Getting Started with the Sustainable Development Goals

A Guide to National Planning

The MPA in Development Practice Program School of International and Public Affairs Columbia University

May 2015

Getting Started with the Sustainable Development Goals: A Guide to National Planning

The SDG Handbook and accompanying website were researched, designed, and produced in the Spring of 2015 by graduate students within the Human Ecology of Sustainable Development course at Columbia University's School of International and Public Affairs (SIPA), taught by UN SDSN Director Dr. Jeffrey Sachs as part of the <u>Master of Public Administration in Development Practice (MPA-DP)</u> program. Technical guidance and editorial support was provided by senior SDSN staff. <u>The handbook website</u> was designed, tested and developed by <u>SUMIT Labs</u> in collaboration with the authors:

Adeni, Sarayu Aleksandrova, Daria Alvarez, Cristina Amenabar Cordon, Ines Arakelian, Meghan Marie Baskin, Kim Wise Bergamo Albernaz, Maria Beatriz Biswas, Kumar Bose, Indira Ellora Carmona, Andrew lav Cheng, Cheng Clark, Rebekah Taylor Demushkina, Ekaterina Denavit, Chloe Juliette Duan, Jinglin Enriquez Quezada, Adriana

- Escalante, Cecilia Nallely Goldman, Danielle Whitney Gomez Mendiburu, Douglas Enrique Gregg, Abigail Hamra Neto, Samir Mikhael Hussein, Marouh Moustafa Jung, Elizabeth Lacerte, Monroe Elizabeth Lee, Tawei Lee-Villanueva, Allison Mei Lewin, Tammy Lindsey Lu, Chenyan Maguire, Boris Martines, Rafael de Simone Matte, Sophie Mayen, Carolina Iris
- Moraes, Cassia Oliveira Moyer, Elizabeth Kathleen Pasqualino, Monica Marie Pastor, Manuel Jose Persaud, Melissa Indira Rana, Akriti Sari, Annisa Arifka Schneider, Molly Benton Shah, Muhammad Azhar Sill. Katrina Laurel Slotznick, Molly Dora Smith, Matthew Jacob Soto, Raul Andres Troy, Conor Matthew Valles Beneit, Maria Yikmaz, Riza Fikret

SDG Logo Design: Heneveld, Tammi

Master of Public Administration in Development Practice (MPA-DP)

Columbia University School of International and Public Affairs (SIPA)

www.sipa.columbia.edu/mpa-dp

https://twitter.com/ColumbiaMPADP

sipa mpadp@columbia.edu

420 W. 118th Street 14th Floor New York, NY 10027

(212) 854-2636

UN Sustainable Development Solutions Network (UN SDSN)

http://unsdsn.org/

https://twitter.com/UNSDSN

314 Low Library 535 W 116th Street New York, NY 10027 USA

(212) 870 2792

Contents

Chapter 1: Introduction	4
Chapter 2: The 2015 Process	8
Chapter 3: Getting Started with the SDGs	17
Chapter 4: Creating a National Vision for Sustainable Development	49
Chapter 5: Implementation Planning	62
Chapter 6: Conclusions and next Steps	87
Appendices:	
1. The Sustainable Development Goals	90
2. Funding Sources	95
<i>3. SDG Public/Private Financing</i>	96
4. Investment Needs	98
5. Backcasting	99
6. Innovative Financing	103

Acronym List

CGDEV	Center for Global Development
COP21	Conference of Parties
DAC	Development Assistance Committee
DIIS	Danish Institute for International Studies
EU	European Union
FDI	Foreign Direct Investment
FfD	Financing for Development
FfDO	Financing for Development Office
FSD	Financing Sustainable Development
G77	The Group of 77
GCF	Green Climate Fund
GEF	Global Environmental Facility
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GHG	Greenhouse gas
GNI	Gross National Income
HDI	Human Development Index
IAEG	Inter-Agency and Expert Group on MDG Indicators
IBGE	Instituto Brasileiro de Geografia e Estatístico
ICDR	Incremental Capital Output Ratio
ICEFSD	Intergovernmental Committee of Experts on Financing for Sustainable Development
ICESDF	Intergovernmental Committee of Experts on Sustainable Development Finance
IDDRI	The Institute for Sustainable Development and International Relations
IEA	International Energy Agency
IEAG	Independent Expert Advisory Group
IFAD	International Fund for Agricultural Development
lisd	International Institute for Sustainable Development
INDC	Intended Nationally-Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
LDCs	Least Developed Countries
LLDCs	Landlocked Developing Countries
MDGs	Millennium Development Goals
MSL	Multiple Sustainable Land-Use
NCSD	National Council or Commission for Sustainable Development
NDDP	National Deep Decarbonization Pathway
NDMC	Nationally-Determined Mitigation Contributions
NSDS	National Sustainable Development Strategy
NSDV	National Sustainable Development Vision
NSO	National Statistics Office
NSS	National Statistical System
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
OOF	Other Official Flows
OWG	Open Working Group on Sustainable Development Goals
PPP	Public Private Partnership
R&D	Research and Development
Rio+20	United Nations Conference on Sustainable Development Rio+20
SDGs	Sustainable Development Goals
SDSN SIDS	Sustainable Development Solutions Network Small Island Developing States
STD	Sustainable Technology Development
STEEPLE	Society, Technology, Environment, Economics, Politics, Legal, Ethical Framework
UN	United Nations
UNCT	United Nations Country Team
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNSD	United Nations Statistics Division
WHO	World Health Organization

Chapter 1: Introduction

Source: www.UnSplash.com

I. Getting Started with the SDGs

The Sustainable Development Goals (SDGs) will be signed on September 25, 2015. By definition, sustainable development is a normative outlook that calls for a "world in which economic progress is widespread; extreme poverty is eliminated; social trust is encouraged through policies that strengthen the community; and the environment is protected from human induced degradation." This guide aims to provide a holistic understanding of the current state of sustainable development and the context for these global aspirations as countries initiate the process of creating a National Sustainable Development Strategy (NSDS) to enable progress toward achieving the SDGs.

The successful implementation of the SDGs will require global engagement at every level: governments, businesses, scientists, civil society leaders, nonprofit organizations, and the population at large. The guide provides a framework for all stakeholders to begin aligning national goals and development pathways with the SDG targets and describes relevant management and planning tools for this process.

The Sustainable Development Goals

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

I. The MDGs

In 2000, the international community adopted a poverty eradication strategy through the establishment of the Millennium Development Goals (MDGs). The MDGs, a set of time-bound goals and quantified targets and indicators, focused on the most vulnerable populations and addressed extreme poverty, hunger, disease, and social exclusion while promoting gender equality, education, and environmental sustainability. The deadline for countries to achieve the goals was 2015.

Many countries have made significant progress in achieving the MDGs, and the United Nations (UN) Millennium Development Goals Report 2014 highlights many such successes.² Over the past 20 years, the likelihood of a child dying before the age of five has been nearly cut in half, translating to about 17,000 children saved per day. Between 1990 and 2013, the global maternal mortality ratio dropped by 45 percent. From 2000 to 2012, malaria prevention interventions have averted nearly 3.3 million deaths, and since 1995, the fight against tuberculosis has saved 22 million lives. Moreover, the proportion of the population in developing regions living on \$1.25 dollars a day dropped to 22% by 2010 from almost 50% in 1990, a reduction of 700 million people living in extreme poverty.³

The MDGs articulated a global vision for development around a common set of priorities, yet progress has been uneven within and across countries and regions. Today's global development challenges are likely to continue to grow without an urgent and radical change of course. The world is still experiencing the impacts of the global economic, food, and energy crises, and many regions continue to suffer from corruption, displacement, and conflict. Moreover, the consequences of climate change will only get larger. The world needs an operational sustainable development framework that can mobilize key actors in all countries to move away from Business-As-Usual (BAU) approaches toward a sustainable development path.⁴ Building on the MDGs' ability to scale up global efforts to fight extreme poverty, the international community now needs a similar approach for sustainable development.

II. From The MDGs to The SDGs

The seventeen SDGs serve as a shared normative framework to foster collaboration across countries, engage stakeholders, mobilize resources, and inspire action; they are expected to be adopted by the UN General Assembly in September 2015.⁵ They apply to all countries, regardless of development status. Building upon the MDGs, these goals describe society's commitment to the interconnected objectives of sustainable development - economic development (including the end of extreme poverty), social inclusion, and environmental sustainability - as well as good governance (including security).⁶ The SDGs aim to:⁷

- Unite the global community and inspire coherent public and private action at local, national, regional, and global levels
- Provide a unified narrative for addressing sustainable development challenges
- Promote integrated thinking at a systemic level
- Support long-term approaches to sustainable development
- Define responsibilities and foster accountability
- Inspire active problem solving by all sectors of society

The SDGs place a high emphasis on inclusive development and promote goal-based planning mechanisms. The goals are accompanied by achievable, time-bound targets, as measured by quantifiable indicators. The indicators are intended to be flexible enough to respond to the different capacities and sustainable development challenges of each country. As part of the planning process, countries are encouraged to put in place strong, public instruments for reporting, monitoring progress, learning lessons, and ensuring mutual accountability.⁸

III. Guide Preview

This guide provides stakeholders with ways to initiate the process of creating a NSDS to achieve the SDGs. Chapter 2 provides insights into the three high-level negotiations that will take place in 2015 to create a united global agenda for development. The outcomes of these three meetings - the third International Conference on Financing for Development (FfD), the United Nations Summit for the Adoption of the post-2015 Development Agenda (UN SDGs Summit), and the Conference of the Parties (COP21) - will shape the future of the SDGs.

In Chapter 3, the guide introduces the SDGs, targets, and indicators and discusses how to consider them in separate national contexts. The chapter explains that the SDGs are based on the integration of the three pillars of sustainable development (economic development, social inclusion, and environmental sustainability) as well as good governance. It also provides an introduction to benchmarking so that stakeholders can assess their current situation in relation to the SDGs and therefore develop strategies according to individual needs.

Chapter 4 outlines the ways in which a country can define a national vision, or revise an existing one, to incorporate the SDGs. The guide details elements necessary for an effective collective visioning process, which brings together diverse stakeholders to align the goals of particular sectors, populations, and regions. The chapter also includes an example of how to implement a two-day "getting started" workshop that will allow stakeholders to take what they have learned from this guide and apply it in real time.

Chapter 5 intends to help countries identify major national sustainable development challenges, ranging from issues regarding economic growth and social inclusion to environmental sustainability and governance issues, with three case studies as examples. The guide provides two methods to identify such challenges: horizon scanning and performance assessment.

Finally, in Chapter 6, the guide offers ways in which a country can holistically create and implement a tailored NSDS to successfully achieve the SDGs. The chapter includes information on preparation, resource mobilization, data management, and partnership activation, as well as the technical assistance roles played the Sustainable Development Solutions Network, regional development banks, political organizations, and UN agencies.

Throughout the guide, pop-out examples provide insight into how specific countries are preparing for the integration of the SDGs into national planning agendas and provide concrete ideas for how to get started. As an annex, the guide provides a longer case study of how Armenia has begun to integrate the SDGs into its national vision. The guide concludes with practices that a country can follow in designing, implementing, and maintaining an NSDS.

¹ "The Age of Sustainable Development - Columbia University," *Coursera*, accessed May 1, 2015, https://www.coursera.org/course/susdev.

² "Millennium Development Goals Report 2014," Statistical material, (2014),

http://www.un.org/en/development/desa/publications/mdg-report-2014.html. ³ lbid.

⁴ "Sustainable Development Solutions Network | An Action Agenda for Sustainable Development," accessed May 1, 2015, http://unsdsn.org/resources/publications/an-action-agenda-for-sustainable-development/.

⁵ "Sustainable Development Solutions Network | Framing Sustainable Development Goals, Targets, and Indicators," accessed May 1, 2015,

http://unsdsn.org/resources/publications/principles-for-framing-sustainable-development-goals-targets-and-in dicators/.

⁶ "Sustainable Development Solutions Network | An Action Agenda for Sustainable Development."

⁷ "Sustainable Development Solutions Network | Framing Sustainable Development Goals, Targets, and Indicators."

