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Translating an Ambitious Vision into Global Transformation

The 2030 Agenda for Sustainable Development

Markus Loewe / Nicole Rippin (Eds.)

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transformation

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Abstract

On 26 September, the United Nations will adopt the ‘2030 Agenda for Sustainable Development’, which includes 17 ‘Sustainable Development Goals’ (SDGs). These Goals will replace the Millennium Development Goals and are meant to make international development transformative and sustainable. This ambition is reflected in their thematic scope which covers fundamental aspects of the social, the economic and the environmental dimensions of sustainable development. In addition, the SDGs are truly universal in nature, i.e. they constitute a challenge for all countries, including the most developed ones. Implementation of the 2030 Agenda will thus involve domestic policymakers as well as international cooperation and go beyond development policy.

The list of indicators that is needed for making the goals and targets operational is expected for March 2016. Indicators will be fundamental for implementation, monitoring, reporting and evaluation.

Therefore, a group of experts from the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE) have prepared detailed comments on all goals and the indicators that are currently under discussion. The result is an update of a draft version circulated earlier this year.

The comments show how difficult it is to identify adequate indicators for all the goals in the new agenda. Some of them can be measured more easily while others are rather qualitative in nature so that it is difficult to measure progress in quantitative terms. In addition, some of the indicators under discussion are very complex with the effect that there is a risk that only experts are able to understand and remember them. Also, some goals lack specifications or a dead-line for achievement, or they are not yet measurable with the available data. And finally, some indicators cover just a small segment of what the respective goal is meant to achieve.

With this review, we aim at providing an input for the debate on indicators and for the process of designing national strategies to implement the 2030 Agenda. The monitoring and review processes at the global, regional and national levels will be fundamental for measuring progress, and for adjusting policies.

The introduction of the volume summarizes the achievements made by the adoption of a new agenda for sustainable development. It shows the advantages of the SDGs in comparison with the MDGs. The chapter after the introduction focusses on how the UN system can contribute to implementation, monitoring and review of the 2030 Agenda, and reflects on the possible shape of an accountability framework. The core of the discussion paper are chapters that review every SDG, its subordinate targets and its proposed indicators.

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Overview of the Sustainable Development Goals (SDGs) as proposed by the draft 2030 Agenda for Sustainable Development¹

Goal 1	End poverty in all its forms everywhere
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3	Ensure healthy lives and promote well-being for all at all ages
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5	Achieve gender equality and empower all women and girls
Goal 6	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation
Goal 10	Reduce inequality within and among countries
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12	Ensure sustainable consumption and production patterns
Goal 13	Take urgent action to combat climate change and its impacts* * Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development

1 UN (2015): Transforming our world: The 2030 Agenda for Sustainable Development, draft outcome document, New York, 12 August 2015

Abbreviations

AAAA	Addis Ababa Action Agenda
ABS	Access and Benefit Sharing
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
DAC	Development Assistance Committee of the OECD
DIE	German Development Institute / Deutsches Institut für Entwicklungspolitik
ECOSOC	UN Economic and Social Council
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GEMI	Global Expanded Water Monitoring Initiative
HALE	Healthy Life Expectancy
HIPC	Heavily Indebted Poor Country
HLPF	High-level Political Forum on Sustainable Development
IAEG-SDGs	Inter-Agency and Expert Group on SDG Indicators
ILO	International Labour Organization
IMF	International Monetary Fund
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unreported and Unregulated
IWRM	Integrated Water Resources Management
JMP	Joint Monitoring Programme (WHO / UNESCO)
LDC	Least-developed Country
LLDC	Landlocked Developing Country
MDG	Millennium Development Goal
MPI	Multidimensional Poverty Index
NSSD	National Strategies for Sustainable Development
NWCI	Natural Water Capital Index
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OWG	Open Working Group
PCSD	Policy Coherence for Sustainable Development
PPP	Purchasing Power Parity
R&D	Research and Development
SCP	Sustainable Consumption and Production
SDG	Sustainable Development Goal

SDSN	Sustainable Development Solutions Network
SEEA	System of Environmental-Economic Accounting
SIDS	Small Island Developing States
SMEs	Small and Medium-sized Enterprises
SSC	South-South Cooperation
SWWI	Sustainable Water Withdrawal Index
10YFP	10-Year Framework of Programmes
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNStats	United Nations Statistical Commission
WaSH	Water Supply, Sanitation and Hygiene
WBGU	German Scientific Advisory Council on Global Change / Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen
WHO	World Health Organization
WRM	Water Resources Management
WTO	World Trade Organization

Introduction: A universal agenda for sustainable development and global co-operation

Imme Scholz

In September 2015, the United Nations (UN) will adopt a new global development framework, the “2030 Agenda for Sustainable Development”, which includes the Sustainable Development Goals (SDGs). The SDGs consist of 17 goals and 169 subordinate targets, which are meant to guide national and global efforts to make international development more sustainable in the coming 15 years. Thereby, the SDGs will also replace the Millennium Development Goals (MDGs), which had been formulated in 2000–2001 and were intended to be achieved by the end of 2015. There are two conceptual differences between the MDGs and the SDGs: first, the SDGs are universal goals that aim at guiding national policies and international co-operation by all UN member states; second, the SDGs are much more comprehensive in scope. The MDGs had a clear focus on improving a few specific dimensions of poverty, such as extreme income poverty, nutrition, education, health, gender equality and access to water and sanitation. The SDGs, instead, broaden the agenda by including economic issues (i.e. industrialisation, infrastructure, labour markets), environmental issues (climate change, protection of terrestrial ecosystems and the oceans), governance issues (justice for all, accountability and inclusive institutions) and systemic aspects of global co-operation.

In 2000, the thematic scope of the Millennium Declaration had been quite broad, including peace and disarmament, development, environment, human rights and democracy. The MDGs, however, only operationalised the goals enumerated in the chapter on development; all other areas were left unspecified, although the Declaration clearly stated that action in all of them was needed. Therefore, the programmatic approach for global collective action under the UN derived from the Millennium Declaration was reduced to an agenda to be implemented by developing countries in the South and development agencies in the North. This approach implied that there were no explicit commitments from and clear operational links to other policy fields in rich countries, on which sustained and sustainable progress on human welfare depended.

In 2015, the ambition is to present a list of goals and targets that mirrors the many dimensions of sustainable development and is relevant for all UN member states, i.e. a universal agenda to guide national and global collective action. Compared with the 17 goals and 169 targets, the Preamble of the 2030 Agenda is short and concise, with its focus on people, planet, prosperity, peace and partnership, and how improvements in one dimension rely on progress in the others, and further it at the same time. The Preamble conveys very clearly the integrated approach of the 2030 Agenda and its ambition to trigger transformative action that improves the lives of all. Development is thus defined, once again, as a process that improves human prosperity in several dimensions which requires peace, justice and political participation as well as a reduction of inequalities within and among countries. But the process is not sustainable if the carrying capacity of the Earth system is not respected.

Sustainable development is a concept that was coined at the Earth Summit in 1992. Many of the stakeholders involved in that process deplored that, eight years later, the

development narrative embodied in the MDGs had failed to build on the achievement of linking the right to development with the (common but differentiated) responsibility of ecosystem stewardship. This failure again deepened the divide between the development community and the environment community after finally having established common ground in 1992. As a consequence, sustainable development was identified with mainly environmental objectives, and the awareness of its links with human welfare were somehow lost.

By contrast, the elaboration of the 2030 Agenda was guided by the explicit purpose of building on the success of the MDGs, reconnecting the agendas of the development and environment communities, and reinvigorating integrated policy approaches (as manifested in Agenda 21 and in national strategies for sustainable development) for improved policy coherence.

The process towards the 2030 Agenda

The idea to establish goals for sustainable development at the international level was raised by Guatemala and Colombia in the run-up to the UN Conference on Sustainable Development in Rio de Janeiro in June 2012. This conference was meant to examine the progress achieved so far towards the aims that had been formulated 20 years ago by the international community at the Earth Summit on sustainable development in 1992 in the same city. Colombia and Guatemala proposed to agree on international collective goals because, as indicated by the experience of the MDGs, “*when there are objectives to guide the international community’s efforts towards a collective goal, it becomes easier for governments and institutions to work together to reach them*”. Moreover, such goals would offer “*a concrete approach that delivers means for measuring – in accordance with the contexts and priorities of each country – both advances as well as bottlenecks in efforts to balance sustained socio-economic growth with the sustainable use of natural resources and the conservation of ecosystem services*” (Ministerio de Relaciones Exteriores de la República de Colombia, 2011, 1).

The UN General Assembly adopted the suggestion of the two Latin American countries in the key outcome document of the Rio+20 conference, *The Future We Want*. It enacted “*an inclusive and transparent intergovernmental process on sustainable development goals that is open to all stakeholders, with a view to developing global sustainable development goals to be agreed by the General Assembly*” (UN 2012a, §248).

As a consequence, member states from the five UN regional groups nominated 30 members for a so-called Open Working Group (OWG), which was established in January 2013. Interest by countries and major groups in the OWG deliberations was strong: in total, 70 countries participated in the OWG by sharing seats, and its sessions were monitored by many non-governmental organisations and interest groups. The OWG presented a proposal for 17 SDGs and 169 targets in July 2014 (OWG 2014), which was then discussed in detail in intense intergovernmental negotiations in New York between January and July 2015. The outcome of this process, entitled “*Transforming Our World: The 2030 Agenda for Sustainable Development*” (UN, 2015b), is almost identical with the proposal submitted by the OWG in 2014. It was released on 12 August 2015 as a draft of the resolution to be adopted by the UN General Assembly at a summit in September 2015.

The SDGs were elaborated through intergovernmental negotiations with strong participation of developing countries and the active participation of non-state actors. The MDGs and their indicators, however, had been defined by development experts from the World Bank, the International Monetary Fund (IMF) and the United Nations Development Programme; developing countries had had no say in this process (Rippin, 2013). This meant that the priorities set by the MDGs also shaped the agendas of bilateral and multilateral development co-operation and reduced the policy space for negotiations on the side of low-income countries. Since 2000, however, the economic and political situation has changed in many developing countries. In the 1990s, the World Bank had counted 60 low-income countries; today this group comprises 34 countries. The group of 105 (lower- and upper-) middle-income countries includes the majority of developing countries. Half of the world's gross domestic product (GDP) comes from developing countries, and in 2014, the combined sum of the GDPs of Brazil, China, India, Indonesia, Mexico, Russia and Turkey was higher than that of the G-7 countries (International Monetary Fund, 2014, measured in purchasing power parities). At the same time, developing countries have increased their share of trade in goods to 40 per cent, and that of services to 30 per cent (UN, 2012b). In a nutshell this means that the political power of the old industrialised countries has diminished. This created the space for engaging in intergovernmental negotiations on development objectives, which made the debate less technical and much more political.

The 2030 Agenda: A comprehensive and effective policy framework?

The 17 goals and 169 targets of the 2030 Agenda reflect the political compromise reached in 2014/2015 by the negotiators who represented states with very different socio-economic and political conditions, and who had different normative approaches and understandings of the foundations of human prosperity. Still, the 2030 Agenda is the only international agenda so far with the ambition to shape globalisation in a way that the four main dimensions of human development – social, environmental, economic and political – are promoted. It is remarkable that the international community has been able to achieve this in times characterised by considerable power shifts, increasing domestic inequality and the spread of violent conflict.

The Declaration that precedes the SDGs in the 2030 Agenda emphasises the indivisibility of the Agenda and the principles on which it is built, i.e. the Charter of the United Nations, the Universal Declaration of Human Rights, the principles of the Rio Declaration on Environment and Development of 1992 (with special reference to common but differentiated responsibilities) and the treaties that followed it as much as the Millennium Declaration and its follow-up. The commitment to “leave no one behind”, a term coined by the Report of the High-Level Panel of Eminent Persons on the Post-2015 Agenda, is mentioned in the Preamble and in the Declaration. It underlines that the goals set by the new Agenda will only be considered as achieved if they are met also for the lowest income quintile of the population and if there is no discrimination related to social categories such as age, gender or ethnicity.

Although from a conceptual perspective the Agenda and its goals still leave much to be desired in terms of clarity and ambition, a better result is hard to imagine, given current divisions within the international community over governance arrangements, economic

policies, human rights (and particularly women's rights) and burden-sharing when preventing dangerous environmental change.

Scope

The main paradigmatic change embodied in the 2030 Agenda is the recognition of the immediate link between improving and ensuring human welfare and the need to maintain the capacity of the planet to provide environmental services. This meant that the Agenda would be broader than the MDGs, and the possible number of future goals thus soon became the object of conceptual debates and negotiations.

With the intention to promote this paradigmatic change in the future development agenda, Colombia and Guatemala had proposed eight areas of action for the Sustainable Development Goals in 2011 in the run-up to the Rio+20 conference in 2012: poverty, consumption patterns, human settlements, biodiversity and forests, oceans, water resources, food security and energy. The Declaration adopted by this conference listed 21 topics for possible SDGs.

In the 2030 Agenda, three clusters can be distinguished: Goals 1 to 5 (poverty, nutrition, health, education, gender) and 7 to 10 (energy; growth and employment; infrastructure, industrialisation, innovation; inequality) can be attributed to the category of “people” because they are to serve direct and indirect human needs (if one understands economic activity as being subordinate to human welfare). A second cluster is constituted by four goals that can be attributed to a combination of “people and planet” that are conceived in an integrated way (i.e. Goals 6 on water and 11 on cities), or that promote institutional arrangements needed for managing the commons (i.e. Goals 16 on peaceful and inclusive societies and 17 on global partnership). Goal 2 also includes references to the environmental dimension and to resilient agriculture and could thus be counted as part of the second cluster, too. Finally, a third cluster gathers four goals dedicated to the planet, the protection of the Earth system as such: Goals 12 (consumption and production patterns), 13 (climate change), 14 (oceans) and 15 (terrestrial ecosystems and biodiversity).

Many of the problems that have to be solved in order to ensure human welfare (and that of other species) for future generations, too, cannot be attributed to one of the dimensions of sustainable development, but require integrated approaches that deal with the linkages between different goals and policy fields, and related trade-offs (Casado-Asensio and Steurer, 2014, Meadowcroft, 2007). These linkages are mentioned in the Preamble of the 2030 Agenda, which represents a real effort of integrated thinking, and they are also mentioned in the Declaration and manifest themselves in the overlaps between goals.

With a view to the many areas of dangerous global environmental change, one of the main weaknesses of the MDGs had been the insufficient focus on securing the ecological foundations of long-term human welfare. International co-operation for the protection of global commons such as climate and biodiversity, and national action for improving access to safe drinking water and living conditions in urban slums had been part of MDG 7 – unlike MDGs 1 to 6, this goal had been very broad and covered issues that, in the new Agenda, are represented by five SDGs. Reporting focussed mainly on access to drinking water and sanitation, as this was the only quantified target. As a result, MDG 7 did not improve environmental sustainability: greenhouse gas emissions increased globally,

deforestation and biodiversity losses continued. More people have access to safe drinking water, but the management of water resources has not improved. Moreover, this goal showed clearly that universal goals for all countries are needed: rich countries also need to invest in promoting biodiversity protection, water management and emissions reduction. The consequences of missing action in these areas will be felt by future generations globally – as much as the consequences of unmitigated greenhouse gas emissions from China and India, and of tropical deforestation in South America. Beyond assuming their own immediate responsibility, however, rich countries are needed as co-operation partners. They generate most of the world’s knowledge, research and innovation capacities, with which production and consumption patterns can be transformed and made more environmentally friendly. Developing countries need partnerships for using these capacities if they want to join this transformative process, and if they want to reduce the environmental burden that traditionally is associated with increased human welfare.

Criteria for goals, targets and indicators

According to the Rio+20 outcome document, the Sustainable Development Goals should

- *“address and incorporate in a balanced way all three dimensions of sustainable development and their inter-linkages;*
- *be coherent with and integrated in the United Nations Development Agenda beyond 2015, thus contributing to the achievement of sustainable development and serving as a driver for implementation and mainstreaming of sustainable development in the United Nations system as a whole. The development of these goals should not divert focus or effort from the achievement of the Millennium Development Goals”* (UN, 2012a, § 246);
- *“be action-oriented, concise and easy to communicate, limited in number, aspirational, global in nature and universally applicable to all countries while taking into account different national realities, capacities and levels of development and respecting national policies and priorities....;*
- *address and be focused on priority areas for the achievement of sustainable development, being guided by this outcome document”* (UN 2012a, § 247).

This list of criteria shows the effort to reconcile two different kinds of lessons learnt from the MDGs. The first two requirements emphasise that a future-oriented agenda needs a thematic scope broader than the MDGs that covers the main elements and foundations of sustainable human prosperity. This is also emphasised by the fourth requirement, which underlines the 21 areas of action mentioned in the outcome document as a reference for the SDGs.

The third group of requirements is double-faced. On the one side, it refers positively to the MDGs and mentions criteria that facilitate communication of a limited set of goals and the progress made in achieving them. Although not all MDG targets and indicators fulfilled these criteria, the experience made with them showed that evidence-based reporting is able to galvanise joint action when reporting is based on clear concepts, solid indicators and robust data (Vandemoortele, 2014, 226). Specific, measurable, agreed, realistic and time-limited goals help to track progress and detect failures in progress towards their achievement. Goals and targets without sufficient specification (as in MDG 7) tend to become marginalised in monitoring reports and therefore lose attention. On the other side, this requirement introduces new criteria such as universal applicability. The MDGs had been

a global deal with several performance targets for the South (MDGs 1 to 7) and a few deliverables for the North (MDG 8) (Vandemoortele, 2014, 225). By contrast, the SDGs should be relevant, applicable and realistic for all countries, i.e. they should make demands on every country (not only developing or developed countries) but only in accordance with each country's individual capabilities – and thereby substantiate the idea of common but differentiated responsibilities in the implementation of global aims. This requirement also reflects learning from the MDGs, as global goals were consistently applied at the country level, which went against the original intention of the MDGs, as they were conceived as aggregated global goals. Differentiation between country conditions and its relevance for contributing to global goals will be a hallmark of the SDGs.

As the analysis of the goals, targets and proposed indicators in this discussion paper shows, it is very difficult – and sometimes impossible – to reconcile these different requirements with each other. The concepts used in the SDGs are not always clear, e.g. in cases where they were designed to facilitate a political compromise or where quantifiable and solid indicators (and robust databases) have not yet been identified for measuring them. Negotiators clearly did not decide against issues that cannot be easily quantified, and thus included a high share of qualitative reporting into the future monitoring process. This result suggests that efforts for tracking global progress will not only require investment in statistical capacities (“data revolution”) but also in research that is more context-specific and qualitative in nature, thus producing insights on the causal mechanisms behind transformative change.

Finally, some reflections on two criteria that are included in the Rio+20 criteria list but which seem of specific importance to the authors of this discussion paper, especially with regard to the goals as they will be included in the national strategies and plans for implementation. First, the level of ambition of the goals has to balance out realism and aspirations; if the level of ambition is too low, the goals will fail to have an impact on public policies and become irrelevant. Second, distributional issues have to be considered when formulating goals and engaging in monitoring. The reduction of inequalities is an important motivation behind the universal 2030 Agenda, and therefore the goals should be formulated in a way that they benefit all people and not just parts of the population (i.e. only men, only adults, only urban neighbourhoods, only specific ethnic or religious groups, only the rich, etc.).

Implementation, monitoring and review

Implementation, monitoring and review will be country-based. Thus, the next step will be to start relating the goals and targets to national realities and ambitions towards change. The indivisibility of the 2030 Agenda is emphasised in the Preamble and in the Declaration in order to prevent selective (and less ambitious) implementation strategies. But this does not preclude an analytical exercise for determining which goals are most relevant for the country (in terms of domestic transformation) and where they can (and need to) make relevant contributions to the global common good. The result of this analysis will then be contrasted with the means of implementation at reach of the country. The scope and level of ambition of implementation strategies in many developing countries will probably be amenable to international support from Northern and Southern partners of co-operation and UN organisations.

One important question is how to harness cross-sectoral action and integrated policy approaches for the implementation of the SDGs. In 1992, the UN Conference on Environment and Development had recommended all states to elaborate national strategies for sustainable development (NSSD), as a framework for defining goals for change and monitoring progress over longer periods of time. The NSSD were expected to trigger integrated policies that explicitly deal with the tensions and trade-offs at the interfaces between sector policies. This ideal expectation has not been met, but the NSSD still have an important communicative function across sectors, in society and over longer time periods, which is of absolute importance for the 2030 Agenda (Casado-Asensio and Steurer, 2014). The recommendation to use the NSSD as a framework for implementation is taken up again by the 2030 Agenda. In 2008, the Commission for Sustainable Development reported that 82 per cent of all UN member states had some type of strategy for sustainable development (Berger & Gjoksi, 2009, p. 3). The Commission included both the NSSD and national environmental action plans in their account. A few years later, this number had decreased considerably: a report published in 2014 counted only 25 such strategies (nine of them in developing countries) (Jacob, Kannen, and Niestroy, 2014, 309), whereas the website of the European Sustainable Development Network counted 27 NSSD in Europe alone. In any case, governments will have to step up their efforts to design frameworks that allow them to pursue processes of change, and to manage trade-offs derived from tensions between different goals. In Germany, the national strategy for sustainable development is currently under review, and its new version – to be adopted in 2016 – is expected to take the 2030 Agenda and the SDGs into account.

Monitoring and review will be paramount for tracking progress, learning from implementation and adjusting the national implementation strategy and its goals (Beisheim, 2014; see also the contribution by Keijzer, Janus, and Weinlich in this discussion paper). Again, national governments will have the main responsibility for this, while participation of parliaments, civil society, the private sector and science is recommended by the 2030 Agenda. Their active participation in implementing the Agenda, in reviewing its achievements and in analysing its failures will be critical for making progress. Constructive and open co-operation between state and non-state actors at the national and local levels will offer repeated opportunities for increasing the level of ambition and strengthening international co-operation over the next 15 years.

Purpose of the discussion paper

From the beginning, the German Development Institute / Deutsches Institut für Entwicklungspolitik (DIE) has been following the international discussions and consultations on the new international development agenda beyond 2015, and it has published many articles and briefing papers on various questions related to the process. In particular, the DIE has discussed in several publications² how the new development agenda should look and has proposed criteria that the agenda should meet. These publications mirrored some of the normative and conceptual controversies that have characterised the policy debate on the post-2015 development agenda. Broadly speaking, controversies were about:

2 See, for example: Bauer, Dombrowsky, and Scholz (2014); Fues and Ye (2014); Helgason and Weinlich (2015); Kharas and Rippin (2013); Loewe (2008); Loewe (2012); Loewe (2014a); Loewe (2014b); Pogge and Rippin (2013); Rippin (2013); Rippin (2014).

- the scope of the agenda: Should it focus on improving basic dimensions of human welfare, especially for the bottom billion, or should it widen its view and include the preservation of the ecological foundations of human life and welfare?
- its normative emphasis: Should it focus on the needs of the poorest and most vulnerable groups of the population (and the countries where they live), or should it be universal and highlight that human welfare can neither be secured for specific groups only nor ignore its environmental foundations?
- the role of quantifiable indicators: Should the agenda concentrate on goals and targets that can be quantified and thus measured, or should it also include “things that count but can’t be counted”?

The 2030 Agenda has given an answer to these controversies. Future research will thus need to focus on new options for supporting implementation and progress of the Agenda under these conditions, rather than attempting to confirm old positions and rekindle controversies of the past when explaining the lack of progress. The analysis of the SDGs that follows in this discussion paper offers many hints for possible contributions of future innovative research towards measuring progress of the 2030 Agenda.

Based on its previous work, the DIE made a collaborative effort and circulated a draft paper in January 2015 commenting on:

- the OWG proposal for SDGs from July 2014 (OWG 2014);
- the synthesis report published by the UN Secretary-General in December 2014 (United Nations Secretary-General 2014); and
- the first draft of a proposal submitted by the Sustainable Development Solutions Network (SDSN) for an operationalisation of the OWG’s SDG catalogue (Sustainable Development Solutions Network 2015).

The project was initiated, conceptualised and co-ordinated by the editors of this discussion paper, Markus Loewe and Nicole Rippin.

Since then, we received a wide range of positive comments on our draft paper as well as suggestions for improvement. Using once more the broad expertise that the DIE can offer, we therefore decided to revise and publish it as a discussion paper and give it a different introduction.

This revised version of the comments also takes into account:

- the outcome document for the UN summit in September 2015, as recommended on 12 August 2015 for adoption (UN, 2015b, see above);
- the indicators suggested by the United Nations Statistical Commission in their ‘technical report’ from May 2015 (United Nations Statistical Commission 2015); and
- a revised list of indicators, still under discussion, published by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs 2015).

The framing and formulation of the SDGs will be adopted without major changes by the UN in September 2015. After the summit, the debate on how to design national goals and implementation strategies – and how to measure, operationalise, implement and fund the

SDGs – will begin. It is this debate that this discussion paper seeks to nurture. Accepting the political reality that both the strengths of the SDGs as well as their shortcomings are here to stay, we believe that the analysis and recommendations formulated in this discussion paper will remain valid and valuable for the coming months. In this paper, we try to bring out the said strengths and weaknesses of the SDGs and think ahead in terms of how to straighten out some of the weaknesses – *inter alia* by using improved indicators.

Structure of the discussion paper

This introduction is followed by a chapter focussing on how the UN system can contribute to implementation, monitoring and review of the 2030 Agenda, and reflects on the possible shape of an accountability framework. Following this are chapters that review every SDG, its subordinate targets and its proposed indicators. The reviews are written by different authors or groups of authors and are meant to provide answers to the following questions:

- What is the goal all about? Does it focus on the relevant and most significant issues?
- Is the goal realistic but still ambitious?
- Are there sufficient specifications, and is it measurable and time-bound?
- Is the goal easy to understand, and remember and, hence, well suited for attracting public attention, activating people and governments and mobilising resources for its achievement?
- How does the goal relate to other goals? Are there contradictions, trade-offs, complementarities, overlaps or gaps?
- How do the targets operationalise it?
- Are the ambition levels of the different targets adequate?
- Are the indicators suggested by the UN Statistical Commission adequate for measuring progress towards the goal? Do they cover all aspects of the goal?
- Are the indicators sufficiently defined and measurable?
- Are data available for the indicators?
- How could the indicators for measuring goal achievement be improved?

With this review, we aim at providing an input for the debate on indicators and for the process of designing national strategies to implement the 2030 Agenda. The monitoring and review processes at the global, regional and national levels will be fundamental for measuring progress, and for adjusting policies.

The authors hope that the engagement demonstrated by Germany and the European Union in the negotiation process towards the 2030 Agenda will be matched by an equally strong engagement in implementation, monitoring, review and adjustment of all efforts geared at transforming our world.

Follow-up and review: The accountability framework for the 2030 Agenda

Heiner Janus, Niels Keijzer and Silke Weinlich

The accountability challenge

Accountability refers to the obligation of an actor (e.g. person, group, institution) to justify decisions or actions taken. In the context of the new 2030 framework, these obligations refer to efforts towards achieving the Sustainable Development Goals (SDGs). Accountability to this agenda should promote compliance with agreed actions as well as to stimulate learning about those goals that are less clearly defined and/or require collective action. All stakeholders of the 2030 Agenda should take part in a regular process of reporting as well as in review and follow-up cycles conducted under the roof of a central accountability framework.

The Millennium Development Goal (MDG) accountability framework was characterised by shortcomings in both the monitoring and review processes. Monitoring was carried out by national statistics offices in cooperation with individual UN agencies and then aggregated at central levels at the UN Secretariat. This setup was prone to duplication, incoherence and poor delineation of responsibilities. In addition to being fragmented, the system was lacking in quality and ownership. Recent studies show that numerous developing-country statistical offices were unable to collect, analyse and disseminate data for MDG reporting. MDG statistics were often based on donor-funded surveys or modelling exercises.

Although the MDG accountability framework was inadequate in terms of promoting compliance for the development commitments agreed to by all states, the MDGs represented a step forward compared to the situation in the 1990s, especially in terms of creating greater transparency in development cooperation. Going forward, the 2030 accountability framework should build on these experiences and internalise its main lessons learnt. Calls for data revolutions and disaggregated statistics need to become rooted in discussions on how accountability to the agenda will be realised.

Three components of 2030 Agenda accountability

A central role will be played by the High-level Political Forum on Sustainable Development (HLPF), which was mandated to “*conduct regular reviews, starting in 2016, on the follow-up and implementation of sustainable development commitments and objectives, including those related to the means of implementation, within the context of the post-2015 agenda*”. To help the follow-up and review at the HLPF, its work will be informed by an annual SDG Progress Report, to be prepared by the Secretary-General with inputs from the UN system. The information presented in this progress report will be based on the global indicator framework, data will be produced by national statistical systems and information will be collected at the regional level.

