of technologies to adapt them to local conditions and to eventually produce their own (Andreoni & Chang, 2016). Often, this is impossible without strong productive and industrial sectors, and without the know-how of the industry. Debates should expand to focus on the technologies themselves as well as the structures to make the best use of them.

In addition to these more conventional technologies, it is also crucial to develop digital capabilities, which refer to recent innovations in the field of information and communications technology (ICT). In fact, the fourth industrial revolution is a combination of new and traditional ICTs, in which has brought about emerging trends such as artificial intelligence, the internet of things, automation, neurotechnology, blockchain, and smart materials. Due to the prevalence of digital technologies, developing countries need to develop these capabilities. As with other collective capabilities, digital capabilities include some which exist at the individual level, and others that are organisational or even institutional. At the personal level, basic digital skills to access digital spaces and technologies include operating a keyboard and touchscreen, sending and receiving e-mail, and navigating online search engines. More advanced digital capabilities relate to electronic work, such as programming, coding, managing big data, and developing applications. (ITU, 2018 cited in James, 2019). Digital services are expanding and impacting even people without basic digital skills. For example, digital identification systems such as India's Aadhaar programme affect even those without any digital skills (James, 2019). Other technologies, such as the internet of things, work without expert user input. Wearable technologies and home appliances collect data automatically and can process this information and make decisions based on algorithms without the user's involvement. The end user does not always know what is done behind the scenes, which translates into more data being collected, less autonomy and greater risks (van Deursen, 2018). This highlights the importance of considering digital capabilities not only as personal skills, but as necessary collective capabilities to address attendant risks.

In the context of the SDGs, it is important to consider the implications of technological and digital innovations across all societal sectors. For example, in relation to SDG 4 (quality education), adopting new classroom technologies does not always translate into better knowledge and skills acquisition by students. The capabilities to choose the right technologies and adapt them to local contexts are critical to enhancing these policies. The case study of Peru (Alcázar et al., 2020) highlights how important these capabilities are. The Education for Work Programme, a flagship initiative of the government to respond to technological innovations and economic globalisation, is plagued by serious design and implementation issues exemplifying the lack of necessary technological capabilities. The programme has not taken into account the different infrastructure quality across the country, which further widens the digital divide. Most importantly, there are gaps in both pedagogical design and teachers' abilities. Interestingly, for a country that has identified the need to develop the ICT skills of

In relation to SDG 4 (quality education), there is a concern that adopting new technologies in the classroom does not always translate into students acquiring better knowledge and skills.

its students, the access gap between Peruvian rural and urban schools has actually increased in the last ten years, both for primary and secondary institutions.

Developing technological and digital capabilities may also entail being critical about these technologies and their adoption if they are not appropriately contextualised. It is important to note that digital technologies are designed in developed economies to respond to the needs of developed countries, which may not comport with the needs of developing countries. Furthermore, technologies build on previous versions and sets of pre-existing inputs; it is thus easy for poor people even in developed countries to be left behind since they may lack the skills or resources to keep up to date with them (James, 2019). What this means for developing countries is that technologies should be, wherever possible, implemented in light of available physical and institutional infrastructure, while also remembering that they evolve quickly.

Finally, technology policy is highly connected to the global sphere, and global governance is crucial. In the context of the 2030 Agenda, countries require capabilities to navigate these global spaces, and must ensure technologies adopted are effective, sustainable, and serve their goals and objectives. Technologies and innovations defy geographical borders without the direct involvement of governments. For example, online platforms for outsourcing tasks and jobs are becoming increasingly popular across the Global South. More than 60 million workers in low- and middle-income countries are registered on such platforms (Heeks, 2017 cited in Malik, Nicholson & Heeks, 2018). The possibility of allowing workers to earn a higher wage has attracted governments and development cooperation agencies, which are putting resources into new platforms and are capacity building to make use of existing ones (Malik, Nicholson & Heeks, 2018). Despite the interest in these platforms, concerns over the extent to which they can really improve the livelihood of workers in the long term remain (Graham, Hjorth & Lehdonvirta, 2019). In general, for digital services and platforms, governments strive to have greater control over data, and to increase their capacity to tax digital activities. As a result, BRICS nations are investing in digital capabilities, including new legislation and data protection frameworks (Beli, 2019). Nonetheless, these issues cannot be solved by separate governments alone; global governance arrangements are important to minimise negative impacts.