⁸ United Nations, *The Road to Dignity by 2030: Ending Poverty, Transforming All Lives and Protecting the Planet* (New York, December 4, 2014),

https://thpadvocacy.files.wordpress.com/2014/08/2014-12-sg-synthesis-report-on-sdgs.pdf

Chapter 2: The 2015 Process

Friday State

Source: Jnited Nations Three major high-level, international conferences will take place in 2015 that will shape the path of the sustainable development agenda for the next 15 years. All countries will be called on to collaborate and take responsibility for the global path forward.

In this chapter you will:

- Learn more about and understand the relationship between the three main intergovernmental processes taking place in 2015 on sustainable development: The Financing for Development Conference (FfD), the UN Summit on the SDGs, and the UN Framework Convention on Climate Change's COP21.
- Obtain a broad understanding of the financing requirements to achieve the SDGs and of the global FfD processes in which funding sources and modalities are being discussed.

I. 2015 - The Year of Sustainable Development

2015 is a pivotal year for sustainable development. The SDGs are part of a history of multilateral efforts aimed at sustainably improving the conditions of the planet. The process began with the 1972 UN Conference on the Human Environment, was marked by the 1992 UN Conference on Environment & Development in Rio de Janeiro, and continued with the 2012 Rio+20 Conference. In July 2014, a draft proposal for the SDGs was agreed upon and published by the <u>Open Working Group</u> (OWG). This year, three high-level negotiations will take place to further integrate the three dimensions of sustainable development - economic growth, social inclusion, and environmental sustainability - and link them to the need for robust governance systems to promote a unified global sustainable development agenda. According to the OWG, these summits will "put the world on a course toward sustainable development, or inclusive and sustainable growth. This means growth that raises average living standards; benefits society across the income distribution, rather than just the rich; and protects, rather than wrecks, the natural environment."

This chapter reviews the three global negotiations that will take place between July and December 2015 to initiate the implementation of a global sustainable development agenda. The first is the third International Conference on Financing for Development (FfD) taking place in July in Addis Ababa, Ethiopia. This conference will allow stakeholders to discuss effective planning mechanisms for development financing efforts. Next, the UN Summit for the Adoption of the Post-2015 Development Agenda (UN SDGs Summit) will take place in September in New York City. During this summit, the SDGs will be formally adopted by UN member states. Finally, in December, the United Nations Framework Convention on Climate Change's (UNFCCC) 21st session of the Conference of the Parties (COP21) will allow for the negotiation of a new global climate agreement. These three conferences are very interconnected, and challenges in accomplishing the goals of any one event would likely impact the outcomes of the others.

Beyond 2015

To implement the SDGs effectively over the next 15 years, coordinated actions between institutions and stakeholders at international, national, and sub-national levels are needed. Governance mechanisms for sustainable development must consider the complex and dynamic relationships between institutions and stakeholders with diverse objectives and competences; assess and integrate initiatives implemented at different governance levels; and support synergies between efforts to meet different SDGs. In addition, member states must commit to promoting inclusive economic growth, social development, and environmental protection without distinction according to age, sex, disability, culture, race, ethnicity, origin, migratory status, religion, economic, or other status.²

II. Financing for Development

Achieving the SDGs will require significant investments in sectors such as infrastructure, education, agriculture, and health.³ Large investments are also required in areas that cross many sectors, such as natural resource management, disaster resiliency, gender equality, and livelihood creation.

According to the <u>Intergovernmental Committee of Experts on Sustainable Development Finance</u> (ICESDF), the cost of eradicating extreme poverty in all countries is around \$66 billion annually - and that is only to raise the poorest up to a daily living allowance of \$1.25 per day.⁴ Poverty eradication also requires significant investments in opportunities for inclusive growth and job creation, with estimated requirements for infrastructure investments alone reaching \$5-7 trillion globally.⁵ At the same time, delaying the mitigation of climate change will increase the cost of transitioning to low carbon economies in the medium- and long-term, especially for the largest emitters of greenhouse gases (GHGs).⁶

Even with these hefty financial requirements, emerging patterns of resource flows highlight opportunities for countries to mobilize the finances needed to support and achieve the SDGs. All four types of financing – public, private, domestic, and international – have increased in both absolute and relative terms since 2002.⁷ In order to identify the potential financing sources, it is important to understand the global FfD architecture and the interrelatedness between FfD and the other post-2015 development agenda processes.

In 2002, the UN held the <u>First Conference on FfD</u> in Monterrey, Mexico, to discuss the challenges of financing global development. The Conference concluded with the <u>Monterrey Consensus</u>, a set of actions to facilitate resource mobilization for the MDGs, followed by the <u>Doha Declaration</u> in 2008, which reaffirmed these commitments.⁸

Concurrently, the international community began holding discussions about what form the global development agenda would take after the MDG period. This led to the conceptualization of the <u>UN Conference on Sustainable Development (Rio+20)</u> and the statement "<u>The Future We</u> <u>Want</u>," which established key processes for moving forward after 2015, including the creation of the OWG.⁹ The OWG subsequently developed a set of milestones to replace the MDGs and created the ICEFSD to identify financial resources and actions to enable the implementation of these new goals. In 2014, the OWG <u>outlined</u> a proposed 17 SDGs and accompanying targets, and the ICEFSD presented options for financing strategies to mobilize and efficiently use resources to achieve the SDGs.¹⁰

These events have paved the way for the <u>Third International Conference on Financing for</u> <u>Development</u>, which will take place in Addis Ababa, Ethiopia, in July 2015. This conference aims to produce internationally agreed upon financing strategies for the SDGs, evaluate progress in the implementation of the Monterrey Consensus and the Doha Declaration, and address emerging issues. As this is the first major conference in 2015 regarding the sustainable development agenda, the outcomes will be crucial to the success of future planning processes.¹¹

III. The UN Convention on Climate Change COP21

Climate change is one of the most urgent issues facing the world today, and curbing its impact is particularly challenging given its complex nature. International cooperation will be crucial in tackling this challenge, as no country will be spared its consequences. In addition, the impacts of climate change are expected to become magnified over time, making this an intergenerational issue. As climate change is a slow-moving crisis, mobilizing short-term, driven political and business agendas has proven challenging. Thus, potential solutions to the crisis are complex, involve many stakeholders, and affect most of the world's economic activities.

The Road to Paris

<u>COP21</u>, which will take place in Paris November 30 - December 11, 2015, aims to produce a global agreement to guide future efforts to tackle climate change. In particular, countries will be expected to make concrete efforts to remain below a global temperature increase of 2°C.

Some countries and regional blocks have already announced their intended mitigation pledges for 2025-2030. The European Union has presented its commitment to reduce domestic emissions by at least 40% by 2030, using 1990 levels as a baseline. The United States has also presented a proposal to cut emissions by 26-28% by 2025, compared to 2005 levels. China, currently the largest emitter of GHG emissions, has committed to reaching its emissions peak by 2030 or earlier.¹³ Member states have agreed to submit their intended nationally-determined contributions no later than September 2015. However, most countries still have not declared their mitigation efforts for 2025-30, and, so far, only the European Union has shown how its commitments will fit a long-term <u>deep decarbonization pathway</u>.¹⁴

Elements for Success at COP21

The Sustainable Development Solutions Network has issued the report <u>Key Elements for Success on Climate</u> <u>Change Mitigation at COP21 in Paris</u>. It recommends eight key criteria for the expected agreement, with a particular focus on mitigation policies and climate finance:

1. A clear commitment to the 2°C upper limit on global warming.

2. A clear commitment by all governments to achieve net-zero greenhouse gas emissions no later than 2070, as is required to stay below the 2°C upper limit.

3. Each national government should agree to prepare and submit an illustrative and aspirational National Deep Decarbonization Pathway (NDDP) to demonstrate how it intends to shift to a low-carbon energy system by 2050 and achieve near-zero net greenhouse gas emissions no later than 2070.

4. All countries should commit to strong action by 2025-30, through Nationally Determined Mitigation Contributions (NDMCs), and demonstrate that the NDMCs are consistent with and part of their long-term NDDPs.

5. Countries should describe in detail how they intend to implement the NDMCs for 2025-2030 and the NDDPs for 2050.

6. Developed countries should make clear how they plan to fulfill the pledge of mobilizing at least \$100 billion per year in climate financing, beginning in 2020.

7. The Lima-Paris Action Agenda should include plans of action by sub-national and key non-state actors.

8. The Lima-Paris Action Agenda should launch several global public-private partnerships on low-carbon technologies.

Understanding the SDGs, COP21, and FfD

The Relationship between the SDGs and COP21

Climate change is addressed in Goal 13: "Take urgent action to combat climate change and its impacts." Goal 13 acknowledges the UNFCCC as the "primary international, intergovernmental forum for negotiating the global response to climate change," thereby implicitly linking the outcomes of COP21 to the SDG process.

Furthermore, climate change impacts all other SDGs. For example, climate change has already begun to significantly affect weather patterns and therefore food production (Goal 2: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture"). Changing weather patterns also influence the prevalence of infectious diseases, such as malaria (Goal 3: "Ensure healthy lives and promote well-being for all at all ages"). Additionally, the increase in global average temperatures will continue to increase variability in extreme weather events, such as flooding, hurricanes, and rising sea levels, making densely populated areas more vulnerable to disaster (Goal 11: "Make cities and human settlements inclusive, safe, resilient and sustainable"). At the same time, clean energy is one significant channel through which to mitigate climate change (Goal 7: "Ensure access to affordable, reliable, sustainable and modern energy for all").

Funding climate change adaptation and mitigation

Financing climate change mitigation strategies will require increasing investments in initiatives that reduce GHG concentrations in the atmosphere, such as low-carbon energy, combating deforestation, and transitioning to climate-smart agriculture. Simultaneously, countries have already started adapting to the negative consequences of climate change. According to the World Bank, over the period 2010-2050, adapting to a 2°C warmer world will cost \$75-100 billion a year – the same amount of Official Development Assistance (ODA) received annually by developing countries. These costs are expected to rise over time, with the highest costs in developing regions, even if GHG emissions decrease.¹⁵ The outcomes of mitigation policies and strategies will, in turn, determine future adaptation needs and costs.

The crux of this challenge is that the costs and benefits of climate change mitigation will accrue globally, but the costs and benefits of climate change adaptation will accrue locally. High-income countries will be expected to take on most of the mitigation activities, while lower-income countries will require the most adaptation. Thus there is a risk of a global imbalance if lower-income countries affected by climate change cannot finance or implement adaptation

strategies. Considering this, high-income countries should support both mitigation and adaptation initiatives.

Key Resources for Financing Climate Change

As governments, international organizations, businesses, and civil society act to mitigate and adapt to climate change, new investments are needed at an unprecedented scale. "Climate finance," standing at the intersection of public and private finance, covers the mobilization, allocation, monitoring, and reporting of these resources. The International Energy Agency estimates that households and businesses will each be responsible for 40% of the investments required to transform energy systems, with governments providing the rest.

In the Readiness for Climate Finance report, the United Nations Development Programme (UNDP) proposes that the international public funds allocated to finance climate change mitigation and adaptation should be used to strengthen institutions and the channels which mobilize resources from all levels of government and the private sector, for example for investments in low-carbon technologies and infrastructure.

UNDP also recommends that national development agendas include transitions to low carbon economies and international public resources be used to leverage existing opportunities. More specifically, it mentions the existence of more than 50 international public funds devoted to green finance, more than 60 carbon markets, and more than 6,000 related private equity funds.

The Climate Policy Initiative (CPI) has posited that the resources provided to climate finance in 2013 were almost evenly split between developed and developing countries and almost three quarters were invested domestically. Almost all private sector investments - which vastly outnumbered public sector investments - were made in their country of origin. CPI argues that this demonstrates the importance of low perceived risk and solid domestic policy frameworks to unleash the potential for climate finance flows, as companies will likely trust domestic markets that they understand best. CPI agrees with UNDP about the need for green technology finance; testimony to this is the fact that as the price of photovoltaic technologies has decreased, lower investments can still achieve an increase in installed capacity.

The World Bank and UNDP have created a database that provides policy-makers with a one-stop-shop for potential sources of climate finance, best practices, and research tools to help make informed decisions (www.climatefinanceoptions.org).

Sources:

Veerle Vandeweerd, Yannick Glemareck, Simon Billet, *Readiness for Climate Finance: A Framework for Understanding What it Means to be Ready to Use Climate Finance* (New York, UNDP, 2012).