Despite the concrete HLPF mandate, it is still unclear how the reviews will be organised, how they will relate to other UN processes, what role key stakeholders other than governments (e.g. the private sector, civil society, science) will play and what level of ambition member

states will show. We propose a simple model for designing the 2030 accountability mechanism around three key components: actors, linkages and ambition (Figure 1).

Figure 1: The 2030 Accountability Framework



Source: Own elaboration

Component 1: Actors. The accountability framework should include three main actor groups: governments, the UN system and societies. Governments will be responsible for implementing the new agenda with strong support from the UN system and broader society (non-governmental stakeholders, civil society organisations, philanthropic foundations, private sector, science, multi-stakeholder partnerships, etc.).

The accountability framework will be much broader than the HLPF review mechanism alone. The UN system – including all individual entities – provides additional opportunities for creating accountability that have to be linked to the overall accountability framework. Existing UN organs such as the General Assembly and the Economic and Social Council (ECOSOC) as well as thematic fora already perform accountability functions. Similarly, broader society and actors not participating in the current 2030 discussions should be engaged.

Component 2: Interlinkages. Relations in the accountability framework are at least as important as individual elements. Interlinkages could be established in various forms, including: joint meetings, reports and evaluations; harmonised operating cycles; joint governance structures; or shared thematic sessions. Further details should be discussed

among member states. Three broad types of linkages within the multi-layered accountability framework can be distinguished: between actors (UN system, governments, society), between levels of governance (national, regional, international) and between the 2030 accountability framework and outreach to external actors.

In linking different actors, a coherent engagement of the UN system is critical. The UN system will play an essential role in implementing the new 2030 Agenda for Sustainable Development. Historically, the UN has held a unique place in shaping the global multilateral system. The UN sets universal norms and standards, has unparalleled convening powers, possesses legitimacy and neutrality, creates global knowledge and has a comprehensive mandate coupled with in-country presences world-wide. Therefore, the UN has already played an important role in helping to achieve the MDG agenda on many levels, e.g. by contributing directly with its operational activities, building capacity, gathering and assessing data, and by advocating for the agenda's implementation. Despite a number of known weaknesses, the UN system is an asset that needs to be put to good use; it can be a motor for assisting countries in achieving their common national and collective Sustainable Development Goals.

However, a universal sustainable development agenda with transformative ambitions presents unprecedented requirements to the international community, including the UN. The UN system is to date not fit for purpose to deliver this agenda. The UN faces the double challenge of tackling a backlog of long-overdue reforms and getting into shape for overseeing and assisting in the implementation of the 2030 Agenda. The 2030 Agenda and its accountability framework should set priorities for work areas of the whole system and individual UN entities. For example, ECOSOC's recent strengthening reform that moves the Council from "coordination" towards "management" of the UN system could play a role in this regard. The same holds for ongoing UN reform processes for better connecting the normative work of the UN and its operational work at the country level. Next, each UN entity needs to be included through its governance structure. Governments play a crucial role on the Executive Boards of UN funds, programmes and specialised agencies, for example. Finally, the UN Development Cooperation Forum, similar to other UN fora dealing with specific sectors, could organise accountability for the sector of development cooperation. These and similar, more radical ideas should be presented to member states in a report by the Secretary-General or a group of experts. In addition to thinking in the individual agencies, there is need for a more systemic perspective on how the UN system needs to change in order to be able to support the implementation of the 2030 Agenda.

For engaging non-governmental actors, the HLPF could work with the Sustainable Development in Action registry. The registry contains public and regularly updated information on multi-stakeholder partnerships and voluntary initiatives. Within the registry, there are several "Action Networks" – such as the Secretary-General's Sustainable Energy for All, or Every Woman Every Child initiatives – that have set up their own accountability and review mechanisms. Going forward, the registry should be improved (e.g. through independent reviews, ex-ante goal definition and clear reference to specific SDGs). In addition, non-governmental actors should be invited to participate, also through formal roles, in the accountability framework at the national, regional and international levels.

At the regional level, peer-learning mechanisms could ensure an external and independent assessment of progress towards achieving the 2030 Agenda. Countries in the same region often share similar challenges and are likely to make greater progress by jointly addressing their problems. At the international level, there would be aggregated monitoring of global progress to identify implementation gaps and opportunities for collective action. Even more than under the MDGs, achieving the 2030 Agenda strongly relies on the actions of communities outside the 2030 setting in the UN as well as within the UN's current sphere of influence. Examples include the G-20, the Organisation for Economic Co-operation and Development, the BRICS countries and the World Trade Organization. Also, aggregated reporting will be presented in the Global Sustainable Development Report, which should link to different levels (regions, countries) and actors (governments, UN system, parliaments, non-governmental actors, academia).

Component 3: Ambition. Another major issue is the level of ambition that stakeholders can demonstrate and commit to. Political ambition is required on at least two levels. First, ambition is necessary in discussions about the design of the future accountability framework. Second, ambition is an essential component for making commitments within the framework.

In terms of designing a 2030 accountability framework, an intergovernmental negotiation process should be started to determine specific elements and interlinkages (see above). One way to assess the level of ambition is to think about a fragmented versus a coherent approach. It is up to UN member states as to whether a framework remains a fragmented system of different "talk shops" or promotes coherent action towards addressing urgent global challenges. The more fragmented the framework is, the more leeway there could be for different actors to disregard implementing the 2030 Agenda.

In terms of making commitments within the new accountability framework, actors are first and foremost encouraged to participate on a voluntary basis. Thus, the level of political ambition devoted to the 2030 accountability framework will fundamentally depend on individual UN member states and other stakeholders.

Goal 1: End poverty in all its forms everywhere

Markus Loewe and Nicole Rippin

General assessment

Goal 1 is about ending poverty in all its forms everywhere. The targets are, in general, well-formulated and ambitious. Ending poverty in *all its forms* refers to all Sustainable Development Goals (SDGs) that are related to the different dimensions of poverty, i.e. nutrition, education and health but also decent work, freedom from violence, voice, etc. Ending poverty in all these dimensions by 2030 is a very ambitious goal. This fact is reflected in Target 1.2, which somehow contradicts the goal by requiring to “reduce *at least by half*” the proportion of those living in poverty in all its dimensions. In addition, the goal does not reflect Targets 1.3 to 1.5, which seek to reduce vulnerability. A clearer formulation of the goal could have been for instance: “End extreme income poverty and reduce vulnerability.”

Operationalisation

The goal includes five targets and two suggestions for means of implementation. The targets that refer to poverty are, in general, clearly formulated and measurable. The targets that refer to vulnerability, however, are not always measurable. In addition, there is a clear overlap with Goal 5 (“*Achieve gender equality and empower all women and girls*”) and Goal 11 (“*Make cities and human settlements inclusive, safe, resilient and sustainable*”).

- *Target 1.1*: The target requires by 2030 to “*eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day*”. This formulation of the target is highly welcome, as it explicitly leaves room for a new definition of extreme poverty.

Thus, it is all the more disappointing that the only indicator considered so far by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) is again the “*Proportion of population below \$1.25 (PPP) per day*”. The method with which the US\$ 1.25 poverty line has been derived is not only highly problematic, it is also subject to decisive changes over time: each time that the International Comparison Program releases the new purchasing power parity (PPP) rates, the World Bank uses the new data to update its poverty line. These are by no means minor changes. When the World Bank adopted the PPP rates from 2005, the number of the world’s poor went up by more than 400 million. The new PPP rates were released in June 2014. It is unclear how they will change global poverty rates – the World Bank has yet to decide which poverty line to choose. Most likely, the new poverty line will be somewhere around US\$ 1.80 and US\$ 1.90.

This fact has to be kept in mind when considering the “*Proportion of population below \$1.25 (PPP)*” to monitor progress towards Target 1.1. However, when utilising this indicator, some guidelines would be needed on how to deal with the fact that, during the period 2015–2030, the target will be subject to at least three considerable changes due to the updating of PPP rates. One viable option would be to lock-in the PPPs and

freeze the poverty line for the whole period. Yet, considering the severe criticism around the US\$ 1.25 poverty line, it would have been much more advisable to take up one of the various suggestions for the development of a better income poverty measure – all the more so as Target 1.1 explicitly leaves room for this and Target 1.2 provides a very good starting point to do so. One especially promising option in this regard is the suggestion of internationally coordinated national poverty measurements (Reddy, 2008; Klasen, 2013). The basic idea of this approach is to have international agreement on an internationally comparable method for setting the poverty line in each country, and then to use this method to calculate national poverty levels with national currencies. Global poverty numbers would then simply be the sum of the poor in each country.

- *Target 1.2*: The target requires by 2030 to “*reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions*”. Thus, unlike the Millennium Development Goals, the target focusses on national definitions of poverty, thereby following international resolutions such as the 1995 Copenhagen Declaration, which already acknowledged that “*...profound social problems, especially poverty, unemployment and social exclusion...affect every country...*”. While this is definitely a welcome starting point, the formulation of the target is problematic. To require poverty to be halved “*in all its dimensions*” means that the target overlaps significantly with all SDGs that refer to the different dimensions of poverty, such as Goal 2 (hunger), Goal 3 (education), Goal 4 (health), Goal 6 (water and sanitation), etc. Negotiators seem to have been aware of this problem, as Target 1.2 requires poverty to be *halved*, which is in contradiction with the goal itself, which requires poverty to be *eradicated*. It would have been more appropriate and consistent to focus on income poverty only.

The technical report of the IAEG-SDGs currently considers the “*Proportion of population living below national poverty line*” as an indicator to capture Target 1.2. This is a very interesting indicator; however, in combination with the requirement of Target 1.2 to at least halve the proportion of people living below the national poverty line, it can cause unintended side-effects. Many countries use relative poverty lines that would be very difficult to halve by 2030. Telling examples are the countries of the European Union, which use the at-risk-of-poverty rate: this uses as a cut-off line 60 per cent of median equivalised income after social transfers. It is likely that wealthier countries that use such poverty lines will opt out of the whole target. What we would like to propose instead is to take up the idea of internationally coordinated national poverty measurement, as described previously, i.e. to initiate an international process to standardise national poverty lines so that they are comparable in methods. This way, national poverty lines would not only be comparable across countries, they would also provide a starting point for the assessment of global poverty in a much more reliable way than the US\$ 1.25 poverty line.

What is very much welcome is the fact that the IAEG-SDGs so far does not suggest using the Multidimensional Poverty Index (MPI) in order to measure progress towards Target 1.2. Though the MPI is designed to capture those dimensions of poverty that cannot be captured by income alone, using this index would be a rather disadvantageous solution: not only is the MPI unable to capture inequality among the poor; due to its specific structure, it decreases whenever there is a transfer from a poor to a less poor person that lifts the less poor person over the 33 per cent cut-off line used by the MPI

to differentiate between the poor and the non-poor. This way, inequality-increasing transfers are identified as poverty-reducing policy measures: something that should be off-limits in the SDG framework, which seeks to reduce – not increase – inequality.

- *Target 1.3*: The target requires to “*implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable*”. Social protection is an instrument for the reduction of poverty and vulnerability. To the degree that it contributes to poverty reduction, there is little need to have social protection as a target, because then it is only a means to achieving Target 1.1 and Target 1.2. However, it makes much sense to include social protection as a proxy for vulnerability, which would otherwise be very difficult to measure. In this case, it would have been better to formulate Target 1.3 in the following way: “*Reduce socio-economic vulnerability as measured by the share of people without adequate access to social protection.*” In this case, the focus should not be on social protection floors. These are extremely important and effective, but mainly for poverty reduction. Instead, Target 1.3 should measure the effectiveness of social protection programmes in reducing the vulnerability of all people – poor and non-poor.

The indicator currently being considered by the IAEG-SDGs comprises several options for measuring social protection: “*Percentage of population covered by social protection floors/systems, disaggregated by sex, composed of the following: a) Percentage of older persons receiving a pension; b) Percentage of households with children receiving child support; c) Percentage of working-age persons without jobs receiving support; d) Percentage of persons with disabilities receiving benefits; e) Percentage of women receiving maternity benefits at childbirth; f) Percentage of workers covered against occupational injury; and g) Percentage of poor and vulnerable people receiving benefits.*” This indicator, though very detailed, is still too vague. It provides no answer to such important questions as: What kind of social protection systems? How is “covered” defined? Covered to what degree? A possible solution could be to focus on the main risks that threaten every human – for example (i) illness, (ii) old-age (longevity) and (iii) death of a family’s main breadwinner. These should be measured by benefits rather than eligibility, for instance, (i) out-of-pocket spending as a percentage of total health care spending (a fairly good indicator of the size of unprotected health risk), (ii) percentage of people above age 65 receiving benefits that are at least equal to the national poverty line and (iii) percentage of orphans receiving benefits that are at least equal to the national poverty line. Along the same line of argumentation, the indicator previously considered by the United Nations Statistical Commission, “*Average social protection transfers as % of income / or poverty line*” (Indicator 1.3.2), would be a good indicator in order to capture Target 1.3.

- *Target 1.4*: The target requires by 2030 to ensure that all human beings “*have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance*”. Of course, it is desirable to have all these equal rights. And yet, all dimensions addressed in Target 1.4 are mainly a means of implementation for the eradication of (income) poverty – as also suggested by the 2030 Agenda itself, which introduces the same requirements as a means of implementation in Target 5.a of Goal 5 (“*Achieve gender equality and empower all women and girls*”). In addition, and besides the fact that the target is highly

ambitious, it is also extremely difficult to measure. It would probably require three or four indicators for each dimension to monitor progress in a meaningful way.

The IAEG-SDGs is currently considering two indicators in order to measure progress towards Target 1.4. The first indicator is the “*Proportion of the population living in households with access to basic services*”. The quality of the indicator will depend on which basic services are going to be included in its measurement. Also, depending of course on the definition of basic services, the indicator is more than likely to overlap with other indicators measuring access to basic services such as health (Goal 3), education (Goal 4), water and sanitation (Goal 6) and the like. The second currently suggest indicator is the “*Share of women among agricultural land owners by age and location*”. This is an interesting indicator, particularly with regard to gender equality. However, the quality of the indicator will depend on how land ownership will be defined, including the question of whether it is secure (e.g. from measures such as eviction, seizure or taking).

- *Target 1.5*: The target requires by 2030 to “*build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters*”. Apparently, Target 1.5 is meant to focus on those kinds of risks that are normally not covered by social protection schemes, which may provide protection against life-cycle and health risks (longevity, work disability, illness, etc.) and some idiosyncratic economic risks (e.g. unemployment) but hardly ever covariate risks (e.g. currency crisis, external shocks such as the global financial and economic crisis), political risks (e.g. riots, civil war), natural risks (e.g. earthquakes, droughts) and ecological risks (e.g. river pollution, deforestation, floods). Target 1.5 overlaps considerably with Target 11.5 of Goal 11 (“*Make cities and human settlements inclusive, safe, resilient and sustainable*”), which focusses only on natural and environmental disasters and is much more concrete than Target 1.5: “*by 2030 significantly reduce the number of deaths and the number of affected people and decrease by y% the economic losses relative to GDP caused by disasters, including water-related disasters, with the focus on protecting the poor and people in vulnerable situations.*”

Thus, it does not come as much of a surprise that the indicator currently considered by the IAEG-SDGs – the “*Number of deaths, missing people, injured, relocated or evacuated due to disasters per 100,000 people*” – is exactly the same indicator that is suggested to measure progress towards Target 11.5.

Means of implementation

- *Target 1.a*: The target requires to “*ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions*”. This is a rather broad requirement, but nevertheless very important to ensure that – despite the universality of the SDGs – poor countries are not left alone with their limited resources to deal with the crucial problems they face. In this regard, especially reference to curbing tax abuse that helped siphon an estimated US\$ 4.7 trillion off of developing countries during the 2002–2011 period could have made a huge difference.

Goal 1: End poverty in all its forms everywhere

- *Target 1.b*: The target requires to “*create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions*”. The non-specific formulation of this requirement is advisable for a means of implementation for countries with such different national realities.

Conclusion

The formulation of the goal is not very clear. We recommend specifying it by using indicators focussing on income poverty and vulnerability. The targets are generally well-formulated and ambitious. Their operationalisation, however, is quite challenging. We have pointed out potential pitfalls of the indicators currently being considered by the IAEG-SDGs and have made some suggestions for improvement. The idea of an internationally coordinated national poverty measurement in particular should be taken into serious consideration.

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

Francesco Burchi and Sarah Holzapfel

General assessment

Goal 2 is about ending hunger, enhancing food and nutrition security, and promoting sustainable agriculture. Agriculture is viewed as the central element of this goal, therewith endorsing an agricultural, food-based, rural-centred approach. However, to alleviate hunger and promote food security and nutrition, there can be other “means” that are even more important in many countries. Why are non-agricultural development, conflict prevention and/or reduction and social / food security policies not addressed? The problem of food insecurity and malnutrition in urban areas is almost entirely neglected, despite the fact that more than half of the world population lives in urban areas. Finally, both the “utilisation” and the “stability” dimensions of food security are not being adequately addressed: in sub-Saharan Africa, in particular, diversification of diet is a key to fighting malnutrition, and diversification of crops and income-generating activities are fundamental to ensure stable access to food.

The title of the goal suggests a strong focus on food security and nutrition, which is partly misleading. Only two targets (Targets 2.1 and 2.2) directly address food security issues, whereas the remaining three targets – as well as the three means of implementation – are about agriculture or, broadly, food availability. The indicators proposed to measure progress towards targets sometimes measure inputs rather than outcomes. There can be important trade-offs within the goal, in particular between the target of doubling agricultural productivity and incomes of small-scale farmers and ensuring environmental sustainability. Moreover, there is strong overlap of some targets with other goals, in particular Goal 12 (“*Ensure sustainable consumption and production patterns*”) and Goal 15 (“*Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss*”), which highlights the lack of a systemic view of the 2030 Agenda. Finally, the targets referring to hunger and malnutrition are very ambitious, as they call for their elimination by 2030: while it may appear unrealistic, it is important to have this “ideal” benchmark in the target.

Operationalisation

The goal includes five targets and three suggestions for means of implementation.

- Target 2.1 requires by 2030 to “*end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round*”. The target is ambitious and well formulated.

The Prevalence of Undernourishment indicator of the Food and Agriculture Organization of the UN (FAO) could be used to track this target, as suggested by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs), but its limitations have to be taken into serious consideration. In particular, it strongly depends on food availability

and a stylised national income distribution curve: given the fact that household surveys are rarely conducted, food distribution is assumed to remain the same, therefore any increase in food availability, reduction in price or increase in average income necessarily leads to a reduction in hunger. It is suggested to adjust the national indicator with local (household or personal) level data as much as possible and document such adjustments. The second indicator proposed by the IAEG-SDGs measures the prevalence of population with moderate or severe food insecurity, based on the Food Insecurity Experience Scale. This indicator is a more adequate measure of food insecurity and focusses on the access dimension. It has, however, been evaluated by countries participating in the United Nations Statistical Commission (UNStats) survey as being very difficult to collect, even with strong efforts. An alternative indicator that could be considered is the mean or median “household dietary diversity score”, which is also a measure of economic access to food. Although in the last years the number of surveys covering information on diet has significantly increased, more funds are required to conduct these surveys more frequently at the country level.

- Target 2.2 requires by 2030 to “*end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons*”. The target is good, as it addresses a fundamental problem – that of malnutrition. We agree with the level of ambition: the target is set at an “ideal” level, like for Goal 1 (“*End poverty in all its forms everywhere*”), as it calls for “*ending all forms of malnutrition by 2030*”. Although it may appear unrealistic, in our view it is important to set this ideal benchmark, as this should be the target for national governments and the development community in general.

The indicator of child stunting is the right indicator for Target 2.2, being a widely recognised measure of chronic malnutrition. Access to drinkable water and sanitation are fundamental elements for fighting malnutrition, too; however, they are already addressed separately in Goal 6 (“*Ensure availability and sustainable management of water and sanitation for all*”).

The agencies and entities that have provided input to the IAEG-SDGs rightly acknowledge the growing problem of overweight persons in both developed and developing countries. The proposed indicator “*prevalence of overweight in children under 5 years of age*” was, however, not given priority by the IAEG-SDGs. We suggest reconsidering this decision because of the immense physical, psychological and social consequences of being overweight or obese. In theory, we should also go beyond the proposal to concentrate only on children under five. It would be important to refer to adults too, as about 39 per cent of adults aged 18 years and over were overweight in 2014, according to the World Health Organization. However, given the high extra costs of data collection, the exclusive measurement of overweight among preschool children may be a good compromise: an overweight preschool child is, in fact, far more likely than a normal-weight child to become an overweight or obese adult. This, in turn, increases significantly the likelihood of experiencing non-communicable diseases such as cardiovascular diseases, musculoskeletal disorders and certain types of cancer.

- Target 2.3 requires by 2030 to “*double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous people, family farmers,*

pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment". Thus, the target focusses on access to food for farmers and other vulnerable groups in rural areas, as well as on overall food availability. In general, this target is good, but why "double" productivity? And why "double" the income? Whereas this target may be reasonable in areas of sub-Saharan Africa with very low productivity, this is a non-reasonable target in many other areas, especially in high- and middle-income countries. Also, productivity gains raise food access only as long as prices do not change: What if such huge production increases lead to price collapses and make improvements in productivity and income mutually incompatible? Finally, there is often a trade-off between a large increase in productivity and sustainability. Why focus only on rural people? Another problem is that Target 2.3, while emphasising productivity, does not mention the other great problem of vulnerable agricultural producers: the need for diversification of production, employment and income, which may reduce risks related to market volatility, climate change and natural disasters. Also, agricultural diversification may improve nutrition and the natural environment.

The IAEG-SDGs has proposed only one indicator for Target 2.3, which measures the value of agricultural production per labour unit in constant US dollars by classes of farming / pastoral / forestry enterprise size. This indicator is a far better proxy for smallholder income than the one previously suggested by UNStats, "*value of agricultural production per hectare*". The latter, in fact, is useful only as a measure for agricultural productivity. However, also the IAEG-SDGs proposal has an important drawback. According to estimates from the International Food Policy Research Institute, rural households in developing countries earn about 35–50 per cent of their income from non-farm sources (e.g. off-farm employment and remittances), and this share is increasing. Since income poverty is measured as part of Goal 1 ("*End poverty in all its forms everywhere*"), we also suggest including a measure of rural income poverty as part of that goal. One option is to disaggregate the poverty indicators proposed by the IAEG-SDGs for Goal 1, not only by sex and age group, but also by rural / urban areas. It is surprising that rural poverty is not specifically addressed in Goal 1, although nearly 70 per cent of the world's poor live in rural areas.

- Target 2.4 requires by 2030 to "*ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality*". This is an interesting target, but it is difficult to see it together with Targets 2.1 and 2.2 especially. Moreover, Goal 12 ("*Ensure sustainable consumption and production patterns*") is explicitly about sustainable consumption and production. We suggest that implementation (and thus indicators) focus on people's adoption of sustainable practices, and thus on the "stability" dimension of food security and on their resilience.

The IAEG-SDGs proposes to measure the percentage of agricultural area under sustainable agricultural practices as a proxy for Target 2.4. This is a much better indicator for the target than the two indicators initially proposed by UNStats, which measure absolute and per hectare / unit emissions of greenhouse gases, and thus focus

on only a single aspect of sustainability not directly related to sustainable food production. An indicator measuring the area under sustainable agricultural practices is, however, not yet available, and data for computing the indicator would have to be gathered through records held by countries in the process of participating in various schemes and strategies for environmental sustainability (e.g. protected areas, payment for environmental services, voluntary standards, etc.). If this were to be done, it is likely that the data would be incomplete and not comparable across countries. The FAO is, however, currently carrying out a consultation process on developing an indicator measuring the area under sustainable land management, which, if successful, could be used. Alternatively, indicators for which data is at least partly available – such as the FAO indicators “*conservation agriculture area (>30% ground cover) as a % of agricultural land*” or “*average carbon content in the topsoil as a % in weight*” – could be considered by the IAEG-SDGs.

- Target 2.5 requires by 2020 to “*maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge as internationally agreed*”. The target focusses on the conservation of genetic resources, and, generally speaking, natural resources, which is the topic addressed in Goal 15 (“*Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss*”). Target 15.6 (“*Ensure fair and equitable sharing of the benefits arising from the utilization of genetic resources, and promote appropriate access to genetic resources*”), in particular, is closely linked to this; Target 2.5 concentrates more on the availability of genetic resources and Target 15.6 on their use. As negotiations concerning goals and targets are over, we suggest that policy-makers treat Target 2.5 more like a means of implementation of Goal 2, as agro-biodiversity is a key to stable food supply in the long run. The indicator “*ex situ crop collection enrichment index*”, which measures global trends in the diversity of *ex situ* conserved material, is a good proxy for the genetic diversity of seeds and cultivated plants. It does not, however, address the issue of ensuring access to – and fair and equitable sharing of – benefits from the utilisation of genetic resources.

Means of implementation

- Target 2.a requires to “*increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development, and plant and livestock gene banks to enhance agricultural productive capacity in developing countries, in particular in least developed countries*”. It is a good means of implementation.
- Target 2.b requires to “*correct and prevent trade restrictions and distortions in world agricultural markets including by the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round*”. It concerns trade more generally, and not just trade in food commodities. It is also relevant for Goal 17 (“*Strengthen the means of*

implementation and revitalize the global partnership for sustainable development”), as there is a specific sub-section on “Trade”.

- Target 2.c requires to “*adopt measures to ensure the proper functioning of food commodity markets and their derivatives, and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility*”. This is a good means of implementation, although it lacks consideration of action beyond agriculture and rural areas.

There is no mention of means of implementation concerning social and nutritional policies. Possible options would have been to include investment in nutrition and implementation of nutrition policies, which, based on empirical evidence, reduce hunger and improve food security and nutrition. Among these are: school feeding programmes, vitamin A and micronutrient supplementation programmes. Another option would have been to include national and international food safety nets to increase resilience to external shocks as means of implementation. Finally, investments in agro-industrial development would also have been supportive of Goal 2.

Conclusion

This goal addresses a broad range of crucial topics, and the targets to end hunger and malnutrition as well as to double productivity and income of smallholders are extremely ambitious. To achieve the targets, consistent and increased efforts of developed as well as developing countries are necessary that contribute towards improving the four dimensions of food security, i.e. availability of and access to food, food utilisation and stability. A main challenge is to address the tradeoffs inherent in Goal 2 between the target of achieving sustainable food production and the target of doubling productivity.

The four means of implementation are well chosen and will contribute towards achieving Goal 2 but are at the same time too focussed on agriculture and rural areas. We recommend countries to also adopt and continually improve nutritional and social policies, which have proved to be effective in several countries and are an equally important means of implementation of Goal 2. Moreover, it is important to mention that challenges related to food and nutrition security occur not only in rural but also urban areas, where already more than half of the world population lives today. We therefore encourage countries to also take action against hunger in urban and peri-urban areas.

Finally, the priority indicators proposed by the IAEG-SDGs offer a good list of indicators to start with. We suggest only small changes in indicators for Target 2.1. The indicators proposed for the remaining four targets, however, have been found to be incomplete because they neglect several important elements of the targets. While acknowledging that only a limited number of indicators can be chosen, we nevertheless propose using additional indicators to avoid unintended consequences, such as tunnel vision, i.e. an emphasis on aspects quantified through SDG indicators at the expense of unquantified performance aspects. For Target 2.3, we also suggest measuring the prevalence of overweight persons, which is a growing problem not only in developed but also developing countries. The indicator proposed for Target 2.3 does not cover the problem of access to food for households relying heavily on non-agricultural activities. Therefore, it should be integrated with an indicator for rural income poverty. The indicator proposed for Target 2.5 neglects

the issue of equitable access to genetic resources and the fair and equitable sharing of the benefits from their utilisation, which is also an important precondition for achieving Goal 2 and Targets 2.3 and 2.4 in particular. Finally, although the proposed indicator for Target 2.4 is a well-suited indicator, it does not yet exist and requires information that at the moment is missing in several countries.

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

Katharina Stepping and Nicole Rippin

General assessment

Goal 3 is about ensuring healthy lives and promoting well-being for all at all ages. The goal's focus on ensuring healthy lives rather than preventing diseases or infirmity is highly welcome, yet the level of ambition is likely unrealistic, given the current operationalisation of the goal. Though ensuring healthy lives for all is clearly an aspiration for the long term, it is likely unachievable by 2030 and is not reflected by most of the targets of Goal 3. At first sight, hence, the operationalisation does not sufficiently reflect the comprehensiveness expressed in the tone of the goal, as many targets aim at combating specific diseases rather than promoting healthy lives. Still, combating these specific diseases will meaningfully contribute to promoting healthy lives in developed and developing countries. Furthermore, these targets can be interpreted as the attempt to translate the comprehensive, yet intangible goal into something more tangible and possible to implement.