Urban capabilities

Urban capabilities refer to the social, economic, and ecological functions of effective human settlements (United Nations, 2017). As populations grow, cities become critical spots for various development challenges of the 2030 Agenda. Their growth poses particular challenges to rural sectors. With more than two thirds of the world's population expected to live in cities by 2050 (United Nations Department of Economic and Social Affairs [UNDESA], 2018), cities can catalyse the change required to achieve the SDGs, or they may become barriers to progress. As Hathie mentions in his chapter, exclusion has a clear spatial dimension.

The functioning of cities depends on the interaction and cooperation of their inhabitants. While urban planning and regulations are important

for cities to function, the actions and attitudes of their inhabitants are critical. The SDGs integrate the importance of settlements in Goal 11 (sustainable cities and communities) with specific targets on housing, and transportation and pollution, among others. It is not only these indicators that are relevant for cities. More integrally, functioning human settlements are a prerequisite to progress across the SDGs since they are the places where all aspects of the Agenda converge. Some of the symptoms of dysfunctional cities are visible across many countries, such as spatial segregation, unplanned growth, and a lack of waste management. They have a detrimental effect on the achievement of the SDGs. For example, determinants that affect health outcomes in cities have include urban governance, as well as physical and socio-economic environmental settings (Borrell, Gotsens & Novoa, 2019).

The day-to-day experiences of people in cities and other settlements affect how the 2030 Agenda is accomplished. The studies carried out for this report show that in many places, lack of urban capabilities limits the opportunities for individuals. For example, the case study in Peru (Alcázar et al., 2020) shows how poor public transport mostly affects the opportunities of vulnerable youth. The outskirts of Lima, home to the poorer sectors of the population, are disconnected from public transport lines. Young people from these neighbourhoods spend a significant portion of their day commuting: hours that could otherwise be used to improve skills, enjoy leisure time, or take part in economic activities. This lack of urban capabilities is also highlighted in the case studies of Sri Lanka and India (Fernando et al., 2020; Nair et al., 2020), where factors that would enable women to continue working, such as affordable childcare and secure transport, are often absent.

The importance of cities in the 2030 Agenda is highlighted when considering the synergies and trade-offs between Goals and Targets. It is not only important to create job opportunities and to provide childcare in an abstract sense. It is important for these to be located where people actually live to ensure that they facilitate a work and life balance. Otherwise, without proper spatial planning, these ideas do not have their intended positive impact.

Given the limited space in cities, they are by nature contested spaces. For this reason, urban capabilities do not only comprise technical competencies, such as architectural and infrastructure planning, but also the political participation and engagement of a city's population. Inhabitants should be able to shape the way public services and spaces respond to their needs and expectations. The final objective should be for cities to use spaces in ways that reflect sustainable development, where citizens can access the social and ecological services needed for a fulfilling life.

Enhancing collective capabilities for the 2030 Agenda

Having identified some of the key common capabilities that societies around the world can use to implement the 2030 Agenda, the concluding chapter now considers the development of these capabilities. The state plays an important role as convener, organiser, and promoter

> **Urban capabilities do not only comprise technical competencies, such as architectural and infrastructure planning, but also the political participation and engagement of a city's population.**

of collective capabilities. This requires modern and innovative governments. But the very complex nature of the challenges ahead means that national efforts alone will not be enough to address them. Global partnerships can contribute to the development of common capabilities.

Changing role of the state in supporting collective capabilities

Transformations needed to implement the 2030 Agenda require that the state focuses on developing not only individual, but also collective, capabilities. The role of the state is crucial in creating an adequate environment where these transformations can occur. Such a role is adaptable to both continuous endogenous and exogenous changes, and differentiated because it is context specific.