Barbara Buchner et al., The Global Landscape for Climate Finance 2014 (CPI, 2014).

IV. Conclusion

As the world gears up for both the end of the MDG period and the beginning of the SDG process, it is essential that key actors do not lose sight of the interrelated nature of each individual set of negotiations and agreements that will take place in 2015 and beyond. Climate change will remain an overarching theme in the pursuit of sustainable development for decades to come, and many countries have already begun integrating mitigation and adaptation strategies into their national planning. And just as countries need to collaborate on the

response to climate change, so too do countries need to share innovative ways to mobilize financial resources for development priorities. In the next 15 years and beyond, it will be every country's responsibility to move the world forward toward meeting the SDGs.

¹ Jeffrey D. Sachs, "The Year of Sustainable Development," *Project Syndicate*, December 9, 2014,

http://www.project-syndicate.org/commentary/sustainable-development-2015-by-jeffrey-d-sachs-2014-12.

² IISD, Summary of the Thirteenth Session of the UN General Assembly Open Working Group on Sustainable

Development Goals (New York, US, July 14, 2014), http://www.iisd.ca/vol32/enb3213e.html

³ Romilly Greenhill and Ahmed Ali, *Paying for Progress: How Will Emerging Post-2015 Goals Be Financed in the New Aid Landscape?*, Working Paper, Shaping Policy for Development (ODI, April 2013),

http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8319.pdf.

⁴ ICESDF, *Report of the Intergovernmental Committee of Experts on Sustainable Development Financing*, Advance unedited version (Sustainable Development Knowledge Platform, August 8, 2014),

https://sustainabledevelopment.un.org/content/documents/4588FINAL REPORT ICESDF.pdf.

⁵ Ibid.

⁶ Ibid.

⁷ Jesse Griffiths et al., *Financing for Development Post-2015: Improving the Contribution of Private Finance* (Belgium, April 9, 2014),

https://europa.eu/eyd2015/sites/default/files/users/maja.ljubic/expo-deve_et2014433848_en.pdf.

⁸ UN Department of Public Information, "As Global Economy Falters, World Leaders to Meet in Doha on Ensuring Sufficient Finance for Development," *Financing for Development*, November 2008,

http://www.un.org/esa/ffd/doha/press/11NOV08PressRelease_Crisis.pdf.

⁹ United Nations, *The Future We Want* (Rio de Janeiro, Brazil: Rio+20 United Nations Conference on Sustainable Development, June 20, 2012), https://rio20.un.org/sites/rio20.un.org/files/a-conf.216l-1_english.pdf. ¹⁰ ICESDF, *Report of the Intergovernmental Committee of Experts on Sustainable Development Financing*. (August

2014)

¹¹ "The Road to Addis Ababa," accessed May 2, 2015,

http://eurodad.org/Entries/view/1546261/2014/09/23/The-Road-to-Addis-Ababa.

¹² Jeffrey Sachs, "Chapter 12: Climate Change," in *The Age of Sustainable Development* (Columbia University Press, 2015).

¹³ ICESDF, *Report of the Intergovernmental Committee of Experts on Sustainable Development Financing*. (August 2014)

¹⁴ Greenhill and Ali, *Paying for Progress: How Will Emerging Post-2015 Goals Be Financed in the New Aid Landscape?*. (April 2013)

¹⁵ Sergio Margulis and Urvashi Narain, *The Costs to Developing Countries of Adapting to Climate Change : New Methods and Estimates - the Global Report of the Economics of Adaptation to Climate Change Study* (The World Bank, January 1, 2010),

http://documents.worldbank.org/curated/en/2010/01/12563514/costs-developing-countries-adapting-climate-c hange-new-methods-estimates-global-report-economics-adaptation-climate-change-study.

Chapter 3: Getting Started with the SDGs



In order for stakeholders – national government, civil society, or private sector to begin preparing for the successful achievement of the SDGs, it is necessary for them to identify key national or regional challenges and benchmark where they stand within these prioritized challenges. This process is the foundation for creating a National Strategy for Sustainable Development.

In this chapter you will:

- Be introduced to brief descriptions of the seventeen goals.
- Receive tools in benchmarking to identify priority goals that the National Strategy for Sustainable Development will address.
- Learn about key global trends in the economic, social, and environmental dimensions of sustainability, and different patterns found within low, middle and high income countries, as well as different topographical areas.

I. Setting Goals, Reaching Targets, & Improving Indicators

Through a United Nations Open Working Group, which began in January 2013, seventeen goals have been identified as key thematic areas for sustainable development. From these goals, 169 targets and over 100 global monitoring indicators have been proposed.

Goals

Each goal holds equal importance within the mission of achieving the three dimensions of sustainable development and good governance, and is part of a larger vision for integrated global development. The goals were designed to be universal, concise, motivational, operational, and applicable to all stakeholders while simultaneously being coherent with intergovernmental processes, based on agreements from Rio+20. Additionally, the SDGs were designed to be monitored by high quality and consistent measurement practices that allow stakeholders to track the progress of their initiatives.

Targets

Every goal has a set of targets. Targets are specific operational outcomes marked by quantitative measurements, wherever possible. Targets should be developed to be "SMART", i.e. specific, measurable, attainable, relevant, and time bound to 2030 or earlier. Similar to the goals, targets should be applicable to all relevant stakeholders, consistent with international targets, universal but adaptable to local contexts, action-oriented, and clear on their definition of "zero" deprivation.

Indicators

Every target has a set of associated indicators. Indicators are quantitative variables that assist a country in indicating its level of progress in specific areas of development. Indicators drive

national decisions around policies, programs, and implementation strategies at the national, regional and global level.

Monitoring the SDGs will be conducted at the national level based on chosen indicators best suited to track national progress towards sustainable development. Additional monitoring will occur at regional level, as well as the global level. Technical expertise will be used to identify appropriate indicators in sector-specific fields such as health, education, or agriculture. The level of monitoring – national, regional, global or thematic -requires specific types of indicator (see Figure 3.1)



National monitoring is the percegative of each national government. Each country decides on the number and nature of national indicators, which follow national standards and may not all be internationally comparable. A Briefed set of Global Monitoring indicators will also be integrated into national monitoring efforts. Although likely to be drawn from official data sources, countries may also decide to include non-official data among their national indicators.

Global monitoring is based on a set of Global Monitoring Indicators that are harmonized to common global standards and vesial form a basis for triview at the High Level Political Forum. GMs would be predominantly drawn from official data. GMIs are generally applicable to all countries, but some may only cover a subset.

Regional Monitoring provides a platform to fuster knowledge-sharing, peer review, and reciprocal loarning across regions. Regional indicators comprise Global Monitoring indicators. Complementary National Indicators, and possibly a small number of indicators targeting specific regional priorities. Regional monitoring mechanisms should build on existing segional mechanisms.

Thematic Monitoring comprises specialist indicators reported on by epistemic communities. They can include input and process metrics as helpful complements to official indicators. Many communities may also use other sources of unofficial data and experiment with creative and novel ways of collecting, analyzing, and presenting data.

Harmonized across countries, one hundred global monitoring indicators have been proposed to ensure comparability and to support global SDG monitoring. In combination with other proposed complementary national indicators, they cover the full range of SDGs and targets in an integrated, clear, and effective manner (see full list of targets and indicators in Annex 3.1).

Countries will be responsible for collecting high-quality data annually through their national statistics offices and reporting it to the pertinent global agency. During the MDG period, data collection and reporting was hampered by weak statistical capacities in countries. Therefore, greater investments are needed to build independent, impartial national statistical capacities and to strengthen data quality and standards. <u>Global Monitoring Indicators</u> that track global progress on issues such as climate change, however, may not need to be reported at the country level.

More information on the reporting framework of the SDGs can be found on the SDSN's latest report Indicators and monitoring framework for the Sustainable Development Goals – Launching a data revolution for the SDGs (March 20, 2015 version).

II. SDGs in Brief



Goal 1. End poverty in all its forms everywhere: Eradicate poverty by targeting its root and structural causes by improving economic and social conditions for populations living below the national poverty line.



Goal 2. End hunger, achieve food security and improve nutrition, and promote sustainable agriculture: Eradicate hunger and malnutrition, with a particular focus on children under 5 years of age, girls, and women. Improve agricultural productivity through sustainable farming practices that maintain species' genetic diversity and ensure resilience to climate change.



Goal 3. Ensure healthy lives and promote well-being for all at all ages: Improve access to healthcare and reduce all causes of mortality and morbidity, improve quality of healthcare and access to facilities, and address related environmental issues.



Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all: Ensure universal primary and secondary education and to increase access to tertiary education, improve quality of educational programs and providing training in advanced 21st century skills, ensure gender equality.



Goal 5. Achieve gender equality and empower all women and girls: Reduce gender inequality by tackling social, political, and economic practices that perpetuate discrimination and disadvantaged opportunities.



Goal 6. Ensure availability and sustainable management of water and sanitation for all: Ensure availability of safe and high quality sanitation, safe management of water resources for urban and rural populations, treat wastewater flows to national standards, and conserve water resources.



Goal 7. Ensure access to affordable, reliable, sustainable, and modern energy for all: Increase use of renewable energy through decarbonized sources, improved energy efficiency, and promote investment in energy infrastructure.



Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all: Achieve sustainable economic growth, while ensuring that they are inclusive of the rights, opportunities, and voice of marginalized groups, and that economic growth does not come at the expense of the environment.



Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation: Develop high quality, reliable, sustainable, and resilient infrastructure and promote inclusive and sustainable industrialization that fosters innovation in terms of small-scale industrial and other enterprises to financial services.



Goal 10. Reduce inequality within and among countries: Promote growth that is inclusive of all segments of a society, marked by sustained income growth accompanied by empowerment and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, economic, or other status.



Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable: Improve access to adequate, safe, sustainable, and affordable housing; basic services and transport systems; and enhance inclusive, and sustainable urbanization and capacity for participatory, integrated, and sustainable human settlement planning and management in all countries.



Goal 12. Ensure sustainable consumption and production patterns: Put mechanisms in place to use natural resources efficiently and sustainably, to achieve environmentally sound management of chemicals and wastes, and to reduce food losses and food waste.



Goal 13. Take urgent action to combat climate change and its impacts: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters; to integrate climate change measures into national policies, strategies, and planning; and to improve public awareness, human capacity, and institutional capacity.



Goal 14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development: Take into account the sustainability of economic and social activities that affect marine ecosystems through policies that protect marine and coastal areas and ensure that fishing activities remain at sustainable levels.



Goal 15. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss: Address biodiversity loss, desertification, and land degradation through conservation, restoration, and the sustainable management of terrestrial and inland freshwater ecosystems and their services.



Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels: Prevent all forms of abuse, exploitation, trafficking, torture, and violence. Combat organized crime, recover stolen assets and reduce corruption and bribery. Develop and strengthen effective, accountable, and transparent institutions.



Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development: Strengthen the enabling environment around the SDG process through global partners as well as strong implementation and monitoring mechanisms.

III. The SDGs in the National Context

Benchmarking

With seventeen goals to achieve, it is necessary for countries to identify which goals they will target first and will set as a priority for the 15-year timeline. This requires benchmarking - taking stock of the country's economic, social and environmental status to inform a country's vision and national dialogues in regards to planning programs and enacting policies. By situating a country's current position according to global indicators, the country has evidence-based knowledge to set targets and measure progress.

Large amounts of data are already being collected, particularly on topics that related to achieving the MDGs. Collecting new information that relate directly to achieving the SDGs will enable a comprehensive approach to economic, social, and environmental aspects of sustainable development, as well as the underlying component of governance.

Benchmarking includes a Performance Assessment, identifying national trends that have served and hindered the country's development, and Horizon Scanning, projecting future trends based on past performance and global patterns.

Performance assessment

This method looks into a number of indicators to evaluate the efficiency and effectiveness of the programs in place. By looking at the trends of the various indicators and comparing them with global and regional averages, a country can determine areas of underperformance. When available, MDG country progress reports may serve as a good starting point to assess in which areas a country performed well and where there is room for improvement.

Horizon scanning

This method involves consistently gathering evidence about future trends. It may help governments to assess their degree of preparedness for potential challenges. It also reviews the external environment in which a government operates as well as its internal procedures, frameworks, etc. The ultimate objective of horizon scanning is to ensure that national planning is resilient to different future environments that may hamper the progress of SDGs.