Goal 3 is among the most specific SDGs with a number of clear, measurable targets. It is a direct result of the fact that Goal 3 can build on experiences with the Millennium Development Goals (MDGs), which had a very strong focus on health (MDGs 4, 5 and 6). In this regard in particular, it is unfortunate that some of the main lessons learnt from the MDGs have not been accounted for. Clear examples are Targets 3.1, 3.4 and 3.6, which focus on global reductions only. Global targets not only risk masking significant variations in the starting conditions of countries but also risk being adopted at the national level, as experience with the MDGs has demonstrated. The Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) suggests repeatedly disaggregating data by geographic location (e.g. urban and rural) but also by age group, sex and income as data systems improve. Furthermore, a simple adoption of global targets at the national level is highly disadvantageous to countries with bad starting conditions (William Easterly's article "How the Millennium Development Goals Are Unfair to Africa" from 2009 is a prominent source in this regard).

A positive feature of the goal is that the majority of targets apply to developing and developed countries alike, despite the goal's history with the MDGs. The importance of targets such as maternal, infant and child mortality justifies their inclusion, despite their greater relevance for developing countries.

Finally, Goal 3 is complementary to a number of other goals. First, the implementation of social protection schemes required in Goal 1 includes health protection. Second, health is crucial for the ability to get educated (Goal 4), as well as education being supportive of health. Third, safe drinking water and adequate sanitation and hygiene (Goal 6) contribute towards limiting the spread of diseases. Fourth, employment and economic well-being (Goal 8) strengthen the possibilities for purchasing health care where it is not publicly provided, and good health also increases productivity and well-being. Fifth, Goals 13, 14 and 15 – with their focus on ecosystem services and environmental well-being – complement Goal 3, at least indirectly.

Operationalisation

The goal is operationalised through nine targets and four suggestions for means of implementation. Most of the targets deal with health issues that are relevant for developing and developed countries alike. Most of the targets are very precise; the levels of ambition, however, vary considerably between the targets.

- *Target 3.1:* The target requires by 2030 to “*reduce the global maternal mortality ratio to less than 70 per 100,000 live births*”. This is a welcome continuation of an important MDG target, yet two of the main lessons learnt from the MDGs have been disregarded. First, the global focus of the target will most likely not prevent its translation into a goal adopted at the national level. But the simple adoption at the national level is highly unfair to those countries with challenging starting conditions. Countries should therefore use their national implementation plans to specify their own national target values that reflect their specific starting conditions. Second, data on maternal mortality rates are highly unreliable. We welcome the use of the indicator “*Skilled birth attendance*” (Indicator 3.1.2) included in the technical report by the IAEG-SDGs in addition to maternal mortality rates because of the unreliability of the latter.

Many developing countries lack a death (and often also birth) registration system, which makes it virtually impossible to derive a reliable number of maternal deaths. We urge calling for the implementation of death and birth registration systems as an important part of the data revolution proposed by the Sustainable Development Solutions Network (SDSN, 2015). The importance of birth registration is reflected in Target 16.9: “*By 2030, provide legal identity for all, including birth registration.*” On a similar note, Targets 17.18 and 17.19 call for “*the availability of high-quality, timely and reliable data*” and statistical capacity-building.

- *Target 3.2:* The target requires by 2030 to “*end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births*”. The great importance of the target justifies its high level of ambition; however, it will be crucial to ensure that poor countries are not left alone with their limited resources to deal with this task, as low-income countries face much greater difficulties. Target 3.2 is closely linked with Target 2.2 on ending all forms of malnutrition, as malnutrition is a frequent cause of death for newborns and children under five years of age.
- *Target 3.3:* The target requires by 2030 to “*end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases*”. The target is highly ambitious and seeks to include important diseases that have been neglected in the MDGs but afflict many – often poor – people in developing countries. However, the list of communicable and non-communicable diseases mentioned by Targets 3.3 and 3.4 includes more than 25 diseases, and it would be far too costly to measure them all.

The IAEG-SDGs currently suggests four indicators (instead of the usual one to two) that focus on HIV, tuberculosis, malaria and hepatitis B to capture Target 3.3. The only difference when compared to the MDGs is the additional suggestion of an indicator to capture hepatitis B, for which – according to the IAEG-SDGs – estimates are currently

under development for all countries. Neglected tropical diseases, water-borne diseases and other communicable diseases that are also addressed in Target 3.3 are not included in the current list of suggested indicators. This concentration on a very small sample of diseases directly leads to the same problems experienced with the MDGs, whereby a defined set of health concerns attracted many resources, regardless of the dominant causes of illness and mortality in low- and middle-income countries.

An interesting alternative indicator to Targets 3.3 and 3.4 could be the Healthy Life Expectancy (HALE). HALE is defined as “*the average number of years that a person can expect to live in ‘full health’ by taking into account years lived in less than full health due to disease and/or injury*”, and has already been calculated for 187 countries for the time period 1990–2010. Though measuring HALE is certainly difficult, the same can be said for many of the communicable and non-communicable diseases listed in Targets 3.3 and 3.4, if they were to be measured. An additional argument for HALE is that it no longer focusses on any specific disease – whereas the MDGs’ focus on specific diseases was strongly debated – but mirrors the comprehensive nature of health.

- *Target 3.4:* The target requires by 2030 to “*reduce by one-third pre-mature mortality from non-communicable diseases (NCDs) through prevention and treatment, and promote mental health and wellbeing*”. Again, the universal target value of one-third is not appropriate in the light of the very different starting conditions at the national level. As already suggested for the implementation of Target 3.1, countries should use their national implementation plans to specify their own national target values that reflect their specific starting conditions. The most serious problem of Target 3.4, however, is the same as with Target 3.3. Instead of trying to capture the target using the indicator “*Probability of dying of cardiovascular disease, cancer, diabetes, or chronic respiratory disease between ages 30 and 70*”, as suggested by the IAEG-SDGs, it might be advisable to use HALE as an alternative indicator.
- *Target 3.5:* The target requires to “*strengthen prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol*”. As no clear target value is specified, the level of ambition of the global target is unclear. National implementation plans should be used to specify national targets for the envisioned reduction of, e.g., substance abuse. As such, the target may still be useful for raising awareness about substance abuse, yet the measurement is difficult, because substance abuse happens mostly off the record. Consequently, the indicator currently suggested by the IAEG-SDGs (“*Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders*”) can only partly capture the target.
- *Target 3.6:* The target requires by 2020 to “*halve global deaths and injuries from road traffic accidents*”. With a target year of 2020, Target 3.6 is likely to be overambitious and falls out of the scheme. Again, national implementation plans will need to set targets based on national conditions in order to avoid setting up the poorest countries for failure. The IAEG-SDGs’ considered indicator “*Number of road traffic fatal injury deaths per 100 000 population (age-standardized)*” is a highly relevant proxy but fails to register injuries from road traffic accidents.

- *Target 3.7:* The target requires by 2030 to “ensure universal access to sexual and reproductive health care services”. Target 3.7 is a precise and ambitious target. The target is ambitious because it is very difficult to capture but also because its achievement will likely require fundamental changes in terms of sexuality and reproduction in many societies. One of the two indicators currently considered by the IAEG-SDGs, the “Adolescent birth rate (10-14, 15-19)”, is an important indicator to keep track of unwanted adolescent pregnancies. However, it reflects the access to sexual and reproductive health care services by adolescents only indirectly and does not reflect the access by the rest of the population. The other indicator, “Percentage of women of reproductive age (15-49 years) who have their need for family planning satisfied with modern methods”, would be better suited to measure these access opportunities but is difficult to measure. The indicator that the SDSN suggested (SDSN, 2015), i.e. “contraceptive prevalence rate” (Indicator 29), would be an alternative that is easier to measure but still a good proxy to capture this target. Also, the World Health Organization (WHO) indicator “density of nursing and midwifery personnel (total number per 1000 population)” would be a meaningful indicator because this personnel is estimated to deliver more than 80 per cent of the health care services in almost all countries.³
- *Target 3.8:* The target requires to “achieve universal health coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all”. With the specific mentioning of quality aspects, the target seeks to overcome the failure of similar input targets in the MDGs, such as the requirement of universal enrolment, which led to an increase in the number of children attending school but at the expense of educational quality.

It is very challenging to include quality aspects at the indicator level. The suggestion by the IAEG-SDGs to use the indicator “Coverage of tracer interventions (e.g. child full immunization, ARV therapy, TB treatment, hypertension treatment, skilled attendant at birth, etc.)” is sensible in that it measures health outcomes in terms of prevention services (e.g. immunization) and in terms of treatment services (e.g. skilled birth attendance). The other indicator, proposed by the IAEG-SDGs, “Fraction of the population protected against catastrophic/ impoverishing out-of-pocket health expenditure”, however, was rated in the UNStat’s report from March 2015 as being, at best, “only feasible with strong effort, in need for further discussion and somewhat relevant”. An even better use of funds could possibly be made by enhancing the quality of important output indicators such as HALE. In any case, it is crucial to keep a target on universal health coverage because, although there is a considerable overlap of Target 3.8 with Targets 1.3 and 1.5 concerning social protections, those targets do not explicitly mention health protection.

- *Target 3.9:* The target requires by 2030 to “substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination”. This target is imprecise and therefore not clear in its ambition. It points at the negative effects of environmental pollution and contamination on health and thereby emphasises these important links. Yet, it poses severe challenges for

3 Source: http://www.who.int/gho/health_workforce/nursing_midwifery_density/en/

measurement because it is almost impossible to directly attribute deaths and illnesses to such environmental factors, as these cause health problems that interact with – and are aggravated by – poor physical conditions, for instance. The indicator proposed by the IAEG-SDGs, i.e. “*Population in urban areas exposed to outdoor air pollution levels above WHO guideline values*”, captures only the level of outdoor air pollution in cities, which does not directly account for household air pollution in cities, excludes air pollution in rural areas altogether and cannot reflect any other pollution type. However, this innovative target will hopefully stimulate efforts to develop more adequate indicators in the near future.

Means of implementation

The means of implementation (Targets 3.a–d) have been far less successful than the targets themselves in combining requirements for developing and developed countries. With the exception of Target 3.a, which merely requires strengthening the implementation of the Framework Convention on Tobacco Control in all countries, all targets explicitly refer to developing countries. This goes against the aspired universal character of the 2030 Agenda, but, of course, it also highlights the need of poor countries to receive external support.

Conclusion

The goal’s focus on healthy lives and well-being, instead of the mere absence of disease or infirmity, is not sufficiently reflected in its operationalisation. This could be mended if Targets 3.3 and 3.4 – with their focus on specific communicable and non-communicable diseases – were to be measured by changes in the HALE indicator. The targets for the goal are, in general, precise in their formulation with a rather high level of ambition. Targets 3.1, 3.4 and 3.6, however, focus on global reductions only. Whereas the experience with the MDGs demonstrated that the compelling advantages of country comparisons contributed to the adoption of global goals at the national level, the 2030 Agenda foresees the requirements for national implementation plans that will reflect national circumstances and will prevent these targets from unfairly impacting those countries with bad starting conditions. We welcome the inclusion of Target 3.9 but anticipate the huge challenge of translating this target into a meaningful indicator. Finally, almost all means of implementation explicitly refer to developing countries only, which goes against the aspired universal character of the 2030 Agenda. But, of course, it also highlights the need of poor countries to receive external support.

Goal 4: Ensure inclusive and equitable quality education and promote life-long learning opportunities for all

Francesco Burchi and Nicole Rippin

General assessment

Goal 4 is about ensuring inclusive and equitable quality education and promoting life-long learning opportunities for all. It is, in general, well-formulated. Unlike the Millennium Development Goals (MDGs), it focusses predominantly on educational / learning outcomes and cognitive skills rather than school attendance and enrolment, thereby taking into serious consideration the recommendations made in recent years by the Education for All initiative and new empirical research. There is a slight bias towards the view of education as being a means to productivity and growth, as it focusses on creating skilled workers more than autonomous and self-confident persons. In particular, there is nothing specific about access to knowledge beyond schooling, such as, for instance, access to information (media, newspapers, internet, etc.) and culture. Although theoretically this goal is closely linked to Goal 5, as it emphasises the importance of gender equality in education, there is no overlap, as Goal 5 does not address the education dimensions explicitly.

Operationalisation

The goal includes seven targets and three suggestions for means of implementation. The targets are, in general, clearly formulated, measurable and ambitious. The same is true for most of the accompanying indicators that have been suggested so far by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs).

- *Target 4.1:* The target requires by 2030 to “ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes”. It is not clear why the education system needs to be free of charge for everyone – as long as it is ensured that all girls and boys are able to complete primary and secondary education. Providing quality education for everyone is an expensive task for many countries. In case all the costs have to be borne by national budgets, it is most likely that poorer countries will first address the task of ensuring access to the education system, without caring too much for educational quality. A telling example is the case of India, where the “Education for All Movement” – with annual costs amounting to almost €4.5 billion (roughly 4 per cent of GDP) – was able to significantly increase enrolment ratios. However, this came at the cost of a deterioration in the quality of the education system. Against this background, it might make sense for some countries to make the education system subject to charge. In this case, equitable access could be achieved by, for instance, issuing school vouchers to those who are unable to pay the education fees.

In order to account for relevant and effective learning outcomes, the IAEG-SDGs correctly considers using the indicator “Percentage of children/young people at the end of each level of education achieving at least a minimum proficiency level in (a) reading and (b) mathematics”. As the source of data for this indicator, the IAEG-SDGs suggests using various international sources such as PIRLS (Progress in International

Reading Literacy Study), PISA (Programme for International Student Assessment) and TIMSS (Trends in International Mathematics and Science Study), as well as regional learning assessments, and national and citizen-led learning assessments. In our view, the suggestion of the IAEG-SDGs to develop internationally comparable standardised test scores for primary and secondary education by building on these international or regional experiences is extremely important.

- *Target 4.2:* The target requires by 2030 to “ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education”. Though this target is undoubtedly important, there are many countries for which it is surely not a priority. Countries that are already struggling to provide quality primary – let alone secondary – education would be overburdened with the task of additionally providing quality early childhood development. Any attempt to meet this requirement would come at the expense of the quality of primary and secondary education.

Moreover, operationalising the target will be difficult and expensive, as there are very little data, especially on the quality of these services. The IAEG-SDGs is currently considering the following indicator for tracking progress in this Target: “Percentage of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being”. It has to be kept in mind that bringing forward the considerations of the IAEG-SDGs to develop a composite “Early Child Development Index”, relying for example on Multi-Indicator Cluster Surveys data, would use up considerable resources and could lead to a lack of means elsewhere.

- *Target 4.3:* The target requires by 2030 to “ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university”. Considering the importance of the target, it is unfortunate that its formulation is rather vague. In particular, it is not clear how the access to quality technical, vocational and tertiary education should be ensured: through an expansion of the number of scholarships for studies abroad, as requested by Target 4.b, or through investments in local universities and training institutions.

Unfortunately, the IAEG-SDGs does not address this question either. The indicator currently being considered by the IAEG-SDGs is the “Participation rate of adults in formal and non-formal education and training in the last 12 months”. We strongly advise against using this indicator for two reasons. First, the indicator is rather problematic, as it repeats the weakness of the MDG education indicators by focussing solely on access instead of educational outcomes. Second, data for this indicator are currently available for only a very small number of countries. Consequently, a module of questions would have to be developed and applied in global surveys in order to make the indicator applicable. Thus, instead of investing a lot of time and money in implementing a bad indicator, we suggest considering the development of an indicator that either focusses on the quality of local universities and training institutions or directly on skills development.

- *Target 4.4:* The target requires by 2030 to “substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship”. As with Target 4.3, this target also

seeks to ensure that not only the skills of children but also those of the youth and adults are further developed.

The indicator currently being considered by the IAEG-SDGs, however, focusses only on the “*Percentage of youth/adults with ICT skills by type of skill*”, but not on other skills. As has been pointed out before, it might be worthwhile to consider developing a broader skills indicator instead of investing a lot of time and money in implementing the participation indicator currently under consideration for Target 4.3.

- *Target 4.5*: The target requires by 2030 to “*eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations*”. This target is already included in Targets 4.1 and 4.3, which require that “*all girls and boys complete...*” and “*access for all women and men*”. By thus referring to the whole population, the targets require not only the elimination of gender disparities but also the inclusion of, among others, people with disabilities, indigenous peoples and children in vulnerable situations.
- *Target 4.6*: The target requires by 2030 to “*ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy*”. This target is closely linked to Targets 4.3 and 4.4, as it again seeks to ensure that not only the skills of children but also those of the youth and adults are further developed.

The indicator currently being considered by the IAEG-SDGs is the “*Percentage of the population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills*”. This is a very interesting indicator, however, data are currently lacking for the majority of countries. The IAEG-SDGs is considering developing a “*cost-effective module that can be integrated into national and international surveys*”. We strongly support the development of such a module, but at the same time suggest broadening it so that it not only focusses on literacy and numeracy skills, but also on other relevant technical and vocational skills. This way, the module would at the same time provide the data necessary to capture at least parts of Targets 4.3 and 4.4.

- *Target 4.7*: The target requires by 2030 to “*ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture’s contribution to sustainable development*”. Though this target undoubtedly covers an important aspect, it is far too specific and very difficult to measure. One pragmatic option could be to take up at least some of its requirements in the formulation of standardised learning benchmarks used to meet the requirements of Target 4.1.

This pragmatic option is totally in line with the indicator currently being considered by the IAEG-SDGs, which is the “*Percentage of 15-year old students enrolled in secondary school demonstrating at least a fixed level of knowledge across a selection of topics in environmental science and geoscience. The exact choice/range of topics will depend on the survey or assessment in which the indicator is collected*”.

It is deplorable that negotiators could not agree on a specific target about the completion of tertiary education to stress its increased importance, especially in middle-income countries, and its primary role in high-income countries. One option for such a target could have been: “*By 2030, increase by [x] per cent the number of people who have completed tertiary education*”. The indicator used to track it could have been “*Percentage of people who completed tertiary education*”.

Means of implementation

- *Target 4.a:* The target requires to “*build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all*”. This is a rather broad requirement, but it can be viewed as a package of means to improve educational outcomes accounting for national-level particularities.
- *Target 4.b:* The target requires by 2020 to “*substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries*”. Scholarships for studies abroad may be a good means for rapid improvement of tertiary and vocational education, especially in low-income countries where the higher education system is of poor quality. However, investments in the improvement of local universities and other training and education institutions should be the priority. This would also reduce the risk of brain drain.
- *Target 4.c:* The target requires by 2030 to “*substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States*”. The importance of this target is, nowadays, supported by robust empirical evidence that unqualified (and unmotivated) teachers are an important cause of low performance levels in learning skills in many low-income countries.

Conclusion

The goal is generally ambitious, in some cases even too much so, as in the case of Target 4.2 on ensuring quality early childhood development, care and pre-primary education. This target is likely not to be a priority for many low-income countries: moreover, it is extremely difficult and costly to measure progress of achievements. We suggest incorporating the main aspects of Target 4.7 into the indicators for Target 4.1. Finally, the importance of the suggestion of the IAEG-SDGs to develop internationally comparable standardised test scores for primary and secondary education in order to capture the requirements of Target 4.1 cannot be overstated.

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

Francesco Burchi, Aimée Hampel-Milagrosa and Nicole Rippin

General assessment

Goal 5 is about achieving gender equality and empowering all women and girls. The focus of the goal is ideal and essential for development: to create equal opportunities between men and women across economic and political fronts and to empower women in areas where they are systematically disadvantaged and discriminated against. As with Goal 10 (“*Reduce inequality within and among countries*”), Goal 5 is both a cross-cutting issue as well as a goal in its own right. Consequently, most of the general targets within Goal 5 overlap with targets in other goals that explicitly mention the gender aspect. For instance, gender equality in education – the central pillar in Millennium Development Goal 3 – has been included in Goal 4 (“*Ensure inclusive and equitable quality education and promote life-long learning opportunities for all*”) and in particular in Target 4.5 (“*by 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training ...*”). This explicit mentioning of gender-related questions could be considered unnecessary with the draft outcome document of the UN summit pledge “*we wish to see the Goals and targets met for all nations and peoples and for all segments of society*” – which includes women. Nevertheless, there is good reason to mention gender aspects specifically, since such complementarities create a political push towards achieving Goal 5 faster and more efficiently.

The same, however, cannot be said about the operationalisation of the goal. None of the six suggested targets are time-bound, and hence, not binding at all. The fact that the negotiators could not agree on any specific timeline for the achievement of the targets is a political statement in itself, the impact of which should not be underestimated. Thus, although Goal 5 is seen to generally align with other goals, its level of ambition is rather lofty.

Operationalisation

The goal includes six targets and three suggestions for means of implementation.

- *Target 5.1*: The target requires to “*end all forms of discrimination against all women and girls everywhere*”. It is of utmost importance that indicators are chosen in a way that the requirement of the synthesis report by the UN Secretary-General is implemented, which states “*that no goal or target be considered met unless met for all social and economic groups*” (United Nations Secretary-General [UNSG], 2014, 19). In the case of gender aspects, this requirement means that no goal or target is considered met unless it is met for females as well. In other words, it requires the end of discrimination against all women and girls with regard to all goals and targets included in the 2030 Agenda. Thus, in case this requirement is implemented, it will capture and operationalise a major part of Target 5.1. Nevertheless, it makes perfect sense to leave Target 5.1 as it is in order to highlight the importance of this target on the way towards gender equality and female empowerment.

The indicator currently being considered by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs), “*Whether or not legal frameworks are in place to promote equality and nondiscrimination on the basis of sex*”, is rather interesting, though it is not yet clear how the operationalisation of such an indicator would look like. In addition, it will be necessary to ensure that legal frameworks are not only in place but also consequently respected and enforced.

- *Target 5.2*: The target requires to “*eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation*”. As the trafficking of women for marriage, slavery or sexual exploitation is a serious world-wide phenomenon – as prevalent as the trafficking of children – the specific mentioning of women trafficking in this target is very important. It is all the more important as this crucial aspect is not included in Target 16.2, which aims to end exploitation and trafficking of children. Given the importance of Target 5.2, it is a serious failure that it is not time-bound, especially in light of the fact that, already in 1992, the General Recommendation No. 19 of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) Committee had clarified that “*countries party to the Convention are under an obligation to eliminate violence against women*”.

The IAEG-SDGs is currently considering two indicators in order to monitor progress towards Target 5.2. The first indicator tracks the “*Proportion of ever-partnered women and girls (aged 15–49) subjected to physical and/or sexual violence by a current or former intimate partner, in the last 12 months*”, whereas the second tracks the “*Proportion of women and girls (aged 15–49) subjected to sexual violence by persons other than an intimate partner, since age 15*”. Although there are always problems with indicators that try to capture sensitive topics such as physical and sexual violence (in particular, under-reporting might be a problem, especially for the second indicator), the two indicators are well-suited to capture this target.

- *Target 5.3*: The target requires to “*eliminate all harmful practices, such as child, early and forced marriage and female genital mutilations*”. This target could be considered as part of Target 5.2, as the harmful practices that are mentioned are part of violence against – and exploitation of – women and girls. However, due to its importance, we think that it is justified to address these crucial issues in a stand-alone target. At the same time, it is precisely its importance that makes it hard to swallow that negotiators could not agree on a timeline. Even more so as the corresponding agreement to eliminate all forms of violence against women already has a long history (see comment on Target 5.2).

In the report of the IAEG-SDGs, the two indicators currently under discussion in order to monitor progress towards Target 5.3 are the “*Percentage of women aged 20–24 who were married or in a union before age 18 (i.e. child marriage)*”, and the “*Percentage of girls and women aged 15–49 years who have undergone FGM/C, by age group (for relevant countries only)*”. Both indicators are useful instruments for measuring progress towards this target, although the evaluation of the United Nations Statistical Commission (UNStats) already made it clear that measuring the latter will be very difficult.

- *Target 5.4*: The target requires to “*recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate*”. The focus of the target is very broad and its level of ambition varies across the different requirements of the target. The first part of the target, i.e. “*to recognize and value unpaid care and domestic work*” through, *inter alia*, social protection policies, is rather ambitious – for developing as well as for developed countries. The formulation of the second part of the target, however, is so soft that it is not clear what should be achieved. What does it mean to “*recognize and value*”? Even more unclear is the phrase “*promotion of shared responsibility within the household and the family as nationally appropriate*”. How is a “nationally appropriate” sharing of responsibilities identified?

The indicator for Target 5.4 currently under consideration – “*Average daily (24 hours) time spent on unpaid domestic and care work, by sex, age and location (for individuals five years and above)*” – is a good indicator for the amount of unpaid care and domestic work. However, to generate this indicator, time-surveys are required, and these surveys are, unfortunately, costly and not widespread, especially in developing countries. Several parts of the target cannot be easily measured and, therefore, the IAEG-SDGs does not propose additional indicators.

- *Target 5.5*: The target requires to “*ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life*”. This is a very important target and it can be considered a significant achievement that it has been included in the 2030 Agenda. It complements Goal 16, which does not make explicit reference to political equality of men and women. However, it is more than unfortunate that it is not time-bound.

The IAEG-SDGs is currently considering two indicators in order to capture Target 5.5. The first measures the “*Proportion of seats held by women in national parliaments*”, whereas the second measures the “*Proportion of seats held by women in local governments*”. In general, measuring the share of female participation in politics is a common indicator to measure women’s political leadership and political equality. However, the second indicator is rather unusual because it addresses the local level only and refers to “seats” in a government. Usually, the wording “seats” refers to participation in a legislative body and not the executive. The formulation “Proportion of positions held by women in local governments” would therefore be more common and appropriate. Unfortunately, the IAEG-SDGs did not incorporate another indicator, which had previously been proposed by UNStats: “*Proportion of women who have a say in household decisions (for large purchases, their own health and visiting relatives)*”. This is a rather interesting indicator that has been available in Demographic Health Surveys since 2000 and which we recommend still taking into consideration in the negotiations process over indicators. An indicator for women’s participation and opportunities for leadership in economic life, on the other hand, has not been formulated – despite the fact that women’s representation on executive committees and boards of directors is as common an indicator as the proportion of positions held by women in local governments.

- *Target 5.6:* The target requires to “ensure universal access to sexual and reproductive health and reproductive rights ...”. The target is very similar to Target 3.7, which requires to “ensure universal access to sexual and reproductive health care services”. The difference between the two targets is in the formulation “reproductive rights” and “reproductive services” – this difference is crucial. The formulation “reproductive rights” makes a direct link to the human rights concept, which makes it attractive but also problematic due to what is called “conscientious objection”. Conscientious objection is the refusal to provide certain health services based on religious, moral or philosophical objections. Examples include abortion, contraceptive prescriptions and prenatal tests. Ensuring these reproductive rights is challenging not just in developing countries; the refusal of individual health care providers or institutions to provide these health services is also a growing phenomenon throughout Europe and North America. As a consequence, countries and international and regional bodies generally have failed to comprehensively and effectively regulate this practice, denying many women reproductive health care services that they are legally entitled to receive. With Target 5.6, the 2030 Agenda seeks to universally enforce these reproductive rights, which is as problematic as the fact that sexual rights are explicitly excluded. Following the human rights concept and using the formulation “sexual and reproductive health and rights” in Target 5.6 would have been a desirable alternative. Such a formulation would still require an extremely careful definition of what exactly these rights are.

The first indicator mentioned by the IAEG-SDGs is the “*Proportion of women (aged 15-49) who make their own sexual and reproductive decisions*”. This is an innovative indicator; however, it is not clear how this information can be collected. Usually, the indicator “*Met demand for family planning*” is used as a proxy for women’s ability to exercise their right to make informed and free choices over if, when and how many children they would like to have. The second indicator under consideration measures the “*Proportion (%) of countries with laws and regulations that guarantee all women and adolescents access to sexual and reproductive health services, information and education (official records)*”. The formulation of the indicator is a bit strange, as it focusses on the proportion of countries rather than countries themselves. In order to avoid misunderstandings, we suggest reformulating it along the line of the suggested indicator of Target 5.1, i.e. “Whether or not legal frameworks are in place...”. Apart from the formulation, the indicator is a good indicator for countries in which such laws and regulations are respected and enforced. This is, however, not necessarily the case in all countries. Thus, one might also consider indicators such as, for instance, the number of cases in which women have been persecuted in any form because of their free choice of partner.

Means of implementation

- *Target 5.a:* The target requires to “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”. This is a good means of implementation for the empowerment of women.
- *Target 5.b:* The target requires to “enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment

of women". Target 5.b is not time-bound and, due to the soft formulation "*enhance*", the level of ambition is low. However, it is likely that women will also benefit from Target 9.c, which requires to "*significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020*".

- *Target 5.c*: The target requires to "*adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels*". This is a good means of implementation for the empowerment of women.

In line with the contents of Targets 5.4 ("*recognize and value unpaid care and domestic work*") and 5.6 ("*ensure universal access to sexual and reproductive health and reproductive rights*"), another means of implementation with a focus on sensibilisation campaigns for women's reproductive rights and gender issues would have been highly desirable.