The state has an important role in the economy, but also in the provision of health, education, and environmental protection (Fine & Pollen, 2018). The state also provides legal and social frameworks that support societies to convene around collective goals. There have been significant academic debates regarding the types of government interventions in the economy and other aspects of society, and the extent to which these interventions are beneficial. What a state intervention is remains debatable since it depends on where it takes place. An example is the creation of environmental regulations to guarantee the right to a clean environment. In many developed countries, living in a clean and healthy environment is considered a legitimate right of citizens and it is therefore not an intervention subject to debate. However, in a developing country context, such regulations are perceived as trade barriers affecting the operation of a free market. In other words, an action led by the state will be considered an intervention depending on the country and the rights viewed as legitimate there (Chang, 2002). Thus, understanding the role of the state demands prior knowledge of what is and is not considered an intervention. Cultural and social norms complement formal regulations (Chang, 2002), and guide state-led interventions. Together with the contextual background, these norms shape state actions, which is precisely what makes the role of the state so unique.

Defining the diversity of state profiles requires more than "simplistic typologies" (Compagnon, Chan & Mert, 2012). While social, cultural and historical backgrounds shape state interventions, this is not the only reason why states act differently. Some countries are better equipped than others with functional laws, procedures, and rules. The existence of these institutions, strong or weak, means that exogenous factors, such as global governance issues, affect countries differently. At the same time, it demands that the state embraces diversified roles.

The state reacts and, ideally, anticipates, global challenges and dynamics: from facing the fourth industrial revolution to the effects of a pandemic. Globalisation is at the core of exogenous state challenges. It has led to multi-level governance where networks of international and private sector actors have decisive roles. The assumption that global challenges are too vast, and state capacities too limited, has given rise to the creation of partnerships, especially with the private sector. The trend towards privatisation and the promotion of

public-private partnerships (PPPs) has resulted in a reduced field of manoeuvre for the state. Most importantly, the prominence of other actors has sometimes led to the state being underestimated. The growing trend towards partnerships has been reinforced by the argument that the only way to scale up funding for the SDGs is through the private sector. Early involvement of prominent actors is crucial to meet an ambitious Agenda; however, strengthening them at the expense of weakening the role of the state is questionable.

The globalisation of the world economy, as well as deregulation and privatisation, have enabled the emergence of large transnational corporations and financial conglomerates (Martens, 2017). Increased market concentration has put greater power in the hands a few corporations and private actors. Large institutional investors who lead current PPPs in infrastructure—such as pension, insurance, and sovereign wealth funds, could lead governments to meet the needs of investors instead of the population (Boys, 2017 as cited in Martens, 2020). Some argue that this situation has translated into states growing weaker across the globe and a loss of public trust in the them. This has been exemplified in the review of SDG implementation in Latin America (Beneke de Sanfeliú, Milan, Rodríguez & De Trigueros, 2020).

In addition to relying on partnerships with other key actors to implement ambitious international agendas, the role of the government is to allocate sufficient public funds to meet its commitments, the SDGs included. Evidence shows that even in contexts where allocating sufficient domestic resources is challenging, governments have used innovative taxation mechanisms to channel financial resources to achieve the 2030 Agenda. In particular, in Sub-Saharan Africa, some states have imposed taxes on mobile money transfers to capture the informal economy (Kasirye, Ntale, & Venugopal, 2019).

The role of the state in creating partnerships and promoting an environment for collective capabilities to flourish has often been overlooked. The state can do more than strengthen productive structures. The state has not only tackled market failures, but also network and opportunity failures (Mazzucato, 2011). Take, for example, innovation, which is an outcome of collective efforts. The state has been at the forefront of the promotion of innovation, and has also undertaken an active entrepreneurial role. Its funding has been instrumental for the development of most general-purpose technologies (Mazzucato, 2011). It is often assumed that breakthrough technologies are the result of the private sector's inherent innovative nature and risk appetite. What most observers neglect to note is that without the early-stage funding and networks provided by the state, these technological advances may never have materialised.

Far from stating a general definition of the role of the state, some conclusions can be drawn. State interventions need to be locally adapted and responsive to context, social norms, and institutions that govern the country. This is a precondition for securing a safe environment that supports the development of collective capabilities. The role of the state is in constant flux. The state can define the macro characteristics of its institutions and put them to use creating collective capabilities, as well as harnessing the potential of partnerships. It can establish and change laws and policy, and influence people's values (Chang &

Rowthorn, 1995), which is crucial when achieving a challenging set of Goals such as those in the 2030 Agenda.

