

# Advancing the 2030 Agenda: Interlinkages and Common Themes at the HLPF 2018

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*An expert group meeting in preparation for HLPF 2018: Transformation towards sustainable and resilient societies*

United Nations Headquarters, New York, 25-26 January 2018  
Organized by the Division for Sustainable Development, UN-DESA

## Report of the Meeting



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## Executive Summary

Since the adoption of the SDGs, there has been much progress achieved in thinking about interlinkages across goals and targets in a more integrated and holistic way. While this kind of conceptualization is an essential first step, action must now move towards more systematic policy design, implementation and multi-stakeholder collaborations that can translate such understanding into concrete results on the ground.

There are many detailed mappings of interlinkages across the SDG goals and targets. In practical terms, these typically imply potential synergies or tradeoffs: models and scenarios that incorporate these can be useful in assessing alternative paths to the SDGs. Such models are more advanced in the case of some nexuses than others.

All models and scenarios have limitations; however, the process to develop, validate and use them is just as important as what they say. The process enables the discussion of interlinkages to become more concrete in the local context, allowing the aggregation of information from science and other stakeholders to the level of policymakers in a more transparent way. Therefore, there needs to be a balance between finding the “perfect model” and one that is useful and responsive to the needs of policy makers.

Understanding and working with the political context is also necessary for implementing coherent policies, including those that aim to reduce trade-offs or promote synergies.

Other challenges are also evident in different contexts. Some of the most common are:

- Inadequate or poorly developed governance structures, for example in connecting across global, regional, national and local levels in the case of the food-energy-water nexus
- Limited motivation and a lack of practical toolkits (e.g. for valuation) to foster collaborations across sectors, departments and ministries
- Guidance towards the respective roles and responsibilities for public-private partnerships that incorporate learning from prior successes and failures
- Aligning market-based incentives with desired investments that can effectively leverage interlinkages

Participants emphasized that resolving such challenges could have transformative impacts.

### **The meeting produced a set of ‘good principles’ to follow when using the notion of interlinkages for decision making:**

1. Localize or domesticate an understanding of interlinkages and interconnections in the unique context of each country, region, gender and population group.
2. Rely on evidence-based knowledge that draws upon empirical observation and scientific assessment, but also aggregate knowledge from various stakeholders in an open and transparent way.
3. Leverage the knowledge building process itself to fuel the policy convergence process at various levels.
4. Use this knowledge to set priorities for action, noting that prioritization and policy choices will be context specific.
5. Adjust governance structures to reflect the interrelationships.
6. Gather more high quality reliable data for decision making, and go beyond the formal global monitoring framework as needed.
7. Ensure multi-stakeholder engagement where different actors contribute toward the final outcome in ways that support each other.
8. Foster dialogue, learning and continual communications as essential to working together in more effective ways.

## Key Messages by Session

### ***SDG interlinkages: the state of the art in analysis, engagement and implementation***

- Since the adoption of the SDGs, there has been some progress achieved in thinking about interlinkages in a more integrated and holistic way
- Conceptualizing interlinkages in abstract terms is useful, but now we must begin the more difficult task of implementing actual policies with concrete results
- Operationalization—formalizing interlinkages and putting synergies into practice—involves trade-offs that are not just related to other SDGs but are also political
- Understanding these political relationships is necessary to implement coherent policies
- Models and scenarios are useful to assess alternative paths towards sustainable development
- Models and maps of interlinkages are value laden and can reflect social priorities that influence operationalization. Therefore, it is critical to build inclusivity and equity into developing interlinkages models, as well as into decision making processes
- All models and frameworks have limitations; however, the process to develop and use these models is just as important as the results. This should enable the discussion of interlinkages to become more tangible, allowing the aggregation of information from science and relevant stakeholders to the level of policymaking in a transparent way
- There must be a balance between finding the “perfect model” and a model that is useful and responds to the needs of policy makers and delivers results
- Operationalization must be linked to assessment frameworks, which need to be capable of effectively evaluate progress and challenges as these evolve over time and adapt accordingly

### ***SDG 6: Ensuring availability and sustainable management of water and sanitation for all***

- Systems thinking around water is sophisticated and quite advanced, since Integrated Water Resources Management principles have been in application for over 15 years
- The food-energy-water nexus brings our discussion of SDG interactions and interlinkages down to the concrete level with clear policy implications
- Beyond the conventional wisdom that progress in one of these issues is inevitably connected to progress in the other two, the water nexus illustrates the importance of governance at all levels, and the inherent challenges here, since there is no global mechanism to guide water policy
- A global framework is needed, along with regional governance structures, particularly because of the transboundary nature of many water issues
- It is also important to link to national and regional sustainable development plans
- Any of these governance structures—global, regional, national, local— must commit to an integrated approach to water issues, and this will mean making some changes in the way policy and budgets are set
- Opportunities for safe management and reuse of wastewaters are underexplored, and need particular attention in national policies and water and sanitation financing
- Ministries, parliaments, and local governments must all incentivize cross-sectoral action and budgeting; new toolkits may be needed to address today’s complexities
- This does not only apply to the multiple interlinkages of SDG 6 to many other goals, but also to the *intra*linkages within SDG 6 connecting fresh water with sanitation, water quantity with

water quality, integrated watershed management with relevant ecosystems, and community engagement in water resources management

- An effective framework will also make room for the involvement of all relevant stakeholders
- A transparent, inclusive process will be needed—civil society, the private sector and industry, the scientific community and local governments must all work together to shape policies that will advance SDG 6
- A multi-stakeholder approach is especially important to minimize and avoid tradeoffs between the goals; often solutions for advancement of one goal are hidden in the implementation process for another
- Public-private partnerships and other multi-stakeholder partnerships will need clear principles, guidelines and learning from past failures and successes
- Important lessons from successful community-based, decentralized water and wastewater management, particularly in rural settings, will need to be synthesized and replicated
- Gender issues are inextricable from water and sanitation issues, and presentations highlighted this in terms of sanitation and access to education, land rights and water access, unpaid or underpaid labor, efficient water resources management, displacement by hydroelectric projects, and other instances
- Explicit links can be made between SDG 6.2 and many other goals—safe, segregated toilets and menstrual hygiene are clearly linked to adolescent girls' access to education (SDG 4), gender equality in public and working life (SDG 5), professional advancement and access to decision making (SDG 16), improvements in water infrastructure (SDG 9), sustainable and equitable urban development (SDG 11) and efficient water resources management (SDG 12)
- A human rights approach to water issues is critical; inclusivity will sometimes need to be prioritized above efficiency

***SDG 15: Protecting and sustainably managing terrestrial ecosystems and forests; combatting desertification; reversing land degradation and halting biodiversity loss***

- In spite of the many positive interlinkages with other SDGs, it is difficult to advance SDG 15, illustrating the challenges of moving from conceptualization to action
- For example, there are strong interlinkages between terrestrial ecosystems and biological diversity (SDG 15) and agriculture, genetic diversity and hunger (SDG 2), climate change (SDG 13) and SCP (SDG 12)
- One can also easily make the link between SDG 15 and poverty (SDG 1), water (SDG 6), energy (SDG 7), urbanization (SDG 11), gender equality (SDG 5), reducing inequality (SDG 10), oceans (SDG 14), peace and security (SDG 16)
- Diverse and healthy ecosystems could be cost-effective solutions to climate change adaptation
- Ecosystem-based approaches to adaptation promote the interlinkages between SDG 15, climate change adaptation and resilience building, to reduce vulnerabilities in society
- Practitioners on the ground are already aware of the multiple and complex interlinkages with terrestrial ecosystems: local communities must be involved as custodians of the local environment in participatory planning
- Conservation and biodiversity is an issue of inequality for indigenous peoples—for example, those who cause land degradation are often not held accountable (e.g. deforestation, mining)

- Indigenous peoples are often among those who are considered “left behind” and SDG 15 is an important goal to them
- Moving beyond the local level, challenges to ecosystem-based approaches include inadequate understanding of the true value of nature in policy making, lack of integrated thinking and spatial planning, and difficulty accessing public finance
- Part of the challenge is that addressing interlinkages requires addressing underlying indirect drivers—institutions, governance, societal changes, and different values and preferences, which are often political
- Very few policy instruments have successfully addressed indirect drivers; institutional and governance structures have not yet been adequately adapted
- True transformational change is going to be painful—but there are also good examples when governance adapts over time through a process of learning and adjusting
- Three powerful levers for change include:
  - Developing more gender-responsive and women-led resource and land management initiatives, along with strong legally and socially legitimate land tenure for women
  - Diversifying diets, maintaining and developing agricultural biological diversity *in situ*, moving away from reliance on animal proteins and a small number of staple crops
  - Deploying GIS and other modern technologies more effectively and capacity building for using information

***SDG 7: Ensuring access to affordable, reliable, sustainable and modern energy for all***

- Much like the water goal, the energy goal is premised on the fact that advances in sustainable energy will have co-benefits in many other sectors, including health, women’s empowerment, education, climate change, water, food security and others
- Notably, sustainable energy and energy access also have the potential to drive economic growth, industrial development, sustainable livelihoods and improve social equality.
- Trade-offs present challenges; while pollution and GHG emissions are well recognized, energy projects can have negative impacts on ecosystems, local communities, and other aspects of sustainable development that are not readily apparent.
- Progress in SDG 7 needs to include a holistic approach that considers environmental benefits as well as livelihoods and economic growth
- With the strong involvement of the private sector in sustainable and modern energy, motivating these changes through incentivizing investment decisions that take these factors into account is critical
- Although there is evidence of public, private and public-private investment in sustainable energy projects allowing for a return on investment, there is currently not enough investment for closing the gap to the universal energy access Goal and the climate change mitigation targets defined by the Paris Agreement
- Financial flows will need to be redirected from brown investments into sustainable investments; a scale-up of green investments will not only mitigate climate change, it will also foster economic growth and job creation
- Public-Private Partnerships should be encouraged by improving governance and transparency
- It is important to align the financial system—banking, capital markets and insurance—with sustainable development

- Innovative financing options are needed to encourage more investment in sustainable energy projects, to address issues such as stranded assets, or realize the potential for leapfrogging
- Resistance to change arises when the full impact on livelihoods is not taken into account; it is not enough to generate new jobs in solar energy, for example—there must also be a way forward for those displaced from fossil fuel industries
- Vocational training and re-training must be coordinated with job availability
- A gender perspective is imperative, both in terms of the benefits to women when energy access is expanded, and in recognizing the gender disparity in employment in the power sector
- When women are included among the decision makers—on corporate boards, for instance—sustainable energy becomes more prominent in the supply chains

***SDG 11: Making cities and human settlements inclusive, safe, resilient and sustainable***

- Cities are a critically important context for SDG implementation—they are microcosms for the challenges for implementations in general, they magnify the importance of taking an integrated approach, and they highlight the dangers of ignoring the interlinkages among SDG issues
- Cities can also allow for experimentation and can be testing grounds for transformative change
- The interactions among SDGs (co-benefits and tradeoffs) look very different in developed country cities versus developing country cities
- Cities in developing countries have the opportunity to leapfrog the old, unsustainable development paths—through technology transfer, adaptive governance structures, integrated policy making and raising awareness for behavior changes
- With new approaches, cities can become refuges for people and for biodiversity—not “perpetrators or victims”
- Effective, inclusive development in cities will need to take into account the needs of persons with disabilities, and other vulnerable groups
- Transitions to increased sustainability need to consider the root causes of inequality, and policy makers should make decisions that will address these and respect human rights
- Policy makers must change the way they look at risk in the urban context
- Natural disasters and other climate impacts are endogenous to development decisions—they are not a separate issue to be considered independently
- Governance structures should reflect an integrated reality—the disaster risk reduction community, the climate action community, and governments at all levels should be working together
- Cities are an integral part of a country’s territorial landscape, inextricably tied to rural areas and suburban spaces; policy makers must recognize the links in terms of land use relationships and transport, as well as the cultural and symbolic value of cities as a seat of identity and heritage for many societies
- Much of the growth and economic activity in developing country cities is in the informal sector, which generally means that neither the municipalities nor the businesses can benefit in terms of tax revenue, public-private partnerships, or proactive planning, and policy makers must address this

- There are bright spots that can be studied and replicated in this regard, however, and some cities have managed to secure revenue and partnerships from informal businesses

### ***SDG 12: Ensuring sustainable consumption and production patterns***

- Sustainable consumption and production (SCP) and SDG 12 are at the center of the 2030 Agenda, and link to all the SDGs through 49 SCP-related targets
- 35 countries have SCP national action plans focused on sustainable resource management, resource efficiency, human wellbeing, reducing environmental impacts through reuse and recycling, sustainable procurement policies, and engaging the private sector and consumers
- The 10YFP forms the indicator for SDG 12.1, and includes an indicator framework that is underpinned by the SDG indicator framework, which will continue to develop as the SDGs evolve
- Achieving SDG12 requires change in both the supply and demand side. This implies changes in behavior and changes to the way economic development is pursued—it needs to become more ethical and based on the principles enshrined in the 2030 Agenda
- It is the job of government to protect the public interest, supporting effective (human and financial capacity) accountable governance at all levels is therefore needed to understand the appropriate incentives, regulations and relationships it should have with the private sector in implementing Agenda 2030 and the SDGs, in particular where there are trade offs and the kind of transformation required by SDG 12
- While changing consumer behavior is important, and younger people are more aware of sustainability challenges, it is also important to target how corporations operate, as they have a significant impact on how resources are deployed
- Similarly, governments have the important task of employing resources while protecting the environment and regulating private sector activity
- There needs be to shift away from economic models that values growth for growth's sake, toward a new mind-set that respects planetary boundaries, recognizes the economy as a subset of nature, and supports the concept of living in harmony with nature (reflected in SDG target 12.8)
- A fine balance should be achieved between regulations and incentives in order to achieve the necessary paradigm shift
- Progress has been made, but the private sector needs to understand where along the value chain to target investments for SCP
- Regional priorities and variances should be kept in mind and accounted for; regional approaches lead to greater ownership of actions and progress toward multiple goals
- Partnerships involving the private sector and multi-stakeholder actors can be critical, as the private sector retains the wealth and capital necessary to enable changes toward SCP
- Nevertheless, public private partnerships must be approached with caution, in particular when their efficacy at supporting Agenda 2030 and the implementation of SDGs is unknown
- Practitioners need to find a way to cluster their actions; individual actors have limited impacts
- Communities of practice, as well as Major Groups and other stakeholders, prove valuable in this context
- Factors such as trade relations, institutional arrangements, and other power dynamics can negatively affect—and even undo—the efforts to achieve the paradigm shift for SCP