Conclusion

Gender equality and the empowerment of women and girls are both cross-cutting issues as well as goals in their own right. We therefore highly welcome the existence of Goal 5. In order to account for the overlap of this goal with the majority of the other goals, we strongly recommend following the suggestion of the UN Secretary-General's synthesis report (UNSG, 2014) when choosing indicators, namely that each target should only be considered achieved if it is met for all relevant income and social groups – which includes women.

Although the focus of Goal 5 is ideal and essential for development, its operationalisation leaves something to be desired. Many of the targets are of crucial importance (e.g. "*eliminate all forms of violence against all women and girls*"), have long been agreed upon and can easily be captured by appropriate indicators. In other words, they are well-suited to have considerable impact, and yet they lack a time frame that would make them binding. In fact, Goal 5 is the only goal that does not have a single time-bound target, out of a total of 17 goals. Without time-bound targets, it is difficult to track the progress of societies regarding such an important goal as the elimination of gender disparities. Countries should be encouraged to add timelines in their national implementation plans.

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

Ines Dombrowsky

General assessment

Goal 6 is about ensuring the availability and sustainable management of water and sanitation for all. It goes beyond the section on water in MDG 7 of “*halving by 2015 the proportion of population without sustainable access to safe water supply and sanitation*” in several important ways. (i) It raises the standards and coverage for water supply and sanitation. (ii) It adds other important issues related to water resources management that were, by and large, missing in the MDG agenda, such as improving water quality, increasing wastewater treatment and reuse, ensuring sustainable water withdrawals, increasing water-use efficiency, ensuring integrated water resources management (IWRM) and protecting water-related ecosystems. As such, the SDG water goal is quite comprehensive and ambitious. However, in terms of improving the management of the water-energy-food nexus, the efficient use of energy for water pumping and treatment could have been mentioned, and water-use efficiency could have been mainstreamed into the agriculture, energy and industry goals (Goals 2, 7 and 9, respectively). Furthermore, reference could have been made in Goal 6 to the need to protect against extreme events (floods and droughts) and to adapt water management to climate change.

Operationalisation

Goal 6 includes six targets and two suggestions for means of implementation. Targets 6.1 and 6.2 focus on water supply, sanitation and hygiene (WaSH). Targets 6.3 through 6.6 focus on different dimensions of a sustainable water resources management (WRM).

- *Target 6.1:* The target requires achieving access to safe and affordable drinking water for all by 2030. It is thus much more ambitious than the water target in MDG 7 – in terms of coverage and in terms of the level of ambition – as MDG 7 called only for increasing access to “improved water supply”, i.e. it disregarded both water quality and affordability.

The [United Nations Statistical Commission \(UNStats\) Technical Report \(UNStats 2015\)](#) suggests measuring Target 6.1 by Indicator 6.1.1: “*Percentage of population using safely managed drinking water services.*” This indicator is also proposed by the Global Expanded Water Monitoring Initiative (GEMI), a new initiative under the umbrella of UN-Water on monitoring mechanisms for Goal 6, co-led by the World Health Organisation (WHO), the United Nations Environment Programme (UNEP) and UN-Habitat. The WHO / UNESCO Joint Monitoring Programme (JMP), which monitored the implementation of the water target in MDG 7, is currently piloting the measurement of “safely managed” water supply, namely a “*water source at the household or plot that reliably delivers enough water to meet domestic needs, complies with WHO guideline values for Escherichia coli, arsenic and fluoride, and is subject to a verified risk management*” (World Health Organisation & United Nations Children’s Fund [WHO &

UNICEF], 2014). The suggested indicator thus takes up the water quality dimension, even if the affordability dimension has not yet been considered.

- *Target 6.2:* The target requires providing access to sanitation and hygiene for all by 2030. This is also an ambitious goal, in particular given that the MDG sanitation goal was not achieved.

UNStats suggests measuring Target 6.2 by the Indicators 6.2.1 (*“Percentage of population using safely managed sanitation services”*) and 6.2.2 (*“Population with a hand washing facility with soap and water in the household”*). Indicator 6.2.1 is also proposed by GEMI. The JMP defines “safely managed sanitation” as *“the percentage of people (1) who use a basic sanitation facility and (2) whose excreta are safely transported to a designated disposal/ treatment site or treated in situ before being reused or returned to the environment”* (WHO & UNICEF, 2014). As such, Indicator 6.2.1 is more demanding than the MDG “improved sanitation” indicator. Indicator 6.2.2 adds another important dimension of hygiene. Here, GEMI proposed the more general formulation: *“Proportion of people with access to hygiene.”*

- *Target 6.3:* The target requires improving water quality, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse of water globally. Initially, the Open Working Group (OWG) had the intention that the UN would quantify how much the recycling and safe reuse of water would have to increase by 2030, but this intention was abandoned during the course of the negotiations in 2015: the initial formulation, *“by x%”*, was replaced by the much less precise one, *“substantially”*.

UNStats suggests measuring Target 6.3 by Indicators 6.3.1 (*“Percentage of wastewater safely treated”*) and 6.3.2 (*“Percentage of receiving water bodies with ambient water quality not presenting risk to the environment or human health”*). Indicator 6.3.1 is also proposed by GEMI. It represents a mass-balance approach building on new approaches to faecal waste flow monitoring. Instead of Indicator 6.3.2, GEMI proposes a specific Water Quality Index, composed of a minimum set of core parameters that link ecosystem health, public health and effective wastewater management. It builds upon the collection of empirical data (relying on UNEP’s Global Environmental Monitoring System for water, GEMS Water) as well as modelling approaches as proposed by the World Water Quality Assessment. In addition, GEMI also puts forward an indicator for reuse, namely *“Percentage of municipal wastewater safely reused and industrial wastewater recycled”* (note that it might not be necessary to include reuse levels for world regions with sufficient water availability).

- *Target 6.4:* The target requires increasing water-use efficiency and ensuring sustainable water withdrawals by 2030 in order to address water scarcity.

UNStats suggests measuring Target 6.4 by Indicators 6.4.1 (*“Water stress”*) and 6.4.2 (*“Water productivity”*). Instead of these two less well-defined indicators, GEMI proposes the *“Natural Water Capital Index (NWCi) / Sustainable Water Withdrawal Index (SWWI) (% change)”* and the *“Water Efficiency Index (% change)”*, respectively. The NWCi is the ratio of total water withdrawals and mean annual water availability less environmental water requirements at the scale of a river basin. The SWWI, which is reported by the UN Food and Agriculture Organization’s AQUASTAT database,

represents the national total withdrawals compared to sustainable supply, accounting for environmental water requirements. The Water Efficiency Index is composed of sector-based water-efficiency metrics comparing water withdrawn or consumed against sector-based values weighted for each sector's proportion of total water withdrawals.

- *Target 6.5:* This target calls for the implementation of IWRM within and between countries. IWRM has been defined as “*a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner, without compromising the sustainability of vital ecosystems*” (Global Water Partnership, 2000). As such, IWRM is a means rather than an end goal. Although it is not straightforward to operationalise its measurement, it can still be argued that it alludes to important governance aspects of WRM.

UNStats suggests measuring Target 6.5 by the indicators 6.5.1 (“*Status of IWRM Implementation*”) and 6.5.2 (“*Availability of operational arrangements for transboundary basin management*”). Building on experiences with the 2012 UN-Water Status Report on IWRM, GEMI proposes for Indicator 6.5.1 the development of an IWRM Implementation Index, taking the following indicators into account: (1) the enabling environment for IWRM (policy, strategic planning and legal framework), (2) the structure and performance of an institutional framework to support IWRM processes and (3) the degree to which management instruments are applied within these frameworks. Data are proposed to be collected in surveys as auto-evaluation tools from government agencies at the national level and river basin authorities. GEMI does not suggest a separate indicator for measuring transboundary cooperation; although this could be included in the national reporting, still it might seem worthwhile to include UNStats Indicator 6.5.2 in a monitoring framework to account for transboundary basins separately.

- *Target 6.6:* The target requires water-related ecosystems – including mountains, forests, wetlands, rivers, aquifers and lakes – to be protected and restored by 2020. As such, Target 6.6 differs in its target date from all other water targets – which hampers a unified monitoring framework. Furthermore, with its broad scope, it is certainly the least well-defined and operationalised target under Goal 6.

UNStats suggests Indicator 6.6.1 (“*Change in wetlands extent over time (% change over time)*”). This indicator builds on the methodology developed for the Living Planet Index and is also proposed by GEMI. Still, obviously, this indicator only accounts for one of the water-related ecosystems mentioned in Target 6.6. Consideration could be given to take up the operationalisation of the goal of “*good ecological status of water bodies*” of the EU Water Framework Directive.

Means of implementation

- *Target 6.a:* The target requires to “*expand international cooperation and capacity-building support to developing countries in water and sanitation related activities and programmes...*” This is certainly helpful for the realisation of Goal 6 but not particularly concrete.

- *Target 6.b:* The target requires to “*support and strengthen the participation of local communities for improving water and sanitation management*”. For this means of implementation, the same is true as for Target 6.a.

Conclusion

All in all, Goal 6 puts forward a comprehensive and very ambitious water agenda to be achieved by 2030. It is better developed and operationalised than many of the other goals in the final draft of the new 2030 Agenda. According to GEMI, the indicators and monitoring mechanisms proposed can be considered as technically feasible, and they allow for flexibility and for entering the monitoring process at different capacities and capabilities, and to “*gradually ascend the ‘monitoring ladder’*” (Global Expanded Water Monitoring Initiative, 2015). With the JMP and GLASS (UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water by WHO) in particular, the WaSH targets can draw on well-established monitoring mechanisms. In contrast, the existing water quality, wastewater and WRM monitoring frameworks are weak; the field is technically demanding and institutionally fragmented; and, in particular in many developing countries, good data bases are still missing and will need to be developed. Still, high hopes are being put into the combination of satellite and *in-situ* measurements supplemented by modelled data. Focus should be put on supporting developing countries in achieving this ambitious water agenda, including on improving data sets of key variables. The disaggregation of WaSH and wastewater indicators into urban-rural data may reveal important differences. It is commendable that GEMI has been established to develop a unified monitoring framework, which may also represent a chance for UN-Water to gain greater clout and visibility in the future.

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

Markus Loewe, Anna Pegels, Matthias Ruchser and Georgeta Vidican

General assessment

Goal 7 is about access to – and sustainable consumption and production of – energy. Its focus becomes clear even though there is some tension between the two aspects of the goal. Also, the targets formulated under the heading of Goal 7 are in principle reasonable and important. This importance, however, is due to the fact that the targets of Goal 7 are important means for the achievement of several of the other goals in the 2030 Agenda. Access to energy for all is an essential instrument for poverty reduction and socio-economic development overall. And the sustainable generation and use of energy is one of the main conditions for a reduction in climate change and the protection of natural resources.

Targets 7.1 through 7.3 represent well the goal's components, but their degrees of operationalisation and ambition vary. Target 7.1 mainly focusses on access to energy. It is clear and ambitious while remaining more or less realistic. Its monitoring will require meaningful indicators. Target 7.2 focusses on the share of renewable energy sources in national energy mixes, but it lacks a target value. Target 7.3 calls for an acceleration in improving energy efficiency, which is, however, probably not sufficiently ambitious enough to mitigate climate change; globally, the goal should be to reduce significantly the absolute level of emissions from the energy sector.

Operationalisation

Goal 7 includes three targets and two suggestions for means of implementation.

- *Target 7.1:* The target requires that all human beings should have reliable access to affordable and modern energy services by 2030. This target is ambitious but not unrealistic. However, in order to make the target more substantive, national implementation plans will have to specify when exactly access to energy services can be considered reliable as well as affordable. At the same time, it will be necessary to include some definitions of what is meant exactly by “reliable”, “affordable” and “modern”. For example, many countries consider nuclear power to be a modern, cost-effective and low-carbon form of energy, yet nuclear power does far worse than renewable energy sources in most life-cycle analyses with respect to environmental impacts and costs. Moreover, “affordable” and “cheap” are not the same thing; cheap energy leads to wasting energy. Instead of subsidising energy use, fossil-fuel subsidies should be reduced.

United Nations Statistical Commission (UNStats) has suggested measuring Target 7.1 using two indicators, which have both been included in the proposal that the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs) published on 11 August 2015 (Inter-Agency and Expert Group on Sustainable Development Goal Indicators [IAEG-SDGs], 2015, 49). The first indicator (7.1.1) is the percentage of the population with electricity access, whereas the second (7.1.2) is

the share of the population with primary reliance on non-solid fuels. The implicit assumption seems to be that both indicators are supposed to reach 100 per cent by 2030, but it would make sense to express this more explicitly. In addition, even the combination of both indicators covers only one part of Target 7.1, which requires access to energy also to be reliable and affordable. This shows how difficult it is to operationalise the very broad Target 7.1.

- *Target 7.2:* This target is to “*increase substantially the share of renewable energy in the global energy mix*” by 2030. It is thus still vague; to make it operational, countries will have to specify the term “substantially” themselves – and opt for technologies with low environmental impacts / costs – at the national level.

UNStats has proposed two indicators for measuring progress towards this target as well. However, the IAEG-SDGs has taken up only the first of them, Indicator 7.2.1, which is the renewable energy share in the total amount of energy consumption (IAEG-SDGs, 2015, 49). It is a clear and measurable indicator but still requires a target value to make it operational for monitoring. The other indicator that UNStats has proposed – but which was not taken up in the proposed list of indicators published by the IAEG-SDGs in August 2015 – is the existence of an enabling legislation and framework for renewable energy production by 2020 (IAEG-SDGs, 2015, 50). Indicator 7.2.2 in the UNStats list is not an indicator by any narrow understanding of what constitutes an indicator: it is neither measurable nor easy to monitor nor sufficiently specified. Rather, it is a means of implementation. But it would still make sense to have this requirement in the 2030 Agenda in order to remind governments that the global transition towards low-carbon energy sources requires legal and financial incentives for private households and enterprises to invest into renewable energies, and that incentives need to be designed in a way that will not significantly harm the environment and areas of high biodiversity value. Monitoring this indicator, however, will be challenging, as it cannot refer to quantifiable data.

- *Target 7.3:* The target is to “*double the global rate of improvement in energy efficiency*” by 2030. More than anything else, it is a means for the implementation of Goals 12 (sustainable consumption and production), 13 (combat climate change) and 15 (sustainable use of terrestrial systems). In addition, given that the current rate of improvement in energy efficiency is rather low, the target is not at all ambitious. It allows the global consumption of energy to increase further in absolute terms, as long as, for example, the global value added increases at a substantially higher rate. However, planetary boundaries require that the global consumption of non-renewable energy sources declines in absolute terms. Finally, the target does not differentiate between countries with different levels of national income.

UNStats has proposed another two indicators for measuring progress towards the target, but the IAEG-SDGs only took up the first one, Indicator 7.3.1, in its proposal from August 2015. It is the “*rate of improvement in energy intensity (%) measured in terms of primary energy and GDP*”. The indicator is very useful, in that it measures exactly what the target calls for: the energy efficiency of economic production. Nevertheless, it may lead to misinterpretations. It could indicate a positive development even though energy consumption increases substantially – as long as gross domestic

product grows even faster! Therefore, it would have been desirable to add an indicator for monitoring absolute changes in the consumption of non-renewable energy sources.

The other indicator that UNStats suggested in March 2015 is a composite index measuring improvements in energy efficiency to be generated from sub-indicators for transport energy efficiency, industrial energy efficiency, power generation energy efficiency, buildings' energy efficiency and agricultural energy efficiency (United Nations Statistical Commission [UNStats], 2015; Indicator 7.3.2). Apparently, the idea of UNStats was to calculate Indicator 7.3.2 in a disaggregated fashion for different sectors of the economy. Hence, such an index would suffer from the same weaknesses as Target 7.3.1 but would have the advantage of signalling in which areas energy efficiency is improving and where it is not. However, the indicator was not entered into the list of indicators published by the IAEG-SDGs in August 2015.

Means of implementation

- *Target 7.a:* The target calls for enhanced international cooperation in the facilitation of access to clean-energy research and technology, as well as in the promotion of investment in energy infrastructure and clean-energy technology. The target is vague and lengthy: it has manifold aspects and is therefore very difficult to monitor.

UNStats has suggested two indicators to monitor this means of implementation, but the IAEG-SDGs has taken over only the first of them (IAEG-SDGs, 2015, 50). This indicator, 7.a.1, is the “*improvement in the net carbon intensity of the energy sector (GHG/TFC in CO₂ equivalents)*”. It is certainly a very accurate indicator for showing the progress made towards the decarbonisation of economies, and hence worth measuring – even if it does not represent well Target 7.a. At the same time, the indicator entails several challenges with respect to definitions and means of measurement. Target 7.a.2 from the UNStats proposal is the amount of foreign direct investment and financial transfers for the purposes of Target 7.a. It was probably offered by the IAEG-SDGs because the data needed for measuring it are not readily available.

- *Target 7.b:* This target is formulated as follows: “*by 2030 expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, particularly LDCs and SIDS*”. A reference to the reduction of fossil-fuel subsidies worldwide to zero by e.g. 2030 would have been helpful in this context.

UNStats has once again suggested two indicators for measuring this means of implementation. Indicator 7.b.1 in the UNStats proposal is the “*rate of improvement in energy productivity (the amount of economic output achieved for a given amount of energy consumption)*”. Hence, it measures exactly the same as Indicator 7.3.1. Nevertheless, the IAEG-SDGs has taken it up but reformulated it as the “*ratio of value added to net domestic energy use*” (IAEG-SDGs, 2015, 51). The other indicator suggested by UNStats was not entered into the list that the IAEG-SDGs compiled in August 2015. This indicator, 7.b.2, is the “*percentage of international cooperation projects being implemented to facilitate access to clean energy*” – which is an input rather than an output variable.

Conclusion

Goal 7 contains issues that are important because they support the implementation of Goal 8 (access to energy as a means to promote growth and employment) and Goals 12 and 13 (a reduction in non-renewable energy consumption as a means for more sustainable consumption and production and climate stability). For practical and political considerations, the goal has been established as a stand-alone goal. More specific target values would have been desirable, as well as more ambitious formulations in the goal with regard to reductions in energy consumption.

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

Markus Loewe, Tilman Altenburg and Anna Pegels

General assessment

Goal 8 looks at two variables: growth and employment. Both are qualified in the goal description. It could be argued that there is no need to have the two target variables of growth and employment in the 2030 Agenda because both are instruments rather than elements of well-being. However, there is a good argument that such an agenda with a universal ambition should not only look at the well-being of the very poor; economic growth, which is usually measured by the annual change in gross domestic product (GDP), can also be seen as a proxy indicator of changes in the well-being of the non-poor. It is, arguably, a very crude proxy indicator that reflects changes in the material well-being of average citizens. But it contrasts sharply with the extensive efforts that researchers and practitioners make in measuring the well-being of the poorest in multidimensional terms that extend beyond income. So far, no other indicator has been established for measuring the well-being of average citizens in a multidimensional fashion. In addition, data for economic growth rates can be easily accessed for almost every country in the world. Having employment on the agenda also makes sense because it is a central component contributing towards the well-being of people. Both target variables have to be understood in the context of other goals on the 2030 Agenda. Therefore, it makes sense to call for economic growth to be sustained, inclusive and sustainable, and for employment to be decent and productive. For example, economic growth should not come at the expense of environmental protection, and it is also not desirable to create new employment that is unsafe for workers or not productive.

Yet, the operationalisation of Goal 8 is problematic for two reasons. First, its level of ambition varies significantly across the different subordinate targets. Some targets are quite unrealistic, such as Target 8.5 (“*full and productive employment and decent work for all*”). In these cases, it would be better to allow for nationally differentiated targets, as discussed in the comments to Goal 3 on health. Other targets under Goal 8, however, are clearly under-ambitious – in particular those that aim at a decoupling of economic growth from natural resource use and harmful emissions. Second, the indicators suggested by UNStats for measuring Goal 8 cover only *economic growth* as such but not its sustainability and inclusiveness, as stipulated by the title of the goal (“*Promote sustained, inclusive and sustainable economic growth...*”), and it only mentions employment, instead of *productive* employment, as stated in the goal’s title. Thus, Goal 8 implicitly advocates an outdated, unsustainable growth agenda. Countries should instead continue exploring better alternatives to measure human development in its multiple dimensions as well as continue developing indicators for welfare that go beyond purely monetary indicators.

Operationalisation

Goal 8 includes ten targets and two suggestions for means of implementation. Targets 8.1 through 8.4 address different aspects of economic development. Targets 8.5 through 8.8 address the generation of productive employment and decent work for all. Target 8.9 calls for the promotion of tourism, and Target 8.10 calls for the promotion of financial services.

These targets do not reproduce all aspects included in the title of Goal 8. They mirror “*economic growth, full and productive employment and decent work for all*” but not the fact that Goal 8 requires economic growth to be “*sustained, inclusive and sustainable*”. The indicator report published by the Sustainable Development Solutions Network (SDSN, 2015) makes an effort to cure this weakness. It suggests complementing GDP growth by using two additional indicators to control – at least to some degree – for sustainable and inclusive economic growth. The first indicator is if a “*country implements and reports on System of Environmental-Economic Accounting (SEEA) accounts*” (Indicator 55 in the final SDSN report from May 2015); the second indicator (Indicator 57 in the final SDSN report) is the “*ratification and implementation of fundamental ILO labor standards and compliance in law and practice*” (SDSN, 2015, 34). Both measure only inputs, which is, however, still better than having no indicator at all to complement GDP growth, and the SEEA and International Labour Organisation (ILO) Core Conventions are probably among the best available monitoring systems for the purposes of Goal 8.

However, although the latter was adopted by UNStats as an indicator for Target 8.8, the former is no longer used for Goal 8 and is instead used for the monitoring of Goal 15. As a consequence, although an input indicator is included to measure the inclusiveness of economic growth, no indicator is included to control for its environmental sustainability.

- *Target 8.1*: The target is to “*sustain per capita economic growth in accordance with national circumstances, and in particular at least 7% per annum GDP growth in the least-developed countries*”.

UNStats proposes measuring growth using two indicators: GDP per capita in purchasing power parities and an Inclusive Wealth Index (UNStats, 2015). However, the IAEG-SDGs abandoned the second (IAEG-SDGs, 2015, 51) – only the first (Indicator 8.1.1) made it into the IAEG-SDGs list. It is easy to measure and compare but it covers only those sectors of economic activity captured by GDP and excludes many other dimensions of human activity and well-being. Therefore, it is very positive that UNStats has added a second indicator (Indicator 8.1.2), which is meant to record growth as a much broader phenomenon. This second indicator is, however, not yet well-developed, almost unknown and likely to be difficult to measure because the data needed for computing values for its different dimensions are not readily available. Thus, the SDSN has rated the indicator in its report as being difficult to use, not perfectly suitable to measure Target 8.1 and only somewhat relevant – which may be the reason why the IAEG-SDGs suggested not to use it.

- *Target 8.2*: This target is to increase economic productivity. Even a strategy to achieve the target is outlined in very rough terms (“*through diversification, technological upgrading and innovation*”). But there is no definition of productivity in the target itself, no timeline and no target value. In addition, regarding innovation, it overlaps with Target 9.5.

This weakness is partly rectified by the two indicators suggested by UNStats for measuring Target 8.2. Indicator 8.2.1 (“*growth rate of GDP per employed person*”) provides a concrete definition of the target but cannot remedy the lack of a target value and timeline in the target itself. In addition, it is unclear whether negotiators had this definition of productivity in mind. Indicator 8.2.2 is “*export diversification in terms of*

products and markets” and measures one of the means of implementation mentioned in Target 8.2 itself (“*through diversification...*”) but not the other ones (“... *technological upgrading and innovation, including through a focus on high-value-added and labour-intensive sectors*”). In addition, the IAEG-SDGs has decided to follow on with the first indicator only (IAEG-SDGs, 2015, 51–52).

- *Target 8.3*: This target requires the promotion of “*development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services*”. The problem here is that the target is formulated rather as a means of implementation. In addition, it includes an array of issues that are not necessarily interrelated and would all require specific indicators for monitoring.

UNStats has proposed two indicators for the target: Indicator 8.3.1 (“*job openings rate (openings as % of employment and openings) and total separations (separations as % of employment) in non-farm establishments*”) and Indicator 8.3.2 (“*% of MSMEs with a loan or line of credit*”). They are, however, very rough proxies for progress made towards Target 8.3 and also only for some of its aspects. In addition, it is difficult to collect the data needed for monitoring these indicators. Therefore, the IAEG-SDGs has replaced both indicators with a third one, which the ILO suggested as an alternative: the “*share of informal employment in non-agriculture employment by sex*” (IAEG-SDGs, 2015, 52). After all, it is probably not the worst proxy for Target 8.3, and the necessary data are available.

- *Target 8.4*: This target focusses on decoupling economic growth from environmental degradation through improved resource efficiency in consumption and production (*nota bene*: “*with developed countries taking the lead*”). Apparently, the target is meant to specify the qualification “sustainable” of the desired growth, but it is much too vague for this purpose. It does not include any target value or concrete timeline (it just says “through 2030”) and does not specify whether the decoupling is to be in relative or absolute terms. For economic growth to be environmentally sustainable, it would need to be absolutely decoupled from resource use, so that resource use decreases in absolute terms, not just in relation to economic growth.

UNStats has stipulated the target to be measured using two indicators: one for “*national material efficiency (production and consumption approaches)*” (Indicator 8.4.1) and the other for “*sectoral material efficiency*” (Indicator 8.4.2). However, UNStats has not offered any proposal as to how these indicators should look or how they might be generated, which shows that the controversies and knowledge gaps behind these objectives remain considerable. Therefore, the IAEG-SDGs gave up both indicators and put a third one – “*resource productivity*” – into its list from August 2015 (IAEG-SDGs, 2015, 52). However, the IAEG-SDGs has not offered any definition or explanation for the indicator nor any suggestion for its measurement.

Although Target 8.4 overlaps heavily with Goal 12, it has its merits, as it can also be understood as a control variable ensuring that economic growth (which is the focus of Target 8.1) is not achieved at the expense of the environment.

- *Target 8.5*: This target is to achieve by 2030 “*full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value*”. Thus, it repeats the second part of Goal 8, unfortunately without any further concretisation or explanation.

UNStats has suggested two indicators for the target: “*employment to working-age population (15 years and above) ratio by gender and age group, and people with disabilities*” (Indicator 8.5.1) and “*unemployment rate by gender and age-group*” (Indicator 8.5.2). However, only the second one was entered into the IAEG-SDGs list in August 2015, whereas the first has been replaced – apparently due to a suggestion made by the ILO – by another indicator: “*average hourly earnings of female and male employees by occupations (wages/gender wage gap)*”. All three indicators are, however, just rough proxies for measuring progress towards Target 8.5 – in particular in the context of developing countries. First, they cover only the first part of the target, thereby neglecting the other two parts on “*decent work for all women and men*” and “*equal pay for work of equal value*”. Second, they do not control for the stipulation of Target 8.5 that “*full and productive employment*” should be achieved “*including for young people and persons with disabilities*”.

- *Target 8.6*: This target is to substantially reduce the proportion of youth not in employment, education or training by 2020. The target’s focus is undoubtedly relevant, and the target was already part of the Millennium Development Goals.

UNStats has suggested two indicators for the goal: Indicator 8.6.1 (“*percentage of youth (15-24) not in education, employment or training (NEET)*”) and Indicator 8.6.2 (“*youth (15-24) unemployment rate*”). However, only the first was entered into the IAEG-SDGs compilation of August 2015 (IAEG-SDGs, 2015, 53). In any case, both indicators are comparatively easy to assess and offer a good picture of progress towards Target 8.6. But they need a concrete target value instead of just a call for a “substantial” reduction of youth not in employment, education or training.

- *Target 8.7*: This target calls for “*immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms*”.

It takes up three ILO Core Conventions and is therefore most relevant and welcome. The ILO Conventions are very clear in their definitions and offer starting points for operationalisation.

Again, UNStats has suggested two indicators for measuring progress towards the target: “*percentage and number of children aged 5-17 years engaged in child labour, per sex and age group (disaggregated by the worst forms of child labour)*” and “*number of people in forced labour*”. And again, only the first indicator was placed in the list compiled by the IAEG-SDGs in August 2015 (IAEG-SDGs, 2015, 54). Both indicators together would cover large parts of Target 8.7, but it is probably not easy to generate accurate numbers for them for all countries. If, on the other hand, the second indicator were really to be excluded at the end, this would mean that only one aspect of Target 8.7 will effectively be measured.

- *Target 8.8* calls for the protection of labour rights and the promotion of safety and security at the workplace. The target is undoubtedly relevant but has a very broad scope. In addition, it is almost impossible to operationalise the target with all its dimensions: depending on how the term “labour rights” is defined and what contractual basis is used to define the different labour rights, there could be hundreds of them. In addition, it is almost impossible to monitor in all countries how well labour rights are being respected. It would thus make sense to focus on just a few highly representative and important labour rights. But in that case, the focus of Target 8.8 would come very close to the four dimensions of decent work, and these are already covered by Target 8.5 (see above).