Global partnerships that support the creation of common capabilities

SDG 17 affirms that joint development processes are best enacted through networks and partnerships that include all stakeholders (UNDESA, 2015). The purpose of partnerships is to increase ownership of the SDG framework and address global challenges through synergic interactions and shared responsibilities. The 2030 Agenda refers to two types of partnerships for implementing the SDGs. One is the Global Partnership for Sustainable Development, which is a vehicle for improving international cooperation in implementing the Agenda. It aims to facilitate global engagement to implement and mobilise all available resources to achieve the SDGs. The others are multi-stakeholder partnerships that complement the Global Partnership. They aim at mobilising and sharing knowledge, expertise, technology, and financial resources to support the implementation of the SDGs. These partnerships can be global, regional, national, or subnational. In this section, the term 'partnerships' is used to refer to both types of partnership, as they are mutually supportive.

When governments agreed to adopt the 2030 Agenda, they also agreed to work towards an enabling international environment which includes a coherent and mutually supportive world trade infrastructure that respects and sustains planetary boundaries, and monetary and financial systems. The achievement of SDG 17 (partnerships for the goals) requires a wide range of sectors and actors to work together to engage and leverage their resources, knowledge, and capacities to respond to current and future sustainable development challenges. There is no lack of interest in such partnerships. The UN Partnerships platform[1] has already registered 1103. The question at this stage is to what extent are they strategic and impactful.

Multi-stakeholder partnerships can have a transformative impact by addressing systemic challenges that hinder long-term transitions towards sustainability. These transformations may include the creation of a fairer trade system or a supportive global environment for knowledge exchange and innovation. To do so, multi-stakeholder partnerships should act as platforms for the generation of collective capabilities. Interactions should be transformative, effective, inclusive, and accountable. Most importantly, interactions should address context-specific needs and reflect regional, national, sub-national, and local development strategies.

Moreover, as the global context changes, there is a pressing need to evaluate the evolving roles for states and other global actors, and the principles that govern their interaction within partnerships. The same is true for geographical borders. The role of multi-stakeholder partnerships in implementing of the 2030 Agenda is expected to blur geographical boundaries by merging global and local, as well as state and non-state, stakeholders. Against this backdrop, partnerships should possess the following two characteristics:

1 See https://
sustainabledevelopment.
un.org/partnerships/goal17/

Partnerships need to be more horizontal and support structural transformations

Partnerships must acknowledge a range of interested actors and be willing to transform underlying structures of inequality. Partnerships should have a multi-stakeholder approach and be composed of a variety of partners, including governments, regional groups, local authorities, non-governmental actors, international institutions, and the private sector. By convening a diverse range of actors that would not otherwise work together, global partnerships can contribute to context-appropriate solutions to global problems such as climate change and unequal trade conditions.

Horizontal and equal partnerships also require thinking about where power is vested, and the impact it has on countries' abilities to generate common capabilities. Principles of ownership and mutual accountability are already enshrined in the Paris Declaration and the subsequent documents guiding effective development cooperation. These principles are intended to strengthen the position of governments usually in receipt of aid, allowing them to have a say in the programmes.

Partnerships are crucial in eliminating barriers that compromise countries' access to assets and tools, or that may prevent them from being equal participants in the trade system. Multi-stakeholder partnerships can introduce and support the use of technology to foster innovation, contribute to the adoption of new policies to enhance industrial and urban conditions for development, and provide public infrastructure by facilitating access to data, technology, and funding.

Disparities in power and levels of development are inevitable; however, partnerships should act as bridges for actors to address their needs and interests from a place of shared agreement and principles. In practice, power asymmetries, capacity gaps, and the shrinking policy space persist.

Partnerships should provide sufficient public policy space to states to develop common capabilities

For countries to create of common capabilities, they require increased access to the public policy space. The concept of policy space focuses on the tension between international integration, and autonomy available to states to pursue policies that effectively support their economic development (Mayer, 2009). To properly address the issue of policy space, it is necessary to critically re-examine the principles and contradictions that dominate international negotiations, especially in relation to differential treatments, less-than-full reciprocity, flexibility, and national autonomy.