- The principles outlined in the 2030 Agenda should stay in focus, and not be weakened as governments move to implement the SDGs

### ***Overcoming shared challenges: Data availability, financing, capacity and STI***

- Policy coordination and coherence is the key at global, regional and national levels
- To this end, consistent and routinely measured datasets, aggregated to global scale, are critical for developing strategies and measure progress with respect to the SDGs
- The human footprint is an example of a global, synthetic dataset that connects patterns of economic growth to biodiversity conservation
- The data revolution—a combination of technological innovations that increase data availability, processing, analysis, and communication capabilities—make it now possible to monitor the Earth in near real time, analyze the resulting data, and share the results directly with decision makers and those able to influence them
- An integrated Earth monitoring system is needed to determine whether and to what extent environmental changes are affecting human health and to assess interlinkages among SDGs as well as the effectiveness of policies to achieve them
- Collaborative open source monitoring systems are needed that allow users to combine, analyze, visualize, and share environmental and human health data from multiple sources at different spatial and temporal scales
- It is important to strengthen the capacity of national statistic institutions for better monitoring SDG progress, involving a wider range of stakeholders, including governments, IOs, private sector, CSOs, academic and general public
- Resource allocation decisions in development cooperation should consider the SDG agenda
- Cities are not only the focal points of development, but should also be focal points for data, financing, capacity, science, technology and innovation
- Cities have effects on fertility, poverty alleviation, and ideation, which are leading to population stabilization, the eradication of poverty, and positive social movements, and they are critical for protection and management of ecosystems
- Ensuring data ownership, capacity building to produce information and use of evidence for policy-making is key for promoting the interlinkages that can accelerate implementation of SDGs

### ***Ensuring inclusion, resilience and sustainability***

- The 2030 Agenda is based on the principle of leaving no one behind, and provides a framework for ensuring inclusiveness and equity, but harnessing interlinkages to increase the benefits of synergies and reduce or eliminate trade-offs is challenging
- The identification of SDG interlinkages, models and scenarios can facilitate the implementation of the 2030 Agenda; however, the actual identification of priorities for action at the national and local levels requires the consideration of guiding values such as equity, resilience and sustainability
- An enabling environment to facilitate effective inclusion relies on an effective governance system (the right to information, freedom of expression, freedom of assembly) policy coherence, and effective participation mechanisms—including for monitoring progress—to ensure the engagement of marginalized groups

- It is critical to identify those left behind—some are apparent, such as indigenous peoples or people with disabilities, but others—such as migrants or landless workers—are not so easily recognized
- The furthest behind suffer from multiple vulnerabilities, which are very contextual and specific to countries
- There is a need to design a methodology that identifies vulnerable populations and those furthest behind, and to promote collection of the necessary disaggregated data, which should be collected within the national data collection system

## Introduction

1. The Division for Sustainable Development of the United Nations Departments of Economic and Social Affairs (UN-DESA) convened an Expert Group Meeting (EGM) at United Nations Headquarters in New York from 25 to 26 January 2018, as a preparatory meeting for the High-Level Political Forum (HLPF) to be held in July 2018.

2. A total of 84 experts—43 women and 41 men—participated in the meeting from a diverse group of countries in all regions of the world. They represented think tanks, academia, Major Groups and other stakeholders, Governments, and the UN system, including its Regional Economic and Social Commissions.

3. The objective of the meeting was to explore the interactions across the SDGs and their targets under review at the 2018 High-Level Political Forum (HLPF), as well as with the rest of the 2030 Agenda, to help provide substantive inputs into the thematic reviews, and further implementation on the ground, including by attaining the overarching objectives of resilience, inclusion and sustainability.

4. Each session of the meeting addressed specific themes, with presentations from a panel serving to initiate working-level, interactive discussions. Speakers presented regional, national and local examples to illustrate cross-cutting challenges or highlight innovative practices; identified pathways to leverage progress in multiple areas; sought to understand common challenges and shared approaches towards achieving overarching outcomes; produced recommendations on new and innovative ways in which diverse actors could work together towards these ends; and proposed concrete, action-oriented recommendations for the HLPF and its outcome documents.

5. The theme of the HLPF in 2018 is *transformation towards sustainable and resilient societies*, and it will maintain a special focus on SDGs 6 (water and sanitation), 7 (energy), 11 (cities), 12 (sustainable consumption and production), and 15 (terrestrial ecosystems), in addition to SDG 17, which is considered each year.

6. The 2030 Agenda is considered to be universal, holistic and indivisible, with a special imperative to leave no one behind. As such, understanding the interlinkages among the various goals and targets, as well as the ways in which these interlinkages can be leveraged during implementation to accelerate progress across multiple objectives, is central to the overall success

of the Agenda. Apart from these interlinkages, issues such as data availability, financing, capacity and technology also present challenges and opportunities that have much in common across these SDGs.

7. For example, SDG 6 (Ensuring availability and sustainable management of water and sanitation for all) is intimately linked to targets such as those relating to energy access (SDG 7), urban basic services (SDG 11) pollution and waste management (SDG 12) and terrestrial ecosystems (SDG 15). At the same time (and without seeking to be exhaustive), Goal 6 is also linked to other parts of Agenda 2030 such as those related to poverty, nutrition, health, education, gender, economic growth and climate change. The relative importance of these interlinkages can vary by regional or socio-economic context, meaning that synergies and trade-offs can do so as well, with specific implications for policies and programmes, including those intended to leave no one behind and secure resilience and sustainability.

8. In this effort to prepare for the thematic review sessions at the 2018 HLPF, the meeting considered the most significant interlinkages among SDGs 6, 7, 11, 12 and 15 and the rest of Agenda 2030, based on the most recent scientific thinking and evidence; discussed how the strength and nature of these interlinkages varies across countries in different circumstances, or impacts specific population groups differently; and examined how such interlinkages could lead to concrete recommendations for advancing sustainability, resilience and inclusivity. Speakers identified modeling tools and other approaches in which policy makers and participants in multi-stakeholder partnerships could leverage these interlinkages for effective action at sub-national, national, regional and global levels. They also sought to address the most fruitful areas in which data availability; science, technology and innovation; financing; and capacity development could be advanced for ensuring acceleration towards the SDGs.

## **Session One—Opening and Setting the Stage**

Shantanu Mukherjee, Chief of the Policy and Analysis Branch, DESA/DSD, convened the meeting, welcoming all participants and offering opening remarks to set the stage for the discussions...

## **Session Two—SDG interlinkages: the state of the art in analysis, engagement and implementation**

Moderator:

Debapriya Bhattacharya, Chair, Southern Voice on Post-MDG Network and Distinguished Fellow, Centre for Policy Dialogue (CPD), Dhaka, Bangladesh

Lead presenters:

Måns Nilsson, Research Director and Deputy Director, Stockholm Environment Institute  
Anne Guerry, Lead Scientist and Chief Strategy Officer, Natural Capital Project, Stanford University

Barry B. Hughes, Frederick S. Pardee Center for International Futures, University of Denver

John Hardy, Millennium Institute, iSDG model

Lead discussant:

Fatima Denton, Director, Special Initiatives Division, UN Economic and Social Commission for Africa (ECA)

### ***Summary of presentations and discussion***

9. Better knowledge on the interlinkages between SDG goals and targets is critical for policy coherence towards sustainable development. A focus on interactions helps to prioritize action with larger synergetic impact. It facilitates policy dialogue and learning, and prompts effective investments. This session reviewed some of frameworks, models, scenarios, tools and approaches that help translate these interlinkages into effective guidance for designing and implementing policies and programmes.

10. One of these frameworks is the guide to SDG interactions of the International Council for Science. The guide proposes a typology of interlinkages. It applies a systems approach, in which progress in one SDG target affects progress in others. The framework applies network analysis to identify clusters of synergies among SDG targets. The objective is to maximize the positive connections inside the clusters. The application of this framework can help to set priorities for action by identifying subsets of targets that unlock progress in many other targets. It can also mitigate the effects of trade-offs, and contribute to interagency coordination, learning and dialogue. It provides knowledge to support the development of robust and coherent strategies for comprehensive SDG implementation even with limited data. Some of the challenges in applying the framework are common to similar approaches: spatial and temporal scales of interactions are complex, the target selection is politically sensitive, and the identification and classification of the interlinkages requires multidisciplinary expertise.

11. The meeting noted three models that consider SDG interactions and are used for policy analysis: the model of the Natural Capital Project, the International Futures (IFs) System, and the iSDG model. The first two are models adapted to SDGs and the latter was created specifically for these goals.

12. The Natural Capital Project seeks to harness the links between nature and SDGs. The project is implemented by Stanford University with partners around the world. It traces the direct positive relationships between nature and SDGs. The project has uncovered complex relationships with multiple factors affecting nature and SDG achievement. The meeting noted the results of the project at national, regional and global scales. In particular, the meeting noted the activities of the project related to mapping current and future ecosystem services relevant to the national development plan of Bahamas, scenario analysis for the strategic action plan of the Volta Basin authority, and global scenarios for ecosystems services for global assessment.

13. The IFs System of the Pardee Center for International Futures of the University of Denver is a dynamic integrated model system for SDG analysis covering 186 countries. It is implemented as a recursive model with one-year steps (myopic) to 2100, a user interface for data and scenario analysis, and covering a wide range of interconnected SDGs. The meeting noted the

use of the IFs System in pilot studies and collaboration with UNDP/Strategic Policy, including in Moldova, Brazil and Turkmenistan. These studies presented intervention and scenario analysis exploring synergies and trade-offs related to sustainable and resilient societies. The SDG goal and indicator analysis form covers the 17 SDGs, 169 targets, 232 indicators; it has 94 variables and models demand, supply, trade-offs, finance, revenues, costs, and synergies between indicators. In the case of the application of the IFs in Moldova, it helped to: expand infrastructure, especially WASH and ICT; to bring attention to the need to focus on health and resilience; to improve governance, reducing corruption and promoting social and economic inclusivity; and to promote an integrated approach with increased attention to interactions.

14. The iSDG tool of the Millennium Institute is designed to support the policy process by assessing current performance and exploring alternative development paths. It can be used to evaluate benefits of proposed policies and foresee long-term impacts. That is expected to facilitate policy coherence and SDG alignment with national development plans, as well as policy implementation to achieve results and monitor progress towards policy objectives. The iSDG model calls for extensive data gathering and coordination with the client. The meeting noted the examples of the use of iSDG, including in the assessment of the SDG progress in Cote d'Ivoire.

15. Participants generally agreed that knowledge of interlinkages is critical for policy coherence to maximize positive connections and minimize negative ones. Models and scenarios are useful to assess alternative paths towards sustainable development. These tools and approaches show a complex network in which all SDG targets connect to many other SDGs. The prioritization, contextualization and the operationalization of these interlinkages must be based on values and social priorities of the community affected by the actual interventions. Therefore, it is critical to build inclusivity, equity and sustainability into these processes.

16. The discussion highlighted that to be relevant in the SDG timeframe, SDG models must consider emerging mega trends. Some of the trends discussed were population growth in some regions (e.g. Africa), reduction and aging in others (e.g. Europe), continuous urbanization, and changes in demand patterns due to increasing incomes in emerging economies. SDG tools and approaches must also emphasize geography and proximity given that implementation is invariably local. Models are only as good as the data they use, which underscores the ongoing need to build capacity in the generation and use of data in the analysis of SDG interlinkages.

17. All models and frameworks have limitations. However, more important than the results of these models is their important role in facilitating participatory multistakeholder discussions to identify priorities and contextualize interlinkages. They provide concrete examples of synergies and trade-offs and their unforeseen long term effects, and they channel knowledge from science to decision makers.