UNStats has suggested using the “*ratification and implementation of ILO fundamental conventions and relevant international labour and human rights standards*” (Indicator 8.8.1) as an indicator for the target. It is a mere input indicator but probably the only realistic one because it would be impossible to generate information on, say, the number of people in different countries who suffer from deficits in terms of their labour rights or the safety and security at their workplaces. Unfortunately, the IAEG-SDGs replaced this indicator with the “*number of ILO conventions ratified by type of convention*” in its proposal from August 2015 (IAEG-SDGs, 2015, 54). In contrast to the original suggestion, the new indicator is easily measurable, but it hides large aspects of reality: many countries have ratified but not implemented ILO Conventions. In addition, many ILO Conventions are somewhat outdated today or have been replaced by newer ones. Therefore, it would make sense to focus just on the Core Conventions while also considering their implementation.

The other indicator suggested by UNStats found its way to the IAEG-SDGs compilation in August 2015 without any changes. It is the “*frequency rates of fatal and non-fatal occupational injuries and time lost due to occupational injuries by gender*” (Indicator 8.8.2). It is probably not an easy task to compute reliable values of the indicator for all countries world-wide. But it is still worth a try to start at least with some countries and extend coverage later. Both indicators, however, suffer from the weakness of the target, which neither stipulates a target value nor a timeline.

- *Target 8.9*: This target calls for the promotion of sustainable tourism.

UNStats has suggested two indicators for the target: “*tourism direct GDP*” (Indicator 8.9.1) and “*tourism consumption*” (Indicator 8.9.2). It is a bit unclear what the exact difference between these two indicators would be and why they are both needed; nevertheless, only the first was entered into the list compiled by the IAEG-SDGs in August 2015 (IAEG-SDGs, 2015, 55). In addition, both indicators suggested by UNStats lack timelines and target values. But their main weakness is that they measure only the monetary contribution of tourism towards economic activity, thereby neglecting that – according to Target 8.9 – tourism is meant to be sustainable, job-intensive and beneficial for local culture and products.

- *Target 8.10*: This target calls for the promotion of financial services. It lacks any kind of specification and focusses exclusively on one economic sector. In the case of financial services, there could be an argument for such a focus, because financial services are in fact a key prerequisite for private-sector development, and hence for

economic growth. But even if this is taken into consideration, the target would have been more useful if it had been formulated as a means of implementation (Target 8.c).

UNStats has suggested two indicators for the target: “*getting credit: distance to frontier*” (Indicator 8.10.1) and “*number of commercial bank branches and ATMs per 100,000 adults*” (Indicator 8.10.2). Both were entered into the IAEG-SDGs list in August 2015, but the first was reformulated to make it more precise: it is now the “*% adults with a formal account or personally using a mobile money service in the past 12 months*”, and it is meant to be measured separately for different income groups (e.g. for ‘bottom 40 per cent of income share’ or ‘< US\$ 1.25/day’), by gender, age groups (e.g. ‘young adults’) and the rural / urban divide (IAEG-SDGs, 2015, 55). Without any doubt, the new formulation makes much more sense than the old one. At the same time, the second indicator is not very relevant for Target 8.10: many countries have a very dense net of ATMs, but still, micro and small entrepreneurs have hardly any access to credit. Admittedly, it is difficult to measure the readiness and ability of banks to extend credit to private enterprises – especially because sometimes their lack of finance is due to demand rather than supply-side factors: e.g. the lack of know-how of entrepreneurs about different forms of financing, their inability to write a proper business plan or their reluctance to accept paying a fixed interest rate on a loan. But the two indicators suggested for Target 8.10 by UNStats are not representative of the challenges in many countries as regards providing financial services to entrepreneurs.

Means of implementation

- *Target 8.a:* This target requires Aid for Trade for developing countries. It does not define a target value or a timeline. It is debatable whether this target is best positioned under the heading of Goal 8; but it makes sense in any case to have the target as part of the 2030 Agenda.

UNStats has suggested the “*evolution in aid for trade commitments and disbursements*” (Indicator 8.a.1) as a single indicator for Target 8.a – which makes sense. The indicator has been listed by the IAEG-SDGs (IAEG-SDGs, 2015, 56).

- *Target 8.b:* This target calls for the development and implementation of a global strategy for youth employment. However, the question is: How much can a global strategy reduce youth unemployment? The causes of high youth unemployment are quite diverse and differ from one country to another. It is thus very difficult to formulate a strategy at the international level that is able to tackle the manifold country-specific challenges and lead to the creation of employment for young people.

UNStats has suggested “*total government spending in social protection and employment programmes as percentage of the national budgets and GDP*” (Indicator 8.b.1) as an indicator for Target 8.b. The indicator is certainly interesting and gives a good picture of the development-orientation of governments, but it does not really focus on youth employment, which is the core of Target 8.b. Still, it was put on the IAEG-SDGs list in August 2015 (IAEG-SDGs, 2015, 56).

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

Conclusion

Goal 8 is a difficult goal, as it is vague and therefore under-ambitious. Most of its targets are formulated in a manner that makes it difficult to operationalise in a meaningful and manageable way.

In the medium term, per capita income growth and employment as indicators of socio-economic progress should be replaced with new indicators and indices that measure the average progress of people across the multiple dimensions of their socio-economic well-being in their multidimensional socio-economic well-being. The Correlation Sensitive Poverty Index mentioned in the chapter on Goal 1 could be a good starting point for this purpose. It can be constructed in a way that allows the index to measure the mean of well-being of people in different countries in terms of their achievements / capabilities in different relevant dimensions. The advantage of the index is that it can capture different aspects of well-being and still account for inequalities.

The indicators suggested by the IAEG-SDGs could be complemented by additional ones that are able to control for the inclusiveness and sustainability of growth. We suggest the use of three reporting systems for this purpose:

- The System of Environmental-Economic Accounting 2012 Central Framework is a good instrument to control for the sustainability of social and economic policies.
- Reporting on the ratification and implementation of the eight ILO Core Conventions (now Indicator 8.8.1) can be a good instrument to control for the quality of employment generation. These eight Core Conventions include No. 29 (ban of forced labour), No. 87 (freedom of association), No. 98 (collective bargaining), No. 100 (equal remuneration), No. 105 (abolition of forced labour), No. 111 (prohibition of discrimination in employment and occupation), No. 138 (limitation of child labour) and No. 182 (elimination of the worst forms of child labour).
- Finally, reporting on the four dimensions of decent work could be used to control for both the inclusiveness of economic growth and the quality of employment generation.

Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

Nicole Rippin, Tilman Altenburg and Anna Pegels

General assessment

Goal 9 includes three different objectives that do not necessarily belong together: building resilient infrastructure, promoting inclusive and sustainable industrialisation, and fostering innovation. As a consequence, the five targets that are to capture the goal are very broad, as they are in fact goals themselves rather than targets. In light of their wide-ranging requirements, the indicators currently being considered by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) can only capture very limited parts of the respective targets. In addition, the goal suffers from the same challenge as most of the SDGs – the fact that no definition is provided for concepts such as “quality”, “sustainable”, “resilient”, “inclusive” and “affordable”, among others. Thus, the concepts are obscured in the course of the operationalisation, with indicators requiring investments in infrastructure and innovation without further specifications. Such investments are obviously worth securing for every country, but without further specifications, the added value of these requirements remains unclear. The most serious problem, however, is the goal’s requirement to promote industrialisation and the requirement of the corresponding Target 9.2 to significantly raise industry’s share of employment and gross domestic product (GDP). These requirements are inconsistent with the principle of structural change, and it is already foreseeable that this aspect of Goal 9 is not applicable to already industrialised countries. The existence of Goal 9 therefore reflects the fact that it is rather important for quite a number of developing countries that pushed hard for its inclusion in the 2030 Agenda.

Operationalisation

The goal includes five targets and three suggestions for means of implementation. All the targets are very broad and, as a consequence, can only be partially covered by indicators – no matter what indicators will be introduced by the IAEG-SDGs in March 2016.

- *Target 9.1:* The target requires to “develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all”. However, there are no definitions for the concepts “quality”, “reliable”, “sustainable” and “resilient”, which would provide helpful guidance for the operationalisation of the target. Also, the target does not mention what kind of infrastructure it is referring to. Target 9.1 is formulated as if it were a goal in itself rather than a target.

Consequently, the two indicators currently being considered by the IAEG-SDGs, i.e. “Share of the rural population who live within 2km of an all season road” and “Passenger and freight volumes” seem rather arbitrary. Aspects such as “reliable”, “sustainable” or “resilient” are not captured and both indicators, taken together, can only cover a very small segment of what people normally mean when they talk about infrastructure in general: for instance, shipping, power grids, outreach of broadcasting stations, etc. are not captured.

- *Target 9.2:* The target requires to “*promote inclusive and sustainable industrialization and, by 2030, significantly raise industry’s share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries*”. Its first part is not operationalised at all, and thus it is difficult to track, whereas the second part is not clear about whether the target actually refers to industry, which would also comprise the energy and building sectors, or to manufacturing.

The IAEG-SDGs so far has interpreted the goal in the latter narrow way, focussing solely on manufacturing by considering the indicators “*Manufacturing Value Added (share in GDP, per capita, % growth)*” and “*Manufacturing employment, in percent to total employment*”. But even apart from the wording problems, the target is highly problematic. It is based on the implicit assumption that manufacturing or industrialisation is good for development. But this assumption is only true for low-income countries whose industrial share is very limited, i.e. the countries that strongly supported the inclusion of Goal 9 in the 2030 Agenda. It ignores the principle of structural change that describes how industry’s share of employment and GDP increases until a middle-income status is achieved, and decreases afterwards in the course of the tertiarisation of the economy.

- *Target 9.3:* The target requires to “*increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets*”. The target is reasonable; however, several of the terms need to be more specific: “small-scale enterprises”, “financial services”, etc.

The IAEG-SDGs is currently considering the indicator “*Percentage share of (M) small scale industries’ value added in total industry value added*” in order to capture the target. Apart from the fact that the term (M)SMEs is lacking a clearer definition, the indicator focusses only on the second part of the target, i.e. the integration of (M)SMEs into value chains. It does not capture the access of (M)SMEs to financial services. We suggest considering an additional indicator that captures at least (M)SMEs’ access to “affordable credit”, ideally with clear specifications of what is affordable – similar to Target 10.c, which requires the elimination of remittance corridors with costs higher than 5 per cent.

- *Target 9.4:* The target requires by 2030 to “*upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities*”. The requirement to “upgrade infrastructure and retrofit industries” in order to make them sustainable is both very ambitious and much needed, as it implies a decoupling of economic growth from natural resource use and greenhouse gas emissions.

In order to operationalise this target, the IAEG-SDGs is currently considering the indicator “*Carbon emission per unit of value added*”. This is an interesting indicator for capturing resource-use efficiency, if only partially. It could be worthwhile considering to not only capture carbon emissions but also to use the opportunity to focus on other overexploited natural resources, at least on greenhouse gas emissions in general. We also suggest following the proposal of the Sustainable Development Solutions Network (SDSN, 2015) to differentiate between production and demand-based emissions as a way to address the critical question of who should be responsible for emissions – the

country that produces a good or the country that consumes it. The relocation of production from Organisation for Economic Co-operation and Development (OECD) countries to Asia constitutes a major issue in this regard. It makes a huge difference whether Asian (non-OECD) countries or OECD countries are held accountable for the emissions produced during production. From a political perspective, it is impossible to claim that Asian (non-OECD) countries are responsible for all emissions that were produced for manufacturing goods for OECD countries. The SDSN suggestion – that countries ought to report their emissions using both production- and demand-based measures – might solve the problem if it is coupled with the requirement to reduce both production- and demand-based emissions.

- *Target 9.5*: The target requires to “*enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending*”. Unfortunately, the requirement to increase the number of research and development (R&D) workers disregards the fact that R&D is not an end in itself. To increase the number of researchers and artificially inflate research institutions, regardless of the respective output, is little more than an expensive venture. A better formulation could have been “to increase the number of workers technically educated and trained on the vocational and higher education level”. Though good indicators for research output have yet to be developed, established indicators are patents, publications, spending for R&D and the number of graduates from technical universities / faculties and from technical and vocational training.

The IAEG-SDGs is currently considering using the established indicator “*R&D expenditure as percentage of GDP*” in order to capture Target 9.5. An alternative might be to use the International Standard Industrial Classification of all economic activities system, which classifies manufacturing industries into four categories based on their R&D intensities. This would make the monitoring much easier.

Means of implementation

- *Target 9.a*: The target requires “*to facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, LDCs, LLDCs and SIDS*”. Though it is important to ensure that – despite the universality of the SDGs – poor countries are not left alone with their limited resources to deal with the crucial problems they face, it is unclear why the target first mentions developing countries as a whole and then focusses solely on the poorest countries and on African countries, regardless of their development status. The requirement to support the development of sustainable infrastructure in particular relates to the special role that developed countries should play in fostering new, sustainable technologies in order to facilitate the leapfrogging of developing countries. This special role of developed countries should, however, not be interpreted in the sense that sustainable solutions are developed in the OECD world and then “sold” to developing countries.
- *Target 9.b*: The target requires to “*support domestic technology development, research and innovation in developing countries including by ensuring a conducive policy environment for inter alia industrial diversification and value addition to commodities*”.

It is unclear why the target focusses on developing countries only. The SDGs are supposed to be universal, meaning that developed countries should also have the task of supporting domestic technology development, research and innovation, in particular with regards to green technology. Also, a reference to the important role of international Science, Technology and Innovation cooperation for R&D is missing.

- *Target 9.c*: The target requires to “*significantly increase access to ICT and strive to provide universal and affordable access to internet in LDCs by 2020*”. This requirement is a sub-target of Target 9.1 rather than a means of implementation.

Conclusion

The goal captures three different areas – infrastructure, industrialisation and innovation – that do not necessarily belong together. Furthermore, the request to promote industrialisation does not make sense for a universal goal, as it goes against the principle of structural change and is inapplicable to the majority of middle- and high-income countries. A formulation such as “Build resilient infrastructure, promote inclusive and sustainable structural change and foster innovation” could have been an alternative. A new Target 9.2, “promote structural change in a way that fosters sustainable productivity increase” or something similar, could also have been interesting.

Since five targets have to essentially capture three different goals, the scope of the respective targets is rather broad. Consequently, the indicators considered by the IAEG-SDGs can only cover very limited parts of the respective targets. We recommend ensuring that the suggested indicators capture the core issues of the targets, in particular the sustainability and inclusiveness aspects of the targets, as countries will pursue investments in infrastructure and innovation anyway, i.e. also without being monitored. In the same line of argumentation, it would have been helpful if further specifications had been given for Target 9.3. Every (M)SME has access to a user; the value added by this central part of the target depends on the definition of the term “affordable credit”. Here, Target 10.c could have served as a role model that requires the elimination of remittance corridors with costs higher than 5 per cent.

Finally, from a conceptual point of view, the means of implementation could have been improved. Target 9.c is in fact a sub-target of Target 9.1. Targets 9.a and 9.b would have needed to ensure that they apply to developed countries as well, reflecting the universal character of the SDGs. In particular, they would have needed to reflect the importance of investments by developed countries in new, green technologies that allow developing countries to “*leapfrog straight to new, more sustainable and more efficient consumption and production*”, as it is formulated in the second transformative shift in the report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda.

Goal 10: Reduce inequality within and among countries

Nicole Rippin, Niels Keijzer, Markus Loewe and Benjamin Schraven

General assessment

Goal 10 is about reducing inequality within and among countries. This goal was not part of the Millennium Development Goals and many fought for its inclusion in the 2030 Agenda against a lot of resistance. The unpopularity of targets on fighting inequality all over the world has been vividly described in a recent book by Branko Milanovich, visiting professor at New York City University and former World Bank lead economist: *“I was once told by the head of a prestigious think tank in Washington, D.C., that the think tank’s board was very unlikely to fund any work that had income or wealth inequality in its title. Yes, they would finance anything to do with poverty alleviation, but inequality was an altogether different matter.”* *“Why?”* Milanovic asked. *“Because ‘my’ concern with the poverty of some people actually projects me in a very nice, warm glow.... Charity is a good thing; a lot of egos are boosted by it and many ethical points earned even when only tiny amounts are given to the poor. But inequality is different: Every mention of it raises in fact the issue of the appropriateness or legitimacy of my income”* (Milanovic, 2010, 82).

Against this background, the inclusion of a goal on inequality in the 2030 Agenda is already a remarkable achievement; even more so when considering the fact that formulating a global goal and targets on inequality is connected with serious difficulties. The report of the High Level Panel (HLP) gets right to the crux of the matter by stating: *“History also shows that countries tend to have cycles in their income inequality as conventionally measured; and countries differ widely both in their view of what levels of income inequality are acceptable and in the strategies they adopt to reduce it”* (HLP, 2013, 16). It is against this background that the targets of Goal 10 need to be evaluated. Though it is disappointing that only one out of seven targets stipulates a clear bar that can be used to measure performance, the vagueness of most of the targets reflects the difficulties of the negotiation process and has to be accepted for the sake of having a goal on inequality at all.

The main focus of Goal 10 is on income distribution and political and judicial inequity. Target 10.2 seems to be an effort to ensure that inequality in the distribution of achievements made towards other aspects of human development besides income is taken into account. Especially with regard to inequalities, it is essential to take up the suggestion of the UN Secretary-General’s synthesis report (United Nations Secretary-General [UNSG], 2014) that each target should only be considered achieved if it is met for all relevant income and social groups.

Operationalisation

The goal includes seven targets and three suggestions for means of implementation. All targets are vague except for Target 10.1, which is precise but, unfortunately, rather unambitious.

- *Target 10.1:* The target requires by 2030 to *“progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national*

average". This is a precise, measurable target; however, it is rather unambitious. It stipulates that an above-average rate of income growth of the bottom 40 per cent only needs to be achieved by 2030. In practice, this would mean that income inequalities may continue to increase over the next 15 years – in fact until the 2030 Agenda itself expires. This is not aspirational. Why not stipulate income growth of the bottom 40 per cent at a rate higher than the national average by 2020 at the latest? This would be an important option for the national plans of countries that want to achieve pioneering roles in the implementation of the 2030 Agenda.

The IAEG-SDGs is currently considering the indicator "*Growth rates of household expenditure or income per capita among the bottom 40 percent of the population and the total population*" in order to measure Target 10.1. This indicator captures precisely the requirement of the target. Nevertheless, we recommend measuring Target 10.1 with either the Gini coefficient or the Palma ratio. Both are important and well-suited indicators for measuring progress towards Target 10.1, and also towards one of the key elements of the overall goal (i.e. the reduction of income inequality). In fact, they even go further than the target itself: whereas Target 10.1 merely focusses on above-average growth for the bottom 40 per cent of the population, indicators such as the Palma ratio focus on the ratio of the income share of the top 10 per cent to that of the bottom 40 per cent. Yet, it has to be kept in mind that the information that current income and consumption surveys provide with regard to the tails of the income distribution is very bad, in particular for the top incomes. Thus, the utilisation of indicators that use quintile information has to go hand in hand with an improvement in surveys in order to prevent these indicators from introducing more noise than information.

- *Target 10.2*: The target requires by 2030 to "*empower and promote the social, economic and political inclusion of all irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status*". The target seems to be an effort to ensure a fair distribution of progress towards all targets of the 2030 Agenda and goes hand in hand with the suggestion of the UN Secretary-General's synthesis report (UNSG, 2014) to only consider a target achieved if it is met for all relevant income and social groups.

The difficulty to operationalise Target 10.2 is reflected in the current considerations of the IAEG-SDGs for an adequate indicator to capture the target. The indicator currently being suggested, the "*Proportion of people living below 50% of median income disaggregated by age and sex*", is a well-known indicator for measuring relative income poverty that could be used for Target 10.1 rather than for Target 10.2. However, one way to capture the basic idea of Target 10.2 is the disaggregation of all SDG targets (where appropriate), as suggested in the outcome document and envisaged throughout the IAEG-SDGs report.

- *Target 10.3*: The target requires to "*ensure equal opportunity and reduce inequalities of outcome, including through eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and actions in this regard*". The main part of the goal is highly welcome, but at the same time it is rather broad and vague, which makes it difficult to operationalise, whereas the second part is a means of implementation rather than a target.

The indicator currently being considered by the IAEG-SDGs is the “*Percentage of population reporting having personally felt discriminated against or harassed within the last 12 months on the basis of a ground of discrimination prohibited under international human rights law*”. This is a rather interesting indicator, though it will be difficult and costly to implement. A respective module would have to be developed and integrated in national household surveys; since this topic is rather sensitive, under-reporting is a problem very likely to occur.

- *Target 10.4*: The target requires to “*adopt policies especially fiscal, wage, and social protection policies and progressively achieve greater equality*”. The target is more imprecise and vague than the preceding ones because the phrase “adopt policies” does not even indicate a direction for change.

The indicator currently being suggested by the IAEG-SDGs is the “*Labour share of GDP, comprising wages and social protection transfers*”, a rather unconvincing indicator to measure progress towards Target 10.4. We recommend to at least consider one of the indicators previously suggested by the United Nations Statistical Commission (UNStats): the “*Progressivity of tax and social expenditures e.g. Proportion of tax contributions from bottom 40%, Proportion of social spending going to bottom 40%*”. Though it will be difficult to get the relevant information to calculate this indicator – it has been ranked by UNStats as “C”, i.e. not feasible for at least 40 per cent of national statistical offices – this is a very interesting and important indicator for redistribution. Given its importance, this might be a good opportunity to highlight again the need for a “data revolution” (HLP, 2013, 23): even if there is currently no sufficient information on this indicator, the 2030 Agenda provides an excellent opportunity to fill the data gaps – in particular in light of the fact that information on this indicator is part of the World Bank’s new systematic country assessments, so data gathering in the World Bank client countries is already under way.

- *Target 10.5*: The target requires to “*improve regulation and monitoring of global financial markets and institutions and strengthen implementation of such regulations*”. The “improvement” that is called for in the target would have to be specified if the target is to be operationalised. Also, the target would have fitted much better under the “Finance” part of Goal 17 (“*Strengthen the means of implementation and revitalize the global partnership for sustainable development*”), which includes several targets on global financial markets.

The indicator currently being considered by the IAEG-SDGs to measure progress towards this rather unspecific target is the “*Adoption of a financial transaction tax (Tobin tax) at a world level*”. Although it could be worthwhile to engage in a serious discussion about the adoption of a worldwide Tobin tax, the indicator is not really an indicator but rather a target that would need to be discussed by the UN General Assembly. This seems also to be the impression of UNStats, which has already rated the indicator as “C”, i.e. not feasible.

- *Target 10.6*: The target requires to “*ensure enhanced representation and voice of developing countries in decision making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions*”. This is a justified claim and an important target, but, just as Target 10.5, it

would have fit better under Goal 17 (*“Strengthen the means of implementation and revitalize the global partnership for sustainable development”*).

The IAEG-SDGs is currently considering the *“Percentage of members or voting rights of developing countries in international organizations”* as an indicator to measure progress towards Target 10.6. Though it is not yet clear how such an indicator could be measured – UNStats ranked this indicator with “C”, i.e. not feasible – it is worthwhile to at least try to implement it. Thus, its current inclusion by the IAEG-SDGs is very welcome.

- *Target 10.7*: The target requires to *“facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies”*. The target is extremely vague and sounds more like a means of implementation rather than a clear target.

Nevertheless, targeting migration is urgently required, its importance also being reflected by the fact that the IAEG-SDGs is currently considering three indicators in order to measure progress towards Target 10.7: the *“Recruitment cost born [sic] by employee as percentage of yearly income earned in country of destination”*, the development of an *“International Migration Policy Index”*, and the *“Number of detected and non-detected victims of human trafficking per 100,000”*. The first indicator draws attention to the fact that one reason for migration is the spectacular inequality among countries that is specifically addressed by Goal 10 itself. The second indicator has not been developed yet, and thus cannot be evaluated. It is not clear why the third indicator focusses on human trafficking rather than migration. Though human trafficking is clearly an important issue, it is already addressed by Target 16.2 – *“End abuse, exploitations, trafficking and all forms of violence against and torture of children”* – and the IAEG-SDGs suggests the same indicator for measuring progress towards that target. Thus, rather than using an indicator on human trafficking, we recommend to at least try to develop the following indicator that has been suggested by UNStats as Indicator 10.7.2: the *“Number of migrants killed, injured or victims of crime while attempting to cross maritime, land, air borders”*. Of course it will be very difficult, in view of the substantial number of unrecorded cases, to gather the information needed to calculate such an indicator – which is probably the reason why the IAEG-SDGs abandoned it. Yet, given the utmost importance of such an indicator, its inclusion in the 2030 Agenda, even as a proxy, would call for attention and would thus be worth the investment.

Means of implementation

- *Target 10.a*: The target requires to *“implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with WTO agreements”*. The target repeats an already existing agreement.
- *Target 10.b*: The target requires to *“encourage ODA [official development assistance] and financial flows, including foreign direct investment, to states where the need is greatest, in particular LDCs, African countries, SIDS, and LLDCs, in accordance with their national plans and programmes”*. The target unfortunately does not mention any target values, not even the 0.7 target value for ODA, and thus leaves unspecified which

efforts are required. If inequality among countries is really to be reduced, encouraging ODA and financial flows is definitely not enough. A reference to curbing tax abuse that helped siphon an estimated US\$ 4.7 trillion off of developing countries during the 2002–2011 period would have made a difference.

- *Target 10.c*: The target requires by 2030 to “reduce to less than 3% the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5%”. Though the target is a means of implementation, it is much more specific than Targets 10.2 through 10.7. What is most remarkable about this target is the fact that it goes further than the UN Secretary-General’s synthesis report (UNSG, 2014), which refers to the G-20 commitment to reduce the global average cost of transferring remittances to 5 per cent. However, the main focus on remittances reflects that the consensus on migration among UN members fails to go beyond the economic dimension of sustainable development and instead focusses on a rather technical and non-controversial topic. Beyond remittances, UN members have developed little appetite for action on the social dimensions of migration, as shown by the widely-shared and long-term reluctance in ratifying migration-related International Labour Organization Conventions. When it comes to the environmental dimensions of migration, policy-makers have yet to engage seriously, with discussions falsely framing increasing migration flows as a “threat” induced by climate change, as opposed to conscious individual choices informed by environmental change. Migration is among those elements of the 2030 Agenda that stand to gain most from improvements in disaggregated statistics on development.

Conclusion

In contrast to the MDGs, the SDGs include a goal on reductions in inequality; however, the formulation of the goal is very weak, revealing how difficult it was for UN members to find a consensual formulation. Almost all targets are imprecise and use vague formulations that would provide good means of implementation but not targets – a fact that has to be accepted for the sake of having a goal on inequality at all.

Target 10.1 is the only target that is clearly measurable, but at the same time it is rather unambitious, as it requires a decrease in inequality only by 2030, the year in which the 2030 Agenda expires. We recommend that countries which want to achieve pioneering roles in the implementation of the 2030 Agenda replace the year 2030 in Target 10.1 with 2020 in their national plans. With regard to the suggested indicator, we recommend to not only focus on the income growth of the bottom 40 per cent, as currently being suggested by the IAEG-SDGs, but rather to follow up on the suggestions of UNStats for indicators that focus on information on all income quintiles (not just the bottom 40 per cent), such as the Gini index or the Palma ratio, while at the same time pushing for an improvement in the income and consumption surveys that are to provide this information.

Due to the vagueness of the wording in the targets, quite a number of the indicators currently being considered by the IAEG-SDGs are rather unconvincing. Thus, we suggest not to invest further time and resources in the unpromising development of indicators, but rather to capture them through qualitative reporting. This way, the resources thus freed up could be invested in crucial indicators that are not currently being considered by the IAEG-SDGs, most likely due to feasibility concerns. One such indicator is Indicator

10.4.2, suggested by UNStats, which measures the “*Progressivity of tax and social expenditures e.g. Proportion of tax contributions from bottom 40%, Proportion of social spending going to bottom 40%*”. This indicator has been ranked as not being feasible by at least 40 per cent of the national statistical offices of UNStats. However, regarding the importance of the indicator for redistribution, the requested data revolution should be used to push for filling the respective data gaps – especially when considering the fact that the World Bank has already started gathering the relevant information for their client countries as part of their new systematic country assessments. Another indicator is the “*Number of migrants killed, injured or victims of crime while attempting to cross maritime, land, air borders*”, which was previously suggested by UNStats but has so far not been taken up by the IAEG-SDGs. Though it will probably not be feasible to precisely measure this crucial indicator due to the substantial number of unrecorded cases, its inclusion in the 2030 Agenda, even as a proxy, would call for attention and would thus be worth the investment.

Finally, we highly welcome the numerous suggestions for the disaggregation of data throughout the IAEG-SDGs report, which is essential in order to measure progress towards the crucial suggestion of the UN Secretary-General’s synthesis report (UNSG, 2014), namely that each target should only be considered achieved if it is met for all relevant income and social groups – meaning for the poorest and most socially disadvantaged parts of the population as well as for the richest ones.