Goal 17 of the 2030 Agenda incorporates the concept of policy space. More specifically, target 17.15 states that policy space should "respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development" (Organisation for Economic Co-operation and Development & United Nations Development Programme [OECD & UNDP], 2018). This target

is measured by the extent of country-owned results frameworks and planning tools by providers of development cooperation. However, the outlook on increasing policy space is not encouraging. The data of the GPEDC monitoring framework show a reduction in the use of country-owned frameworks from 64% in 2016 to 62% in 2018 (OECD & UNDP, 2019). It is also important to consider that the conceptualisation of policy space from the lens of development cooperation, as stated in the SDGs, can be a limiting perspective. While a development cooperation practice more responsive to country-specificities is key to ensuring more transparent and development-oriented processes, it is not enough to conceptualise what policy space is supposed to achieve.

When thinking about productive capabilities, for example, policy space has a crucial role to play. Global rules are among the factors that more severely constrain countries' abilities to generate growth and ensure long-term sustainable development (Andreoni, Chang, & Estevez, 2019). Significant research exists on how trade agreements restrict states' policy space and how this has allowed power to be concentrated in a handful of global actors that exert pressure on national governments and international organisations to enforce unfavourable global rules (Chang, 1994; Chang, 2003; Chang, 2005; Hamwey, 2005; Overseas Development Institute, 2007).

It is particularly worrying that current partnerships support and even encourage agreements that clearly undermine policy space. WTO+ agreements, such as bilateral investment treaties (BITs), free trade agreements (FTAs), preferential trading areas (PTAs),and regional agreements such as the Transpacific Partnership (TPP), are used to introduce restrictions on policy autonomy in the Global South. They are increasingly used to induce developing countries to make concessions that are not necessarily related to trade (Andreoni et al., 2019).

The generation of technological capabilities, which are also connected to the generation of productive capabilities, illustrate the importance of policy space. These connections are highly dependent on countries' ability to use and adapt existing technologies to foster innovation. Shrinking policy space impacts trade-related intellectual property rights (TRIPS) and can undermine countries' abilities to use existing technology and adapt it to solve pressing issues, such as energy generation and climate change. In the current global context, IPRs and copyrights, along with international standards, are acting as controls and limits on innovation in developing countries (Andreoni et al., 2019).

A Global South-friendly scenario enables developing countries to test different institutional arrangements and leaves room to formulate local solutions to development challenges. Increased policy space for developing nations would result in greater policy autonomy that would help them leverage institutional innovations to develop common capabilities. Partnerships within the SDG framework should commit to challenge and transform global norms and practices that damage and reduce developing countries' policy space.

> **For countries to design and implement policies conducive to the creation of common capabilities, they require increased access to the public policy space.**

Conclusion

As we begin the most critical decade for the implementation of the SDGs, it is imperative to transform the framing of the 2030 Agenda; it must change from a list of disconnected Goals and Targets, to a more holistic plan for action. The nature of the challenges ahead calls for transformation at a structural level and requires reframing 'old' questions around the systems that hinder progress at the global and regional level. The moment is right to bring back to the table questions—and answers—on what is really needed for countries in the Global South to achieve the SDGs while meeting their own development priorities.

This chapter focuses on collective capabilities as one approach to face the challenges identified in this report. Unlike individual capabilities, collective capabilities cannot be achieved in isolation. They require coordination and cooperation at different levels. Collective capabilities focus on communities and structures that allow individual efforts to become transformative.

We have centred our attention on three interconnected collective capabilities: productive capabilities, technological and digital capabilities, and urban capabilities. Recent progress has shown that it is no longer sufficient to develop individual capabilities if these are not combined with support structures. For example, the development of an individual capability such as education needs to be backed by a dynamic labour market, and a conducive environment for knowledge and technology transfers. The persistent gaps between the achievement of these capabilities in the Global South and the Global North hinder the possibility of many countries to achieve the SDGs.