### ***Recommendations for action***

- Build inclusivity, equity and sustainability into decision making processes by prioritizing, contextualizing and operationalizing interlinkages in a way that is based on the values and social priorities of the community affected by the actual interventions

- Link operationalization to assessment frameworks, which need to be capable of effectively evaluating progress and challenges as they evolve over time
- Emphasize geography and proximity in the use of models and frameworks, given that implementation is invariably local
- Utilize a systems approach to maximize positive connections, set priorities for action, mitigate the effects of trade-offs, and contribute to coordination of strategies for comprehensive SDG implementation, even with limited data
- Understand that the value of using models and frameworks for SDG implementation is not in their results, but in the important role they play in facilitating participatory multi-stakeholder discussions to identify priorities and contextualize interlinkages

### **Session 3—SDG 6: Ensuring availability and sustainable management of water and sanitation for all**

Moderator:

Peter Messerli, Director, Centre for Development and Environment, University of Bern and co-Chair, Independent Group of Scientists for the Global Sustainable Development Report, 2019

Lead presenters:

Isha Ray, Associate Professor, University of California, Berkeley, co-Director, Berkeley Water Center

Lesha Witmer, Women for Water Partnership

Felix Dodds, Senior Fellow, Global Research Institute, and Co-Director of the 2014 Nexus Conference on Water, Food, Energy and Climate

Aneta Nikolova, Environmental Affairs Officer, UN Economic and Social Commission for Asia and the Pacific (ESCAP)

Lead discussant:

Verena Klinger-Dering, Counsellor for Sustainable Development at the Permanent Mission of the Federal Republic of Germany to the United Nations

#### ***State of implementation***

18. According to the UN Secretary-General’s annual report on progress toward achieving the SDGs entitled *The Sustainable Development Goals Report 2017*, over two billion people live under water stress, primarily in Northern Africa and Western Asia, and in Central and Southern Asia. Agriculture accounts for 95 per cent of water usage in the developing world.

19. In terms of access to water services, 5.2 billion people have access to safely managed sources (an improved water source within a 30-minute round trip). In the case of sanitation, 2.7 billion people have access to either a “basic” service—an improved service, but not one that safely disposes of human waste—or a “limited service,” which is a *shared* improved service lacking full disposal capabilities. Open defecation is still practiced by 12 per cent of the global population, primarily in rural areas of Southern Asia and sub-Saharan Africa. Hand washing services, with soap and water on premises, was available in less than 20 per cent of sub-Saharan

Africa, while in the Latin America and Caribbean region, more than 75 per cent have access to such hygiene services.

20. SDG 6 has six substantive targets and nine related indicators. Of those, two indicators are classified as Tier III: 6.3.2 (Proportion of bodies of water with good ambient water quality), and 6.6.1 (Change in the extent of water related ecosystems over time). In its December 2017 update, the IAEG-SDGs did not indicate any strategy for further elaboration of either of these indicators. In the Tier II category are: 6.1.1 (Proportion of population using safely managed drinking water services); 6.2.1 (Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water); 6.3.1 (Proportion of wastewater safely treated); 6.4.1 (Change in water-use efficiency over time); and 6.5.2 (Proportion of transboundary basin area with an operational arrangement for water cooperation). For 6.4.1, the IAEG-SDGs requested more information on terminology, but the Group did not describe any planned action on any of the other Tier II indicators.

### ***Summary of presentations and discussion***

21. In terms of the ongoing challenges identified in the SG's Progress Report and areas with sub-optimal indicators, the meeting offered some insights, without delving into context-specific details. In analyzing water usage and water stress, participants noted that dietary shifts toward more meat consumption in middle-income and developing countries—especially China and India—have more significant impacts on water quality and access than was previously anticipated. Addressing the food-water-energy nexus, experts discussed how agricultural biodiversity is critical to climate adaptation and human health, linking to SDG 13 and SDG 3.

22. Although the target on Integrated Water Resource Management (IWRM) agreed at the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg was not met, the principles of interdependence and the need for holistic policy setting in the water and sanitation sectors remain relevant, and SDG 6 is the most suitable SDG for interlinkages analysis.

23. The meeting highlighted important interlinkages between SDG 6.2 and various aspects of sanitation, including access to gender-segregated toilets with appropriate menstrual hygiene, that have strong impact on access to education for adolescent girls (SDGs 4 and 5) and opportunities for women's productive employment and gender equality (SDG 5), flagging the need for these interlinkages to be addressed by holistic policy making. The gender components of water and sanitation were highlighted many times, with participants noting that water stewardship is often the responsibility of women, and that women's organizations are often driving the action toward stricter health and safety standards. Water stewardship is also closely linked to women's access to land and land tenure.

24. The session discussions also highlighted the "blind side" of the water cycle—wastewater after the use of water. Wastewater is a major component of the water cycle and wastewater management—including the generation, collection and treatment of wastewater, its use and disposal (treated or not), and its eventual return to the environment—is a critical component of water resources management. Pollution from untreated wastewater has an impact on human health, particularly in low-income settings where people may be living close to highly polluted

waterways. In the developing world, millions of people die each year from preventable water-related diseases. Pollution also reduces the amount of usable water resources, thus increasing scarcity.

25. Wastewater needs to be seen as a resource, rather than a burden to be merely “disposed of” or ignored. Treated wastewater is an affordable and sustainable source of water, nutrients (e.g., phosphorous) and other recoverable by-products. With appropriate treatment, wastewater can be used (or stored in aquifers) to reduce the pressure on surface and groundwater resources and offset water scarcity. It is a reliable source of agricultural water in particular, even in arid and semi-arid regions. Utilizing wastewater at or close to its source can be particularly cost-efficient. Ecosystems can offer cost-effective solutions for wastewater management, provided they are managed sustainably. There is a critical need for capacity development in all aspects of wastewater management.

26. One of the most “hidden” dimensions of wastewater management is the often marginalized labor involved in cleaning, transport and treatment; the linkages with SDG 8 on decent work are in particular need of policy reform, regulation and remuneration in the wastewater sector. Water and sanitation services create many jobs, which are currently undervalued, but which have the potential to be improved and protected.

27. The links between SDG 6 and the SDG 7 targets on sustainable energy also featured prominently in the discussion, with participants emphasizing that drinking water and irrigation should be linked to planning for electricity infrastructure. Energy plans should account for water needs of different approaches, and it was clear that a shift to higher use of sustainable energy would also have a benefit to water use and ecosystems.

28. Prioritization among the SDGs is sometimes a taboo subject, but participants from the Asia-Pacific region stressed that water scarcity is a case where prioritization is necessary. In a highly populous region with severe water scarcity, priorities must be set and when interlinkages are well studied trade-offs can be minimized and avoided. In Western Asia and Northern Africa, water scarcity is exacerbated by security concerns, and participants thus highlighted links to targets on peace and security in SDG 16. Speakers emphasized the importance of inclusive, multi-stakeholder decision making to ensure that human rights and equity concerns are addressed. Participants stressed that inclusivity is more important than efficiency in these cases.

29. Governance at all levels integrating water and wastewater management is critical to foster collaboration across institutional boundaries, accountability and compliance with wastewater regulations for its use and the extraction and use of recovered by-products. Above all, reuse and recycling needs to be planned for “upstream” and complement end-of-pipe solutions “downstream”.

30. The inherent challenges are clear in this regard, since there is no global mechanism to guide water policy. Participants cited the need for a global framework but also for regional governance structures, particularly because of the transboundary nature of many water issues. It will also be important to link to national and regional sustainable development plans. Any of these governance structures—global, regional, national, local—must commit to an integrated

approach to water issues, and this will mean making some changes in the way policy and budgets are set. This applies not only to the multiple interlinkages of SDG 6 with many other goals, but also to the *intra*-linkages within SDG 6 connecting fresh water with sanitation, water quantity with water quality, and integrated watershed management with relevant ecosystems. Ministries, parliaments, and local governments must all incentivize cross-sectoral action and budgeting. New toolkits may be needed to address today's complexities.

31. An effective framework will also make room for the involvement of all relevant stakeholders. A transparent, inclusive process will be needed, reflecting the reality that SDG 6 is fundamental to the 2030 Agenda. Civil society, private sector, the scientific community and governments must all work together to shape policies that will advance SDG 6. A multi-stakeholder approach is especially important when actions to advance one SDG involve tradeoffs for another. Public-private partnerships and other multi-stakeholder partnerships will need clear principles, guidelines and learning from past failures and successes.

32. Gender issues are of course inextricable from water issues, and the speaker presentations highlighted this in terms of sanitation, land rights and water access, community displacement by hydroelectric projects, and other examples. In general, panelists and participants discussed the importance of a human rights approach to water issues, acknowledging that it is the mandate of the United Nations to prioritize inclusivity and the left-behind over efficiency, when the two are in conflict.

### ***Recommendations for action***

- Link drinking water and irrigation to planning for electricity infrastructure, and link water needs to energy plans
- Increase use of sustainable energy to benefit water use and ecosystems
- Improve and protect sanitation services, which are currently undervalued and have potential to create jobs
- Link regional governance structures to national and regional sustainable development plans to address transboundary water issues
- Incentivize cross-sectoral action and budgeting among ministries, parliaments, and local governments
- Endure multi-stakeholder approaches when actions to advance one SDG involve tradeoffs for another
- Address human rights and equity concerns in cases where water is scarce and inclusivity is more important than efficiency

## **Session 4—SDG 15: Protecting and sustainably managing terrestrial ecosystems and forests; combatting desertification; reversing land degradation and halting biodiversity loss**

Moderator:

Mildred Crawford, Jamaica Network of Rural Women Producers and Co-Chair of GAP Farmers

Lead presenters:

Ingrid J. Visseren-Hamakers, Associate Professor, Environmental Science and policy, George Mason University

Katia Araujo, Director of Advocacy, LANDESA

Romy Chevallier, Governance of Africa's Resources Programme, South African Institute of International Affairs

Vijay Modi, Professor of Mechanical Engineering, SEAS Faculty, Earth Institute and Data Science Institute, Columbia University

Lead discussant:

Thais Linhares, Senior Forestry Officer, FAO

### ***State of implementation***

33. *The Sustainable Development Goals Report 2017* highlights that although the pace of forest loss has slowed and improvements continue to be made in managing forests sustainably and safeguarding areas important for biodiversity, the accelerating rate of biodiversity loss, continued poaching and trafficking of wildlife and declining soil productivity is alarming.

34. SDG 15 includes 12 targets—nine are substantive and three address means of implementation. Five of the substantive targets must be met by 2020. Two of these 2020 targets are measured by indicators that are classified as Tier II: the proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species (15.8.1), and the proportion of traded wildlife that was poached or illicitly trafficked (15.c.1). One is attached to a Tier III indicator—progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity (15.9.1). Two of the 2030 targets include indicators that are classified as Tier II: the proportion of land that is degraded over total land area (15.3.1), and the proportion of traded wildlife that was poached or illicitly trafficked (15.7.1).

35. Two of the targets have indicators that are classified as having multiple tiers, with different components of the indicator classified into different tiers. Both 15.a.1 (official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems) and 15.b.1 (official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems) are classified as Tier I/III.

### ***Summary of presentations and discussion***

36. This session examined why it has been difficult to advance progress toward SDG 15 despite the many possibilities to leverage progress through interlinkages with other SDGs, discussed examples of how implementation of other SDGs could impact progress toward SDG 15, and illustrated the challenges of moving from conceptualization to action.

37. There are strong interlinkages among terrestrial ecosystems (SDG 15), agriculture and food security (SDG 2), climate change (SDG 13) and SCP (SDG 12). In the context of urbanization (SDG 11), the benefits of urban forestry, the role of forestry in alleviating migration

to urban spaces, and the need for a territorial systems approach for urban and rural spaces was highlighted. One can also easily make the link between SDG 15 and poverty (SDG 1), water (SDG 6), energy (SDG 7), gender equality (SDG 5), reducing inequality (SDG 10), oceans (SDG 14), and peace and security (SDG 16).

38. Addressing interlinkages with SDG 15 requires addressing underlying indirect drivers— institutions, governance, societal changes, as well as the different values and perspectives of diverse actors. Very few policy instruments have successfully addressed indirect drivers, and institutional and governance structures have not yet been adequately adapted. The importance of jurisdictional approaches for better assessing the interlinkages was stressed.

39. Optimizing the trade-offs among SDGs implies a focus on societal change rather than on technological solutions. The challenge here is in understanding how to change behavior and overcome institutional and structural barriers to eradicating poverty and achieving sustainability. These will be different for different interactions, but we have an opportunity to link these in approaches that are inclusive.

40. For instance, progress toward achieving diverse and healthy ecosystems can contribute cost-effective solutions to climate change adaptation, and in turn ecosystem-based approaches to climate change adaptation can also promote progress toward SDG 15. Such synergistic advances can generate additional benefits in other areas, such as resilience building and reducing vulnerabilities in society. SDG 15 can also be a driver of sustainable and inclusive growth through links with SDG11, in examining how ecosystem services provide for better livelihoods, while improving rural livelihoods can also impact urban lives and put less pressure on cities.

41. Conversely, fossil fuel use, industrial agriculture, logging and mining are threats to the value of ecosystems services. Eradicating hunger and increasing agricultural productivity, for example, without taking other SDGs into account can have devastating impacts on biodiversity, land, forests and water, and impede progress toward climate change and other related goals. Addressing the SDGs in an environmentally friendly and holistic manner requires fundamentally different approaches, cross-sectoral dialogues, and instruments that can deliver combined policy objectives.

42. The richness of global biodiversity held in forests, wetlands, oceans, and mountain ecosystems is not well defined in SDG 15 targets, and could be addressed by strengthening the environmental dimension in working with countries to preserve biodiversity within protected areas. The true value of nature and its non-market functions, including its spiritual value, should be more recognized in the effort to define and leverage interlinkages for progress toward SDG 15, as well as other SDGs. New market and non-market incentive systems are running, but nature is currently undervalued, finance is difficult to access, there are barriers to finance for restoration of lands, and time horizons are too long. Several experts suggested that SDG 15 implementation could be linked to the post-2020 Strategic Plan for Biodiversity being developed by the Convention on Biological Diversity (CBD).

43. Deep transformational change can be painful, for it upsets established institutional patterns and demands that outmoded ways of thinking must evolve—but there are good

examples of progress in governance adapting over time, through a process of learning and adjusting, such as with the development of sustainable forestry certification.