Mapping Malnutrition in Guatemala

The World Health Organization calculates stunting and wasting, both measures of undernutrition in children under five, according to the median scores of a reference population. Stunting (chronic malnutrition) is a measure of low height-for-age. Children who are moderately stunted are at least -2 standard deviations from the median, while children who are severely stunted are at least -3 standard deviations from the median. A country's

nutrition status can be determined according to the following percentages of children under five who are stunted: low (<20%), moderate (20-29%), high (30-39%), and very high (>40%).^a



The Government of Guatemala, in collaboration with the World Food Programme, undertook a Vulnerability Assessment Study to benchmark the food and nutrition security of the Guatemalan population, with a focus on stunting in children under five.^b The assessment included community-level indicators, including data on risks from drought and floods, health services, and road conditions.

The study developed new categories to assess the severity and stunting in order better prioritize target areas within the country: very low (<33%), low (33-46%), medium (46-60%), high (60-74%), and very high (>74%). Using these categories, the findings included a list of 166 municipalities to be prioritized in future work to combat stunting.

While the WHO cutoffs remain important for setting global standards in nutrition programming, countries may find that adapting such guidelines will be more beneficial as they set their own pathways toward achieving the SDGs.

Sources:

^a Mercedes de Onis and Monika Blössner, *WHO Global Database on Child Growth and Malnutrition.* (Geneva: WHO, 1997), 52.

^bMolina, R., *VAM 2012 – Mapeo y análisis de la desnutrición crónica en Guatemala*. (Guatemala: WFP, SESAN, 2012), 9 - 12.

IV. Global Trends

A global agenda for sustainable development creates a dialogue that allows countries to learn from another, in terms of best practices associated with specific challenges. Although most governments are already aware of what challenges the country will have to face to achieve the SDGs, it is helpful to look to peer countries to see what challenges they face in the process of benchmarking. The following section highlights symptomatic global patterns and their root causes that serve as a starting point in the exploration of national challenges to achieve the SDGs targets.

The patterns identified are not exhaustive. While some of them may resonate with certain countries, they may not apply to others. The global challenges are organized around the three dimensions of sustainable development: Economic development, social development and environmental protection. Where applicable, identified patterns are broken down by income level, geographic location, and other relevant factors. Underlying causes and causal pathways are also analyzed.

Additionally, three cases on the process of identifying national challenges and benchmarking country progress are presented for Malawi, Armenia, and the United States of America to demonstrate the applicability of the SDGs, and how every country's approach to achieving them will look different.

Economic Development

There are many enablers for economic development including fair and stable global trading systems, access to technology, supportive policies for inclusive and green growth, etc.¹ Yet, this section focuses only on three main areas: economic growth and jobs, sustainable agriculture, and infrastructure.

Economic growth and job creation

Six years after the global financial crisis, the global economy is still struggling to maintain moderate growth. Though different economies face a variety of country-specific challenges, insufficient employment has become a global concern for both developed and developing countries, particularly for global youth. The global youth unemployment rate has reached 13.1%, almost three times as high as the adult unemployment rate.² Global unemployment is expected to approach 214 million people by 2018 and more than 600 million new jobs will be needed globally for new entrants to the labor market over 2016-2030.³ High unemployment affects family livelihoods, enlarges inequality, and causes social unrest around the world, hampering the process of sustainable development (Figure 3.2).



Figure 3.2: The Palma Ratio serves as an indicator for income inequality in a country. The higher the number the more inequality present. *Source*: CGDEV, 2013. Persistent unemployment since the beginning of the financial crisis is the result of weak labor demand as well as underlying structural factors.⁴ Due to technological changes or industrial geographical reallocation, workers suffer from a chronic skill mismatch, finding it difficult to reintegrate into today's labor market.⁵ Inadequate education systems contribute to skill mismatch and lead to high youth unemployment. Empirical evidence shows that long-term unemployment often leads to discouragement and loss of human capital, as skills will depreciate as a result of long periods without work.⁶

In high-income countries, employment rates (employment-to-population ratio) declined significantly after the financial crisis and remain below the pre-crisis level. Job creation has been insufficient to recover from the financial crisis and macroeconomic policies have not worked as expected to recover job creation. Although expansionary monetary policies (policies by monetary authorities to expand money supply and boost economic activity, mainly by keeping interest rates low) have helped to avoid larger employment losses, due to low investment, these policies have not contributed to job creation. Youth unemployment remains a concern in these countries, as well as the low skilled, immigrants, and other disadvantaged groups, who are facing difficulties in finding jobs or subject to nonstandard works, contributing to the increase of relative poverty and inequality in developed countries. In the low-income countries, the slow growth in output and productivity have hindered the structural transformation from agriculture to industries. Employment has been concentrated in the agriculture, and at the same time, there has been an increase in unpaid family and household employment, suggesting insufficient jobs and low labor productivity.

In middle-income countries, that economies in transition, the employment situation has not improved either, with economic expansion slowing down. Many workers are trapped in low-paid or low-productivity jobs. These economies also tend to have significantly higher informality rates. While informal jobs can help reduce poverty in developing economies, lack of formal employment opportunities constitutes a barrier to further sustainable poverty reduction.⁷ Taking India as an example, growth slowed markedly, at a rate of 3.8 per cent in 2013, largely due to the poor performance in the manufacturing sector and low levels of investment. The labour market continues to be dominated by informal and agricultural employment relationship. The share of workers in informal employment in the non-agricultural sector is 83.6% per cent in India (2009–10). New jobs have been generated, however, without a regular employment relationship. The quality of employment and opportunities for better jobs continue to be unequally distributed between men and women in the labour market.⁷ This slow progress in structural transformation has presented great challenges for India to move towards sustainable development, as informal workers are largely unprotected from the risks of ill-health, old age, maternity, etc.

E-Waste Recycling in Kenya

From 2012 to 2017, electronic waste (e-waste) is expected to grow by 33% - the fastest growing source of waste.^a Illegal recycling of electronic materials like copper and gold can be a lucrative business, especially in the informal economies of developing countries.^b Yet extracting these elements can expose recyclers and their families to toxic chemicals and pollute soil, water, and food.^b And while e-waste dumping is illegal, transporters and smugglers often go unpunished.^e

In Kenya, an estimated 15,000 metric tons of e-waste are imported every year, in addition to what is produced domestically.^d However, in the last few years, under an initiative by information technology company Hewlett-Packard, a new recycling system has brought the objectives of the private sector together with those of Kenyan regulators and small businesses.^c

Hewlett-Packard has operated an e-waste management project in Kenya since 2010 and has since started scaling up this work to create an exportable model for a "sustainable recycling system."^c Hewlett-Packard has leveraged its expertise and connections to bring industry experts, investors, academics, and regulators together to create a system to effectively separate and recycle e-waste:^{c,f}

- E-waste recycling firms Reclaimed Appliances (UK) opened the East African Compliant Recycling Center in Nairobi the first large-scale recycling facility in East Africa.
- The investment organization DEG (Germany) collaborated on funding and project management.
- The Kenyan government handled regulatory requirements.
- The University of Northampton (UK) provided training on recycling.

The partnership also succeeded in developing Kenya's first registered network of e-waste collectors.^c Small businesses that collect e-waste receive special equipment and training that meet international health, safety, and environmental standards, thereby protecting workers and their families from unsafe and toxic work environments.^f Collectors bring e-waste to 40 collection points housed in shipping containers, and both individual collectors and businesses receive market wages; the collection points reduce the number of hazardous dumping sites and the potential for illegal recycling while creating job opportunities.^{c,f} Hewlett-Packard plans to expand these collection points across the country.^g

Sources

^aGreenBiz. "Developing world overtakes the U.S. in e-waste." January 9, 2014. Accessed March 18, 2015. <u>http://tinyurl.com/mwwklf8</u>

^bWorld Health Organization. "Electronic waste." Accessed March 18, 2015. <u>http://tinyurl.com/g8vgca5</u>

^cFox, Nicolette. "Hewlett-Packard introduces large-scale e-waste recycling in Africa." *The Guardian*, May 15, 2014. Accessed March 18, 2015. <u>http://tinyurl.com/mxo249p</u>

^cHP. "HP profile." Accessed March 18, 2015. <u>http://tinyurl.com/lytlf6p</u>

^dClay, Veena. "A Closer Look at Kenya's New E-waste Recycling Hub." *Electronic Recyclers International, Inc*, April 15, 2014. Accessed March 26, 2015. <u>http://tinyurl.com/p2lmwpn</u>

^eDonnelly, Beau. "Smugglers go unpunished over 'tsunami' of toxic electronic waste, *The Sydney Morning Herald*, September 25, 2014. Accessed March 26, 2015. <u>http://tinyurl.com/ojdtxmb</u>

^fHP. "HP Wins the Guardian Sustainable Business Award in Collaboration." Accessed April 13, 2015. <u>http://tinyurl.com/ovweq78</u>

^gHP. "Living Example: Establishing recycling in Kenya." Accessed April 13, 2015. <u>http://tinyurl.com/k4c8mhr</u>

Sustainable agriculture

The world still faces significant challenges in sustainably supplying food to its population. Despite significant increases in crop productivity and the expansion of agriculture onto additional land have not been enough to solve this problem. According to FAO, 805 million (11.3% of world' population) people were undernourished between 2012 and 2014.⁸ UNICEF estimates that the growth of 161 million children under 5 years is stunted (24.5% of world' children below 5 year).⁹ The issue of sustainable food is not limited to an undersupply of calories and nutrients. The level of overweight and obese people is a growing concern. WHO forecasts that more than 1.9 billion adults are overweight, of which 600 million are obese.¹⁰

Although problems related to sustainable food can be classified as either hunger lack of micronutrients, or overnutrition and obesity, it is important to highlight that these problems are generally faced by different types of countries. 93% of the world's undernourished and 94% of children with stunted growth are concentrated in low income countries in Asia and Africa. Approximately half of the world's obese population lives in high income countries, which contain only 17% of world's population. Besides those inequalities between countries, there are also inequalities within countries. While in the U.S. the most common problem in this area is related with obesity, since 33.7% of its adult population was considered obese in 2014, the country also faces food insecurity challenge.¹¹ In 2013, according to USDA, 14.4% of households under the 1.85 income-to-poverty ratio had very low food security, considerably higher than the 2.3% ratio for households above that threshold.¹² High income individuals in low and middle income countries also have different problems than those of the rest of the population. Those pattern shows that a differential diagnostic is the proper tool to be used in this issue.

As to the root causes for the hunger and lack of micronutrients problem, the main issue that has prevented the world from solving this problem is the increase in global population, which grew by a factor of 2.9 between 1950 and 2015.¹³ Environmental challenges, such as climate, soil, water, topography, pests, and biodiversity also contribute, especially as we approach our planet's limits. Food waste also contributes to this problem; one third of the food produced in the world is currently wasted.¹⁴ Another contributing factor is poor crop management in less developed countries, driven by unskilled farmers, lack of capital, low technology levels, poor transport infrastructure, and land ownership structures that do not incentivize productivity.

For the problem of overweight and obese populations, the main cause is not excessive caloric intake but nutritionally poor diet. Consumers generally prefer food with high fat and sugar content to healthier food with better carbohydrates, proteins and micronutrients. Unhealthy food is usually cheap to produce, which incentivizes the food industry to supply it in vast amounts. Increasingly sedentary lifestyle is another great contributor for the obesity growth trends (Figure 3.3).



These problems are not likely to be solved without proper intervention. Population will continuously grow, we will continue to push the planet's environmental limits, and the root causes for the obesity trends are likely to continue. That said, both hunger and lack of micronutrients and people being overweight and obese are likely to continue to be a challenge for the next generation of world leaders.

Infrastructure

The world faces massive infrastructure deficit in both developed and developing nations.

"Developing countries need new infrastructure, developed countries need rebuilt infrastructure and almost every country is struggling to finance the infrastructure it needs"

-- Australian Prime Minister Tony Abbott, 2014 World Economic Forum

It is estimated that \$57 trillion of global infrastructure investment will be required from 2013 to 2030.¹⁵ Infrastructure deficit comes at an economic and social cost. Infrastructure is critical for economies, business relies on roads and ports to access markets, on energy for machines to operate, on telecom to communicate with partners and customers. Most importantly, countries have to rely on infrastructure to provide social services. Failure to build, maintain, and upgrade infrastructure, impedes economic and human development and, exacerbates counterproductive social conditions.¹⁶ Infrastructure is an important pillar of global sustainable development, and is essential for increasing economic progress and reducing poverty.