A focus on collective capabilities brings attention back to ensuring that states and other stakeholders support the transformations required to achieve the 2030 Agenda. One way to do this is through partnerships. The state plays a crucial role not only in creating partnerships, but also in promoting an adequate environment for collective capabilities to prosper. Increased policy space, and therefore, greater policy autonomy, would allow developing countries to exercise institutional innovations to advance of common capabilities. New partnerships and collaborations in the coming decade must not prevent states from promoting collective capabilities. Instead, partnerships should provide countries with sufficient policy space, support equitable institutional arrangements, and commit to a vision of sustainable growth for all.

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Appendices

Appendix 1. SVSS country case studies: approaches to synergies and trade-offs

This section gives a succinct presentation of the six-country case studies analysed for the SVSS initiative. For each case study, the section includes a brief review of the national socio-economic context relevant for SDG implementation and development of the methodology used to evaluate synergies and trade-offs, as mentioned in Table 5.1.

Peru

National context

Over the past decade, Peru has been one of Latin America's fastest-growing economies, with an annual average growth rate of 6% in a context of low inflation (World Bank, 2019b). The Peruvian economy has lived two distinct phases since the turn of the century. In 2000, Peru's democracy was consolidating, state modernisation policies were being implemented, the economy was expanding, and poverty was falling (Alcázar et al., 2020). In the past five years, however, economic growth slowed as commodity prices, private investment, fiscal income, and consumption dropped (World Bank, 2019b). Therefore, even though Peru achieved many MDG targets, concerns about equitable development persist, with higher rates of poverty among indigenous people and regional inequalities (Alcázar et al., 2020).

Currently, the Peruvian development agenda is not framed in the 2030 Agenda vocabulary, goals, and targets. This highlights a mismatch between domestic policy priorities on sustainable development, political and official discourse regarding the 2030 Agenda, and the need to align national law and SDGs (Alcázar et al., 2020).

Synergies and trade-offs methodology

Researchers used a mixed approach to analyse synergies and trade-offs in Peru among SDGs 4, 8, and others (SDGs 1 and 5). On the quantitative side, the case study employed logistic regression to identify synergies and trade-offs at the individual level. This allowed the authors to make inferences about how being left behind in education affected individual trajectories, particularly in the world of work (Alcázar et al., 2020). Data sources included the Young Lives Survey, which allowed for longitudinal observation of school-to-work transitions of the same children for 15 years (Alcázar et al., 2020). Due to sample size considerations, the authors did not run the model for specific groups, such as indigenous people (Alcázar et al., 2020). The case study employed two additional sources of data (Encuesta Nacional de Hogares sobre Condiciones de Vida and Evaluación Censal de Estudiantes) to construct nationally-representative LNOB profiles to analyse synergies and trade-offs.

On the qualitative side, Alcázar et al. (2020) carried out in-depth interviews with a semi-structured guide with 39 young people either

in a NEET situation or working precariously, in both urban and rural contexts.

Bolivia

National context

Between 2004 and 2014, the Bolivian economy grew at an average annual rate of 4.9%, primarily due to a combination of high commodity prices, the expansion of natural gas exports, and a successful macroeconomic policy. This contributed to a significant reduction in income poverty, from 59% to 39% (World Bank, 2019c). However, since 2014, GDP growth, poverty, and inequality reduction have slowed.

Bolivia's development policy has mostly focused on the goals established in the 2025 Patriotic Agenda and the Economic and Social Development Plan 2016-2020 (Andersen et al., 2020). The Patriotic Agenda contains development goals in 13 categories that exhibit similarities with the 2030 Agenda.

Regarding SDG 4, Bolivia made important improvements in the 20th century. Younger cohorts today attain an average of 10 years of education (Andersen et al., 2020). Still, access gaps remain: while 87% of children achieve primary education, only 35% reach high school. In rural areas, about 60% of the students drop out around third grade. There are also challenges related to the quality of education, especially in state-owned schools (Andersen et al., 2020).

Synergies and trade-offs methodology

The Bolivian case study used a quantitative approach to analyse synergies and trade-offs between SDG 4 and other goals. The study conducted counterfactual simulations of joint density functions to analyse how specific development targets would have evolved if the distribution and nature of education had remained constant over time. This methodology compares observed individual trajectories with simulated counterfactual scenarios where education is kept constant (Andersen et al., 2020). The analysis was conducted at the individual level. The data sources are cross-sectional household surveys available for Bolivia between 1999 and 2014.