44. One expert introduced the concept of integrative governance, defined as theories and practices that focus on the relationships between governance instruments (public, private and hybrid policies and rules) and systems (the total of instruments on a certain issue at a specific level of governance). Enhanced understanding of the multiple and intertwined explanations of the relationships and performance of governance systems will allow academics and practitioners to develop more realistic, durable solutions both for the shorter and longer term.

45. SDG 15.3, which aims for land degradation neutrality by 2030, has opened a window of opportunity for many countries to strengthen policies for sustainable use of land and soils. Achieving land degradation neutrality will require a shift away from migration and towards people staying to rehabilitate or restore their land. To that end, ensuring women's land rights can generate the incentive, security, opportunity and authority to make decision about ways to conserve the land and to ensure its long-term productivity.

46. Progress toward SDG 1 (poverty) and SDG 5 (gender equality) can leverage progress toward SDG 15, especially with regard to ensuring women's land rights, through their respective sex-disaggregated indicators, including SDG 1.4.2 (women with secure tenure rights to land, both through legally recognized documentation and through their own perception; SDG 5.a.1 (ownership or secure tenure of agricultural land); and SDG 5.a.2 (legal frameworks, including both formal and customary, that guarantee women's equal rights to ownership or control of land). Every effort should be made to integrate gender perspectives and ensure women's meaningful participation, as they are often the custodians of the land and providers of food for the family, to generate awareness on land tenure rights and why women's land rights are important for the SDGs, and to close the gender data gap in evidence-based responses.

47. Clearly, SDG 15 is strongly linked with issues of inequality (SDG 10), particularly for indigenous peoples, as those who cause land degradation are often not held accountable, for example with regard to deforestation and mining. Indigenous peoples are among those who are often considered "left behind", and SDG 15 is an important goal to them.

48. Practitioners on the ground are generally already aware of the multiple and complex interlinkages of terrestrial ecosystems. Local and indigenous communities must be involved as custodians of the local environment in participatory planning. In Latin America and the Caribbean, primary and small-scale producers are the drivers of solutions to land degradation, and key actors in developing more coherent and standardized approaches to land use. In the Sahel and Ethiopia, livelihoods and nutrition are directly connected to land degradation. There are constraints to balancing livelihoods, productivity and good soils with affordable water and energy. Small plots of land are often found to have higher returns, and smaller irrigation systems are best for enhancing sub-soil storage of water and increasing access to affordable water year round. Farmers must innovate to provide low-cost sources of energy and ensure market access for off-season products.

49. To advance at the ground level, key conditions need to be in place that foster landscape approaches, land use planning, stakeholder participation and dialogues for capacity building, valuation of ecosystem services, and a shift toward cost-benefit analyses that include nature. One expert highlighted the role of rapidly advancing GIS technologies, which are cheaper than ever and very useful for cross-sectoral planning.

50. Beyond the local level, challenges to ecosystem-based approaches include inadequate understanding of the true value of nature in policy making, lack of integrated thinking and spatial planning, and difficulty accessing public finance. Development of environmentally friendly transport is also essential for rural development that supports SDG 15.

51. Discussion on how approaches to food production strongly affect SDG 15 and where the issue of agricultural biodiversity fits into the goal highlighted that developed world diets are GHG intensive, rely on a handful of staple crops, and have detrimental effects on land, water, and forests. Bio-based production and supply chains are important, both for biodiversity and for sustainable consumption and production (SDG 12), and inclusive approaches to forest value chains are also relevant. A number of experts advocated that a focus on reducing meat consumption could have far-reaching positive impacts on SDG15 implementation. Investing in increased production of indigenous crops carries great potential for increasing agricultural and wild biodiversity. Technological solutions should not be discounted in this regard as levers for transformational change, as investments in research for medicalizing nutrition and preserving seed genebanks could have positive impacts for SDG 15.

### ***Recommendations for action***

- Promote positive interactions of SDG 15 targets on land, ecosystems, biodiversity, wildlife and mountains with targets related to water, energy, gender, climate change adaptation, increasing resilience, and ensuring sustainable livelihoods to foster and strengthen ecosystem approaches and reduce vulnerabilities in society
- Increase understanding of relevant institutions, governance, societal changes, and the different values and perspectives of diverse actors as underlying indirect drivers of implementation, which are often political in nature
- Address institutional and structural barriers to societal change in order to optimize trade-offs among SDGs
- Strengthen the environmental dimension in working with countries to preserve biodiversity within protected areas
- Increase the involvement of local communities as custodians of the local environment in participatory planning
- Support processes of learning and adjusting so that governance structures can adapt over time
- Ensure women's land rights to generate incentive, security, opportunity and authority to make decisions about ways to conserve land and safeguard its long-term productivity
- Develop more gender-responsive and women-led resource and land management initiatives, along with strong legally and socially legitimate land tenure for women
- Integrate gender perspectives and ensure women's meaningful participation to close the gender data gap in evidence-based responses

- Diversify diets to shift away from increasing reliance on animal proteins and a small number of staple crops
- Deploy GIS and other modern technologies more effectively
- Invest in increasing production of indigenous crops, research for medicalizing nutrition and preserving seed genebanks

## **Session 5—SDG 7: Ensuring access to affordable, reliable, sustainable and modern energy for all**

Moderator:

Rana Gohneim, Industrial Development Officer, UNIDO

Lead presenters:

Youba Sokona, Special Adviser on Sustainable Development, the South Centre, Geneva and former Vice Chair, IPCC

Yera Ortiz de Urbina, International Renewable Energy Agency, New York

Isabella Alloisio, Research Associate, Florence School of Regulation of the European University Institute, Florence, Italy

Rebecca Pearl-Martinez, Energy, Climate, and Gender Consultant

Lead discussant:

Karin Fernando, Center for Poverty Analysis, Sri Lanka

### ***State of implementation***

52. According to *The Sustainable Development Goals Report 2017*, progress in every area of sustainable energy falls short of what is needed to achieve energy access for all and meet the SDG 7 targets for renewable energy and energy efficiency.

53. While access to electricity has increased globally, there are disparities across regions and between urban and rural populations. While 96 per cent of urban dwellers around the world had access to electricity in 2014, only 73 per cent of people had access in rural areas, and 80 per cent of those lacking access are concentrated in just 20 countries, with more than half in sub-Saharan Africa. Correspondingly, only 22 per cent of people in rural areas have access to clean and safe cooking fuels and technologies, as compared to 78 per cent in urban areas. Providing electrification and clean cooking fuels rapidly enough to outpace growing populations in some areas is an emerging challenge.

54. While renewable power generation has expanded globally in the electricity sector, development and deployment of renewable technologies is lagging behind in the transport and heat sectors, and despite global reductions in energy intensity through increased efficiency in the industry and transport sectors, progress is insufficient to meet the target of doubling the global rate of improvement by 2030.

55. For its five substantive targets, SDG 7 has six indicators, four of which are classified as Tier I, and two that have been classified as Tier III. Indicator 7.a.1 (International financial flows to developing countries in support of clean energy research and development and renewable energy production, including in hybrid systems) was classified as Tier III because an internationally agreed methodology and standard needed to be developed, and was reclassified as a Tier II indicator by the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) at their November 2017 meeting. Indicator 7.b.1 (Investments in energy efficiency as a proportion of GDP and the amount of foreign direct investment in financial transfer for infrastructure and technology to sustainable development services) remains a Tier III indicator.

### *Summary of presentations and discussion*

56. Renewables are central to achieving the goal of ensuring access to affordable, reliable, sustainable and modern energy for all (SDG 7). Many energy solutions based on renewables are cost-effective, readily available and easily customizable, providing sources of energy services that sustain livelihoods and improve human wellbeing. They create conditions to further human development by facilitating access to basic needs such as water and food, improving human health and education, and enhancing incomes and productivity. Renewables also create new jobs and spawn new local industries—the renewable energy sector has created 9.8 million new jobs in 2016 and will create 26 million more jobs by 2050.

57. Renewables can contribute to environmental sustainability by mitigating the local and global environmental impacts associated with energy consumption. Progress in achieving SDG 7 is an enabling factor for other key goals, in particular SDG 13 on combatting climate change and its impacts. At the global level, the most critical environmental impact of energy production and use is its contribution to closing the gap in achievement of SDG 13. Renewable energy combined with energy efficiency gives the world a realistic chance of keeping the rise in global temperature below 2°C, while also reducing air pollution. An approach using a “7-point scale of SDGs interactions” to assess interlinkages between SDG 7 and the other SDGs was presented, with the aim to evaluate and attribute a score to key target-level interactions. As expected, the interactions between SDG 7 and SDG 13 are the highest. Well-designed renewable energy projects can also avoid negative effects of energy production and use on ecosystems and biodiversity (SDG 15).

58. Participants emphasized that the development of sustainable energy systems can impact and interact with the economy, the environment and society. Identifying interlinkages among SDGs is key to maximizing development co-benefits, and the interlinkages of SDG 7 are apparent with regard to industrial and social policies, as achieving SDG 7 is central to the mandate of inclusive sustainable industrial development. Participants stressed the importance of affordable access to essential modern energy services underpinning progress toward SDG 9 through the development of resilient infrastructure and sustainable industrialization, harnessing resources and stimulating innovation, especially for developing countries.

59. More than four million people die prematurely each year from illnesses attributable to indoor air pollution from cooking with traditional biomass and inefficient cook stoves. This hazard can be alleviated by off-grid renewables for household uses combined with improved

cook stoves (SDG 3). By providing basic energy needs in a clean and sustainable manner, renewables bring wider benefits for health, gender equality and educational opportunities. Electricity provides lighting as well as access to information technology. For the one billion people who depend on health facilities in remote and rural areas that presently lack electricity, renewable energy can improve health services.

60. By reducing or eliminating the time required to gather firewood, modern renewables free up time for women and girls to pursue an education (SDGs 4 and 5) or focus on income-generating activities. In analyzing gender in the context of energy access, participants highlighted selected gender barriers that impede achievement of SDG 7, and stressed the need to broaden the conceptual framework from the usual household view, to women's empowerment throughout the energy value chain. Examples of government and private sector initiatives in Africa, Asia, Latin America, and North America illustrated how addressing gender inequalities (SDG 5) has positively impacted energy delivery and climate action.

61. The discussion revolved around examples of why the identification of interlinkages and an integrated approach is important for SDG 7. For instance, more than 80 per cent of India's electricity comes from thermal power stations, and India's power supply is increasingly in jeopardy from water shortages since 90 per cent of these thermal power plants are cooled by freshwater, and nearly 40 per cent of them experience high water stress. The plants are increasingly vulnerable, even while India remains committed to providing electricity to every household by 2019. Water shortages cancelled out more than 20 per cent of the country's growth in electricity generation in 2015 and 2016. By adopting an integrated approach, including notably a move towards solar and wind energy, India now has a target for 40 per cent of its power to come from renewables by 2030.

62. Many participants highlighted the importance of general policy coherence at the level of implementation. There is a need to change from supply-oriented to demand-oriented systems in the energy sector. Electrification in end-use sectors, namely lighting, heating and cooling and transport is key. Decarbonization, decentralization and digitalization are three crucial elements to achieve access to modern energy services. However, progress in SDG 7 can entail trade-offs, for example with sustainably managed forests, agriculture and food security. There is no "one size fits all" solution to achieving SDG 7.

63. At the local level, renewables have a key role to play in the transition to sustainable urban energy (SDG 11), including energy for heating and cooling local power generation and powering electric vehicles. Many agreed on the need to further evaluate the interlinkages between transport and energy.

64. Within this framework, the water-food-energy-climate change nexus approach is crucial. The nexus should be carefully considered and integrated in all national climate and energy policies and regulations, and is a key topic in the achievement of 2030 Agenda.

65. To enable progress by leveraging interlinkages, country ownership is fundamental. Institutional and policy innovation are vital, and adequate prioritizing of investment will be crucial. Endogenous technology development and deployment is also important. In this

connection, the role of the private sector in technology, innovation and digitalization was highlighted.

66. To achieve transformative changes in energy systems, higher levels of financing and bolder policy commitments are required, and countries must agree to embrace new technologies on a much wider scale. Mobilization of State and non-State actors—particularly the private sector—to make long-term commitments is critical. In the context of SDG 17 on means of implementation, the discussion highlighted issues related to improving gender-energy data, workforce participation throughout the energy value chain, and the ways in which financial inclusion could enhance women’s energy access and entrepreneurship.

67. To adopt a holistic approach for addressing complicated issues around the way energy is produced, distributed and consumed, and avoid overlooking potential synergies, a strong measuring and monitoring framework is essential, including an expansion in the scope of energy statistics, as well as increased collaboration among agencies that collect socio-economic data. In the case of renewable energy, data in monitoring the impacts of projects that have been supported by incentives and other public policy measures could also be improved. For a more holistic approach to monitoring, energy statistics will need to include indicators that reflect the ways in which renewable energy improves people’s wellbeing and livelihoods.