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

Clara Brandi

General assessment

More than half of the world's population now lives in cities – a share that will rise to 70 per cent in 2050 – and 90 per cent of urban growth comes from low- and middle-income countries. As engines of growth, cities generate about 80 per cent of global gross domestic product (GDP). Simultaneously, reducing poverty in rapidly growing cities is a significant challenge. The coming generation will live in a world where every third person lives in informal settlements under extremely vulnerable conditions. Cities produce around 80 per cent of global carbon emissions. At the same time, many of the residents are highly vulnerable to disasters and the effects of climate change. Cities are thus both drivers and victims of global change. They are therefore essential for the future of global development and offer a great potential to win the “battle for sustainable development”.

It is thus to be welcomed that the 2030 Agenda includes a stand-alone urban goal. Goal 11 underlines the salience of cities for global development; promotes international recognition of the challenges faced by cities as well as their potential; and encourages local and national governments to develop integrated development strategies for cities, thereby hopefully strengthening urban and regional planning and providing a boost to the reform of outdated planning approaches and land laws. Despite several overlaps with other goals, the stand-alone urban goal is thus important – at the very least because it encourages policy-makers to take a broader perspective on their own work. However, although some of the targets under Goal 11 are fairly concrete, several targets lack specifications and are not adequately backed by meaningful indicators that can be used to track progress.

Operationalisation

Goal 11 includes seven targets and three suggestions for means of implementation. Targets 11.1 and 11.2 focus on the supply of services in urban settlements (housing, transport, etc.); Target 11.3 concerns human settlement planning and management; Target 11.4 deals with world cultural and natural heritage; Target 11.5 pertains to the effects of disasters; and Targets 11.6 and 11.7 involve environmental issues (air quality, waste management, and green and public spaces).

- *Target 11.1:* The target is to “ensure [by 2030] access for all to adequate, safe and affordable housing and basic services and upgrade slums”. Target 11.1, building on MDG 7, is essential in order to emphasise the right to shelter. It is highly ambitious. The target has a timeline but lacks specifications in many aspects: What are the minimum requirements for a living space place to be called “housing”? Which services are “basic services”? When should housing or a basic service be called “adequate”, “safe” or “affordable”?

One indicator that is being considered to monitor Target 11.1 is the “percentage of urban population living in slums or informal settlements”. There is a need to agree on the definition of “slums” for the indicator for Target 11.1. Even if there is agreement on

a definition of “slums”, it is still difficult to get reliable data on the proportion of the urban population living in slums, making it difficult to decide which settlement is to be considered a slum and which is not. Moreover, in many countries it is not easy to assess how many people live in a specific slum. In addition, the proposed indicator does not say anything about slum upgrading, unless slum upgrading means the conversion of a slum into a non-slum. Efforts towards fulfilling this target should not lead to unintended consequences, e.g. forced evictions of slum dwellers.

- *Target 11.2:* The target is to “*provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety*” by 2030. The target has a clear – and very ambitious – timeline but lacks specifications in multiple regards: What does the term “transport systems” include? When are they considered to be “affordable”, “accessible” and “sustainable”? When can roads be called “safe”? To measure progress towards Target 11.2, suggested indicators are “*percentage of people within 0.5km of public transit running at least every 20 minutes*” and “*km of high capacity (BRT, light rail, metro) public transport per person*”, both in cities with more than 500,000 inhabitants. These indicators may be a good parameter for availability to public transport, but not for affordability and sustainability or for road safety. Moreover, they do not account for destinations accessible by transit.
- *Target 11.3:* The target is to “*enhance inclusive and sustainable urbanization and capacities for participatory, integrated and sustainable human settlement planning and management in all countries*” by 2030. Target 11.3 could be seen as a means of implementation rather than a goal in itself – an interpretation backed by the fact that the means of implementation 11.a and 11.b are very similar to Target 11.3. Target 11.3 lacks reference to important issues such as tax and budgetary capacities and the relevant indicators to measure them.

The currently proposed indicators refer to cities that “*implement urban and regional development plans integrating population projections and resource needs*” and to efficient land use in terms of the ratio of the “*land consumption rate to population growth rate*”. These indicators offer some useful information on Target 11.3, but it remains very difficult to adequately monitor progress comprehensively. Moreover, regarding the latter indicator on land-use efficiency, there is a lack of reliable data. In addition, the focus on land-use efficiency does not take account of other dimensions of resource consumption, which could be considered by including supplementary remote sensing datasets focussing, for example, on building heights and street density.

- *Target 11.4:* The target is to “*strengthen efforts to protect and safeguard the world’s cultural and natural heritage*”. The proposed indicator refers to the share of the budget, which is “*dedicated to preservation, protection and conservation of national cultural heritage*”. One limitation of this indicator is that the size and share of the allocated budget does not necessarily determine a successful outcome.
- *Target 11.5:* The target is to “*significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations*” by 2030. The target has a time frame, but the terms “affected” and “disasters” could have been more thoroughly defined, and the required percentage reductions need to be quantified, at least in the

national agendas and plans. The formulation “*substantially decrease the direct economic losses relative to global gross domestic product caused by disasters*” (UN 2015b) is very vague; in its initial proposal from 2014, the Open Working Group (OWG) was still suggesting to set a clear target value: “*decrease by y% the economic losses relative to GDP caused by disasters*” (Open Working Group, 2014).

- *Target 11.6:* The target is to “*reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management*” by 2030. There are links to other SGDs, above all 6 and 7, which could be taken into account in the context of choosing indicators at the city level. Target 11.6 and the suggested indicators include essential issues but leave out others, such as emissions and biodiversity. They disregard how cities generate *global* environmental change. The proposed indicators are “*percentage of urban solid waste regularly collected and well managed*” and “*level of ambient particulate matter*”. For instance, the methods to measure the latter indicator have to take account of the fact that issues such as waste treatment are not outsourced outside the boundaries of cities.
- *Target 11.7:* The target is to “*provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities*” by 2030. The target is highly ambitious. The target has a clear time frame leading to 2030 but lacks specifications in manifold aspects. For example, when is a green and public space “safe” or “inclusive” or “accessible”? The technical report of the United Nations Statistical Commission (UNStats) considers the following indicators in order to track progress towards achieving Target 11.7: “*area of public space as a proportion of total city space*” and “*proportion of residents within 0.5 km of accessible green and public space*”. Yet, due to the multidimensional nature of Target 11.7, there may be a need for separate indicators to track progress regarding the safety, inclusivity, accessibility and also the greenness of a public space as well as how these various dimensions apply differently to different groups of people, for example, women or persons with disabilities. Moreover, it has been suggested that alternative indicators that focus on the means to implement Target 11.7, e.g. the local budget for maintaining green and open space, would be a useful addition.

Means of implementation

- *Target 11.a:* The target is to “*support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning*”. This means of implementation overlaps to some degree with Target 11.3, also with a view to the suggested indicators (see above).
- *Target 11.b:* By 2020 the target is to “*substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels*”. This means of implementation is very broad and so lacking in specifications that it is difficult to track. In its 2014 proposal, the OWG had proposed the formulation “*increase by x% the number of cities and human settlements ...*” but it was finally replaced by the much more vague formulation “*substantially increase the number of cities and human settlements ...*” in the course of the negotiations. The relevant indicators for Target 11.b should not

merely take account of the quantity but also the quality of policies or plans towards inclusion, resource efficiency, mitigation and adaptation to climate change and resilience to disasters. The two indicators considered by the UNStats's technical report do not adequately capture this but only focus on the *“percent of cities with more than 100,000 inhabitants that are implementing risk reduction and resilience strategies aligned with accepted international frameworks (such as the successor to the Hyogo Framework for Action on Disaster Risk Reduction) that include vulnerable and marginalized groups in their design, implementation and monitoring”* and the *“population density measured over continuous urban footprint”*.

- *Target 11.c*: The target is to *“support least developed countries, including through financial and technical assistance, for sustainable and resilient buildings utilizing local materials”*. The suggested indicators refer to the *“percentage of financial support that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings”*. However, this indicator does not define, for example, when a material should be labelled “local” and when a building can be called “sustainable and resilient”.

Conclusion

The stand-alone urban SDG is to be welcomed. It should be acknowledged that Goal 11 does not merely put the spotlight on important goals and targets at the city level but involves a devolution of power to the sub-national level. Moreover, Goal 11 requires actions that engage multiple actors, sectors and governance levels.

At the same time, it should be noted that most of its targets are very broad and lack specifications as well as information about operationalisation. In addition, a number of essential issues are not adequately included in Goal 11, among them inequality, social well-being and information and communication technology. Moreover, Goal 11 runs the risk of ignoring how cities contribute to global environmental change or affect the Earth's system, e.g. through their emissions or their dependence on distant ecosystem services. A focus on urbanisation instead of cities would have the advantage that crucial urban-rural interactions need to be considered, and the long-distance effects of urbanisation on resource extraction, emissions, energy, etc. also would be included.

If the goal was to put the spotlight on long-distance effects of urbanisation, Goal 11 would have to contain additional indicators that take into account, for example, the extent to which local governments are putting incentives in place to enhance stewardship of all the remote ecosystems on which cities depend, or indicators that measure the ratio between consumption and production of ecosystem services in the greater city surroundings.

In the context of Goal 11, there should be indicators at multiple levels to track progress at the global, national and subnational levels. The lack of data at the city level will have to be addressed in order to ensure that progress can be adequately monitored and evaluated. Moreover, if data for other SDGs were to be collected to make use of geospatial data, this would contribute to our knowledge of development processes, both in the urban and rural contexts.

Goal 12: Ensure sustainable consumption and production patterns

Karen Meijer and Steffen Bauer

General assessment

Global consumption and production patterns are key to the quest for sustainable global development. Considering past and current trends, they can be considered as the main drivers of unsustainable development, notably through overexploitation of natural resources, land conversion and high dependence on fossil fuels. Goal 12 therefore aims to alter these patterns towards sustainable levels that stay within the planetary carrying capacity. It is thus central to the transformative ambition of the overall SDG catalogue, and thereby highly appropriate as well as ambitious in nature.

Although the notion to “ensure” underscores in principle an adequate level of ambition, the goal does not specify what would qualify as sustainable consumption and production levels. The pertinent question is to what extent current consumption and production patterns will need to be altered – indeed the corresponding use of resources reduced – to actually ensure a transformation to sustainable levels, globally as well as within countries. Most of the targets under Goal 12 leave that question unanswered and are therefore unlikely to have a significant effect on global and national policies.

Yet, consumption and production relate to all goals, in the sense that achieving *sustainable* production and consumption requires changes towards targets under the other 16 goals, most notably where the use of resources such as water, land and energy is concerned. It may thus be considered an overarching goal. Concomitantly, Goal 12 can be considered a “means of implementation” to achieve those goals and targets that focus on protecting specific ecosystems. For instance, a host of consumption and production activities drive land conversion, e.g. through deforestation for agriculture or mining for raw materials, including fossil fuels. In addition to exploiting natural resources, agriculture, forestry and other land use account for circa 25 per cent of global greenhouse gas emissions (Intergovernmental Panel on Climate Change, 2014), thus contributing significantly to global climate change (as addressed under Goal 13). Goal 12 is therefore closely related *inter alia* to Goal 13 (“*Take urgent action to combat climate change and its impacts*”), Goal 14 (“*Conserve and sustainably use the oceans, seas and marine resources for sustainable development*”) and Goal 15 (“*Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss*”). Production and consumption are also inherently related to economic growth (see Goal 8), which is in itself driven by production and consumption, and the sustainability of cities and human settlements (see Goal 11), as cities and human settlements determine the bulk of global production and consumption.

Operationalisation

Goal 12 includes eight targets and three suggestions for means of implementation. Targets 12.1, 12.2 and 12.7 focus on the introduction of the principles of sustainability into country policies and programmes in general. Target 12.6 addresses the adoption of sustainable practices by companies. Targets 12.3 through 12.5 deal with the generation

and management of waste. And Target 12.8 calls for building awareness among people about sustainability issues.

- *Target 12.1* calls for the implementation of “*the 10-Year Framework of Programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries*”. By and large, the 10YFP covers the same objectives as Goal 12. Although the 10YFP is more comprehensive in scope, Goal 12 makes a valuable contribution by specifying some targets for operationalisation (even as it could do more in terms of quantification). Therefore, it is adequate for Goal 12 to refer to the 10YFP rather than to duplicate goals. This target also matches with the Convention on Biological Diversity’s (CBD) Aichi Target 4 – “*By 2020, at the latest, governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits*” – although Goal 12 addresses different actors in specific targets.

The United Nations Statistical Commission (UNStats) suggests two indicators for this target. Indicator 12.1.1, “*Number of countries with SCP [i.e. sustainable consumption and production] National Action Plans or SCP mainstreamed as a priority or target into national policies, poverty reduction strategies and sustainable development strategies*”, seems appropriate, since the target calls for action. It is important that these National Action Plans and the ways in which SCP is mainstreamed refer indeed to concrete actions to make consumption and production more sustainable. Indicator 12.1.1, “*Number of countries with inter-ministerial coordination and multi-stakeholder mechanisms supporting the shift to SCP, as well as organizations with agreed monitoring, implementation and evaluation arrangements*”, seems less concrete.

- *Target 12.2* is to “*achieve sustainable management and efficient use of natural resources*” by 2030. Although this target introduces a timeline, it is so vague and open in substance that it is impracticable to verify whether it has been achieved or not. Anyhow, specifications for essential resources *are* included in Goal 6 (water), Goal 7 (energy), Goal 13 (climate), Goal 14 (oceans, seas and marine resources) and Goal 15 (terrestrial ecosystems, forests, land, biodiversity). Therefore, Target 12.2 could be considered to be covered by the indicators for the targets of these goals, and thus does not require its own indicator.

The target seems focussed more on production than on consumption, which neither of the two proposed indicators seems to capture fully. Proposed indicator 12.2.1 (“*Domestic Material Consumption (DMC) and DMC/capita*”) measures the “*amount of materials required to produce the national product*” (IAEG-SDGs, 2015). This does not reflect production for export, and thus it shows how efficient a country is in producing those goods that it uses itself. Indicator 12.2.2, “*Material footprint (MF) and MF/capita*”, is relevant because it has the potential to show directly the impact that different countries have on the global resource base. However, this indicator measures impacts of consumption, whereas “*sustainable management and efficient use of natural resources*” seems more targeted at the way resources are used for production. An alternative indicator could reflect the land or other resources used to produce goods for consumption, both for domestic use and for export.

- *Target 12.3* specifies the aim to “*halve per capita global food waste at the retail and consumer level, and reduce food losses along production and supply chains including post-harvest losses*” by 2030. It makes sense to address food wastage in a stand-alone target because global food waste increases demand for food products, even beyond what is required to ensure food security for a growing world population (see Goal 2). This increased demand for food production increases the pressure on agriculture land, leading to further land conversion – especially through cropland expansion – and ensuing losses of ecosystems and biodiversity. Moreover, food wastage exacerbates inequality at the global and national levels, as the footprint of corresponding land use and protein consumption (i.e. meat, fish) is particularly high in high-income countries and dynamically increasing in urban middle classes of low- and middle-income countries. Hence, Target 12.3 might be considered relevant for Goal 2 as well.

UNStats proposes that a “Global Food Loss Index” be developed to track the share of food lost or wasted in the value chain after harvest (Indicator 12.3.1). At the global level, this indicator can provide important information, and it matches the target well. However, additional information is required to identify the stages at which food loss takes place as well as the countries most active in reducing this loss. Proposed indicator 12.3.2, “*Per capita food waste (kg/year), measure using Food Loss and Waste Protocol*”, could help provide some of this additional information.

- *Target 12.4* is to “*achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimize their adverse impacts on human health and the environment*” by 2020. With this formulation, the United Nations (2015b) underscores the relevance of pertinent multilateral environmental agreements. The target is highly relevant but requires substantial additional specifications, for example: When exactly is the management of chemicals and other wastes environmentally sound? What kinds of chemicals and wastes is the target focussing on? By how much – and until when – is the release of each relevant chemical and other kinds of waste to be reduced? Operationalisation will be further complicated by the fact that for each chemical and each kind of waste, at least one indicator would be required to measure their release into the air, water and soil. Depending on the percentage levels that each of these indicators is meant to be reduced to, the goal is more or less ambitious and achievable.

UNStats proposes two indicators for tracking progress towards the target, one at the level of efforts (12.4.1: “*Number of Parties to, and number of national reports on the implementation of, international multilateral environmental agreements on hazardous chemicals and waste*”), and one at the level of outcomes (12.4.2: “*Annual average levels of selected contaminants in air, water and soil from industrial sources, energy generation, agriculture, transport and wastewater and waste treatment plants*”). This combination of indicators appears reasonable. Indicator 12.4.1 by itself assumes that the target is fully covered by international multilateral environmental agreements on hazardous chemicals and waste, and that being a party to these agreements and meeting reporting requirements will be a sufficient trigger to achieve environmentally sound management of chemicals and wastes. The outcome-orientated second indicator should prove a useful complement here.

- *Target 12.5* asks to “*substantially reduce waste generation through prevention, reduction, recycling, and reuse*”. At this general level, it would arguably include Target 12.3 as well as parts of 12.4. It is not very ambitious and should be more specific in any case. In particular, it lacks quantification as well as a timeline and is therefore not suitable for measuring goal achievement at the global level. Countries should be encouraged to make such specifications at the national level or for their main urban areas.

The proposed indicators measure total waste generated (12.5.1: “*National waste generation (solid waste to landfill and incineration and disaggregated data for e-waste) in kg per capita/year*”) and rate of recycling (12.5.2: “*National recycling rate, tonnes of material recycled*”). Total waste generated (12.5.1) would by itself cover the information required to track the target. Indicator 12.5.2 provides additional information, but it is not *per se* required to know whether generated waste is reduced through prevention, reduction, recycling or reuse. If this is considered important, indicators for other processes would be required in order to obtain a complete overview.

- *Target 12.6* asks to “*encourage companies, especially large and trans-national companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle*”. Information on sustainability practices is an essential prerequisite for conscious consumer decisions, thereby changing consumption patterns. With regard to reducing or recycling the use of chemicals or hazardous wastes, every single action of an individual company can make a contribution towards reaching the target. However, with regards to practices that pertain to the use of common pool resources or public goods, such as forests or the atmosphere, free-rider problems and “leakage” effects will persist. Private supply chain initiatives alone are therefore insufficient; complementary public measures are required to pursue this target and to raise its level of ambition. In addition, the target is formulated in such a vague manner that it is unlikely that any country will fail to demonstrate that it has “*encourage[d] companies...*”.

UNStats proposes two indicators: 12.6.1 (“*Sustainability reporting rate and quality: 1) Percentage of the world's largest companies disclosing sustainability information; 2) the % of such reporting which is addressing the entire supply chain; 3) % of the reporting companies with information in their sustainability reporting aligned with relevant indicators in the SDGs*”) and 12.6.2 (“*Number or % of companies that produce sustainability reports or include sustainability information in integrated reporting*”). The largest risk of relying on self-reporting is that companies may manipulate or “greenwash” their production processes. However, alignment with relevant SDG indicators should help to have meaningful and comparable reporting, and transparency on these counts may indeed trigger more sustainable production. However, for some resources, it may not help when only a small number of producers adopt such practices. “Leakage” – additional use of resources by others – would need to be covered under other indicators, for example through a country-level resource-use indicator under Target 12.2.

- *Target 12.7* seeks to “*promote public procurement practices that are sustainable in accordance with national policies and priorities*”. It is thus instrumental to increase

global demand for sustainable products and, conversely, to reduce demand for unsustainable products. Pursuing this target can help to facilitate economies of scale, to reshape value chains and to build markets for green products and services, even beyond the public sector. But the target suffers from the same problems as the preceding one. First, it is so vague that efforts to “promote public procurement practices that are sustainable” will be easily demonstrated. Second, the target is a means of implementation rather than an end in itself.

The two proposed indicators 12.7.1 (“*Number of countries implementing Sustainable Public Procurement policies and action plans*”) and 12.7.2 (“*% of Sustainable Public Procurement in total public procurement for a set of prioritized product groups*”) seem appropriate, with 12.7.2 as a country-level assessment, and 12.7.1 offering a global picture. However, a specification is required as to when public procurement policies can indeed be considered to be sustainable.

- *Target 12.8* requires that, by 2030, it is ensured “*that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature*”. Information is pertinent, but it is not sufficient for consumers and producers to make informed choices. This will also require commensurate knowledge and capabilities, which is not specified in the target. The target might inadvertently exacerbate an unregulated inflation of sustainability labels that obfuscate production patterns rather than increase transparency. However, the proposed indicators widen the scope from merely labelling goods to mainstreaming sustainability awareness in formal education.

Indicator 12.8.1 refers to the “*Number of countries reporting inclusion of sustainable development and lifestyles topics in formal education curricula*”. Indicator 12.8.2 (“*Frequency of researches online for key words with direct links with sustainable development and lifestyles*”) seems a way to monitor actual public interest and awareness, but people may be searching for a wide range of terms, and internet access may vary.

Means of implementation

- *Target 12.a* proposes to “*support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production*”, which, however, is only partly of a technical nature. Institutional structures and contexts also matter. Support to low- and middle-income countries should therefore also address rules and regulations – notably including perverse incentives – and a commensurate strengthening of capacities for legislation and the rule of law, including through law enforcement.

The two proposed indicators – Indicator 12.a.1 (“*Amount of spending on R&D in developing countries, for SCP*”) and Indicator 12.a.2 (“*Number of patents granted annually in developing countries, for SCP products / innovations*”) – focus on technological innovations and do not reflect “support”. More efficient resource use may not always require technological innovations nor awareness, training and regulation. Indicators could be included that pertain to support to developing countries and the facilitation of more sustainable resource use.

- *Target 12.b* proposes to “develop and implement tools to monitor sustainable development impacts for sustainable tourism which creates jobs, promotes local culture and products”. This target is very specific in its explicit and narrow focus on sustainable tourism. It even appears misplaced in the means of implementation section, as the goal does not include a correspondingly specific target on sustainable tourism. It would have been much more convincing to have a means-of-implementation target regarding monitoring tools for production and consumption more generally.

The target asks for the monitoring of sustainable development impacts of tourism. The two proposed indicators do not reflect this very well. Both indicators – 12.b.1 (“Percentage of the destinations with a sustainable tourism strategy/action plan, with agreed monitoring, development control and evaluation arrangement”) and 12.b.2 (“Adopted national legislation to integrate sustainability objectives in tourism operations”) – focus on regulation of the tourism sector, not on the actual tourism impacts. Indicators showing the ecological footprint of tourism or the contribution of tourism to local livelihoods would match better with the target.

- *Target 12.c* addresses the need to “rationalize inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities”. This is a highly adequate target to rectify unsustainable incentives, even as it is narrowly focussed on fossil fuel subsidies. To make the target more comprehensive and ambitious, it should expand to other harmful subsidies, e.g. with regard to food consumption or unsustainable biofuels. The related CBD Aichi Target 3 is more comprehensive in this sense: “By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.”

The proposed indicator 12.c.1 (“Amount of fossil fuel subsidies, per unit of GDP (production and consumption), and as proportion of total national expenditure on fossil fuels”) will be very insightful.

Conclusion

Generally, it would have been helpful if the goal and its targets were more explicit and consistent in stressing that developed countries should take the lead in addressing unsustainable patterns of consumption and production, notably with a view to resource-intensive goods and services. The distinction between targets to be achieved and targets focussed on means of implementation is not always clear.

More specifically, although the targets encourage sustainable consumption and production, they do not cover the full range of drivers underlying unsustainable consumption and production. For instance, Target 12.c refers to fossil fuel subsidies only, although there are

numerous other harmful subsidies that also drive unsustainable consumption and production patterns. Likewise, indirect land use change cannot be prevented through the altered production processes of individual companies alone. Until all sectors fully commit to sustainable production, a minimum degree of public regulation is required to complement the objectives entailed in the corresponding targets. This seems insufficiently reflected and addressed in both the operationalisation of the goal and in the means of implementation. At the same time, however, large transnational companies can play a catalytic role in enhancing sustainable production by demanding higher standards of sustainability from their suppliers, for instance with a view to contributing to Target 12.4. Therefore, it is good that the targets also address the private sector.

Most of the proposed indicators seem adequate to measure progress towards the respective targets.

Goal 13: Take urgent action to combat climate change and its impacts

[Acknowledging that the UNFCCC is the primary international, inter-governmental forum for negotiating the global response to climate change]

Steffen Bauer, Clara Brandi, Sander Chan and Okka Lou Mathis

General assessment

By including a stand-alone goal on climate change in the 2030 Agenda, the United Nations underscores the salience of climate change for sustainable development. Goal 13 addresses urgent action for climate change mitigation (“*to combat climate change...*”) as well as adaptation to climate change (“*... and its impacts*”). The former can be interpreted as actions to close the global emissions gap. A broader interpretation would also encompass actions related to adaptation and actions that are not specifically aimed at direct impacts, such as awareness-raising for development implications of climate change.

In a dedicated footnote, the draft of the 2030 Agenda to be adopted at the UN summit in September 2015 explicitly acknowledges the United Nations Framework Convention on Climate Change (UNFCCC) process as the primary regime for international climate policy. Goal 13 must therefore be understood as a placeholder for global climate governance within the framework of the UNFCCC, which is complementary to the existing climate regime as well as to the one currently being negotiated. Thus, Goal 13 is unique in the sense that the goal is placed under a policy arena other than the 2030 Agenda; its ambition and success will directly depend on the outcomes of that process.

In its introduction, the draft document containing the SDGs underlines the inextricable linkages between climate change *inter alia* and human development (“*The survival of many societies, and the planet, is at risk*”). By calling for “integrated solutions”, the document acknowledges the interdependence of ecological goals (“*preserving the planet*”) such as climate action and the achievements envisioned under other SDGs. Consequentially, climate change mitigation and adaptation are taken up in a number of targets under six SDGs other than Goal 13, for instance regarding resilience of the poor (Target 1.5), agricultural practices (Target 2.4), infrastructure (Targets 9.1 and 9.a) and cities and human settlements (Target 11.b).

Nevertheless, most of the SDGs and their respective targets fall short of comprehensively promoting co-benefits between action on climate change and other development goals. Important co-benefits include issues such as *inter alia* carbon sinks in agriculture (Goal 2), mitigation and health (Goal 3), drivers of mitigation and adaptation in energy (Goal 7) and economic growth (Goal 8), carbon emissions as a reflection of inequality (Goal 10) and decarbonisation of consumption and production patterns (Goal 12).

Operationalisation

Goal 13 includes three targets (13.1–13.3) and two suggestions for means of implementation. Whereas the targets emphasise universal climate resilience and adaptive capacity, integrated climate change measures, and education, the means of implementation (Targets 13.a and 13.b) focus on countries that are particularly vulnerable to climate change.

The targets under Goal 13 essentially reconfirm the objectives of the ongoing UNFCCC process to avoid dangerous climate change, but they remain at a level of specification that makes it difficult to assess and demonstrate, for instance, how a country has *not* achieved the targets. Moreover, the targets lack a clear time frame. An exception is Target 13.a. on climate finance as a means of implementation, which is the most concrete target under Goal 13.

- *Target 13.1* is to “*strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries*”. One suggested indicator refers to the “*number of deaths, missing people, injured, relocated or evacuated due to disasters per 100,000 people*”. It is not clear, however, how damages will be attributed to climate change or varying climate conditions. Moreover, while work is in progress, so far no adequate data basis exists for this indicator.
- *Target 13.2* is to “*integrate climate change measures into national policies, strategies and planning*”. The suggested indicator refers to the “*number of countries that have formally communicated the establishment of integrated low-carbon, climate-resilient, disaster risk reduction development strategies (e.g. a national adaptation plan process, national policies and measures to promote transition to environmentally-friendly substances and technologies)*”. One problem is that this indicator does not track progress regarding the impact of these policies, strategies and planning approaches. Moreover, it is important to take account both of mitigation and of adaptation and to differentiate between strategies that relate to both dimensions.
- *Target 13.3* is to “*improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning*”. The proposed indicator refers to the “*number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula*”. Although this indicator is not suitable to adequately track improvements in terms of “*human and institutional capacity*”, it provides a useful basis to measure progress regarding improved “*education and awareness-raising*”.

Means of implementation

- *Target 13.a* is to “*implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible*”. One proposed indicator refers to the “*mobilized amount of USD per year starting in 2020 accountable towards the USD 100 billion commitment*”. One problem with this indicator is – as the World Bank has also pointed out – that it presupposes that it can actually be known how to best spend the US\$ 100 billion commitment because otherwise the indicator does not say much about “*implementation*” but rather about “*intention*” (IAEG-SDGs, 2015, 77).
- *Target 13.b* is to “*promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries, including focusing on women, youth and local and marginalized communities*”. One proposed

indicator refers to “*number of LDCs that are receiving specialized support for mechanisms for raising capacities for effective climate change related planning and management, including focusing on women, youth, local and marginalized communities*”. The indicator would be more useful to track progress regarding 13.b if it not only assessed the number of least-developed countries that receive support but also included a measure for the quantity of this support. Moreover, in its current form, the indicator does not account for the participation of women, youth and local and marginalised communities in the relevant capacity-raising activities, even though these groups are explicitly highlighted in the target.