India

National context

One of the fastest-growing economies globally and the third largest in purchasing parity terms, India has made significant steps towards achieving sustainable and inclusive development. In the past 20 years, extreme poverty has decreased from 46% to 13%, economic growth has been stable, and policy approaches have been aimed at promoting development goals (World Bank, 2019d).

Nonetheless, there are outstanding challenges to achieving the SDGs. Malnutrition, poor educational outcomes, increasing inequality, high

poverty, and unemployment prevail (Nair et al., 2020). The world of work depicts a large mismatch between labour supply and demand and high levels of informality (Nair et al., 2020). India also has one of the lowest female labour force participation (FLFP) rates in the world: in 2004-2005, FLFP for women aged over 15 was 42.7%, while it dropped to 27.4% in 2015-2016 (Nair et al., 2020).

Synergies and trade-offs methodology

Researchers, Nair et al., employed a mixed methodology to analyse synergies and trade-offs between SDGs 4, 5, and 8. More precisely, the research identifies potential barriers and enablers to women's labour participation and employment at the individual level. The analysis focuses on three districts selected for their varying levels of FLFP and their geographical diversity (Nair et al., 2020).

From the supply side, the study considered women's desire to work and employability (Nair et al., 2020). Researchers conducted a survey at the household level, enquiring on individual agency and social norms and structures (Nair et al., 2020). The questionnaire also considered demographic, socio-economic, cultural, and gender variables. The sample size was 800 people per district—half urban, half rural—and it was complemented with 2011 Census data. From the demand-side, the study analysed administrative data and guidelines on PMKVY (Prime Minister's Skill Development Programme), India's national initiative aimed at providing industry-relevant skills training (Nair et al., 2020). The study then categorised women's labour inclusion determinants in four groups: access to resources; consciousness and attitudes; informal norms and practices; and formal norms and practices.

The case study employed a Factor Analysis technique to identify the factors that best describe women's situation in the labour market.

Sri Lanka

National context

Sri Lanka is a lower-middle-income country with a GDP per capita of USD 4,073 (2017). Following 30 years of civil war, Sri Lanka's economy grew at an average 5.8% from 2010 to 2017, reflecting a peace dividend and a policy thrust towards reconstruction and growth (World Bank, 2019e). However, in recent years, economic growth has slowed, and the country has experienced episodes of political turmoil that constrain its ability to advance on the 2030 Agenda (Fernando et al., 2020).

Sri Lanka's government has pursued efforts to enact an institutional framework that facilitate the adaptation of the SDGs to the national context. These efforts include the creation of the Ministry for Sustainable Development, the Parliamentary Oversight Committee for Sustainable Development and the Sustainable Development Act 19/2017. However, these measures were largely unsuccessful. SDG-related institutions and instruments interact poorly with the main long-term development strategy (the Vision 2025: A Country

Enriched) which focuses on economic growth and ignores other relevant dimensions of development (Fernando et al., 2020). There are also deficits in data availability to allow monitoring. Finally, political violence has been a major hindrance to achieving the SDGs by 2030 (Fernando et al., 2020).

Synergies and trade-offs methodology

Fernando et al. 's approach to synergies and trade-offs consists of a two-level strategy. First, they mapped initiatives aimed at developing the apparel industry and its labour force. Second, they analysed the interaction of each policy with targets in four domains: social; environmental; economic; and institutional (Fernando et al., 2020). To evaluate the intensity of the relationship, they used the interactions model developed by Nillson et al. (2016). The case study then scores the interaction between the mapped labour policies and the individual SDG targets related to decent work.