### ***Recommendations for action***

- Address impacts on livelihoods and devise a way forward for those displaced from fossil fuel industries as new jobs in solar energy are increasingly generated
- Increase women’s empowerment throughout the energy value chain to positively impact energy delivery and climate action
- Shift from supply-oriented to demand-oriented systems in the energy sector
- Embrace new technologies on a wider scale and mobilize both State and non-State actors—particularly the private sector—to make long-term commitments
- Increase innovative financing options to encourage more investment in sustainable energy projects, address issues such as stranded assets, or realize the potential for leapfrogging
- Expand the scope of energy statistics, increase collaboration among agencies that collect socio-economic data, and include indicators that reflect the ways in which renewable energy improves people’s wellbeing and livelihoods

## **Session 6—Recap of Day One Discussions**

68. The second day of the meeting began with a presentation by Tonya Vaturi, Policy and Analysis Branch, DESA/DSD, that provided a summary of the discussions during the first day of the meeting, and outlined some of the emerging main messages and recommendations. In setting the stage for day two, she asked participants to consider how to convert the concepts on interlinkages into investment and financing models, how to quantify what is required to operationalize SDG synergies, and how this might lead to greater coherence on outcomes such as livelihoods and employment.

69. Recalling one of the questions put forward in the meeting’s concept note on what could be done to improve data availability, STI, finance, and capacity development, she highlighted the upcoming afternoon session on this topic and invited participants to expand on this topic.

## **Session 7—SDG 11: Making cities and human settlements inclusive, safe, resilient and sustainable**

Moderator:

Andrew Rudd, Urban Environment Officer, UN-Habitat New York Liaison Office

Lead presenters:

Tony Wong, Chief Executive, Cooperative Research Centre for Water Sensitive Cities

Jose Viera, World Blind Union, Human Rights and Development Policy Advisor

Maruxa Cardama, Urban Advisor, Cities Alliance

Allan Lavell, Coordinator of the Programme for the Social Study of Disaster Risk and Climate Change Adaptation, Secretariat General’s Office of the Latin American Social Science Faculty-FLACSO

Lead discussant:

Carol Chouchani Cherfane, Chief, Water Resources Section, Sustainable Development Policies Division, UN Economic and Social Commission for Western Asia (ESCWA)

### ***State of implementation***

70. According to *The Sustainable Development Goals Report 2017*, urban population is vast and growing—by 2030, 5 billion people will live in cities. In addition, though the percentage of people living in slums compared with total urban population has fallen, the actual number of slum dwellers has risen, and in sub-Saharan Africa, 56 per cent of the urban population currently lives in slums. The data also shows that as cities grow, they become less dense. Sprawl brings its own challenges; nonetheless 75 per cent of countries do have urban plans in place, many of which are linked to the 2030 Agenda and seek to strengthen the links between the urban, suburban and rural areas.

71. Solid waste and air pollution continues to pose problems for city dwellers. Only 65 per cent of the urban population, globally, has access to municipal waste collection, and in sub-Saharan Africa and Central and Southern Asia, only 40 per cent have access. This has serious health implications, as does the fact that 90 per cent of people living in cities breathe air that fails to meet WHO standards of air quality (10 micrograms of particulate matter per cubic meter). No cities in sub-Saharan or Asia met that standard, 50 per cent of cities in Oceania (minus Australia and New Zealand), and 40 per cent of European and North American city dwellers breathe air that meets the standards. Australia and New Zealand provide clean air to 100 per cent of their urban population.

72. For its seven substantive targets, SDG 11 has 11 indicators, only three of which were classified as Tier I as of 15 December 2017. Of the remaining indicators, four were Tier II and four were Tier III. At their November 2017 meeting, the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) discussed ways to address the weakness especially of the Tier III indicators, and they found that in the case of indicator 11.3.2 (Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically) and 11.7.1 (Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities), further clarification on the definition of “city” and additional pilot studies will be necessary. The IAEG-SDGs did not offer any updated thinking on the other two Tier III indicators: 11.7.2 (Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months) and 11.4.1 (Total expenditure, public and private, per capita spent on the preservation, protection and conservation of all cultural and natural heritage).

73. For three of the Tier II indicators, the IAEG-SDGs has not advanced any strategies for addressing gaps and shortcomings. These indicators are 11.2.1 (Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities); 11.3.1 (Ratio of land consumption rate to population growth rate); and 11.6.1 (Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities). The fourth, 11.5.1 (Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population), is closely linked to the Sendai Framework and is repeating within the 2030 Agenda as 1.5.1 and 13.1.1, but beyond emphasizing the importance of coherence, the IAEG-SDGs did not describe a way forward to further clarity.

### ***Summary of presentations and discussion***

74. Cities are a critically important context for SDG implementation—they are microcosms for the challenges for implementations in general, they magnify the importance of taking an integrated approach, and they highlight the dangers of ignoring the interlinkages among SDG issues. Cities can also allow for experimentation and can be testing ground for transformative change.

75. The interactions among SDGs (co-benefits and tradeoffs) look very different in developed country cities versus developing country cities. Cities in developing countries have the opportunity to leapfrog the old, unsustainable development paths—through technology transfer, adaptive governance structures, truly integrated policymaking and raising awareness for behavior changes. With new approaches, cities can become refuges for people and for biodiversity—not “perpetrators or victims.” Effective, inclusive development in cities will need to take into account the needs of persons with disabilities (1 billion in total), the poor, women, youth and other vulnerable groups. Transitions to increased sustainability need to consider the root causes of inequality, and policy makers should make decisions that will respect human rights and address these root causes.

76. In the context of urban infrastructure, including public transport infrastructure (linked to 11.2.1 and to the issue of sprawl), the importance of leapfrogging old approaches and starting with green infrastructure and technologies in developing country cities was emphasized in

connection with the ongoing challenge that many development banks continue to approve financing for unsustainable infrastructure projects and fail to incentivize green alternatives.

77. Much of the growth and economic activity in developing world cities is in the informal sector, which means in general that neither the municipalities nor the businesses can benefit in terms of tax revenue, public-private partnerships, or proactive planning. Participants brought regional specificity to the issue of slums and the informal sector, noting that in African cities, the informal sector accounts for 61 per cent of urban employment, with 93 per cent of new jobs and 92 per cent of women's employment currently informal. Some cities have managed to secure revenue and partnerships from informal businesses, and policy makers can learn from studying such examples.

78. On the issue of urban density (addressed by 11.3.1), participants noted that sprawl is a social and attitudinal issue as well as a spatial issue. Developing countries are now adopting the car-centric, segregated use approach and the feeling that “we can afford to sprawl” that traditionally characterized developed country urbanization. This undermines the innovation and efficiency that denser development brings. However, participants noted that there is a “sweet spot” for density, likely in cities that have two to four million people, rather than in mega cities.

79. Participants also added complexity to the issue of resilience, arguing that there is social and infrastructure resilience and that sometimes infrastructure “designs out” social resilience. In the developing world, there are examples of social resilience that can be instructive for developed country cities. Cities in some contexts—especially the Middle East—can enable the social resilience of their people, serving as places of refuge for migrants, for instance. Well-designed, accessible cities can also be sites of refuge and empowerment for people with disabilities (80 per cent of whom live in developing countries).

80. Cities are an integral part of a country's territorial landscape, inextricably tied to rural areas and suburban spaces. A territorial landscape approach can enable policy makers to take a more integrated approach to sustainable cities and to the SDGs, particularly SDG 1, 2, and 8. Currently, government policies often are focused on the urban sectors, despite the inability of cities to absorb and employ rural populations should they be displaced. Small-scale farmers support the livelihoods of some 2 to 2.5 billion people; governments need to initiate adequate capital projects in rural areas to slow the increasing rural-urban migration that leads to congestion, slums and ever-increasing unemployment.

81. Policy makers must recognize the links—in terms of land use relationships and transport as well as the cultural and symbolic value of cities as a seat of identity and heritage for many societies. Quito introduces a paradigm of cities that fulfill their territorial responsibilities to cities but also the rural and suburban areas around it.

82. The session also addressed interlinkages among sustainable cities and sustainable livelihoods and economic growth. Participants noted that labor-intensive solutions are often the most sustainable (e.g. in the case of sanitation work) and as long as workers' wellbeing is ensured, they can be win-win-win scenarios. Also, in relation to water targets, participants emphasized the need for holistic approaches, valuing ecosystem services, improving water

quality, managing storm water and others. In some cities, water scarcity is driving innovation and investment (e.g. in re-using waste water).

83. Sectors like water, forests, energy and others have networks of experts and practitioners at all levels that can help facilitate coordination and coherence among the territorial levels (local, regional, national). The League of Arab States, for instance, is looking at climate change and water resources and the related vulnerabilities, which is leading to adaptation actions at all levels.

84. Policy makers must in many cases change the way they look at risk in the urban context. Natural disasters and other climate impacts are endogenous to development decisions—they are not a separate issue to be considered independently. Governance structures should reflect the integrated reality—the disaster risk reduction community, the climate action community, and governments at all levels should be working in concert.

### ***Recommendations for action***

- Ensure that inclusive urban development takes into account the needs of persons with disabilities, the poor, women, youth and other vulnerable groups
- Incentivize green infrastructure projects over unsustainable alternatives
- Increase the amount of revenue and partnerships secured from the informal employment sector
- Design cities to enable the social resilience of people, serve as places of refuge for migrants, and empower people with disabilities
- Recognize the cultural and symbolic value of cities as a seat of identity and heritage for many societies
- Integrate the disaster risk reduction and climate action communities in the urban context and reflect these within governance structures and development decisions

## **Session 8—SDG 12: Ensuring sustainable consumption and production patterns**

Moderator:

Susan Bragdon, Representative for Food and Sustainability, Quaker United Nations Office, Geneva

Lead presenters:

Charles Arden-Clarke, Head, 10YFP Secretariat, UNEP

Jes Weigelt, Head of Programmes, Think Tank for Sustainability

Loraine Gatlabayan, Secretary-General of Board of Trustees of Asia-Pacific Roundtable on Sustainable Consumption and Production

Rafael Flor, Director, YieldWise, The Rockefeller Foundation

Lead discussant:

Amr Nour, Director, United Nations Regional Commissions Office, New York

### ***State of implementation***

85. SDG 12 calls for decoupling economic growth from natural resource use to ensure sustainable development. According to *The Sustainable Development Goals Report 2017*, however, global natural resource use is on the rise worldwide, with domestic material consumption increasing from 1.2 kg to 1.3 kg per unit of GDP from 2000 to 2010, and a rise in total domestic material consumption during the same period from 48.7 billion tons to 71.0 billion tons.

86. Member States who are parties to multilateral environmental agreements on air, soil and water pollution and exposure to toxic chemicals often neglect to report the data and information requested under the auspices of those agreements.

87. Achieving SDG 12 will require stronger national frameworks for sustainable consumption and production that are integrated into national and sectoral plans, more sustainable business practices and consumer behaviour, and adherence to international norms on the management of hazardous chemicals and wastes.

88. SDG 12 includes eight substantive targets and three targets on means of implementation. Only two of the 13 indicators attached to these targets are classified as Tier I; one is classified as Tier II and the remaining 10 indicators are classified as Tier III.

### ***Summary of presentations and discussion***

89. Sustainable consumption and production (SCP) and SDG 12 are linked to the other four SDGs under review this year, with 31 targets contingent upon progress in SCP. There are also important SCP-related targets in nearly all other goals, notably SDGs 2, 3, 4, 8, 9, 13, 14 and 15. This session examined how partnerships and regional frameworks focused on SCP can support the effective implementation of these goals and targets, explored how power dynamics within the private sector and governments affect how resources are used, and recalled the importance of adhering to the principles of the 2030 Agenda in efforts to achieve the paradigm shift that SCP requires.

90. UNEP's 10-Year Framework of Programmes (10YFP) serves as an implementation mechanism for SDG 12 and as well as SCP-oriented targets in other SDGs. Implementation of the 10YFP is target 12.1, and this is measured by an indicator framework that is underpinned by 32 SDG indicators, some of which are still in development. The 10YFP is focused on implementation of policies and initiatives; partners in the six programmes (on food, buildings, tourism, public procurement, consumer information and sustainable lifestyles) collaborate on individual projects and in an overall work programme.

91. Around 35 countries have developed SCP National Action Plans (NAPs) that include resource efficiency measures for water and energy use, waste prevention and reduction, recycling and reuse, and resource management. These action plans aim to mitigate impacts on the environment and human wellbeing, and are relevant for city planning, corporate and social responsibility (CSR) strategies, and sustainable public procurement policies too. NAPs are cross-

sectoral, emphasize resource efficiency, enhance coherence, and engage the private sector and consumers.

92. The 10YFP sustainable food systems programme contributes to ensuring resource efficiency, reducing environmental impacts and enhancing human wellbeing. This programme has more than 150 partners, underpins targets in SDG 2 on sustainably increasing productivity and addressing trade distortions. Policies, practices and choices incorporated in such systems conserve critical resources and contribute to food security and human welfare.

93. Regional strategies contribute to ownership of action and recognize regional variability. The interlinkages of SDG 12 and other SCP-related goals are important to the Asia Pacific Region, where governments assist stakeholder partnerships in mainstreaming SCP into strategies, policies, implementation, and monitoring across sectors and thematic areas. There has been significant progress in promoting and implementing SCP in the region through stakeholder involvement and through a continuous effort for knowledge sharing, private-public partnerships and the use of SCP tools and instruments. It is important to ensure that these efforts are in line with the global frameworks for cooperation, particularly its contribution to the achievement of the SDG 12 and related SDGs.

94. In Latin America and the Caribbean, studies on patterns of inequality (SDG 10) contribute to SCP approaches, as innovation and new technologies using low-carbon growth can be shown to foster more equal economic growth. The League of Arab States has developed a strategy for SCP that has specific priorities on energy, water, waste management, education and sustainable lifestyles.