Increased demand for infrastructure spending is largely driven by rising GDP per capita, population growth, and increased urbanization. Especially in emerging economies, such as China and India, existing infrastructure is inadequate for current needs. The number of people living in cities will double by 2030, with 2 billion more people demanding basic services such as water, power and transportation in emerging economies.¹⁶ The BRIC countries will make up more than half of the growth in road use and more than 40% of the growth in airport passenger traffic through 2030. Developed economies will continue to increase their spending on infrastructure, accounting for half the global infrastructure investment, and water needs are expected to absorb half that sum as quality requirements become increasingly stringent.¹⁷

On the supply side, commercial banks withdrew their investments in infrastructure to repair their own balance sheets during the financial crisis, hindering private sector infrastructure investment in emerging market economies and putting significant pressure on already constrained government budgets. Moreover, the financial crisis limited the ability of governments to fund development projects, as many central and local governments lack adequate financial, project-management, and operating capabilities. The World Bank also indicates that in high-income countries, total investment from both public and private sources as a share of GDP is at its lowest in 50 years.¹⁸

Besides the funding constraints, institutional bottlenecks and poor management capacity have contributed to inefficient infrastructure investment, resulting in higher costs in low-income countries. The infrastructure deficit has become the key limitation on growth. According to the Africa Infrastructure Country Diagnostic (AICD) analysis, Africa's power and water utilities have high distribution losses and under-collection of revenues, as well as overstaffing, undermining investment efficiency.¹⁹ For example in Tanzania, despite the progress made in road and other networks, the power sector is characterized by exceptionally low power consumption, limited electrification, and poor reliability of supply. During the drought periods, the economic cost of outages has been estimated at 4 percent of GDP, among the highest in Africa.²⁰ The sector's failure to meet increasing demands, has not only presented huge burden for the budget, but also hindering the growth potential of the whole economy, as without power, manufacturing machines can not operate, water pumps can not work in the land and etc.

Social Development

Social development requires to put in place a number of factors: universal access to quality health care and education systems, inclusive social protection systems, fair rules for migration, systems to manage population dynamics.²¹ This section describes global challenges in three of these areas: social inclusion, universal health, and universal education.

Social inclusion

The World Bank defines social inclusion as the process of improving the ability, opportunity, and dignity of people disadvantaged on the basis of their identity, to take part in society.²² Achieving social inclusion promotes individual and group participation in political, economic and societal processes, and aims for balanced development by addressing social exclusion. While this perspective of social inclusion originated in developed countries in light of the welfare crisis, it has become prominent in the literature on poverty in both developed and developing countries

as a consequence of rising inequalities.²³ Achieving social inclusion is essential to eradicate poverty and to promote more harmonious societies.

Certain individuals and groups are excluded from societal activities based on their identity. The most commonly acknowledged identities are gender, race, caste, ethnicity, religion, economic status and disability status. Poverty, for example, is an important cause of social exclusion because lack of economic resources can prevent individuals or groups from social participation.²⁴ Recently, more identities, such as sexual orientation, nationality (migration status), and HIV/AIDS, are being recognized as sources of social exclusion.²⁵ The lesbian, gay, bisexual, and transgender (LGBT) community experiences exclusion in many cultures due to social norms.

According to the UN, manifestations of social exclusion can be categorized into four dimensions: asset ownership; entitlements secured by those engaged in the economy; social provisioning; and full and equal citizenship.²⁶ The exclusion from the ownership and the access to assets can be structural inequalities derived from the initial conditions. This can lead to further inequality in economic status as well as exclusion from economic activity. The second dimension covers individual and group engagement in the economy on the basis of their control over their productive endowment. The third dimension of social provisioning refers to the access to basic needs and social services with quality assurance. Common social exclusion issues include health, nutrition, education and housing. The fourth dimension covers full and equal citizenship. Lack of institutional framework for ensuring political and socio-economic rights can create identity-based discrimination in political participation in local, state, or national decision-making structures and processes. Social exclusion based on citizenship can lead to lower social standing, often accompanied by lower outcomes in terms of income, human capital endowments, access to employment and services.

The first step to the recognition of rights and an equal access to public service is birth registration. Unicef reports that nearly one third of children under five has never been registered.²⁷ For instance in Ghana, 63% of children are registered in 2011. When the data is broken down into different perspectives, however, it illustrates further social inclusion issues. The gender distribution is about equal at 63%, but there is a large gap in the registration rate socioeconomic status. Children in the richest quintile are registered more than 80%, while only 54% of those in the poorest quintile are registered.²⁸ This shows that identifying social inclusion and inequality requires analysis from multiple viewpoints.

Measuring social inclusion is complex and challenging. Since social inclusion covers various human identities and dimensions, it is sensitive to the local, cultural, geographical, and other contexts. While analyzing social inclusion issues with existing indicators and tools is important, it is crucial to understand social inclusion in the context of area of interest to effectively capture the multi-faceted dynamics of social inclusion in planning and implementation of policies.

Health for all

Population health is a precondition of sustainable social and economic development.²⁹ Health was crucial to the Millennium Development Goals in terms of hunger and nutrition, child mortality, maternal care, and major communicable diseases, comprising four out of the eight Goals. Most deaths due to above causes are preventable; these deaths cause net loss of

unrealized future production, and the waste of past investments. Without proper interventions to keep the population healthy and alive, developing countries were burdened with citizens who are not able to effectively contribute to society.

Since the inception of the Millennium Development Goals in 2000, significant progress has been made on the health goals, but further efforts are needed to meet the original targets.³⁰

The global child mortality rate has dropped from 90 per 1,000 live births in 1990 to 48 in 2012 – a decline from 12.6 million to 6.6 million total child deaths. Two thirds of child deaths in 1990 were preventable, primarily due to malaria and pneumonia. For comparison, in 2012, developed countries lost only 6 out of 1,000 children before age of five. Child mortality is closely tied to water and sanitation, nutrition, poverty, and maternal education. With continued increases in income level, healthcare investment, and immunization, the trend of child deaths worldwide is showing a stable downward direction. Despite good progress, Sub-Saharan Africa, South Asia, and Oceania remain the least favorable environment for child survival.

Another significant health challenge is maternal education and delivery safety. The Sub-Saharan region has the highest maternal mortality rate of 510 per 100,000 live births in 2013, compared with East Asia's 33, despite its improvements from 990 in year 1990. Teenage pregnancy is also a pressing concern in the developing world. Sub-Saharan Africa maintains around 120 births out 1000 that are given by teenage mothers, while Latin America remains around 80, with no improvement since 1990. In East Asia, teenage pregnancy accounts for only 6 per thousand births. Teenage pregnancy numbers reflect the problems of poverty, gender equity, and education. Unsafe delivery and the lack of education of young mothers aggravate the maternal physical burden. Young mothers are more likely to pass on the poverty to their children, as they tend to have more children and fewer resources for children's education.

The other major health burden is communicable disease. HIV/AIDS and malaria remain the major killers, claiming 1.6 million and 0.6 million lives in 2012, respectively. The persistence of these diseases is due to weak public policies that failed to mobilize communities around interventional measures, and the lack of education on environmental sanitation, behavior change, and false beliefs regarding the diseases.

All health challenges could worsen if there is not accessible health care infrastructure.³¹ Universal health care coverage requires cost-effective staff training, an affordable payment scheme, and a functional system that provides quality and continuous services, as well as health promotions. The provision of health care is the deciding challenge to continue the achievements made in the past decade.

Disease pattern and burdens are very different between high and low income countries.³² Low income countries generally are more prone to infectious diseases, namely HIV/AIDS, malaria, tuberculosis, and mortalities due to the lack of access to health providers such as unsafe deliveries and inadequate immunizations. Also noted is that non-communicable disease and injuries are also rising in these countries as a result of low access and unhealthy behaviours. Middle-income countries, while infectious diseases are improved, faces insufficient access to health services, due to low investment, to their growing young populations who are close to or in the working age. High-income countries, on the other hand, have to deal with chronic diseases such as cancer, obesity, cardiovascular diseases, DM, mental illness, tobacco and

alcohol abuse. In addition, the shrinking working population and the increasing elderlies poses a huge cost pressure on the existing health system of the high-income countries.

Eradicating Malaria in São Tomé and Principe

Although some countries and regions are geographically and climatically predisposed to malaria, a commitment to eradicating the disease and international support for health systems can be enough to overcome these inherited disadvantages, as demonstrated in the island nation of São Tomé and Principe. In early 1980s, the country undertook a full-scale malaria eradication program that combined indoor spraying with an extensive prophylaxis campaign. This program had incredible success, reducing malaria prevalence from 19.2% to 0.6% and malaria-attributed mortality to zero.^a But a lack of follow-up in both political commitment and funding allowed the disease to make its way, resulting in a resurgence in the 1990s. Yet since 2004, with the help of the Millennium Development Project, São Tomé and Principe has again scaled up its control strategies, including indoor spraying, preventive therapy, rapid diagnosis and treatment, and giving out long-lasting insecticidal bed nets.^b The intensified interventions again brought down the malaria-related death rate by 95%.

^aLoureiro, L F. Malaria in Sao Tome and Principe: Prevalence and drug-susceptibility. *Annals of tropical medicine and parasitology* 90, no. 2 (1996), (accessed April 14, 2015).

^bTeklehaimanot, HD. Malaria in Sao Tome and Principe: On the Brink of Elimination after Three Years of Effective Antimalarial Measures. *The American journal of tropical medicine and hygiene* 80, no. 1 (January 01, 2009), (accessed April 14, 2015).

Education for all

Education is well recognized as a major force for fostering social and economic development. It increases labor force productivity, facilitates technological progress, contributes to better institutions in civil society that are related with development, reduces poverty and inequality, and improves prospects for health and fertility. Even with such potential, the world still struggles to deliver access and quality education to its children. UNESCO estimates that 8.9% of children of primary school age are out of school as are 16.8% of children of secondary school age. It also estimated that more than 780 million adults remain illiterate, more than 15% of the world adult population.³³ The higher the bar for defining quality education, with literacy clearly being a very low bar, the bigger the problem appears to be.

The problems related to education are different for different parts of the world (Figure 3.4). Primary and secondary education enrolment are a huge concern for low and middle income countries. In low income countries, 16.5% of children in primary school age and 29.8% of children in secondary school age are out-of-school. In middle income countries, those ratios are 7.8% and 16.3%, respectively for primary and secondary school. Quality problems such as grade repetition - which can be above 20% for African countries such as Burundi, Central African Republic, Madagascar, Comoros, and Côte d'Ivoire - and illiteracy – which can be above 50% of young population in countries such as Niger, Central African Republic, Guinea, and Burkina Faso - are still of great concern. High income countries are generally more concerned with the

education system's ability to supply workers for their competitive, high-skilled, labor markets. This problem is illustrated by the PISA data that shows that 23% of students in OECD countries perform below the level 2 in mathematics (in a scale of 1 to 6), which can be as high as 35.7% in Greece, and 27.1% in Sweden. Middle income countries also faces challenges in this area, such as the Mexican example in which 54.7% of students performed below the level 2 in mathematics.³⁴



Underinvestment by parents in their children's education is a major cause of under enrollment.³⁵ Even though the return of investment in education is generally high, parents may not invest due low disposable income, capital market imperfections in educational lending, and informational asymmetries regarding the returns of education. Governments should finance this education investment gap, but often do not have the resources or capability to deliver it. This problem is exacerbated by demographic transition in developing countries, poor countries are generally the ones with higher percentages of children. As countries develop and are able to invest in education, there are fewer children in whom to invest (relative to adults with low education levels). Investments in adult education are generally less efficient than investments in children.³⁶ Gender gaps also contribute to the enrollment problem, since women are marginalized in education in many societies.

In terms of quality of education the root causes are even more complex. Lack of investment, misallocation of resources, parental incentives, teacher capabilities, and management all contribute. There is also a connection between enrollment and quality problems, encompassing problems with grade repetition and especially dropouts. The root cause for each country depends on specific diagnostic; there is education literature to help in any possible problem that a country faces.