Ghana

National context

Ghana is a lower-middle-income country with a GDP per capita of USD 1.507 (Crentsil et al., 2020). Economic growth has been steady, and its GDP rose by 6.3% in 2018 in a context of single-digit inflation (World Bank, 2019f). Its economy has witnessed recent diversification efforts but still relies heavily on agriculture and extractive industries. The country faces important social, economic, and environmental challenges (Crentsil et al., 2020). Regarding SDG 7, 76% of households use polluting fuels and technologies as their primary cooking implements, increasing to 90% in rural areas (Crentsil et al., 2020). This impacts on air quality and has severe implications for health. While access to electricity as a source of lighting has increased on average, the rural-urban divide is still rampant, and there are significant gaps regarding access to and use of clean energy supplies (Crentsil et al., 2020).

Synergies and trade-offs methodology

Ghana's case study examines synergies and trade-offs among five SDGs with the Integrated Benefits Calculator (IBC) of the Long-Range Energy Alternatives Planning (LEAP) model. The LEAP software is a tool for energy policy analysis and climate change mitigation assessment (Heaps, 2016). It can compare energy system scenarios in terms of energy requirements and social and environmental impacts (Weitz, Carlsen, Skånberg, Dzebo & Viaud, 2019). The IBC extension, in turn, allows analysing the implications of greenhouse gas emission scenarios on air pollution, health, the ecosystem, and climate (Heaps, 2016). It is useful for studying the integrated impacts of policies (Crentsil et al., 2020).

Crentsil et al. (2020) analyse synergies and trade-offs among policies aligned with different SDGs in two distinct scenarios built using LEAP: business as usual with no new policies and policy success.

The first one estimates the effect on the household energy sector in 2030 if existing and announced policies were implemented as planned. The second scenario models the scaling up of existing policies to cover all Ghanaian households by 2030 (Crentsil et al., 2020). The main data sources are the Ghana Statistical Service (GSS), other domestic government agencies, and the UN. The case study considered insights at the country, subnational, and individual levels.1

As the LEAP IBC model does not allow for the measurement of impacts on certain social targets, the authors complemented the research with a qualitative component that delved into attitudes and practices on clean fuel usage for cooking and lighting at the household level (Crentsil et al., 2020). Four focus groups were conducted across the country, one in each of the main ecological areas.

Nigeria

National context

Nigeria is Africa's biggest economy in terms of GDP. It is heavily dependent on services and the oil exploitation sector, which combined account for nearly 70% of its GDP (Adeniran et al., 2020). Nigeria is a federation with a three-tiered system of government: federal, state, and local. Subnational units hold responsibility in many policy areas, such as education.

After an economic breakdown between 2014 and 2016, Nigeria launched the Economic Recovery and Growth Plan 2017-2020, a comprehensive strategy aimed at improving economic indicators and promoting human development (Adeniran et al., 2020). While the 2030 Agenda and the ERGP share common goals, their alignment is not perfect, especially regarding environmental issues (Adeniran et al., 2020). Moreover, the SDGs have not yet been mainstreamed into planning instruments (Adeniran et al., 2020).

The government also created institutions to support and advance SDG implementation. However, the federal approach of these entities is still a challenge and funding gaps to implement the 2030 Agenda remain large (Adeniran et al., 2020).

Regarding data availability, progress has been made through the strengthening of the National Bureau of Statistics. Yet a lack of adequately disaggregated data remains a major challenge to informing policy decisions and accountability (Adeniran et al., 2020).

Synergies and trade-offs methodology

To identify interactions between the SDGs analysed, Adeniran et al. 's case study used the scoring approach developed by Nilsson et al. (2016) and the International Council for Science (2017). This system allows to recognise the direction of the linkages between SDGs and their intensity.

The approach consists of categorisation of interactions between SDGs grouped as positive ('enabling', 'reinforcing', or 'indivisible'), trade-offs

1 The interlinkage selected for analysis in this chapter (SDGs 3, 5, and 7), however, focuses primarily on the individual level of analysis.

('constraining', 'counteracting', or 'cancelling'); or neutral. Adeniran et al. 's case study analyses interactions between SDGs 4 and 1, 3, 5, 8, and 13. The scores assigned to each interaction results from a literature review. The inclusion of articles followed four criteria: a) relevance; b) strength of methodology employed; c) seniority and expertise of leading authors; and d) accuracy and consistency of evidence.

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Additional publications of the State of the SDGs initiative

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Global State of the SDGs

Three layers of critical action

Report 2019