Conclusion

The final draft of the 2030 Agenda underscores the centrality of climate change for global sustainable development, reflected in both the stand-alone Goal 13 as well as through climate-change mainstreaming in a number of climate-sensitive targets under other goals. However, Goal 13 misses the opportunity to further raise levels of ambition and harness the aspirational spirit of the 2030 Agenda. A more ambitious Goal 13 could have given a strong political signal to reach a meaningful international agreement under the UNFCCC process, and strengthen linkages between the global agendas on climate action and sustainable development.

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Clara Brandi

General assessment

The focus of Goal 14 is the conservation and sustainable utilisation of oceans, seas and marine resources for sustainable development. Oceans and seas, covering nearly three-quarters of the Earth's surface, are essential to global and national sustainable development. They provide livelihoods for hundreds of millions of people around the world and the ecosystem services on which humankind depends. For instance, they play a key role in the carbon cycle of our planet and have taken up around one-third of humanity's CO₂ emissions. Moreover, global ocean activity contributes substantially to the world economy, above all through international trade via marine transport, representing 90 per cent of global trade, and through fisheries as well as aquaculture. Caring about the well-being of the oceans and seas is thus a global imperative.

Despite the clear recognition and commitment by the international community to conserve and sustainably use the oceans and seas under various international agreements, including the 1982 UN Convention on the Law of the Sea (UNCLOS), and the increasing efforts at the international, regional, national and sub-national levels, the health of the oceans and seas has declined dramatically throughout recent decades. In order to reverse and restore their health, productivity and resilience for the well-being of humanity and the ecosystem for today's and future generations, addressing these concerns in a comprehensive and coherent manner in a stand-alone goal is thus to be welcomed, especially insofar as it mirrors an adequate balance between the protection of the marine environment and the sustainable use of marine resources.

Operationalisation

The goal is operationalised through seven targets and three suggestions for means of implementation.

- *Target 14.1:* The target requires by 2025 to “prevent and significantly reduce marine pollution of all kinds, particularly from land-based activities, including marine debris and nutrient pollution”. The phrase “significantly reduce” could have been more specified (e.g. by 30 per cent). Otherwise, Target 14.1 is precise, time-bound and ambitious.

The two indicators considered by the United Nations Statistical Commission (UNStats) are: “fertilizer consumption (kg/ha of arable land)” and “metric tonnes per year of plastic materials entering the ocean from all sources”. Although these indicators cannot measure progress in terms of reducing “marine pollution of all kinds”, they do address two highly relevant environmental issues in the context of polluted oceans.

- *Target 14.2:* The target requires by 2020 to “sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration, to achieve healthy and productive

oceans". Though it is time-bound, the target is so vague that it is unlikely to have any impact on policies. What does it mean to "sustainably manage and protect", to "avoid significant adverse impacts", or "strengthening" resilience and to "take action"?

The UNStats's technical report proposes two indicators to monitor progress towards Target 14.2: the "*percentage of coastline with formulated and adopted ICM/MSP plans*" and the "*Ocean Health Index*", which "*measures 10 aspects of marine ecosystems and their use by humans: food provision, artisanal fishing opportunities, natural products, carbon storage, coastal protection, tourism and recreation, coastal livelihoods and economies, sense of place, clean waters, and biodiversity*". The Ocean Health Index is a composite index and thus not adequate to separately track progress regarding the different dimensions of ocean health. Moreover, the index explicitly defines sustainability in the near-term future (i.e. five years). Thus, long-term consequences from habitat loss and climate change are not addressed in the index. Given the explicit long-term focus of the 2030 Agenda, the time frame of the index is clearly inappropriate. Also, there are clear adverse effects between the different dimensions of the Ocean Health Index: a country can compensate for a decrease in biodiversity by increasing its share of international tourism.

- *Target 14.3*: The target asks to "*minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels*". It is very much to be welcomed that ocean acidification is featured in Goal 14 because it represents a great risk to marine biodiversity, ecosystem services, fisheries and aquaculture. However, the fact that both ocean acidification and climate change can ultimately only be stopped if global CO₂ emissions from fossil sources are eventually reduced to zero has not yet received sufficient attention – neither in international law nor in global governance. As of now, there is no global environmental convention or institution that has taken effective steps to curb this massively underestimated problem. Regrettably, the formulation of Target 14.3 is vague, utilising phrases such as "minimize", "address" and "enhanced scientific cooperation", which cannot be easily operationalised. Furthermore, it is not time-bound and therefore not binding. The suggestion of the German Scientific Advisory Council on Global Change (WBGU) to "*ensure that the pH level of the uppermost ocean layer does not fall by more than 0.2 units compared to preindustrial figures*" could have been a useful model.

UNStats proposes two indicators: "*average marine acidity (pH) measured at agreed suite of representative sampling stations*" and "*coral coverage*", which are useful to track progress regarding Target 14.3.

- *Target 14.4*: The target requires by 2020 to "*effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated (IUU) fishing and destructive fishing practices and implement science-based management plans, to restore fish stocks in the shortest time feasible at least to levels that can produce maximum sustainable yield as determined by their biological characteristics*". The different levels of ambition of the sub-targets of the rather broad Target 14.4 are quite heterogenous. To end overfishing and IUU as well as destructive fishing practices by 2020 is a precise, ambitious, time-bound sub-target that holds all countries accountable – developing and developed countries alike. The objectives to "*effectively regulate harvesting*" and to "*implement science-based management plans*" are means of implementation rather than targets and

could thus have been moved to the means of implementation. Finally, the time frame for the sub-target to “*restore fish stocks in the shortest time feasible*” unfortunately remained unspecified.

The UNStats technical report considers “fish species, threatened” and “proportion of fish stocks within biologically sustainable limits” to be the relevant indicators, which capture only some – albeit key – dimensions of Target 14.4.

- *Target 14.5:* The target requires by 2020 to “*conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on best available scientific information*”. Target 14.5 is one of the Aichi Targets, which is, however, under-ambitious. In light of the aspirational nature of the 2030 Agenda and the importance of marine biodiversity for ecosystem services, and thus the future of humanity, Target 14.5 could have followed the proposal of the WBGU and gone beyond the Aichi Targets, requiring to “*conserve at least 20-30 per cent of the area of marine ecosystems through an ecologically representative and effectively managed system of marine protection areas and halt, by 2050, the anthropogenic drivers of biodiversity loss*”.
- *Target 14.6:* The target requires by 2020 to “*prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and eliminate subsidies that contribute to IUU fishing, and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiation*”.

This target is a means of implementation to achieve Target 14.4, which, *inter alia*, requires ending overfishing, IUU fishing and destructive fishing practices by 2020. It would have made sense to convert it into an additional means of implementation. The focus on “*certain forms of fisheries subsidies*” is excessively narrow.

The proposed indicators, “*dollar value of negative fishery subsidies against 2015 baseline*” and a “*legal framework or tax/trade mechanisms prohibiting certain forms of fisheries subsidies*” offer a decent basis to track progress regarding Target 14.6.

- *Target 14.7:* The target requires by 2030 to “*increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism*”. Unfortunately, Target 14.7 is quite vague. What does it mean to “increase” economic benefits? By how much? And how should this be achieved? The target would have benefitted from further specifications. The proposed indicators “*fisheries as a % of GDP*” and “*level of revenue generated from sustainable use of marine resources*” go some ways towards helping to track progress for Target 14.7.

Means of implementation

- *Target 14.a:* The target asks to “*increase scientific knowledge, develop research capacities and transfer marine technology taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine*

Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular SIDS and LDCs". This is a good means of implementation. Moreover, the indicators proposed by UNStats are useful: *"number of researchers working in this area"* and *"budget allocated to research in the field of marine technology"*.

- *Target 14.b*: The target asks to *"provide access of small-scale artisanal fishers to marine resources and markets"*. Since an important part of Goal 14 is the sustainable use of marine resources for sustainable development, Target 14.b is a target in itself rather than a means of implementation. Its operationalisation would already be ensured if the *"artisanal fishing opportunities"* component of the Ocean Health Index were to be utilised separately as an indicator to monitor progress towards this target.
- *Target 14.c*: The target asks to *"enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want"*. This is a good means of implementation and the indicators proposed by UNStats – *"adoption of a legal framework and number of associated court cases"* and *"number of countries implementing either legally or programmatically the provisions set out in regional seas protocols"* – are useful.

Conclusion

Goal 14 helps to focus on integrated ecosystem-based management. It also helps to overcome the deficits of setting sector-specific goals, which has been the main approach to managing the oceans and seas so far. The included targets are all important and they address the currently relevant challenges for sustainable development in the context of oceans and seas. At the same time, a number of targets could have benefitted from clearer specifications.

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Steffen Bauer and Karen Meijer

General assessment

Goal 15 is about the sustainable use of land and land-based resources, including ecosystems and biodiversity, which are absolutely essential to sustainable development. Much like fresh water, land and soil are essential environmental media and pivotal for key ecosystem services. Human development relies on land-related ecosystem services, especially to provide food, energy, fibre and a healthy environment as well as to increase adaptive capacity and resilience to environmental stresses. This clearly warrants a designated goal.

The general direction, scope and ambition of the goal are thus to be appreciated, even as it is somewhat convoluted and indicates trade-offs between the protection of ecosystems on the one hand and the sustainable use of ecosystems on the other. More specifically, the goal's targets differentiate between types of ecosystems to be protected, restored and sustainably used. They also underscore the importance of fair and equitable sharing of benefits related to biodiversity and land-based ecosystem services more generally.

With consumption and production as major driving forces of the loss of land resources, ecosystems and biodiversity, there are considerable overlaps with Goal 12 (*“Ensure sustainable consumption and production patterns”*), but also with other goals. Notably, land-based ecosystems, especially forests, play an important role in climate change mitigation as well as with regard to resilience to climate change impacts through shaping the local climate, hydrological cycles, water storage and so on. The goal therefore also strongly relates to Goal 6 (*“Ensure availability and sustainable management of water and sanitation for all”*) and Goal 13 (*“Take urgent action to combat climate change and its impacts”*).

On a general note, the added value of Goal 15 ultimately needs to be considered in the context of pertinent intergovernmental agreements, especially the Convention on Biological Diversity (CBD) and its Aichi Targets, a host of related treaties under the auspices of the UN Environment Programme (UNEP), and the UN Convention to Combat Desertification (UNCCD).

Operationalisation

The goal contains nine targets and an additional three regarding means of implementation, with varying levels of ambition.

- *Target 15.1* requires by 2020 to “ensure conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements”. The target thus provides a kind of umbrella for the entire goal, whereas Targets 15.2 through 15.5 specify different ecosystem types, which are already

introduced under 15.1. This diversification of specific targets can be considered adequate because of the differences in functional roles of different types of ecosystems as well as with regard to the different drivers of their respective degradation. With this diversification in place, however, indicators will also need to be specific as to which ecosystem function they are expected to measure. Also, although the target is in itself commendable, it is still not comprehensive with a view to land-based ecosystems (e.g. riverine systems) and provides no guidance on trade-offs and priorities for sustainable development.

The omission of some land-based ecosystems notwithstanding, the United Nations Statistical Commission (UNStats) Indicator 15.1.1, i.e. “*Coverage of protected areas broken down by ecosystem type, including total area of forests in protected areas (thousands of hectares)*”, adequately reflects the need to differentiate measurements according to ecosystem type. It could be further improved, however, by aligning it with pertinent biodiversity indicators, notably in relation to Aichi Target 11 under the CBD, as suggested *inter alia* by UNEP and International Union for Conservation of Nature (IUCN) (IAEG-SDGs, 2015, 83).

Moreover, it is reasonable to retain “*Forest area as a percentage of total land area*” (15.1.2), which is arguably the most relevant indicator and also used to measure progress towards Aichi Target 5 under the CBD.

- *Target 15.2* requires by 2020 to “*promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and substantially increase afforestation and reforestation globally*”. Although a quantified target could thus not be achieved, “substantially” should be read as a call for ambitious measures nonetheless. In the case of forests and avoided deforestation, the salience of the issue is underscored by obvious interlinkages regarding targets relating to Goal 13 (“*Take urgent action to combat climate change and its impacts*”) as well as forest-related Aichi Targets under the CBD.

The issue linkage to Goal 13 in particular is underscored by the proposed Indicator 15.2.1, “*Net forest emissions*”. This indicator calls for additional specifications in any case and should be aligned with forest-related indicators under the UN Framework Convention on Climate Change (UNFCCC), especially regarding its REDD+ mechanism. Moreover, the indicator should safeguard that primary forest is not replaced by industrial plantations, and that forest cover is not promoted on landscapes that are not naturally forested, e.g. savannah ecosystems. Likewise, the indicator should avoid promoting conversion of forest ecosystems with lower carbon storage capacity.

More critically, the notion of sustainable forest management appears to primarily focus on logging for timber, whereas conversion of forests to agricultural land is the main driving force of global deforestation. This is not adequately reflected by the target, nor by the corresponding indicator, 15.2.2 (“*Forest cover under sustainable forest management*”), as suggested by UNStats. However, the indicator matches with the indicator to assess progress towards Aichi Target 5 and appears reasonable in itself.

- *Target 15.3* requires by 2030 to “*combat desertification, and restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land-degradation neutral world*”. The target follows a similar logic to 15.2

and echoes the corresponding Zero Net Land Degradation initiative under the UNCCD. However, it fails to specify how the target's objectives might be achieved. Even so, the target's call to "strive to achieve a land-degradation neutral world" is a noteworthy difference from the overall goal's vague language.

Land-degradation neutrality defines a state whereby the amount of healthy and productive land resources remains stable or increases within specified temporal and spatial scales. This is a tall order that is hardly captured by the indicators suggested by UNStats, namely 15.3.1 ("*Trends in land degradation*") and 15.3.2 ("*Areas of land/soils under sustainable management*"). With regard to trends in land degradation, it needs to be acknowledged that a robust assessment of trends regarding the extent of degraded land relative to stable or improved land across global, regional and local levels begs improved data and measurement techniques. With regard to sustainable management of land and soils, it is reasonable that the indicator matches with the indicator to assess progress towards Aichi Target 7, even though it remains contested as to which practices of soil and land management qualify as being sustainable in the first place.

- *Target 15.4* requires by 2030 to "*ensure the conservation of mountain ecosystems, including their biodiversity, to enhance their capacity to provide benefits which are essential for sustainable development*", and is thus an explicit conservation target. It is unclear why sustainable development is highlighted here because other ecosystems, too, provide a range of services for society that have relevance for local livelihoods, and for economic development and human well-being. The target's main contribution may be to add mountain ecosystems to the sustainable development agenda, but it remains vague as to what ends and by which means.

With a view to indicators, the UNStats suggestion to use the general "Coverage of protected areas" (15.4.1) seems generally adequate, although it could focus more explicitly on biodiversity hotspots in mountain ecosystems to match the approach of the Biodiversity Indicators Partnership in relation to Aichi Target 11. Either way, the adoption of the Mountain Green Cover Index of the Food and Agriculture Organization of the UN (FAO) as Indicator 15.4.2 seems an adequate complement, as the protected areas covered by Indicator 15.4.1 hardly capture the overall status of montane biodiversity.

- *Target 15.5* requires to "*take urgent and significant action to reduce degradation of natural habitat, halt the loss of biodiversity, and by 2020 protect and prevent the extinction of threatened species*". It thus highlights more directly the protection of specific species rather than their sustainable use, but remains unspecific about measurable ambitions. Crucially, it fails to address the drivers that are underlying the trends it seeks to halt.

Adopting the IUCN's well-established Red List Index as Indicator 15.5.1 seems both appropriate and pragmatic, as does the complementary application of the Living Planet Index of the World Wide Fund for Nature as Indicator 15.5.2. Indeed, both indexes are already established to measure progress towards Aichi Target 12.

- *Target 15.6* requires to "*ensure fair and equitable sharing of the benefits arising from the utilization of genetic resources, and promote appropriate access to genetic resources*". Again, this needs to be read against the backdrop of the CBD, the Access

and Benefit Sharing (ABS) agreements of which have hardly been commensurate to solving the underlying distributive challenges. The target thus may help to prioritise the issue, but in itself offers nothing specific to overcoming the challenges. Moreover, it perpetuates the CBD's narrow understanding of ABS as relating to genetic resources.

Mindful of these reservations and in acknowledgement of the CBD's Nagoya Protocol as the pertinent multilateral agreement, monitoring implementation of the Nagoya Protocol's provisions makes for a straightforward Indicator 15.6.1, as suggested by UNStats (*“Number of countries that have adopted legislative, administrative and policy frameworks for the implementation of the Nagoya Protocol”*). A more ambitious indicator, however, would entail some minimum standards as to what laws or policies countries have adopted, let alone implemented.

Whether a counting exercise as envisaged with the proposed Indicator 15.6.2 (*“Number of permits or their equivalents made available to the Access and Benefit-sharing Clearinghouse established under the Nagoya Protocol and number of Standard Material Transfer Agreements, as communicated to the Governing Body of the International Treaty”*) is meaningful to monitor progress towards the spirit of Target 15.6 is debatable. In essence, it will merely *“indicate an increased number of cases in which access to genetic resources has been granted and in which resulting benefits will be shared on the basis of ‘mutually agreed terms’”* (IAEG-SDGs, 2015, 88).

- *Target 15.7* requires to *“take urgent action to end poaching and trafficking of protected species of flora and fauna, and address both demand and supply of illegal wildlife products”*. Again, *“urgent action”* remains unspecific and does not actually guide operationalisation. It is thus not ambitious.

The corresponding indicators proposed by UNStats closely relate to monitoring progress under the pertinent Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), i.e. 15.7.1 applies the IUCN's Red List Index for species in trade, whereas 15.7.2 intends to measure the *“Ratio of indexed value of total CITES-listed wildlife seizures to indexed value of CITES wild-sourced export permits issued”*.

- *Target 15.8* requires by 2020 to *“introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems, and control or eradicate the priority species”*. The target seems important in relation to the stability of ecosystems and to halting the loss of biodiversity, but again, this target is also unspecific and hardly ambitious.

UNStats proposes two indicators to assess progress in dealing with the biodiversity impacts of invasive alien species. Indicator 15.8.1 is proposed to account for national legislation regarding invasive alien species in general (*“Adoption of national legislation relevant to the prevention or control of invasive alien species”*) and is thus rather vague. Indicator 15.8.2 (*“Red List Index for birds showing trends driven by invasive alien species”*) again refers to the IUCN's Red List Index and specifically applies it to the impacts of invasive alien species with a view to birdlife. Both indicators appear to provide useful proxies but are hardly comprehensive regarding the challenge that is supposed to be addressed by Target 15.8.

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

- Target 15.9 requires by 2020 to “*integrate ecosystems and biodiversity values into national and local planning, development processes and poverty reduction strategies, and accounts*”. This is an important target, the pursuit of which would reach beyond national governments, as it would also apply to development activities and investments from donor countries and the private sector, especially with regard to infrastructure and agriculture. It may thus be considered ambitious because of its scope. At the same time, it narrowly subscribes to a monetarisation and commodification of nature, which is highly ambivalent.

UNStats proposed two indicators: “*National programme on the measurement of values of biodiversity or on the implementation of the SEEA-EEA [i.e. the “System of Environmental-Economic Accounting – Experimental Ecosystem Accounting”]*” (15.9.1) and “*Number of national development plans and processes integrating biodiversity and ecosystem service values*” (15.9.2). Again, the mere counting of domestic measures will not account for the inevitable diversity of content and, indeed, ambition across countries. However, any legislation that aims for the integration of ecosystem and biodiversity values into national planning, especially if implemented by 2020, might be considered an important improvement relative to the status quo.

Means of implementation

- *Target 15.a* requires to “*mobilize and significantly increase from all sources financial resources to conserve and sustainably use biodiversity and ecosystems*”. Financial means are pertinent for implementing measures and compensating developing countries for restraint in the exploitation of natural resources and the concurrent conservation of ecosystem services, especially with a view to carbon sinks and biodiversity hotspots. The target as such is adequate, but to be considered ambitious it would need to be spelt out in much more detail.
- *Target 15.b* requires to “*mobilize significantly resources from all sources and at all levels to finance sustainable forest management, and provide adequate incentives to developing countries to advance sustainable forest management, including for conservation and reforestation*”. Thus, the target follows Target 15.a but with a dedicated view on forests. Again, to be considered ambitious, the target would need to be spelt out in much more specific detail.
- *Target 15.c* requires to “*enhance global support to efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities*”. This is adequately focussed, as it addresses an important driver of illegal exploitation of biodiversity. Yet, it fails to address the control of trade in illegal trade with pertinent products and commensurate capacities in law enforcement. Without such means, poaching and trafficking are bound to remain profitable, even where alternative livelihood opportunities exist.

Conclusion

The targets under Goal 15 address important issues that are essential prerequisites for sustainable development. The very inclusion of a goal that underscores the relevance of

land, biodiversity and related ecosystems for human development is thus a major step forward compared to the MDGs. The ambition level is generally high, to the extent that most targets relate to a 2020 or 2030 timeline in view of considerable challenges. At the same time, it is regrettable that they resort to laudable, yet vague, calls to “enhance”, to “take urgent action” or to simply “introduce measures” without adequate specifications, which by and large lowers ambition levels. Moreover, the elaborate differentiation of targets regarding different types of terrestrial ecosystems amounts to a rather convoluted goal, even as it is technically appropriate.

This applies in particular to the targets addressing means of implementation. Targets 15.a and 15.b express a strong focus on mobilisation of finance, but without further specifications this is a moot point. The corresponding indicators, 15.a.1 to 15.b.2, at least point to the various sources from which the money should eventually be flowing. Still, they ignore that the provision of resources alone will not achieve the targets. Sustainable land use calls for capacity development, especially with a view to adequate legislation and regulation, monitoring capacities and law enforcement, as well as for livelihoods that are suitable to the sustainable use of land-based resources, notably ecosystem services and biodiversity. For instance, it would have been desirable for Target 15.7 to directly address the import of illegal wildlife products rather than hoping to end poaching using unspecified “urgent action”. Reflecting this in the corresponding indicator might be an opportunity to make this more concrete without stretching the mandated target. Likewise, targets addressing deforestation, such as Targets 15.2 or 15.b, could have focussed more explicitly on underlying drivers of land conversion, including by identifying prospective trade-offs with a view to sustainable agriculture under Goal 2 (“*End hunger, achieve food security and improved nutrition, and promote sustainable agriculture*”). It appears unlikely that this may be taken on via the indicators, but it is not entirely inconceivable. For instance, indicators relating to results-based finance for avoiding deforestation may be better suited to serve the targets’ purpose than resource mobilisation for sustainable forest management in general.

As with other goals, the targets under Goal 15, too, could have been more explicit regarding interdependencies and interlinkages. This could have helped to indirectly raise the level of ambition across goals through highlighting and co-benefits, notably with regard to Goal 2 (e.g. land footprint), Goal 6 (e.g. water storage), Goal 12 (e.g. drivers of land use change) and Goal 13 (e.g. carbon sinks). Ultimately, Goal 15 and its targets should at least be suitable enough to be harnessed in order to increase ambition and to boost effective implementation of a host of multilateral agreements that address terrestrial ecosystems and biodiversity, notably including the CBD and its Aichi Targets, the UNCCD, the Ramsar Convention on Wetlands of International Importance, the CITES convention and further land-related mechanisms and instruments such as REDD+ under the UNFCCC, and the FAO’s voluntary guidelines on land tenure.

Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Charlotte Fiedler, Mark Furness, Jörn Grävingholt and Julia Leininger

General assessment

Goal 16 aims to incorporate a call for good governance (understood as accountable, inclusive and participatory institutions and decision-making) as well as just and peaceful societies into the 2030 Agenda. By including Goal 16 in its proposal (Open Working Group, 2014), the Open Working Group acknowledged that global sustainable development is not possible without progress in the realms of good governance and peace. In the Millennium Development Goals, any reference to these issues was conspicuously absent, but this time their inclusion underpins the entire 2030 Agenda. Indeed, it is difficult to imagine how the other goals should otherwise be achieved. Ending hunger, increasing living standards or strengthening environmental protection in countries ridden by violent conflict is virtually impossible. On the contrary, conflict destroys lives, livelihoods and economic well-being. Similarly, responsive, accountable and capable state institutions are necessary to promote functioning health or education systems, for example.

At the same time, Goal 16 is an important end in itself and not only an essential means of supporting the other SDGs. Recognising it as such also means acknowledging the fact that good governance is essentially a political issue. This is why it is important not to reduce questions about how to improve governance for sustainable development to the technical level of the effectiveness and efficiency of institutions. Fragile and conflict affected countries and their development partners underlined this view when they agreed that “legitimate politics” would be one of the five essential Peacebuilding and Statebuilding Goals in the 2011 New Deal for Engagement in Fragile States.

Overall, it is highly significant that the proposed Goal 16 was upheld throughout the negotiation process and that it will definitely become part of the 2030 Agenda for Sustainable Development (United Nations, 2015b). Finding a compromise among all UN member states on the politically sensitive topics dealt with under the goal illustrates the difficulties for negotiators to find common ground. A certain degree of “vagueness” in the way Goal 16 and its targets were formulated had to be accepted for the sake of making it possible at all. As a consequence, the formulation of Goal 16 suffers from shortcomings, which could limit its potential impact.

First, concentrating on a few core targets could have made Goal 16 considerably more concise. The SDGs comprise a global agenda that nearly all countries of the world will subscribe to – the goals should be inspiring. Unfortunately, Goal 16 and its targets lack a clear narrative that is focussed on the goal’s core issues (peace and good governance) and that spells out how these could be achieved. Several of the targets are closely related to the two main topics: governance (e.g. ensuring rule-of-law, political freedoms, inclusive institutions and reducing corruption) and peace (e.g. reduction and prevention of violence and arms-flows). However, other elements, such as combating organised crime, illicit financial flows or providing birth registration, are symptomatic of the overarching

challenges of building functioning, inclusive, public institutions. Without such institutions, lasting progress on any of the more specific targets will be unattainable.

Second, the targets of Goal 16 show either too much or too little ambition. Some are formulated so that it is practically impossible *not* to reach them, such as Target 16.3 (“*promote the rule of law*”) or Target 16.a (“*strengthen relevant national institutions ... for preventing violence*”). Other targets set the bar much too high. Target 16.7, for example, obliges countries to “*ensure responsive, inclusive, participatory and representative decision-making at all levels*”. Target 16.2 is to end all types of violence against children and Target 16.3 requires governments to “*ensure equal access to justice for all*”. Although all this is highly desirable, few, if any, countries could claim to have reached all these targets, thereby possibly discouraging well-intentioned efforts from the beginning.

Operationalisation

With discussions on a wide spectrum of possible indicators for Goal 16 currently ongoing, it is important to keep in mind that this goal tackles issues that are notoriously difficult to measure. Measurability should therefore not be the main criteria against which Goal 16 and its targets should be judged. However, given the imprecise wording of the targets, choosing and defining indicators will inevitably have a considerable impact on the actual focus of efforts under Goal 16. The difficulties around measurability may mean that the current discussions on indicators result in the marginalisation of important but harder-to-measure targets (e.g. Targets 16.6 and 16.7) in favour of more indirect but easily measurable ones. Furthermore, as specifications of the targets have not been agreed upon at the global level, national plans will have to provide them.

Goal 16 includes ten targets and two suggestions for means of implementation. Targets 16.1, 16.2 and 16.4 focus on peace (reduction of violence, illicit financial and arms flows, and organised crime). Targets 16.3 and 16.5 through 16.10 call for improvements in governance (e.g. rule of law and access to justice; government effectiveness and accountability; access to information; and protection of fundamental freedoms).

- *Target 16.1* requires a reduction “*of violence and related death rates everywhere*”. This will be one of the goal’s key targets. If it is to be reached, further specifications are required, in particular as to how much of a reduction, and compared to what – as well as a time frame. The two indicators suggested by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) 2015 are “*number of intentional homicides*” and “*conflict related deaths*” each per 100,000 population, which offer a good basis to track Target 16.1. However, with regard to the first indicator, it might be advisable to rather measure violent crime rates – including intentional homicide, assault and sexual violence – as some have suggested, because this would come closer to measuring the entire target, which speaks of reducing “all forms of violence”.
- *Target 16.2* is to “*end abuse, exploitation, trafficking and all forms of violence and torture against children*”. The goal is very ambitious (*end all forms of violence*), and requires a time frame as well as specification of its core concepts (e.g. all forms of violence). Moreover, trafficking is a major problem not only for children, so implementing the target will have to deal with human trafficking in general. Two indicators have been suggested to track Target 16.2: (i) “*Percentage of children aged 1-*

Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

14 years who experienced any physical punishment by caregivers in the past month”, and (ii) *“Number of detected and non-detected victims of human trafficking per 100,000”*. With regard to the first indicator, it remains unclear what types of violence “physical punishment” entails. Given the different options discussed, it seems that sexual violence will not be taken into account, which would represent a serious shortcoming. The second indicator risks running into stark data problems, as it remains unclear how field studies will be able to produce reliable data on human trafficking.