Environmental Protection

This section comprise environmental describes some of the areas of greater concern with regard environmental sustainability - marine life, freshwater, deforestation, air quality, loss of

biodiversity - as well as the challenges that climate change and the use of energy pose to the progress of SDGs at a global scale.

Environmental Sustainability

Human economic activities have reached a level where they significantly impact and alter nature at the global level. As a result, environmental challenges such as loss of biodiversity, air pollution, water shortage and pollution, deforestation and grasslands degradation, along with soil contamination threaten not only the health and balance of the physical environment, but also the social and economic development and human well-being.

Marine

Given that half of the world's population lives within 200 kilometers of a coastline, massive human economic activities, such as residential waste and garbage, waterborne pollutants, agricultural runoff, oil spills and ship-borne waste, have significant impacts on the coastal habitats.³⁷ Forty-one percent of the oceans showed high human-induced impacts on marine ecosystem as of 2012, and approximately 20% of the world's coral reefs have disappeared, causing loss of food security, shoreline protection and biodiversity.³⁸

Fresh water

Fresh water shortage and contamination are serious global problems affecting human well-being, economic activities, and the water balance in the ecosystem. Local and regional freshwater shortages, and water stress are widespread in one-third of the world and is especially severe in low- and middle-income countries, where the population and economic growth have led to an over 300% increase in water demand in the last 50 years.³⁹ This in turn is inhibiting economic development and worsening the social wellbeing in these countries. In fast developing middle-income and some high-income countries, water availability is also threatened by increasingly severe nutrient concentration, chemical pollution, and overconsumption of both surface and underground water resources as a result of the growing industrial and agricultural activities.

Deforestation

Tropical forests declined at around 12-15 million hectares per year from the 1990s through the 2000s, due to commercial logging, agriculture, cattle ranching, dam building, and mining.⁴⁰ Deforestation is particularly severe in low-income countries whose economies depend heavily on resource exports and where logging is not effectively managed. In fact, Africa, Latin America, and Southeast Asia are experiencing the highest deforestation rate.⁴¹ Additionally, grasslands worldwide have been extensively modified and degraded as a result of extending croplands and overgrazing in developing economies, especially the tropics, arid and semiarid lands, as well as high mountain areas.

Air quality

While most developed countries have tackled air pollution, epicenters of higher mortality remain in some areas, especially in poorer, urban neighborhoods. Elsewhere, in the megacities

of middle-income countries, the health burden of local and global air pollution is severe. Outdoor air pollution comes primarily from inefficient fuel combustion for transport, power generation and other human activities including home heating, cooking and agricultural waste incineration.⁴⁴ Cities and rural areas worldwide suffer an estimated 3.7 million premature death caused by ambient pollution in 2012, of which 88% occurred in low- and middle-income countries, especially in the Western Pacific and South-East Asia regions.⁴⁵ Children are particularly at risk due to the immaturity of their respiratory systems. Those living in middle-income countries disproportionately experience this burden.

Loss of biodiversity

Biodiversity loss continues at rates 100-1000 times their pre-human levels, with no sign of improvement.⁴⁶ 11% of bird species, 18% of mammals, 8% of plant species, and 5% of fish species are threatened, as a result of human economic activities. For example in low- and middle-income countries, land use change and wildlife trade are destructing the natural habitats. Globally, biodiversity loss in both developing and developed countries is worsened by factors like invasive species and climate change (WHO 2005).⁴⁷ Biodiversity loss not only disturbs the ecosystem balance, but also reduces ecosystem services, affecting human health, livelihoods, economic growth, social stability, etc.

Nigeria has abundant natural resource, such as oil, forest, ecological biodiversity, and fresh water, etc. However, the rich natural endowment did not boost Nigeria's economic growth and social welfare. On the contrary, the development of this country is burdened by severe environmental challenges. For decades, Nigeria remained one of the world's highest deforestation rates and lost more than 55% of its primary forests between 2005-2010 (FAO, 2011).⁴⁸ Fast deforestation further exacerbated the densification and biodiversity loss. Meanwhile, majority of the common fresh water sources in Nigeria are polluted by industrial, agricultural, and domestic emissions (Galadima, et. al.),⁴⁹ along with severe oil spills, resulting in frequent waterborne diseases outbreak and destruction of natural habitats. National government and international organizations are making great effort in combating the environmental challenges in Nigeria, but it will take decades and billions to restore, and disastrous pollutions, such as oil spills, are even impossible to clean up.

Climate Change and Energy

Carbon dioxide (CO_2) emissions from the burning of fossil fuels are a major contributor to climate change. Generally, the level CO_2 emissions is higher in higher-income countries and in economies that depends more heavily on carbon-intense energy resources (Figure 3.5). As of today, per capita emissions of CO_2 continue to be highest in North America, followed by West Asia and Europe, and are lowest in Africa. The Global annual CO_2 emissions is reaching 35 billion tons and the CO_2 concentrations in the atmosphere have gone from an estimated 280 ppm in pre-industrial times, and 315 ppm in 1958, to 390 ppm in 2011.⁵⁰ We need to reduce emission sharply and quickly in order to reach the two-degree target by 2050.


Even allowing for short-term spatial and temporal variability, there is a clear long-term trend of global warming: the past decade was the warmest on record since 1880 in terms of average global temperatures and the ten warmest years on record have all occurred since 1998.⁵¹ Glacial melt in as a result of global warming impacts water and energy supply, sea level fluctuations, vegetation patterns, economic livelihoods and the natural disasters frequency and severity.⁵²

Among the many human activities that produce CO₂ emissions, the use of energy, especially fossil fuels is by far the largest contributor. Since the Industrial Revolution, annual CO₂ emissions from fuel combustion dramatically increased from near zero to over 31 GtCO₂ in 2012.⁵³ Notwithstanding the increasing use of renewable and clean energy, burning of fossil fuels currently makes up about 80% of the primary energy supply, and accounts for 83% of human introduced greenhouse gas emissions as of 2011.⁵⁴

Increased fossil fuel consumption is driven by economic growth, particularly in emerging countries. In the last decade the increase has been most significant in middle-income countries in Asia and the Pacific region. In most of high-income countries, as a result of increasing energy efficiency and shifting to less carbon-intense energy resource in most high-income countries, CO_2 emissions in OECD countries have been declining slightly since 2007, and this trend is likely to continue (IEA 2014). However, developed countries can take a more active role in mitigating climate change by providing financial and technical support for clean energy and higher energy efficiency to developing countries.

On the other hand, rapid increase in energy consumption and total CO₂ emissions in non-OECD countries, especially fast growing middle-income economies such as China and India, more than offsets the decline in high-income countries and continues to drive up global emissions. For these middle-income countries, there's an urgent need to upgrade the energy structure, to develop renewable energy, and to improve energy efficiency. For low-income countries, while

their primary concern is to ensure basic access to energy for all households, installing on-site solar panels where there's enough sunshine, rather than continue burning charcoal and woods, is a more sustainable way to improve people's livelihood.

Two sectors produced nearly two-thirds of global CO₂ emissions: electricity and heat generation, and transport. Transport sector emissions growth is largely driven by global increase in transport demand.⁵⁵ Electricity and heat generation relies heavily on coal, the most carbon-intensive fossil fuel. By 2035, demand for electricity will be 70% higher than current level, driven primarily by rapid population and income growth in developing countries, and by the increasing consumption of homes, commercial buildings, as well as industrial processes.⁵⁶

Given the long lifetime of CO_2 in the atmosphere, stabilizing concentrations of greenhouse gases at any level would require large reductions of global CO_2 emissions.⁵⁷ The lower the chosen level for stabilization, the sooner the decline in global CO_2 emissions would need to begin.

Decarbonization of Energy in Mexico

By 2027, it is projected that 88% of Mexico's population will live in cities; in parallel, the country is facing the possibility of becoming a net importer of energy by 2020.^a As the energy sector has traditionally driven domestic growth, the government has identified energy as a major national sustainable development challenge and in October 2014 implemented a program for national energy reform.^a

As part of the reforms, the Ministry of Energy, with the help of the World Bank, has rolled out a national municipal energy efficiency program to raise awareness about the importance and urgency of urban energy efficiency. The program, which includes initial energy diagnostics in 30 cities, will encourage city institutions to systematically integrate energy efficiency into local policy making, investment decisions, and procurement.^a The program aims to increase the capacity of city officials to conduct energy efficiency assessments and raise public awareness about the substantial gains that can result from lower energy expenditures, including budget savings, improved services with social benefits, and lower carbon emissions.^a Cities will be able to determine what sectors have the largest potential for improved energy efficiency and thus design targeted investments in response.

Rapid assessments already conducted with the Tool for Rapid Assessment of City Energy, a decision-support system designed to help cities quickly identify and prioritize energy efficiency opportunities, have indicated potential energy savings in public lighting of US\$2.3 million in León and US\$3.2 million in Puebla. These diagnostics, a first step in the program, will equip policymakers with information to invest in projects involving public lighting, municipal buildings, and water and wastewater systems.

The Mexican energy sector is now open for investment from foreign energy firms. It is hoped that energy use and cost reductions brought about by the national energy program will reduce manufacturing costs and promote growth.^c

^aWorld Bank. "Urban Energy Efficiency Key to Mexico's Ambitious Goals for Energy and Low Carbon Growth." July 3, 2014. <u>http://tinyurl.com/kjpots5</u>

^bFeldstein, Martin. "How energy reforms will help Mexico grow." *World Economic Forum*, October 29, 2014. Accessed March 18, 2015. <u>http://tinyurl.com/koqwd7s</u>

Governance for Sustainable Development

Governance, according to World Bank Governance Index, refers to the convention in which the authority of a country operates.⁵⁸ The conventions include how the government is formed, replaced, and monitored, how effectively a government formulates and implements policies, and the government's respect for its citizens' rights and safety. In a broader sense governance also includes international organizations and private companies.⁵⁹ Good governance is crucial to development in sustainability and economic growth.⁶⁰ Without proper governance, rights of citizens and stakeholders are exposed to violence and unfair treatment, and the trusts among citizens and between citizens and governments are destroyed. Infrastructure, health, and educational policies can not be implemented without the cooperation of private sectors and the government. At the Rio+20 conference in 2012, world leaders reiterated the importance of "institutions of all levels that are effective, transparent, accountable and democratic." ⁶¹

Accountability

Government must be accountable to their citizens, primarily through democratic elections. In the democratic process, citizens are able to freely express their ideas without the fear of being harmed by the government, so the government's performance can be monitored. Even in non-democratic countries the government should still be accountable for the result of implementation. A reporting system within the government can increase its effectiveness by monitoring each duty. Private sector should also be held responsible firstly to laws, public opinion, and social responsibility. In developing countries, where environmental regulations are often weak, private sector should be more accountable to its own pollution.

Transparency

A transparent government and business is often more effective because the errors can be corrected and discussed right away. Transparency is accomplished when a government abides by its own laws and treats all stakeholders with open rules and fair settlements. Transparency undoes the need to seek the government's support through channels outside the laws, such as bribery.

Participation

A society that integrates its people's' opinions and influences is one that is likely to be stable and peaceful. Governments should engage stakeholders of all levels before decisions are made. This way the establishment and implementation of laws can take care of the maximum common interests. When all voices heard and counted, majority groups will not feel the need to overturn the government, and minority groups will not need to resort to terrorism to express the resentment of being ignored (Figure 3.6).

Women Participation in Government (2010)



Figure 3.6: Women participation score is made up of the percentage of women in the national legislature and the percentage of women ministers/cabinet members and their relative power within the government. Source: WomensStats Project, 2010.