95. Achieving SDG 12 requires change in both the supply and demand side. This implies changes in behavior and changes to the way economic development is pursued—it needs to become more ethical, to have a more “human touch”. From the perspective of some experts, human wellbeing is at the center of SCP, and food systems are at the center of human wellbeing. An overhaul of food systems to feed the world must also ensure good nutrition that is sustainable and uses resources efficiently. The overhaul begins with support for agro-ecological methods of production where agricultural biological diversity and small-scale farmers are of central importance.

96. With proper policy support, growing diversity is the foundation for dietary diversity and hence health and nutrition (SDG 2, 3), for resilience to biotic and abiotic stressors (SDG 13 and 15) and should further decent employment (SDG 8) and rural livelihoods (SDG 1). Furthermore, achieving SDG 12 requires constraining industrial agriculture because of its negative impacts on other SDGs, including SDG 6, because it is the largest user of freshwater resources; SDG 2 and 15 because they are chief drivers of biological diversity loss; SDG 7 because of its dependence on fossil fuels; SDG 14 because of pesticide and fertilizer run-off polluting land and water and creating dead zones in the seas; and SDG 13 because it is a major contributor to greenhouse gas emissions.

97. While raising awareness is important, and younger people are more aware of sustainability challenges, participants agreed that it is also important to target how corporations

operate, as they have a significant impact on how resources are deployed. Placing the onus on Individual behavioral changes, important though this is, misses the point of the need for a more transformational change to the global economic system and growing inequality (SDG 10). Changes in behavior will need to be accompanied by changes to institutional and regulatory structures.

98. Similarly, governments have the important task of managing resources while protecting the environment and regulating private sector activity. As one expert noted, economic growth is picking up, but it is not being decoupled from negative environmental impacts (which is a target in SDG 8). While some companies are indeed shifting from producer to user perspectives, and incentives can be used to accelerate positive change, a balance should be achieved between regulations and incentives. It is important to bring concerned people on board from various sectors and cross-sectoral Ministries to change the discourse. By changing whole set up by bringing in different actors, dynamics of power in the discourse also change. Change happens when you bring more actors on board. The SCP National Action Plans are examples of a platform that provides these changes and synergies to happen. However, the inter-ministerial coordination required to develop and implement these plans, as well as the power disparities between ministries, is often a significant challenge.

99. In order to achieve the necessary paradigm shift required for SCP, many experts talked about the need to shift away from growth for the sake of growth, toward a new mind-set that respects planetary boundaries, recognizes the economy as a subset of nature, and supports the concept of living in harmony with nature (reflected in SDG target 12.8). A shift to a circular economy needs to focus on the life cycle and go beyond the 3Rs. There is also a need for accountable, democratic governance from local, national, and global levels. Accountability is important for strongly enforcing rules and regulations, especially in poorer countries. How do we ensure local agents and governments are responsible, and held accountable by educated local communities?

100. Education and sustainable lifestyles is important as one of the 10YFP Programmes, which is being led by the Governments of Japan and Sweden, involving 80 actors. These include institutions such as Microsoft and many NGOs looking at what works in changing consumption patterns. An invitation was extended for joining in these 10YFP Programmes to share sources of successful SCP tools and policies.

101. The meeting also acknowledged that cultural shifts often threaten the status quo, particularly when changes are called for in developed countries and corporations, rather than in developing countries. In addition, in an increasingly consumption-influenced world, there are those who aspire to what they see from their wealthier neighbors. The example of a growing middle class was cited resulting in diets changing to increased meat and dairy consumption and the use of more intensive systems of production. Yet this is known to be unhealthy for the planet and it is unhealthy for people. The group discussed how reducing inequality within and between countries (SDG 10) could support SDG 12.

102. The way in which knowledge is brought into discussions around SCP interlinkages can alter the power dynamics of implementation. For instance, bringing health experts into

discussions on sustainable food systems changes the discourse and shifts the focus in both areas. This can have a positive impact, allowing the inception of broader changes. UNEP's TEEBAgriFood initiative was cited as a good example in this regard, addressing true cost accounting within the food system (target 15.9), linking concerns on the preservation of biodiversity and public health, and contributing to new alliances for change in the food system.

103. Conversely, there may be different perspectives on what “sustainability” means, and some actors may have more power to actually define it in practice. Factors such as trade relations, institutional arrangements, legal frameworks, and governance of markets can negatively affect—and even undo—efforts to achieve the paradigm shift for SCP. Distorted food prices, often supported by trade regimes, have negatively affected food security, and the private sector often overcharges for misleading attributes such as “sustainably sourced” or “nutritious” foods. In this context, several experts highlighted the consolidation of agricultural producers and the increased concentration of agribusiness throughout the food systems (e.g. the food and beverage industry, retail grocery) into the hands of a few multinational corporations.

104. The discussion generated a number of questions that merit further exploration in connection with future discussions on government accountability (SDG 16). These were: what provides the incentive for the private sector to change, if it is not regulated or able to regulate itself? How can corporations be held accountable for production decisions related to SCP? Who has the power to control resources? How can enforcement of rules and regulations be ensured in poorer countries, where increases in illegal dumping and illicit financial flows, for example, derail efforts to ensure SCP patterns? The relationship between local and global governance was highlighted again here, reflecting discussions in the previous session on SDG 11.

105. Partnerships involving the private sector and multi-stakeholder actors are regarded as imperative; the private sector retains the wealth and capital necessary to enable changes toward SCP. While SDG 12 targets do not provide clear direction for trade and investment institutions, this should not limit recommendations to the private sector and development banks on where along the value chain to invest to promote the shift to SCP.

106. At the same time, caution about public private partnerships was raised, in particular when their efficacy is unknown or unproven. One danger inherent in public-private partnerships is that local communities often end up paying more than they should. Multi-stakeholder partnerships are not intended to replace government action or shift responsibilities—they add value and help fill gaps in implementation. It was suggested that the UN Guiding Principles on Business and Human Rights could be used to benchmark companies against the SDGs in efforts to ensure that member States and companies are held to task in preventing, addressing and remedying human rights abuses committed in business operations. Guiding principles on public-private partnerships have also been developed by both the UN Economic and Social Commission for Europe and by Communitas, embedding the 2030 Agenda principles in the partnerships process.

107. The principles outlined in the 2030 Agenda should remain in focus, and not be weakened as governments move to implement the SDGs. As one expert reminded the meeting, the HLPF review process encompasses not only the SDGs, but also the principles of universality, interdependence and leaving no one behind contained in the preamble. These frame the SDGs to

ensure a commitment to respect human rights and adhere to ethical frameworks. Another expert suggested linking implementation of the 2030 Agenda with enforcement of the Geneva Conventions.

108. Practitioners need to find a way to cluster their actions; individual actors have limited impacts. Communities of practice, as well as Major Groups and other stakeholders, prove valuable in this context. There is a need to undertake further research and capacity-building initiatives among stakeholders at the global, regional, and national level on understanding SCP interlinkages, and in the use of SCP strategies and tools by various stakeholders from concerned sectors to achieve the SDGs.

109. Progress has been made in deciding how to measure implementation of SCP. Examples were cited of work currently underway to provide reliable data and statistics on sustainable cities and infrastructure through Habitat III; to support capacity building and ensure that natural resources are mainstreamed in development planning and national economic accounts through the World Bank's Wealth Accounting and the Valuation of Ecosystem Services (WAVES); and to mainstream the values of biodiversity and ecosystem services into decision-making at all levels through UNEP's Economics of Ecosystems and Biodiversity (TEEB).

110. The meeting also provided recommendations for how the HLPF should undertake its review of SDG 12. Many agreed that the HLPF is evolving in a conceptual way, and thus should address interlinkages and emerging issues in a more proactive and interactive way. Specific actions in areas not explicitly addressed in the SDG targets can shed light on how interlinkages can be leveraged for progress in multiple areas, and should be brought to the forefront of the discussions. The HLPF needs to be strengthened by more dialogue and exchange, opportunities for multi-stakeholder engagement, with more accountability and systematic inclusion of member States and steps for "shadow reporting" on their efforts.

### ***Recommendations for action***

- Ensure that regional SCP efforts are in line with global frameworks for cooperation
- Overhaul food systems in a way that ensures good nutrition, uses resources sustainably and efficiently, and supports agro-ecological methods of production where agricultural biological diversity and small-scale farmers are of central importance
- Ensure that efforts to change behavior are accompanied by efforts to also change institutional and regulatory structures
- Utilize the UN Guiding Principles on Business and Human Rights to benchmark companies against the SDGs
- Look to successful examples of guiding principles on public-private partnerships to ensure that SDG principles are embedded in the process
- Consider linking implementation of the 2030 Agenda with enforcement of the Geneva Conventions
- Strengthen the HLPF by ensuring opportunities for true dialogue and exchange that is more interactive, proactive, systematic and inclusive

## Session 9—Overcoming shared challenges: Data availability, financing, capacity and STI

Moderator:

Jordan Naidoo, Director, Division of Education 2030 Support and Coordination of UNESCO

Lead presenters:

Janet Ranganathan, Vice President for Science and Research at the World Resources Institute

Eric Sanderson, Senior Conservation Ecologist from the Wildlife Conservation Society

Pedro Conceicao, Director of Strategic Policy at the Bureau for Policy and Programme Support of UNDP

Zhou Taidong, Head of Global Development Division of China Center for International Knowledge on Development (CIKD)

### *Summary of presentations and discussion*

111. Policy coordination and coherence is the key at global, regional and national levels. To this end, consistent and routinely measured datasets, aggregated to global scale, are critical for developing strategies and measure progress with respect to the SDGs. The human footprint is an example of a global, synthetic dataset that connects patterns of economic growth to biodiversity conservation.

112. A big gap exists between data supply and data use. Data is scattered across issue-specific and institutional silos and there is not enough investment in making data accessible to users. There is an acute need for data integration, which can help drive policy coherence.

113. The data revolution—a combination of technological innovations that increase data availability, processing, analysis, and communication capabilities—can help address the data gap. It is now possible to monitor the Earth in near real time, analyze the resulting data, and share the results directly with decision makers and those able to influence them. An integrated earth monitoring system is needed to determine whether and to what extent environmental changes are affecting human health and to assess interlinkages among SDGs as well as the effectiveness of policies to achieve them. Collaborative open source monitoring systems are needed that allow users to combine, analyze, visualize, and share environmental and human health data from multiple sources at different spatial and temporal scales.

114. Resource Watch provides an example of a collaborative, integrated, open-source data platform that allows users to combine, analyze, visualize, and share data from multiple sources at different scales, with capabilities including near real-time data monitoring, visualization, and capacity for personalized interaction with data for story-telling. Integrated earth monitoring systems are needed to determine how environmental change affects human wellbeing, and vice-versa.

115. It is important to strengthen the capacity of national statistical institutions for better monitoring SDG progress, involving a wider range of stakeholders, including governments, IOs, the private sector, CSOs, academics and the general public.

116. Resource allocation decisions in development cooperation should consider the SDG agenda. Cities are not only the focal points of development, but should also be focal points for data, financing, capacity, science, technology and innovation. Cities have effects on fertility, poverty alleviation, and ideation, which are leading to population stabilization, the eradication of poverty, and positive social movements, and they are critical for protection and management of ecosystems.

117. Speakers highlighted the importance of using data in the communication of SDG interlinkages and presented data about how the human footprint on Earth is evolving in the context of demographic, economic, urbanization, and biodiversity trends. The human footprint is an example of a global, synthetic dataset that connects patterns of economic growth to biodiversity conservation. Changes in the human footprint between 1993 and 2009 suggest how economic and demographic patterns are reshaping the human relationship to nature. In particular, cities are known for their simultaneous and interacting effects of urban lifestyles on fertility, poverty alleviation, and ideation, which are leading to population stabilization, the eradication of poverty, and positive social movements. Eventually these trends will have important outcomes for life on land and in the oceans, and these relationships will become apparent at global and national scales only through the collection, analysis, and sharing of data and information. Consistent and routinely measured datasets, aggregated to global scale, are critical for developing strategies and measuring progress with respect to the SDGs.

118. One expert focused his intervention on the link between science, technology, innovation and the SDGs, encouraging people to think about the interlinkages in a deeper way, neither overly negative nor overly positive. By retrospectively establishing linear and simplistic narratives linking technological change with social, economic and political outcomes, he argued, we fail to grasp the crucial point that this impact is co-determined with the evolution of institutions, public policies, and business decisions. When considering the impact of the fourth industrial revolution (automation and artificial intelligence), we need to look at past technology revolutions and look through the invention or reinvention of new institutions.

119. While future pathways are uncertain and unknown, nothing is pre-determined, and certainly not by technology alone. Harnessing technology for the SDGs calls for all countries to be actively engaged in shaping the broader set of institutions and policies—both global and national—that will determine the impact of technological change on sustainable development, in a way that is diversified and nationally relevant. Only in this way can we guarantee that technology does not determine our destiny, but, rather, that we shape technology to fulfill the aspirations of the 2030 Agenda.

120. China's national approach to implementing the SDGs focuses on synergy of strategies, institutional guarantee, social mobilization and international development cooperation, as well as oversight and peer-review. China has incorporated the SDGs into its 13<sup>th</sup> five-year plan as well as sectoral plans, and has aligned its Belt and Road Initiative. China has prioritized certain SDGs such as ending extreme poverty by 2020 (SDG 1) and industrialization (SDG 9) and has established an inter-agency coordination mechanism to manage the overlapping responsibilities and conflicting interests among 43 different ministries in the implementation process. Evidence-

based decision-making, policy coherence and prioritization are important. Data and statistical challenges require attention, and development cooperation needs to be less linked with donors' national interests.