- *Target 16.3* is to “*promote the rule of law at the national and international levels, and ensure equal access to justice for all*”. This goal is formulated so vaguely and broadly that it is practically impossible not to reach. National efforts to reach the target will need to specify the areas in which rule of law is to be promoted, and the time frame for each process. The suggested indicators for this target are: (1) *“Percentage of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanisms”*, and (2) *“Unsentenced detainees as percentage of overall prison population”*. The first indicator is very narrow, as it restricts the issue of “access to justice for all” to victims of violence.
- *Target 16.4* is to “*reduce illicit financial and arms flows, strengthen recovery and return of stolen assets, and combat all forms of organized crime*” by 2030. This target has a time frame but lacks a definition for several of the terms used and benchmarks for measuring progress, especially on issues such as the reduction of illicit financial flows. The first indicator, *“Total value of inward and outward illicit financial flows”*, offers a clear operationalisation of the first element of the target. However, the second suggested indicator, *“Percentage of seized and collected firearms that are recorded and traced, in accordance with international standards and legal instruments”*, appears confusing, as it is not clear what would constitute a positive development. For example, if this percentage decreases, this could either mean that fewer firearms are in circulation, or that the security forces are less effective in preventing the circulation of such firearms.
- *Target 16.5* is to “*substantially reduce corruption and bribery in all its forms*”. This goal would have required a benchmark and time frame to help structure the discussions around indicators. In addition, it is conceptually confusing because bribery is one type of corruption. The suggested indicator *“Percentage of persons who had at least one contact with a public official, who paid a bribe to a public official, or were asked for a bribe by these public officials, during the last 12 months”* offers a clear operationalisation of the target and can provide a good basis for tracking target 16.5.
- *Target 16.6* is to “*develop effective, accountable and transparent institutions at all levels*”. This goal is a key aspect of Goal 16. However, it is expressed in very vague terms. Substantial specifications (Which type of institutions? What different levels?) as well as a time frame need to be clarified to make it implementable. Two indicators have been suggested by the IAEG-SDGs 2015 to measure Target 16.6: (i) *“Primary government expenditures as a percentage of original approved budget”*, and (ii) *“Percentage of recommendations to strengthen national anti-corruption frameworks (institutional and legislative) implemented, as identified through the UNCAC implementation Review Mechanism”*. The main thrust of Target 16.6, which calls to “*develop effective, accountable and transparent institutions*” is not well represented by

these two indicators. The second indicator would rather be a good addition to Target 16.5, which deals with the reduction of corruption. An important indicator to truly track Target 16.6 could have been directly measuring trust in or satisfaction with public institutions, as suggested by the Organisation for Economic Co-operation and Development or the United Nations Statistical Commission, for example.

- *Target 16.7* is to “ensure responsive, inclusive, participatory and representative decision-making at all levels”. It is another very broad and vague target, which nevertheless should be a key component of Goal 16. Again, specifications, benchmarks and time frames are necessary to make this target implementable. Target 16.7 is supposed to be tracked through two indicators: (i) “Proportions of positions (by age, sex, disability and population group) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions”, and (ii) “Proportion of countries that address young people’s multisectoral need with their national development plans and poverty reduction strategies”. Similar to Target 16.7 the indicators do not fully reflect the main aims of the target. In particular, the strong focus on youth in the second indicator is too narrow. Others, for example the Virtual Network of Stakeholders for the Development of Indicators on Peaceful Societies, Justice and Effective Institutions for Goal 16, have suggested measuring the population’s perception of decision-making, public hearings of legislatures or turnout shares in national elections, all of which would be a valuable addition and contribute to a more encompassing operationalisation of Target 16.7.
- *Target 16.8* is to “broaden and strengthen the participation of developing countries in the institutions of global governance”. Apart from lacking a clear connection to the overall goal, this target would have benefitted from specification (Which institutions? What exactly is meant by participation?). The suggested indicator “Percentage of members or voting rights of developing countries in international organizations” is a very good, straightforward operationalisation and specification for the rather vague Target 16.8.
- *Target 16.9* is to “provide legal identity for all including birth registration” by 2030. Although this target is much better specified than most other targets under Goal 16, its direct connection to the goal is unclear. The suggested indicator “Percentage of children under 5 whose births have been registered with civil authority” is a straightforward operationalisation of a very clear target.
- *Target 16.10* is to “ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements”. This is certainly an important aspect of good governance and a key issue for human well-being. But it also lacks specifications (Which international agreements?), operationalisation and a time frame. The suggested indicator “Number of journalists, associated media personnel, trade unionists and human rights advocates killed, kidnapped, disappeared, detained or tortured in the last 12 months” is a very good and encompassing operationalisation and specification for the rather vague Target 16.10.

Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Means of implementation

- *Target 16.a* is to “strengthen relevant national institutions, including through international cooperation, for building capacities at all levels, in particular in developing countries, for preventing violence and combating terrorism and crime”. The way security concerns such as organised crime and terrorism appear as the sole justifications for international support for strengthening national institutions inevitably fuels suspicions about the self-serving motivations of rich countries to provide such support. Target 16.a risks undermining Goal 16, as some might read it as a justification for reducing the promotion of peaceful and just societies, which normally would encompass everything from good governance, accountability and transparency to anti-terrorism operations. The suggested indicator “Percentage of victims who report physical and/or sexual crime to law enforcement agencies during past 12 months” is quite narrow, but nevertheless useful to track Target 16.a.
- *Target 16.b* is to “promote and enforce non-discriminatory laws and policies”. It is unclear whether this target is a means of implementation or an intended outcome. Additionally, it has been formulated too vaguely to inform clear policies and action by the international community. The suggested indicator “Percentage of population reporting having personally felt discriminated against or harassed within the last 12 months on the basis of a ground of discrimination prohibited under international human rights law” offers a clear operationalisation of the target and can provide a good basis for tracking Target 16.b.

Conclusion

In sum, it is immensely important that Goal 16 became a part of the 2030 Agenda. Goal 16 is both an important end in itself and the means to further the other goals. It rightly makes peace and governance a key concern for sustainable development worldwide. Its impact, however, will depend on how it is implemented, and the different processes through which industrialised and developing countries will engage with it. Unfortunately, the sensitivity of its subject matter meant that it was not possible to formulate Goal 16 in a concise, easy-to-communicate and action-orientated way. Much of the goal’s concrete focus will instead be determined through the yet-to-be-defined indicators. Here it is important to keep in mind that Goal 16 tackles issues that are extremely difficult to measure, not least because different political actors interpret them in different ways. Disregarding important but harder-to-measure targets in favour of more indirect but easily measurable ones poses a further risk to Goal 16’s potential impact.

Since the wording of the goal and targets is set, our recommendations focus on general questions and the process of indicator-building:

- Take political governance as the starting point when negotiating indicators for Goal 16 in order to avoid an overly technical approach, which might limit the possible impact of Goal 16 from the very beginning of the implementation process of the 2030 Agenda.
- Focus the negotiations around indicators on the core issues of good governance (ensuring rule of law, political freedoms, inclusive institutions and reducing corruption)

and peace (reduction and prevention of violence and arms-flows) in order to build a strong and convincing narrative around Goal 16.

- Bring together global, political, scientific, civil society and conflict-affected communities to ensure the coherence of Goal 16. Currently, good governance and peace are discussed in separate epistemic and political communities, which will make it difficult to bridge different worlds once the indicators are set.

Goal 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development

Kathrin Berensmann, Clara Brandi, Heiner Janus, Niels Keijzer and Silke Weinlich

General assessment

Goal 17 is about strengthening the means of implementation and revitalising the global partnership for sustainable development. As its title indicates, the 17th and last SDG is presented as a single goal, but it comprises 19 diverse sub-goals and pursues two principal aims. First of all, the proposed goal seeks to set overall ambitions and framework conditions for the means to realise the 2030 Agenda. It rightly starts from the assumption that without a new commitment for a global partnership that takes on responsibility for realising the whole agenda, all efforts will be in vain. Secondly, the proposed goal seeks to “revitalise” the eighth Millennium Development Goal (MDG), which it reformulates as the “*global partnership for sustainable development*”. These two aims inspired proposed targets that are captured under five headings – finance, technology, capacity-building, trade and systemic issues.

Generally, Goal 17 and its targets focus specifically on improving implementation for developing countries. This is plausible, as the means of implementation in many developing countries are scarcer than in rich countries. Still, in a way, this emphasis contradicts the universal approach of the 2030 Agenda and its ambition of enhancing international cooperation as such towards its goals.

Goal 17 mostly focusses on the different responsibilities and contributions of governmental actors, whereas private actors are only mentioned in the context of multi-stakeholder partnerships. This overall focus on governmental actors is justified, yet at the same time the Addis Ababa Action Agenda (AAAA) – the outcome document of the third Financing for Development conference – acknowledges that private actors need to play an increasing role in implementing development goals as broad as the SDGs. The AAAA also entails differentiated commitments for those who provide official development assistance (ODA) and those who engage in South-South cooperation (SSC) and tasks all governments with taking domestic action.

Operationalisation

The means of implementation are included for each individual goal as well as a stand-alone goal. Unfortunately, this broad approach did not translate into concrete and precise commitments. None of the 19 targets indicate a clear and unambiguous level of ambition; instead they rely on verbs such as “enhancing”, “promoting” and “increasing”. This stands in contrast to targets formulated for many other goals, many of which propose either absolute or relative quantitative targets. The targets for Goal 17 are rather heterogeneous and often do not have a clear results-orientation. The AAAA facilitated detailed and broadened deliberations, yet it did not result in more specific and time-bound agreements. The AAAA places particularly strong emphasis on the role of private finance, and in that sense it once again emphasised the need to move away from “financing as usual” under a new global development agenda.

The following discussion of targets and proposed indicators points out open questions and future challenges that need to be actively addressed through national implementation plans and supporting policies. Developed countries wishing to fulfil a pioneering role in the context of the 2030 Agenda should grasp the opportunity for policy initiatives addressing these gaps in Goal 17 in order to actively promote implementation beyond the reach of development policy, i.e. cooperation for promoting the achievement of the goals with rich and poor countries alike. This also includes the search and support for cooperative action with emerging economies, specifically in the realm of Goal 17.

Finance

- *Target 17.1:* The target requires to “*strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection*”. Whereas the remaining targets under the heading of “finance” (Targets 17.2–17.5) focus on ensuring the financial contribution of developed countries in developing countries, this target requires strengthening domestic resource mobilisation in developing countries. This is an important contribution, yet it needs to be specified how and by which means developing countries are to be supported in this endeavour. The AAAA took one helpful step in this direction by identifying key thematic areas and enabling conditions for domestic resource mobilisation, including the commitment to “*redouble efforts to substantially reduce illicit financial flows by 2030, with a view to eventually eliminating them, including by combating tax evasion and corruption through strengthened national regulation and increased international cooperation*”. The United Nations Statistical Commission (UNStats) report proposes to measure progress using the indicators of the ratio total tax / gross domestic product (GDP) and total tax per capita, which provides a straightforward measure of progress, with the next step posing the real challenge: determining ambitious yet realistic target ratios at the level of individual countries.
- *Target 17.2:* The target requires “*developed countries to implement fully their ODA commitments, including to provide 0.7% of GNI in ODA to developing countries of which 0.15-0.20% to least-developed countries*”. Target 17.2 thus reflects a major contribution that richer countries can make to achieve the SDGs, and this was emphasised in the AAAA. However, this means effectively moving the ODA input target ahead by another 15 years. The increased focus on targeting ODA at least-developed countries (LDCs) is a positive factor, given that these countries have in recent years been receiving declining shares of ODA – a trend that needs to be reversed. Although the controversial issue of the “*additionality*” of climate finance was not touched upon in the AAAA, it importantly emphasises the need for “*transparent methodologies for reporting climate finance*”.

The AAAA also reflects the commitment to hold “*open, inclusive and transparent discussions on the modernization of the ODA definition*” and on the Organisation for Economic Co-operation and Development (OECD)’s proposed Total Official Support for Sustainable Development. In his post-2015 synthesis report, the UN Secretary-General also advocated for inclusion and transparency of the process with regard to this new measure. The OECD has been criticised for not inviting substantive inputs from non-Development Assistance Committee (DAC) members to the ODA modernisation discussions, though it has committed to keeping UN member states informed. The

limits of the OECD's convening power to facilitate an inclusive discussion are becoming clear, now that new members such as the United Arab Emirates and independent foundations have begun reporting ODA, whereas SSC providers such as India and China are unlikely to join the OECD's statistical system. Not much progress was made in the AAAA on how to monitor and set the targets for non-ODA development finance, e.g. providers of SSC were encouraged to "*voluntarily step up their efforts*".

The UNStats technical report suggests measuring two indicators: "*Net ODA, total and to LDCs, as percentage of OECD/Development Committee (DAC) donors' gross national income (GNI)*" and the "*Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation)*". The first indicator is appropriate to measure the developed countries' total ODA commitment and their ODA allocations to LDCs. The second indicator is also crucial because it reveals bilateral contributions to basic social services. However, developing countries' needs for basic social services or other needs vary.

- *Target 17.3* requires to "*mobilize additional financial resources for developing countries from multiple sources*". The target is extremely vague. The unspecific formulation "from multiple sources" seems to allude to the fact that private actors need to play an increasing role in implementing the goals of the 2030 Agenda, as acknowledged, for instance, by the UN Secretary-General's synthesis report. Among other actions, the AAAA placed a key emphasis on the role of ODA "*to catalyse additional resource mobilization from other sources, public and private*", which has been a key ambition of ODA in recent years. But these efforts have yet to be rigorously evaluated, and their long-term effectiveness is still unknown. Yet private-sector involvement is not used as one of the indicators proposed by UNStats. Instead, the focus of UNStats is on the cost of remittances in general and the cost of remittances in the top tier of high-cost corridors, which is a rather narrow approach.
- *Target 17.4* requires to "*assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress*". Supporting developing countries to ensure long-term debt sustainability is an important issue under Goal 17. Although coordinated policies seeking to advance debt financing, debt relief and debt restructuring assume a crucial role in achieving long-term debt sustainability, it remains open how this should be operationalised. The UNStats technical report suggests as an indicator the "*total number of countries that have reached their Heavily Indebted Poor Countries Initiative (HIPC) decision points an number that have reached their HIPC completion points (cumulative)*". This is an inadequate indicator for debt sustainability to be achieved between 2015 and 2030. At the time this publication was finalised, of the 39 countries eligible – or potentially eligible – for debt relief under the HIPC Initiative, 36 had already received complete debt relief from the IMF and other creditors after reaching their completion points. Only three countries potentially eligible for this initiative have not achieved their decision points due to common challenges such as maintaining peace and stability as well as significant governance problems. For this reason, this indicator would only be relevant for three countries. One

appropriate indicator would be the analysis within the Debt Sustainability Framework of the World Bank and the International Monetary Fund (IMF) capturing the risk of external debt distress over the next 20 years.

Although the AAAA supports many crucial instruments to prevent debt crises – such as the International Financial Institutions’ tools for assessing debt sustainability and enhancing debt management, or the “*guidelines for debtor and creditor responsibilities in borrowing by and lending to sovereigns*” – it fails to promote other important instruments to resolve debt crises. In particular, a comprehensive approach for an insolvency procedure for sovereign states is still missing and could be combined with precautionary instruments. Even if the political feasibility of implementing such a sovereign insolvency procedure currently seems to be limited, it should be supported by the 2030 Agenda to achieve long-term debt sustainability in developing and developed countries, including Greece.

- *Target 17.5* requires to “*adopt and implement investment promotion regimes for LDCs*”. The target has an important objective that is based on a decision in the Istanbul Programme of Action, i.e. to attract foreign direct investment (FDI) in LDCs. Yet the ways and means to attract FDI in LDCs are not specified, nor are the mechanisms spelled out that would need to be taken by LDCs and other stakeholders. In order to measure progress, the UNStats technical report suggests two indicators: “*adoption / implementation of sustainable development oriented targets by new or existing investment promotion agencies*” and “*number of policy changes in investment regimes incorporating sustainable development objectives*”. Although these two indicators are important, they do not explicitly address financial, technical and capacity-building needs of LDCs to facilitate FDI.

The AAAA is more concrete in how FDI in LDCs can be promoted. First of all, it underlines the significance of national policies for FDI. Second, developing countries need further financial, technical and capacity-building support. For attracting FDI to developing countries, insurance and investment guarantees, such as through the Multilateral Investment Guarantee Agency, as well as innovative financial mechanisms should be promoted. Moreover, the AAAA highlights the importance of investment promotion regimes for LDCs. In contrast to the previous two Financing for Development conferences, the AAAA is much less enthusiastic about the role of international investment agreements in promoting FDI. The AAAA emphasises instead that international investment agreements should not limit domestic policies. What is missing are concrete proposals on how the universe of more than 3,000 international investment agreements can be reformed in light of this aim and how international investment agreements can be reformulated to more effectively facilitate FDI.

Technology

- *Target 17.6* requires to “*enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation, and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, particularly at UN level, and through a global technology facilitation mechanism*”. The reference to South-South cooperation does not directly mention the providers of SSC. This leaves the question open of how

“knowledge sharing” and “improved coordination” can be achieved. Also, there is no mention of the lack of systematic data and evidence on the impact of SSC. A stand-alone target for SSC would have been a major step forward and would have suited a universal agenda well. SSC would still be seen as a complement to ODA. Accepting the different historical and domestic contexts of SSC, as well as the principle of common but differentiated responsibilities, Southern providers would have taken a more visible role in the international framework of providing the means of implementation for the new agenda. They could have been called on to engage in enhanced knowledge-sharing within a common global framework supported by the United Nations. The UNStats report lists two indicators for this target: access to existing patent information (creation of a patent database), and the number of exchanges of scientists and technological staff. To enable greater accountability and ensure the realisation of the 2030 Agenda, SSC providers should be called on to improve the transparency of concrete activities under the label of SSC. The AAAA did not include explicit transparency commitments made by SSC providers.

- *Target 17.7* requires to “*promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed*”. There is considerable overlap with Goal 9, and in particular with Target 9.4 (“*by 2030 upgrade infrastructure and retrofit industries to make them sustainable, with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, all countries taking action in accordance with their respective capabilities*”). The AAAA contains a detailed section on “science, technology, innovation and capacity building”, which shows this to have been a key issue for negotiators, with detailed actions on how to support developing countries in this field and with the decision to set up an international Technology Facilitation Mechanism. The UNStats report proposes to measure progress by looking at the ratio between the total of investments in science, technology, engineering and mathematics and GDP, respectively, per capita. Although it is a relevant measure to determine public investment levels in technological development at the national level, the indicator does not cover cooperation in this field between countries that Target 17.7 promotes. However, monitoring of such cooperation would be best taken forward by means of dedicated research into the effectiveness of international cooperation in this field and cannot be captured by quantitative indicators beyond those capturing the cooperation inputs provided.
- *Target 17.8* requires to “*fully operationalize the Technology Bank and STI (Science, Technology and Innovation) capacity building mechanism for LDCs by 2017 and enhance the use of enabling technologies in particular information and communications technology*”. Again, there is considerable overlap with Goal 9, in particular with Target 9.1 (“*develop quality, reliable, sustainable and resilient infrastructure ...*”) and Target 9.c (“*significantly increase access to ICT and strive to provide universal and affordable access to internet in LDCs by 2020*”). UNStats proposes internet penetration and quality of internet access as indicators. Although measurable, these indicators are rather narrow and leave other types of “enabling technologies” that may be implied in the target unaddressed.

Capacity-building

- *Target 17.9* requires to “*enhance international support for implementing effective and targeted capacity building in developing countries to support national plans to implement all sustainable development goals, including through North-South, South-South, and triangular cooperation*”. Although it is seen as a key means of implementation for the 2030 Agenda, it is currently not possible to monitor whether such enhanced support (which can imply both “more” and “better” support) is provided: (1) developed-country capacity-building support through ODA is not disaggregated but reported in bulk as part of “technical cooperation” expenditure (which pursues a multitude of goals and purposes), and (2) there is no overview of contributions to capacity-building through SSC and no mention of the lack of systematic data and evidence on the impact of SSC. The AAAA proves to be highly ambiguous on this topic, with the simultaneous use of “capacity-building” and “capacity development” showing the fragmented way in which the document was negotiated. In its use of the term “capacity-building”, the document does not provide solutions to the above challenges but instead puts forward regular and generic calls for “increasing” or “providing” capacity-building support to any of the actions prioritised, ranging from domestic resource mobilisation to accessing Global Environmental Facility funds and health systems, among many other priorities. In relation to “capacity development”, the document strongly argues that it “*must be country-driven, address the specific needs and conditions of countries and reflect national sustainable development strategies and priorities*”, with reference to the “*importance of strengthening institutional capacity and human resource development*”. Despite the progress in discourse, translating these commitments into action remains as challenging as ever.

Beyond the difficulty of quantifying and monitoring capacity-building support, the target is limited by relating that capacity-building support to national SDG implementation plans. As per the experience with poverty reduction strategy papers introduced by the World Bank and IMF in 1999, there is a risk that national plans will be largely driven by expatriate input through capacity-building, as developing countries consider them to be a conditionality to access ODA. UNStats suggests two indicators for this target: the increase in national SDG implementation plans between 2016 and 2020, and the “*substantial increase in capacity built through south-south cooperation*”. There is a strong need to concretise the commitments to capacity-building by means of better clarifying what the support should seek out to achieve and how it should best be provided. In addition, effective and sustainable capacity-building support follows beneficiaries’ endogenous change processes. Therefore, the target should not “prescribe” the national plans as being the target of capacity-building support, as this risks providing ineffective supply-driven forms of support.

Trade

Trade rules can – and should – not only provide an “enabling environment” for the realisation of the 2030 Agenda but also contribute to meeting specific development goals, such as eradicating poverty and promoting inclusive and sustainable growth. With a view to the currently proposed trade-related targets, there are complementarities to other goals and targets, above all with a view to increasing Aid for Trade (Target 8.a) and the reduction of subsidies, for example for agricultural exports (Target 2.b), fossil fuels

(Target 12.c) and fisheries (Target 14.6). At the same time, there are potential trade-offs between the World Trade Organization (WTO)'s TRIPS (Trade-Related aspects of Intellectual Property Rights) Agreement and access to affordable, essential medicines and vaccines (Target 3.b).

- *Target 17.10* requires to “*promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the WTO including through the conclusion of negotiations within its Doha Development Agenda*”. In comparison to the MDGs, Target 17.10 makes an explicit reference to the importance of concluding the Doha Round and the significance of a multilateral trading system.

The UNStats technical report suggests two indicators to measure progress regarding Target 17.10: the “*stock of potentially trade-restrictive measures in WTO members*” and the “*worldwide weighted tariff-average*” for several country groups and sectors. Although these indicators go some way in measuring whether the multilateral trading system is “open”, they do not adequately capture the different dimensions of Target 17.10. Overall, Target 17.10 is less easily operationalisable than the other two trade targets, 17.11 and 17.12. However, the recommitment to the multilateral trading system is important, as it strengthens the normative basis on which the WTO is grounded, recognising its role as a global public good and its contribution to good economic governance. At the same time, it can be regarded as a problematic gap that mega-regional trade agreements, such as the Transatlantic Trade and Investment Partnership or the Transpacific Partnership, and their potentially problematic implications for the future of an open, multilateral trading system are ignored.

- *Target 17.11* asks to “*increase significantly the exports of developing countries, in particular with a view to doubling the LDC share of global exports by 2020*”. Although this target is to be welcomed, it would have been more adequate if the trade targets moved beyond merely setting goals for market access – both with a view to LDCs but also other country groupings beyond that (see below). One key trade challenge is to help less-developed countries to integrate into global value chains. It would have therefore been welcome if the 2030 Agenda not only replicated the current trade agenda but also aimed to mirror a new agenda, above all through a stronger focus on rules and behind-the-border measures. National implementation plans could address this need. Moreover, many countries, especially less-developed ones, are still facing very high trade costs, and more attention should be given to reducing them. A first step would have been to agree on how to measure these costs.
- The technical report of UNStats considers the following two indicators to track progress for Target 17.11: “*Monitoring the evolution of developing countries export by partner group and key sectors*” and “*value of non-oil exports from LDCs that are derived from sustainable management of natural resources*”. These indicators can be regarded as useful to measure progress for Target 17.11.
- *Target 17.12* asks to “*realize timely implementation of duty-free, quota-free market access on a lasting basis for all least developed countries consistent with WTO decisions, including through ensuring that preferential rules of origin applicable to imports from LDCs are transparent and simple, and contribute to facilitating market access*”. It is to be welcomed that Goal 17 not only entails targets for market access but

also includes a target that underlines that transparent and simple Rules of Origin should apply to imports from poorer countries.

The technical report of UNStats considers the following two indicators for Target 17.12: the “*average tariffs faced by developing countries and LDCs by key sectors*” and “*preferences utilization by developing and least developed countries on their export to developed countries*”. Although this proposal is useful to track progress in terms of duty-free, quota-free market access for LDCs, it does not encompass indicators that measure progress with a view to preferential rules of origin. Non-tariff barriers to market access in the context of Rules of Origins should also feature in the indicators for Target 17.12. Moreover, it would have been useful if Target 17.12 also referred to other non-tariff barriers and included indicators for them, for example with a view to certain subsidies that can undermine market access for developing countries.

In addition to these issues, the AAAA mentions several crucial trade-related issues. The AAAA outcome document supports trade finance enhancing countries’ trade volume and underpins the importance of ecologically sustainable trade regulations, for example by demanding the removal of distorting subsidies regarding agriculture and fisheries. Moreover, the AAAA reinforces that Aid for Trade should add to the financing of the 2030 Agenda.

Systemic issues: Policy and institutional coherence

- *Target 17.13* requires to “*enhance global macroeconomic stability including through policy coordination and policy coherence*”. The target overlaps with Goal 10 (“*Reduce inequality within and amongst countries*”), in particular Target 10.5 (“*Improve regulation and monitoring of global financial markets and institutions and strengthen implementation of such regulations*”). Since regulating international financial markets and institutions is an important pillar of an enabling international monetary and financial environment, this subject should be covered by Goal 17. The latest global financial crisis has demonstrated that, in particular, policy and institutional coherence to ensure global financial and macroeconomic stability will be a prerequisite for achieving the 2030 Agenda. The crisis has also shown that global financial and macroeconomic stability represents a global public good for which all countries – developed as well as developing – are responsible. However, there exists no consensual definition of “*policy coherence and policy coordination*”, and given the process-oriented and general nature of present working definitions, there is little use to include this target beyond making a symbolic gesture. Instead, the operationalisation of the 2030 Agenda at national levels should make it clear how and with what ambition each UN member will enhance global macroeconomic stability through aligning and harmonising all areas of macroeconomic policy with the SDGs.

Global financial and macroeconomic stability is only addressed on an aggregate level. On the one hand, it is difficult to develop indicators for this subject. On the other hand, choosing the GDP and the current account surplus and deficit in terms of GDP – as proposed by UNStats – is not sufficient because these two indicators are not the only indicators for measuring financial and macroeconomic stability by far. Other indicators such as inflation, fiscal stance, external debt, etc., are missing.

Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

The AAAA also supports strengthening the regulation of international financial markets. In addition, the AAAA underlines the importance of an international financial safety net by emphasising the significance of International Financial Institutions and by encouraging cooperation between the IMF and regional financial arrangements.

- *Target 17.14* requires to “*enhance policy coherence for sustainable development*”. Again, there exists no consensual definition of “policy coherence”. The AAAA did not provide one, apart from clarifying that the three dimensions of economic, inclusive and sustainable development are included; it placed emphasis on efforts by key stakeholders to assess how their full range of policies and actions affect sustainable development. Although 2030 Agenda includes a host of specific targets related to Policy Coherence for Sustainable Development (PCSD), the general target under Goal 17 has an important signalling function and raises awareness of the need for international development policy debates to give ample attention to PCSD. One means to further operationalise the target would be for the international community to define key moments and areas for progress in global regulation to be achieved in the period leading up to 2030, which would facilitate monitoring and review by the UN. UNStats further proposes two specific indicators in relation to PCSD: the number of countries that have ratified and implemented relevant international instruments under the International Maritime Organisation, and the number of countries with multi-sectoral and multi-stakeholder coordination mechanisms in place for a coordinated implementation of chemicals and wastes conventions and frameworks. These indicators could be integrated under Goals 8, 9, 14 and 15, respectively.

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