V. Case Studies

The following section offers the countries of Malawi, Armenia, and the United States of America as cases of how the SDGs will be applied differently across low, middle and high income countries. The cases also serve as examples of how global trends can inform the benchmarking process

Low-Income Case Study: Malawi

Demographic Snapshot⁶²⁻⁶⁴

GDP (PPP)	\$3.705 billion (2013)
GDP per capita	\$780 (2013)
GDP real growth rate	5.7% (2014 est.)
Population	17,377,468 (2014 est)
Population growth rate	3.33%
Poverty rate	50.7% (2010)

Introduction

Malawi is a low-income nation located in southwestern Africa. It is a landlocked country that has been historically food insecure and is categorized as one of the least economically developed in the region.⁶⁵ The country faces a potential food crisis in the upcoming months due to high vulnerability of climatic shocks and a recent decrease in overseas development assistance (ODA) related to a 2013 implication of government misappropriation of funds.⁶⁶ This is coupled by a backdrop of high fertility rates and low agricultural yields. Economic development (SDG 1 & 8), agriculture and food security (SDG 2 & 3), and governance and accountability (SDG 16) are priorities for sustainable development planning for Malawi. Within each of these goals the country's current state of affairs has been benchmarked.



Low agricultural yields and heavy soil erosion threaten Malawi's agricultural sector, its primary source of economic development:

- 90% of the population relies on agriculture as a primary livelihood and that 30% of the country's GDP comes from agricultural contributions.⁶⁷
- Tobacco is the nation's leading cash crop followed by coffee.⁶⁸
- Heavy rains washed away soil from an estimated 64,000 hectares of land, affecting over 800,000 farmers.⁶⁹
- The Central Intelligence Agency's "The World Factbook: Malawi (2015)" Report offers further analysis of Malawi's agricultural state of affairs.

Malawi has the lowest economic growth projections in the region at 3.6%:⁷⁰

- Fiscal deficit has grown significantly in the past several years from 0.7% of GDP in 2012-13 to an estimated 4.8% in 2013-14.⁷¹
- Few extractive opportunities aside from uranium, of which it was one of the region's leading producers up until 2014 when production at its main mine was halted.⁷²
- For more information on economic projections for Malawi see "Country Report: Malawi (2015)." The Economist Intelligence Unit.

Malawi's geographic location, topographical context and population growth pose challenges to economic development:

- Landlocked nation with infertile mountainous terrain and lack of natural resources.
- Lake Malawi stretches along most of the nation and enables the transportation of people and goods, as well as the support of a local fishing industry.⁷³ The north end of the lake has natural gas deposits that are currently being investigated, however the potential for exploration is being overshadowed by neighboring Tanzania in a border dispute.⁷⁴
- High fertility rate of 5.8 children per woman on average, and a population growth rate of 3.33%. For more information about fertility rates in Malawi see IRIN's Report titled "Growing Demand for Family Planning in Malawi."⁷⁵



Most of Malawi's arable land has been developed and hillside farming is unsustainable for commonly practiced techniques. Malawi faced a widespread drought in 2005 and the subsequent famine was one of many in the country's history:

- According to the United Nations Development Program, more than 4.7 million people were estimated to be experiencing food shortages in 2005, comprising 39% of the total population.⁷⁶
- See UNDP's most up to date "Human Development Report" for further analysis.

In 2006 the government launched the Farm Input Subsidy Program, the largest and most recent input subsidy scheme reaching nearly 1.5 million households:⁷⁷

- Attributed with raising average maize productivity from 1.3 MT/ha to an average of 2.7 MT/ha.⁷⁸
- Impressive yield improvements but experts question the long-term cost-benefit ratio.
- See IFPRI's "Malawi's Farm Input Subsidy Program (2014)" Report for additional information.



President Peter Mutharika was elected in 2014 and faces substantial challenges in unifying his government, and restoring public confidence in the wake of a large corruption scandal in late-2013.

Mr. Mutharika's Democratic People's Party holds only 50 of the National Assembly's 193 seats. Without a clear majority, pathways to policymaking and legislative action will likely be slow in the future.⁷⁹

President Mutharika's 2013 corruption scandal has led to a fallout in donor trust due to his:

- From 2012-13, ODA declined from 1174.6 million USD annually to 1125.9 million USD, impacting government service delivery significantly.⁸⁰
- In spite of strained government finances, members of Mr. Mutharika's cabinet and the National Parliament successfully increased their salaries by 168%, further contributing to skepticism and distrust of his government.⁸¹
- Malawi's ranking on the Economist Intelligence Unit's democracy index slid from 77 to 89 out of the 167 nations considered in the framework.⁸²
- For additional information about Malawi's current standing in regards to ODA see OECD's "Aid at a Glance" Report.

Middle-Income Case Study: Armenia

Demographic Snapshot⁸³

GDP (PPP)	\$20.61 billion
GDP per capita	\$6,300
GDP real growth rate	4.6%
Population	3,060, 631 (2014 est.)
Population growth rate	-0.13%
Poverty rate	35.8% (2010)

Introduction

Armenia is a landlocked, lower middle-income country in the South Caucasus region of Eurasia. Armenia is a unitary, democratic nation-state with an ancient cultural heritage. The modern Republic of Armenia became independent from Soviet Union in 1991. Armenia's economy has undergone a profound transformation since independence. However, the effect of the financial crisis on rural and urban poverty has been dramatic—the poverty rate increased from 27.6% in 2008 to 32% in 2013.⁸⁴ Armenia is facing undergoing conflict with Azerbaijan, further hampering Armenian economic growth. And the country lies in one of the most seismically

active regions of the world. Climate change is expected to further amplify the frequency and intensity of meteorological hazards in Armenia. Infrastructure (SDG 9), urbanization (SDG 11), climate change (SDG 13) and environmental conservation (SDG 15) are priorities for sustainable development planning for the country of Armenia. Within each of these goals the country's current state of affairs has been benchmarked.



Infrastructure

Armenian infrastructure is deteriorating:

- Many of Armenia's power plants (40%), hydroelectric plants (70%) are more than 30 years old, and need significant repairs due to lack of adequate maintenance.⁸⁵
- Deteriorating Armenian infrastructure is undermining the competitiveness of Armenians firms that fail to find export markets. More than 50% of Armenia businesses lack international quality certifications, a barrier to potential export destinations including the European Union, USA and Russia.⁸⁶

The financial sustainability of infrastructure is at risk:

- Armenia has an increasing gap between financing needs and resources to meet the demand of public infrastructure.⁸⁷
- For more information visit the Asian Development Bank's 2012 Report, "Armenia: Infrastructure Sustainability Support Program."

Armenia is facing limited amount of innovation in the private sector:

• According with the Ranking on Global Competitiveness Index (2010) Armenia has a weak in "Innovation and sophistication" ranking 112/142 among the listed countries.⁸⁸



The population, economy, and environment of Armenia are highly vulnerable to natural hazards:

- A high degree of urbanization (64%) concentrates disaster (particularly seismic) risks in cities.⁸⁹
- In any given year, there is a 20% chance that a major disaster will result in losses of 12.7% of GDP.⁹⁰
- See the Central Asia and Caucasus Disaster Risk Management Initiative's 2009 Risk Assessment for more details.

The amount of land devoted to green space is shrinking as a result of new construction and in the recent years the norm of green space within cities became lower than 40%⁹¹

Solid waste management remains the most problematic challenge for cities' leadership:

• The main performance areas are: (1) lack of legislative background and a poor management system, (2) lack of appropriate equipment, (3) lack of financial capacities, and (4) a weak relationship with the public in the cities.

Around 39% of urban population in Armenia lives in slums or informal settlements. 15 per cent of non-slum households live in slum areas, while 21 per cent of slum households live in non-slum areas.⁹²



Climate Change

Armenia is particularly vulnerable to climate change:

- The nation has a history of droughts, soil erosion, and natural disasters.⁹³
- The country's reliance on the agriculture sector for employment and the economy contributes to climate change vulnerability, as agriculture is incredibly sensitive to environmental changes.⁹⁴

Water resources (precipitation, river flow, and snow cover) are projected to decrease in Armenia, thereby stressing the role of water resource management.⁹⁵

The country lacks a transparent and detailed deep decarbonization strategy:

- Armenia's weak enforcement of environmental legislation and international conventions may also contribute to the country's ability to adapt to climate change.⁹⁶
- For further information visit the UN's Ministry of Territorial Administration of the RA's Post-2015 Development Agenda: National Consultations Republik of Armenia, The Future We Want (2013) Report.



Environmental Conservation

Armenia's current system of protected areas covers 311,000 ha (10% of the territory):97

- Protected areas include state reserves, national parks, state sanctuaries and natural monument. Protected areas are very small in comparison to country's size and, therefore, possess limited resiliency.
 Overexploitation of biodiversity is widespread in the country:
 - The legislation is very lax in this regard and isn't properly enforced. Individual households often use resources for domestic fuel-wood even in the protected areas.
 - Visit the World Bank's "The Republic of Armenia: Climate Change and Agriculture Country Note." for details.

The public doesn't consider environmental issues to be a priority because it is more concerned about social and economic situation in the country, and therefore is not pressing government to take the action.⁹⁸

High-Income Case Study: U.S.A

Demographics Snapshot⁹⁹

GDP (PPP)	\$17.46 trillion
GDP per capita	\$54,710 (2014)
GDP real growth rate	2.4% (2014)
Population	318.9 million (2014 est.)
Population growth rate	0.7% (2013)
Poverty rate	14.5% (2013)

Introduction

The United States of America (U.S.) is a high income, democratic country comprised of 50 states and marked by a diverse population of immigrants. It is in North America bordering both the Atlantic Ocean and Pacific Ocean. It is the largest economy in the world signified by high technological power and a market-oriented political economy. Although a developed country, the nation is challenged by high levels of socioeconomic inequality, which have led to health and education disparities among racial and ethnic groups. Economic development (SDG 8 & 10), social inclusion in health (SDG 3 & 10), and

environmental sustainability (SDG 7 & 13) as key priorities for sustainable development planning for the United States of America. Within each of these goals the country's current state of affairs has been benchmarked.



The U.S. GDP is the largest in the world:

- Increasing at an average rate of 2.2% per year¹⁰⁰, GDP grew from 13 trillion in 2006 to an estimated level of 17.7 trillion in Q4 of 2014.¹⁰¹
- The U.S.' dominant economic standing is fueled by strong trade, manufacturing, retail, and finance sectors, and strengthened by good infrastructure, high productivity, and ample capital and research investment.

The benefits of its strong economy are not shared equally amongst American citizens:

- A 5% unemployment level as of mid-2015 and a Gini coefficient of 0.42, the U.S. has the highest post-tax income inequality of all high-income developed countries, and ranks in the 30th percentile globally.
- Since 1979, the top 1% of wage earners in the country have increased their incomes by 275% while the middle 60% have increased by 40%.
- Minorities, especially blacks and Hispanics, are disproportionately more affected by income inequality than other groups. As of 2013, white households earned nearly 13 times more than black and 10 times more than Hispanic households.¹⁰²
- Visit the Pew Research Center's website for more information about the racial wealth gaps within the United States in the wake of the Great Recession of 2008.



Social Inclusion in Health

The U.S. has an advanced modern health system, resulting in overall good health outcomes.

The country ranks in line with other comparable high income countries on basic health indicators: average life expectancy of 79 years, under-5 mortality rate in the single digits, maternal mortality of 28 per 100,000 live births, child vaccination and utilization of improved sanitation and water sources near or at 100%, and a practical rate of stunting near zero.¹⁰⁴

The country suffers from an increasingly high burden of noncommunicable disease:

- Ischaemic heart disease tops the list of causes of death in the U.S., responsible for nearly 15% of all deaths.¹⁰⁵
- This reality is underlined by the fact that 30 percent of American males and 33 percent of females are obese with rates significantly above the WHO regional averages.¹⁰⁶

- Overall, cardiovascular, neuro-psychiatric disease, and cancers make up the vast majority of DALYs in the U.S.¹⁰⁷
- For more detailed information visit the World Health Organization's website for the U.S.'s country profile.