121. The discussion focused primarily on data issues. Data are available, but are often “trapped” in institutional and issue-specific silos, which will require integration and development of usability. Every UN agency has some variation of a science and technology structure, and it is important to pay attention to the interactions among them and try to avoid duplication. Trust in data privacy and security is a pre-requisite for using citizen data and big data. It is important to partner with businesses, as they own most of the datasets. Publicly funded research should be made open and publicly available. A thematic group on data for the SDGs within the Sustainable Development Solutions Network (SDSN) is addressing data quality issues, disaggregated data, and private sector data; their report on “Counting on the World” was highlighted in this context.

122. Many agreed that data disaggregation is one of the biggest shared challenges. In some instances, disaggregated data do get collected, but are lost in the aggregation process. Geospatial data is particularly important, especially for disaster risk reduction. The issue of governance—who takes accountability for what at the global, national, subnational and local levels—is another shared challenge. Political will is required for effectively overcoming these challenges, and is critical for the achievement of leaving no one behind.

### ***Recommendations for action***

- Invest in data integration and making data accessible to users
- Strengthen the capacity of national statistical institutions for better monitoring SDG progress Engage a wider range of stakeholders, including governments, IOs, the private sector, CSOs, academics and the general public
- Place cities as the focal points for data, financing, capacity, science, technology and innovation, as well as for development
- Shape institutions and policies that will determine the impact of technological change on sustainable development in a way that is diversified and nationally relevant
- Ensure that development cooperation is not negatively linked with donors' national interests

## **Session 10—Ensuring inclusion, resilience and sustainability**

Moderator:

Easton Williams Director, Social Policy, Planning and Research Division, Planning Institute of Jamaica

Lead presenters:

Laura Stachel, Co-Founder and Executive Director, WeCareSolar

Joan Carling, Indigenous Peoples' International Centre for Policy Research and Education - Tebtebba Foundation

Parfait Eloundou-Enyegue, Professor and Department Chair, Department of Development Sociology, Cornell University, Member, Independent Group of Scientists for the Global Sustainable Development Report, 2019

Susan Nicolai, Senior Research Fellow, Growth, Poverty and Inequality, Overseas Development Institute

Lead discussant:

Maren Andrea Jiménez, Social Affairs Officer, Division for Social Policy and Development, UN-DESA

### ***Summary of presentations and discussion***

123. The 2030 Agenda is based on the principle of leaving no one behind. It provides a framework for ensuring inclusiveness and equity. Over the past 15 years, there has been a move towards greater detail and complexity in the development discourse, as evidenced by the recognition of the interconnections of the three dimensions of sustainable development.

124. The specific ways in which universal access is extended, measures for resilience incorporated, and sustainability ensured for these goals and targets can significantly impact how these aspirations are met for the entire agenda. The challenge is how to implement and operationalize this inclusive agenda, harnessing interlinkages to increase the benefits of synergies and reduce or eliminate trade-offs. This session discussed how focusing on interlinkages could contribute to inclusion, resilience and sustainability.

125. Some experts were of the view that instead of thinking about the links that are more important, there is a need to think about which guiding principles are more important. The discussion focused on the importance of equity, with concern over the rise in inequality across the world as well as within countries. More attention should be paid to the poorest, because inequality does not have a tendency to self-correct. By focusing on reducing inequality, there will be gains in other dimensions as well. When poverty and inequality are reduced, people have both the motivation and means to protect the environment.

126. There is a need for a holistic, integrated approach to research and the construction of data collection systems. This approach should reflect at all times the interlinkages among social, economic and environmental dimensions. Research and data analysis should be formulated within this framework. Operating in the old data and research system is inadequate and silo-constructed in most cases. This point is radical in its widest application and requires a fundamental shift in our research and data collection system. Networking analysis, and other similar approaches, are the starting point for system modeling and analysis, as well as the starting point for the new sustainable development research and data collection and analysis systems.

127. The discussion noted several cases in which inclusiveness was the guiding principle to operationalize interlinkages. For example, the NGO WeCareSolar promotes safe motherhood and reduction of maternal mortality in developing regions by providing health workers with more reliable lighting, mobile communication, and medical devices using solar electricity. The

programme has reached 2,800 health centres, served three million mothers and babies, and trained 10,000 health workers. They also seek to empower communities by teaching local health technicians to become solar installers and trainers themselves—women who are Solar Ambassadors. They work directly with midwives and doctors to ensure they are properly trained on the use of our equipment, including fetal heart rate monitors, solar lights, phone chargers, and medical procedure lights. To ensure sustainability of the interventions, they also work with local governments to train district technicians to maintain and service the equipment.

128. To implement the 2030 Agenda leaving no one behind, it is critical to identify those left behind. The furthest behind suffer from multiple vulnerabilities, which are very contextual and specific to each country. There is the need to design a methodology that identifies them and to promote the generation of the required disaggregated data, which should be collected within the national data collection system. Marginalized groups are often unaware of the SDGs, and need to be well informed to facilitate their participation. This requires resources and targeted outreach in appropriate forms and languages understood by them.

129. Certain marginalized groups, such as indigenous peoples, are in danger of falling further behind. Although there has been improvement in the engagement of indigenous peoples in the implementation of the 2030 Agenda, some experts stressed the need to continue raising awareness of the 2030 Agenda among indigenous peoples to strengthen their active participation in all implementation-related processes. The participation of indigenous peoples and other marginalized groups needs to be further facilitated and encouraged to ensure an effective participatory mechanism. This should include a broader engagement in the monitoring and reporting process. Indigenous peoples are often not visible in Voluntary National Reviews and national development plans.

130. Institutionalized mechanisms of participation and representation in SDG processes are necessary for sustained engagement of marginalized sectors and groups, and their effective participation in the whole process of development—planning, decision making, implementation and monitoring—not simply in consultations. Many—if not most—countries have not yet set up effective mechanisms for sustained participation of marginalized groups. If consultations are undertaken, they are frequently held in the capital cities and largely with NGOs who can fund their participation or have links to government officials. There are, however, emerging good practices of broad civil society participation including indigenous peoples, for example in Norway and Denmark.

131. The focus on resilience echoed some of the key points made in the previous sessions on SDG 15 and SDG 12, with regard to ensuring resilience through adherence to principles of social inclusion and environmental sustainability. Economic targets and strategies must value “people and planet” as well as prosperity, with strict regulations against unsustainable mass production and consumption, extractive industries, and commercial industrial agriculture. The discussion centered on the need for a two-pronged approach for social inclusion, comprised of the removal of barriers and the proactive facilitation of participation. Policy coherence is key, based on the framework of human rights and environmental protection.

132. Participation of and engagement with marginalized groups should be underpinned by the respect and protection of their rights, roles and contributions. There is a need to ensure access to information; freedom of expression, assembly and organization; and entitlements based on their economic, social and cultural rights, including the collective rights of indigenous peoples and specific rights of women, persons with disabilities, the young and the elderly. Unfortunately, those who are critical of government development projects with adverse impacts to people and the environment are tagged as anti-development or terrorist, leading to arrest, detention and extra judicial killings in a number of countries where access to justice is weak or non-existent.

133. Formulation and effective implementation of policies on sustainable use and management of natural resources should account for sustainable livelihoods for marginalized groups, with a participatory landscape management approach as opposed to narrow conservation measures, which can have adverse impacts to rights and livelihoods. Forests, for example, are better managed and conserved in the hands of indigenous peoples as compared to the State and big conservation groups.

134. Integration of participatory and community-based approaches to climate change mitigation and adaptation should be prioritized over technological fixes, and support for sustainable livelihoods and capacity building in should be strengthened to build their resilience. Different forms of knowledge, including traditional and indigenous knowledge, in building resilience and sustainability should be integrated in national development plans and actions.

135. The establishment of multi-stakeholder platforms and partnerships should not weaken or diminish the rights and entitlements of marginalized groups in relation to the interests and agendas of the private sector, investors, and vested groups with economic power and political power. Rethinking the global partnership entails building partnerships with marginalized sectors, providing technical and logistics support and appropriate forms of capacity building to facilitate their effective participation at all levels requires allocation of resources.

### ***Recommendations for action***

- Adopt a whole of government approach that ensures inclusion, resilience and sustainability to achieving the SDGs
- Include mechanisms of transparency, accountability, equity, respect and protection of human rights, and access to justice, including in the means of implementation through investments, trade and public-private partnerships
- Include marginalized groups in participatory decision making, addressing their specific needs and integrating their priorities and aspirations for sustainable development
- Go beyond consultations and empower marginalized groups as central actors in sustainable development
- Ensure policy cohesion for balanced implementation of the social, environmental and economic dimensions of the SDGs, within a framework that respects and protects human rights, social equity and measures for environmental protection and sustainability
- Develop an enabling environment that values sustainable use of resources “for the people over profit” and shifts away from the dominant global economic paradigm

- Accelerate the collection and use of disaggregated data for tracking progress at the national level, to help identify those in danger of being left behind, and to monitor and support their inclusion
- Foster greater environmental and economic justice with public programs to extend access to water and energy resources as well as productive resources, while also promoting public initiatives for the efficient use of these resources, and promoting a culture of sufficiency

## Session 11—Closing and next steps

Liu Zhenmin, Under-Secretary-General, UN Department of Economic and Social Affairs (UN-DESA) provided closing remarks to the meeting, noting that in the third year of implementation of the 2030 Agenda, we recognize the need to work across silos and are seeking concrete ways to put this into practice consistently across the SDGs in ways that will be responsive to local contexts. He emphasized seven key points with regard to understanding SDG interlinkages:

- 1) Evidence-based knowledge that draws upon empirical observation and scientific assessment can connect interlinkages to transformative actions at all levels;
- 2) Such knowledge can be used to set priorities, taking a critical and creative approach to deciding what investment is needed, and where;
- 3) In a world of limited resources and multiple vulnerabilities, prioritization is often context-specific, and the local context is an important—and natural—foundation for decision making at all levels
- 4) Adjusting governance structures to reflect inter-relationships will be an important concrete step toward capitalizing on positive synergies and reducing or eliminating negative outcomes, and governance reforms may be the greatest challenge of all;
- 5) The need for high quality, reliable, timely and disaggregated data is essential for the global indicator framework, but complementary data to guide decisions is now also available from many sources, and open access data is the way forward;
- 6) Achievement of the SDGs must be a multi-stakeholder endeavour, with important cultural and societal elements that cannot be ignored; and
- 7) Continuous communication, dialogue and learning among experts, policymakers and a host of other actors is necessary to understand diverse perspectives and challenges, and requires humility and patience, but is an essential part of our endeavour.

## Final Programme

DAY 1	
Time	Session
9:00-9:30	SESSION 1

	<p><b>Welcome and setting the stage</b> Shantanu Mukherjee, Chief, Policy and Analysis Branch, Division for Sustainable Development, UN-DESA</p>
9:30-11:15	<p>SESSION 2</p> <p><b>SDG interlinkages: the state of the art in analysis, engagement and implementation</b></p> <p><i>The High Level Political Forum 2018 is organized under the theme of ‘transformation towards sustainable and resilient societies’ and will feature the first in-depth review of SDGs 6 (water and sanitation), 7 (energy), 11 (cities and human settlements), 12 (sustainable consumption and production) and 15 (terrestrial ecosystems); along with SDG 17 (means of implementation) which is reviewed each year.</i></p> <p><i>The existence of interlinkages between SDG goals and targets is well recognised. SDGs 6, 7, 11, 12 and 15 are interlinked in various ways to each other, as well as to the other goals and targets. This opening session will review some of the tools and approaches that help translate the understanding of these interlinkages into effective guidance for policies, programmes and stakeholder engagement.</i></p> <p><u>Moderator:</u> Debapriya Bhattacharya, Chair, Southern Voice on Post-MDG Network and Distinguished Fellow, Centre for Policy Dialogue (CPD), Dhaka, Bangladesh</p> <p><u>Lead presenters:</u></p> <ul style="list-style-type: none"> <li>• Måns Nilsson, Research Director and Deputy Director, Stockholm Environment Institute</li> <li>• Anne Guerry, Lead Scientist and Chief Strategy Officer, Natural Capital Project, Stanford University</li> <li>• Barry B. Hughes, Frederick S. Pardee Center for International Futures, University of Denver</li> <li>• John Hardy, Millennium Institute, iSDG model</li> </ul> <p><u>Lead discussant:</u> Fatima Denton, Director, Special Initiatives Division, UN Economic and Social Commission for Africa (ECA)</p>
11:15-11:30	Coffee break
11:30-13:00	<p>SESSION 3</p> <p><b>SDG 6: Ensuring availability and sustainable management of water and sanitation for all</b></p> <p><i>The interlinkages between this goal and the other SDGs have concrete implications for framing and implementing policies, programmes and collaborations – with significant variations across regions. Understanding these implications as well as how to leverage them effectively can help mitigate trade-offs and maximise synergies with other goals and targets.</i></p> <p><u>Moderator:</u></p>

	<p>Peter Messerli, Director, Centre for Development and Environment, University of Bern and co-Chair, Independent Group of Scientists for the Global Sustainable Development Report, 2019</p> <p><u>Lead presenters:</u></p> <ul style="list-style-type: none"> <li>• Isha Ray, Associate Professor, University of California, Berkeley, co-Director, Berkeley Water Center</li> <li>• Lesha Witmer, Women for Water Partnership</li> <li>• Felix Dodds, Senior Fellow, Global Research Institute, and Co-Director of the 2014 Nexus Conference on Water, Food, Energy and Climate</li> <li>• Aneta Nikolova, Environmental Affairs Officer, UN Economic and Social Commission for Asia and the Pacific (ESCAP)</li> </ul> <p><u>Lead discussant:</u> Verena Klinger-Dering, Counsellor for Sustainable Development at the Permanent Mission of the Federal Republic of Germany to the United Nations</p>
13:00-14:30	Lunch
14:30-16:00	<p>SESSION 4</p> <p><b>SDG 15: Protecting and sustainably managing terrestrial ecosystems and forests; combatting desertification; reversing land degradation and halting biodiversity loss</b></p> <p><i>The interlinkages between this goal and the other SDGs have concrete implications for framing and implementing policies, programmes and collaborations – with significant variations across regions. Understanding these implications as well as how to leverage them effectively can help mitigate trade-offs and maximise synergies with other goals and targets.</i></p> <p><u>Moderator:</u> Mildred Crawford, Jamaica Network of Rural Women Producers and Co-Chair of GAP Farmers</p> <p><u>Lead presenters:</u></p> <ul style="list-style-type: none"> <li>• Ingrid J. Visseren-Hamakers, Associate Professor, Environmental Science and policy, George Mason University</li> <li>• Katia Araujo, Director of Advocacy, LANDESA</li> <li>• Romy Chevallier, Governance of Africa’s Resources Programme, South African Institute of International Affairs</li> <li>• Vijay Modi, Professor of Mechanical Engineering, SEAS Faculty, Earth Institute and Data Science Institute, Columbia University</li> </ul> <p><u>Lead discussant:</u> Thais Linhares, Senior Forestry Officer, FAO</p>
16:00-16:15	Coffee break
16:15-17:45	<p>SESSION 5</p> <p><b>SDG 7: Ensuring access to affordable, reliable, sustainable and modern energy for</b></p>

	<p><b>all</b></p> <p><i>The interlinkages between this goal and the other SDGs have concrete implications for framing and implementing policies, programmes and collaborations – with significant variations across regions. Understanding these implications as well as how to leverage them effectively can help mitigate trade-offs and maximise synergies with other goals and targets.</i></p> <p><u>Moderator:</u> Rana Gohneim, Industrial Development Officer, UNIDO</p> <p><u>Lead presenters:</u></p> <ul style="list-style-type: none"> <li>• Youba Sokona, Special Adviser on Sustainable Development, the South Centre, Geneva and former Vice Chair, IPCC</li> <li>• Yera Ortiz de Urbina, International Renewable Energy Agency, New York</li> <li>• Isabella Alloisio, Research Associate, Florence School of Regulation of the European University Institute, Florence, Italy</li> <li>• Rebecca Pearl-Martinez, Energy, Climate, and Gender Consultant</li> </ul> <p><u>Lead discussant:</u> Karin Fernando, Center for Poverty Analysis, Sri Lanka</p>
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<b>DAY 2</b>	
Time	Session
9:00-9:30	<p>SESSION 6</p> <p><b>Recap and outline of key messages from Day 1</b> Tonya Vaturi, Policy and Analysis Branch, Division for Sustainable Development, UN-DESA</p>
9:30-11:00	<p>SESSION 7</p> <p><b>SDG 11: Making cities and human settlements inclusive, safe, resilient and sustainable</b></p> <p><i>The interlinkages between this goal and the other SDGs have concrete implications for framing and implementing policies, programmes and collaborations – with significant variations across regions. Understanding these implications as well as how to leverage them effectively can help mitigate trade-offs and maximise synergies with other goals and targets.</i></p> <p><u>Moderator:</u> Andrew Rudd, Urban Environment Officer, UN-Habitat New York Liaison Office</p> <p><u>Lead presenters:</u></p> <ul style="list-style-type: none"> <li>• Tony Wong, Chief Executive, Cooperative Research Centre for Water</li> </ul>

	<p>Sensitive Cities</p> <ul style="list-style-type: none"> <li>• Jose Viera, World Blind Union, Human Rights and Development Policy Advisor</li> <li>• Maruxa Cardama, Urban Advisor, Cities Alliance</li> <li>• Allan Lavell, Coordinator of the Programme for the Social Study of Disaster Risk and Climate Change Adaptation, Secretariat General's Office of the Latin American Social Science Faculty-FLACSO</li> </ul> <p><u>Lead discussant:</u> Carol Chouchani Cherrane, Chief, Water Resources Section, Sustainable Development Policies Division, UN Economic and Social Commission for Western Asia (ESCWA)</p>
11:00-11:15	Coffee break
11:15-12:45	<p>SESSION 8</p> <p><b>SDG 12: Ensuring sustainable consumption and production patterns</b></p> <p><i>The interlinkages between this goal and the other SDGs have concrete implications for framing and implementing policies, programmes and collaborations – with significant variations across regions. Understanding these implications as well as how to leverage them effectively can help mitigate trade-offs and maximise synergies with other goals and targets.</i></p> <p><u>Moderator:</u> Susan Bragdon, Representative for Food and Sustainability, Quaker United Nations Office, Geneva</p> <p><u>Lead presenters:</u></p> <ul style="list-style-type: none"> <li>• Charles Arden-Clarke, Head, 10YFP Secretariat, UNEP</li> <li>• Jes Weigelt, Head of Programmes, Think Tank for Sustainability</li> <li>• Loraine Gatlabayan, Secretary-General of Board of Trustees of Asia-Pacific Roundtable on Sustainable Consumption and Production</li> <li>• Rafael Flor, Director, YieldWise, The Rockefeller Foundation</li> </ul> <p><u>Lead discussant:</u> Amr Nour, Director, United Nations Regional Commissions Office, New York</p>
12:45-14:15	Lunch
14:15-15:45	<p>SESSION 9</p> <p><b>Overcoming shared challenges: Data availability, financing, capacity and STI</b></p> <p><i>The SDGs in focus at the HLPF 2018 share some common challenges – data availability and quality are uneven (including for several targets falling due in 2020); a significant portion of the necessary investments are related to resilient and inclusive infrastructure; new technologies offer great potential but may also face specific hurdles in being adopted; and more research is needed to support implementation.</i></p> <p><u>Moderator:</u></p>

	<p>Jordan Naidoo, Director, Division of Education 2030 Support and Coordination, UNESCO</p> <p><u>Lead presenters:</u></p> <ul style="list-style-type: none"> <li>• Janet Ranganathan, Vice President for Science and Research, World Resources Institute</li> <li>• Eric Sanderson, Senior Conservation Ecologist, Wildlife Conservation Society</li> <li>• Pedro Conceicao, Director of Strategic Policy, Bureau for Policy and Programme Support, UNDP</li> <li>• Zhou Taidong, Head of Global Development Division of China Center for International Knowledge on Development (CIKD)</li> </ul> <p><u>Lead discussant:</u> Leulseged T. Abebe, Minister Counsellor, Permanent Mission of Ethiopia</p>
15:45-16:00	Coffee break
16:00-17:30	<p>SESSION 10</p> <p><b>Ensuring inclusion, resilience and sustainability</b></p> <p><i>The SDGs in focus at the HLPF 2018 are central to achieving the overarching aspirations of the Agenda 2030. The specific ways in which universal access is extended, measures for resilience incorporated and sustainability ensured for these goals and targets can significantly impact how these aspirations are met for the all of Agenda 2030.</i></p> <p><u>Moderator:</u> Easton Williams Director, Social Policy, Planning and Research Division, Planning Institute of Jamaica</p> <p><u>Lead presenters:</u></p> <ul style="list-style-type: none"> <li>• Laura Stachel, Co-Founder and Executive Director, WeCareSolar</li> <li>• Joan Carling, Indigenous Peoples' International Centre for Policy Research and Education - Tebtebba Foundation</li> <li>• Parfait Eloundou-Enyegue, Professor and Department Chair, Department of Development Sociology, Cornell University, Member, Independent Group of Scientists for the Global Sustainable Development Report, 2019</li> <li>• Susan Nicolai, Senior Research Fellow, Growth, Poverty and Inequality, Overseas Development Institute</li> </ul> <p><u>Lead discussant:</u> Maren Andrea Jiménez, Social Affairs Officer, Division for Social Policy and Development, UN-DESA</p>
17:30-18:00	<p>Session 11</p> <p><b>Closing and next steps</b> Liu Zhenmin, Under-Secretary-General, UN Department of Economic and Social Affairs (UN-DESA)</p>

## List of Participants

<u>Name</u>	<u>Institution</u>
1. Leulseged Tadesse Abebe	Permanent Mission of Ethiopia to the United Nations
2. Jamil Ahmad	UNEP
3. Isabella Alloisio	European University Institute, Florence, Italy
4. Katia Araujo	Landesa
5. Charles Arden-Clarke	10YFP Secretariat, UNEP
6. Debapriya Bhattacharya	Southern Voice
7. Eleanor Blomstrom	Women's Environment and Development Organization (WEDO)
8. Jo Ivey Boufford	International Society for Urban Health
9. Susan Bragdon	Quaker United Nations Office
10. Joan Carling	Indigenous Peoples' International Centre for Policy Research and Education- Tebtebba Foundation
11. Maruxa Cardama	Cities Alliance
12. Francisco Jose Fusco Ceballos	Assistant to Jose Viera
13. Carol Chouchani Cherfane	UN Economic and Social Commission for Western Asia
14. Romy Chevallier	South African Institute of International Affairs
15. Jessica Clark	WHO
16. Aaron Cohen	UNIDO
17. Pedro Conceicao	UNDP
18. Mildred Crawford	Jamaica Network of Rural Women Producers / GAP Farmers
19. Filiep Decorte	UN-Habitat
20. Fatima Denton	UN Economic and Social Commission for Africa
21. Felix Dodds	Global Research Institute / 2014 Nexus Conference on Water, Food, Energy and Climate
22. Parfait Eloundou-Enyegue	Cornell University/Independent Group of Scientists for the Global Sustainable Development Report 2019
23. Sophie Evekink	WHO
24. Karin Fernando	Center for Poverty Analysis
25. Rafael Flor	Rockefeller Foundation
26. Thomas Forster	UN-Habitat
27. Loraine Gatlabayan	Asia-Pacific Roundtable on Sustainable Consumption and Production
28. Rana Ghoneim	UNIDO
29. Chiara Giamberardini	UN Regional Commissions New York Office
30. Bjorn Erik Gillsater	World Bank
31. Dorothy Goh	Eco Agriculture Partners
32. Anne Guerry	Stanford University
33. Donovan Gutierrez	Major Groups Children and Youth
34. John Hardy	The Millennium Institute
35. Alexandra Hiniker	New York City Mayor's Office of International Affairs
36. Sylvia Hordosch	UN-WOMEN

37. Barry Hughes	Frederick S. Pardee Center for International Futures, University of Denver
38. Verena Klinger-Dering	Permanent Mission of the Federal Republic of Germany to the UN
39. Michael Kunz	UN Economic and Social Commission for Europe
40. Deborah Landey	Wildlife Conservation Society
41. Allan Lavell	Latin American Social Science Faculty-FLACSO
42. Punjanit Leagnarav	Global Reporting Initiative, World Bank
43. Peter Lee	UN Regional Commissions New York Office
44. Faye Leone	International Institute for Sustainable Development (IISD)
45. Thais Linhares	FAO
46. Laurie Manderino	Sustainable Development Solutions Network (SDSN)
47. Gervais Meatchi	President of the Bureau of the African RFSO, Togo
48. Christen Seyoum Meskelu	UN Economic and Social Commission for Africa
49. Peter Messerli	University of Bern/Independent Group of Scientists for the Global Sustainable Development Report 2019
50. Vijay Modi	Earth Institute and Data Science Institute, Columbia University
51. Ivy Moraes	UN-Habitat
52. Carla Mucavi	FAO
53. Chris Murgatroyd	UNDP
54. Jordan Naidoo	UNESCO
55. Doris Ngirwa-Mpesha	FAO
56. Shantanu Mukherjee	UNDESA-DSD
57. Susan Nicolai	Overseas Development Institute
58. Aneta Nikolova	UN Economic and Social Commission for Asia and the Pacific
59. Måns Nilsson	Stockholm Environment Institute
60. Amr Nour	UN Regional Commissions New York Office
61. Werner Obermeyer	WHO
62. Stineke Onema	UN Standing Committee on Nutrition
63. Yera Ortiz de Urbina	International Renewable Energy Agency (IRENA)
64. Ben Idrissa Ouedraogo	UN Office of the Special Advisor on Africa
65. Nassim Oulmane	UN Economic and Social Commission for Africa
66. Rebecca Pearl-Martinez	Energy, Climate, and Gender Consultant
67. Ana Persic	UNESCO
68. Katarina Popović	International Council for Adult Education
69. Jerome Delli Priscoli	Global Water Partnership
70. Randall Purcell	World Food Programme
71. Janet Ranganathan	World Resources Institute
72. Isha Ray	University of California, Berkeley
73. Andrew Rudd	UN-Habitat
74. Eric Sanderson	Wildlife Conservation Society
75. Youba Sokona	South Centre / LDC Independent Expert Group
76. Laura Stachel	We Care Solar
77. Zhou Taidong	China Center for International Knowledge on Development
78. Lucas Tavares	FAO
79. Tonya Vaturi	UNDESA-DSD
80. Jose Viera	World Blind Union
81. Ingrid J. Visseren-Hamakers	George Mason University
82. Jes Weigelt	Think Tank for Sustainability
83. Easton Williams	Planning Institute of Jamaica
84. Llesha Witmer	Women for Water Partnership

85. Tony Wong  
86. Liu Zhenmin  
87. Anna Zongolowicz

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