There is unequal access and disparate health outcomes across different socio-economic income groups and races:

- For instance, while whites are more likely to commit suicide, non-Asian minorities such as blacks and Hispanics are significantly more likely to experience preventable hospitalization, HIV, preterm births, high blood pressure, adolescent birth, and diabetes.¹⁰⁸
- Those who live below the poverty line, do not complete high school, and are unemployed are much less likely to report having good health.
- Though the U.S. spends more on health per capita (\$8,608) and more of a share of its GDP on health (17.6%) than any other nation, the country ranked 37th in performance and 72nd in overall level of health among 191 member countries according to the WHO in 2000.¹⁰⁹

More recently, the U.S.'s health system was ranked last by the Commonwealth Fund in a study of 11 similar developed countries, citing large health disparities in quality, access, efficiency, and equity.¹¹⁰



Environmental Sustainability

As the world's largest economic power the U.S. is a major contributor to CO2 emissions due to its high utilization of fossil fuels to power strong household energy demand:¹¹¹

- 37% of CO2 emissions in the country come from electricity generation (which utilizes fossil fuels to power homes and businesses), followed by transportation (31% of all emissions) in the form of gasoline and diesel burning automobiles, and industry uses (15%), such as mining, chemicals, and metal production.¹¹²
- The U.S. ranks 2nd in the world in CO2 emissions behind China, emitting approximately 5.5 million tons in 2013, accounting for 15% of all global emissions.¹¹³

U.S. output today is supported by unsustainable practices, despite the fact that the tools needed to foster sustainable economic activity exist:

- In a 2010 survey conducted by National Geographic, the U.S. ranked last in green consumption habits out of 17 developed and developing countries.¹¹⁴
- According to the last Columbia University Environmental Sustainability Index, the U.S. scored a 38 out of 100 in "global stewardship" and a 27 out of 100 in "reducing stresses" related to mitigating air pollution, and water and ecosystem stresses.¹¹⁵
- The U.S. has the difficult task of working to confront the impact of climate change on the environment by changing consumption and production patterns, while also improving the sustainability of the country's current infrastructure.
- Visit the Risky Business Project's website (<u>www.riskybusiness.org</u>) for more information about the economic risks from the impacts of climate change in the U.S.

² ILO, Global Employment Trends 2014: The Risk of a Jobless Recovery, 2014,

http://www.ilo.org/washington/areas/global-economic-recovery-and-job-creation/lang--en/index.htm.

http://www.un.org/en/development/desa/publications/wesp-2015.html.

¹ UN System Task Team on the Post-2015 UN Development Agenda, *Realizing the Future We Want for All. Report to the Secretary-General*, UNTT Report, (2012),

https://sustainabledevelopment.un.org/content/documents/614Post_2015_UNTTreport.pdf.

http://www.ilo.org/global/research/global-reports/global-employment-trends/2014/lang--en/index.htm.

³ ILO, "Global Economic Recovery and Job Creation," International Labor Organization, January 1, 2013,

⁴ United Nations Department of Economic and Social Affairs, *World Economic Situation and Prospects 2015: The Global Economic Outlook*, Report (New York, December 10, 2014),

⁵ United Nations Department of Economic and Social Affairs, *LINK Global Economic Outlook 2015-2016* (New York, October 2014), http://www.un.org/en/development/desa/policy/proj_link/documents/geo201410.pdf. ⁶ David Klosters, *Jobs and Skills: Tackling the Global Unemployment Crisis - Preparing for Growth* (Switzerland:

World Economic Forum Global Agenda Council on Employment, January 22, 2014),

http://www.weforum.org/reports/jobs-and-skills-tackling-global-unemployment-crisis-preparing-growth. ⁷ ILO, *Global Employment Trends 2013: Recovering from a Second Jobs Dip* (Geneva, 2013),

http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_20232 6.pdf.

⁸ FAO, "The FAO Hunger Map 2014," *Food and Agriculture Organization of the United Nations*, 2014, http://www.fao.org/hunger/en/.

⁹ UNICEF, "Child Nutrition Interactive Dashboard," *UNICEF Data: Monitoring the Situation of Children and Women*, September 30, 2014, http://data.unicef.org/resources/2013/webapps/nutrition#.

¹⁰ WHO, "Obesity and Overweight," World Health Organization, n.d.,

http://www.who.int/mediacentre/factsheets/fs311/en/.

¹¹ WHO, "Overweight and Obesity," World Health Organization, n.d.,

http://www.who.int/gho/ncd/risk_factors/overweight/en/.

¹² Christian Gregory, Alisha Coleman-Jensen, and Anita Singh, *Household Food Security in the United States in 2013*, Economic Research Report (US Department of Agriculture Economic Research Service, September 2014), http://www.ers.usda.gov/publications/err-economic-research-report/err173.aspx.

¹³ United Nations Department of Economic and Social Affairs, *World Population Prospects: The 2012 Revision*, n.d., http://esa.un.org/unpd/wpp/index.htm.

¹⁴ FAO, "Food Loss and Food Waste," *Food and Agriculture Organization of the United Nations*, n.d., http://www.fao.org/food-loss-and-food-waste/en/.

¹⁵ R Dobbs, J Mischke, and H Pohl, *Infrastructure: Too Important for Business Leaders to Ignore*, McKinsey Quarterly No. 2, June 2013.

¹⁶ "Bridging the Global Infrastructure Gap," *Australian Institute of International Affairs*, accessed May 2, 2015, http://www.internationalaffairs.org.au/bridging-the-global-infrastructure-gap/.

¹⁷ World Bank, "Global Infrastructure Facility," October 8, 2014,

http://www.worldbank.org/en/topic/publicprivatepartnerships/brief/global-infrastructure-facility.

¹⁸ Marco Airoldi, Lamberto Biscarini, and Vito Saracino, "The Global Infrastructure Challenge," *BCG Perspectives*, July 21, 2010,

https://www.bcgperspectives.com/content/articles/engineered_product_project_business_public_sector_global _infrastructure_challenge/.

¹⁹ Marianne Fay and Michael Toman, "Infrastructure and Sustainable Development," in *Postcrisis Growth and Development* (The World Bank, 2010), 329–82,

http://elibrary.worldbank.org/doi/abs/10.1596/9780821385180_CH08.

²⁰ Maria Shkaratan, "Tanzania's Infrastructure : A Continental Perspective" (The World Bank, February 1, 2012), http://econ.worldbank.org/external/default/main?pagePK=64165259&theSitePK=469372&piPK=64165421&me nuPK=64166322&entityID=000158349_20120208110410.

²¹ UN System Task Team on the Post-2015 UN Development Agenda, *Realizing the Future We Want for All. Report to the Secretary-General.*

²² United Nations Department of Economic and Social Affairs, *Inequality Matters – Report on the World Social Situation 2013*. (New York, 2013).

²³ United Nation Department of Economic and Social Affairs, *Analyzing and Measuring Social Inclusion in a Global Context.* (New York, 2010).

²⁴World Bank, Inclusion Matters, (Washington, 2013).

²⁵ United Nations Department of Economic and Social Affairs, *Rethinking Poverty - Report on the World Social Situation 2010,* (New York, 2009).

²⁶ "Every Child's Birth Right: Inequities and trends in birth registration," UNICEF, 2013.

²⁷ "Birth Registration," UNICEF, 2015, <u>http://data.unicef.org/child-protection/birth-registration</u>.

²⁸ United Nations, *Report of the United Nations Conference on Sustainable Development*. Rio+20 United Nations Conference on Sustainable Development. (January 1, 2012). Accessed March 12, 2015.

http://www.uncsd2012.org/content/documents/814UNCSD REPORT final revs.pdf.

³⁹ "The Millennium Development Goals Report 2014." *We Can End Poverty, Millennium Development Goals and beyond 2015.* January 1, 2014. <u>http://www.un.org/millenniumgoals/2014 MDG report/MDG 2014 English web.pdf</u>.

³⁰ "What Is Universal Health Coverage" Universal Health Coverage, January 1, 2015, http://www.who.int/universal health coverage/en/.

³¹ World Bank, "Health Financing Revisited: A Practitioner's Guide." (*The World Bank Group*, 1 April 2006) ³² "UNESCO Institute for Statistics," accessed March 11, 2015,

http://data.uis.unesco.org/Index.aspx?queryid=121

³³ "OECD: PISA 2012 Results," accessed March 11, 2015,

http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm.

³⁴ The World Bank, *Priorities and Strategies for Education: A World Bank Review,* (The World Bank, Washington, D.C., 1995).

³⁵ James Heckman and Stefano Mosso, The Economics of Human Development and Social Mobility, IZA Discussion Paper No. 8000 (2014).

³⁶ "Facts and figures on marine pollution," UNESCO, accessed March 15th, 2015,

http://www.unesco.org/new/en/natural-sciences/ioc-oceans/priority-areas/rio-20-ocean/blueprint-for-the-futur e-we-want/marine-pollution/facts-and-figures-on-marine-pollution/

³⁷ United Nations, *Prototype Global Sustainable Development Report*. Department of Economic and Social Affairs, Division for Sustainable Development, (New York, 2014).

³⁸ UNEP, "Background of the water situation in Asia-Pacific," accessed March 15th, 2015,

http://www.unep.org/themes/Freshwater/Regions/index.asp?case=roap

³⁹ Ibid.

⁴⁰ Mat McDermott, "10 Countries with the highest Deforestation Rates in the World," *Treehugger*, August 11, 2009,

http://www.treehugger.com/corporate-responsibility/10-countries-with-the-highest-deforestation-rates-in-the-world.html

⁴¹ "Children's Environmental Health," WHO, accessed Mar 14, 2015, <u>http://www.who.int/ceh/risks/cehair/en/</u>
⁴² "Ambient (Outdoor) Air Quality and Health," WHO, March 2014,

http://www.who.int/mediacentre/factsheets/fs313/en/

⁴³ "How Many Species are We Losing?" *wwf.panda.org*, accessed on March 12nd, 2015, http://wwf.panda.org/about_our_earth/biodiversity/biodiversity/

⁴⁴ *Ecosystems and human well-being*. Vol. 5. (Washington, DC: Island Press, 2005).

http://www.who.int/globalchange/ecosystems/ecosys.pdf

⁴⁵ "Nigeria: Tackling Deforestation Problems." *AllAfrica.com*. June 2011. http://allafrica.com/stories/201106031011.html.

⁴⁶ Galadima, A. et al. "Domestic Water Pollution among Local Communities in Nigeria—Causes and Consequences". *European Journal of Scientific Research, Vol.52 No.4* (2011): 592-603.

⁴⁷ Tans, P. and Keeling, R. "Earth System: Research Laboratory and Scripps Institute of Oceanography". *National Oceanic and Atmospheric Administration* (2011). <u>http://www.esrl.noaa.gov/gmd/ccgg/trends/</u>.

⁴⁸ "Keeping track of our changing environment: from Rio to Rio+20 (1992 to 2012)." *UNEP*, http://www.unep.org/geo/pdfs/keeping_track.pdf.

⁴⁹ WGMS, *Global Glacier Changes: facts and figures*. Zemp, M., Roer, I., Kääb, A., Hoelzle, M., Paul, F. and Haeberli, W. (eds.). UNEP, (World Glacier Monitoring Service, Zurich, 2008)

⁵⁰ International Energy Agency, *World Energy Outlook 2013.* (International Energy Agency, 2013), http://www.iea.org/Textbase/npsum/WEO2013SUM.pdf.

⁵¹ Ibid

⁵² International Energy Agency. (2013). *World Energy Outlook 2013*. International Energy Agency. <u>http://www.iea.org/Textbase/npsum/WEO2013SUM.pdf</u>.

⁵³ Ibid

⁵⁴ UNEP, UNEP Yearbook 2012, Chapter 4: Key Environmental Indicators: Tracking progress towards environmental sustainability, (2012), <u>http://www.unep.org/yearbook/2012/</u>.

⁵⁵ World Bank, "Worldwide Governance Indicators," January 1, 2014. Accessed March 15, 2015. http://info.worldbank.org/governance/wgi/index.aspx#doc

⁵⁶ Jeffrey Sachs, "The Age of Sustainable Development," (New York: Columbia University Press, 2015).

⁵⁷ "The challenge of entropic society and sustainable development governance in Africa," *International Journal of Public Administration and Management Research (IJPAMR),* Vol. 2, no. 3, 164-73. Accessed March 15, 2015, http://rcmss.com/2014/ijpamr-vol2-no3/challenges of entropic society and sustainable development governance in africa.pdf.

⁵⁸ *Report of the United Nations Conference on Sustainable Development,* Rio+20 United Nations Conference on Sustainable Development, (January 1, 2012), accessed March 12, 2015.

http://www.uncsd2012.org/content/documents/814UNCSD REPORT final revs.pdf.

⁵⁹ "The World Factbook: Malawi (2015)," *Central Intelligence Agency,*

https://www.cia.gov/library/publications/the-world-factbook/geos/mi.html.

⁶⁰ "The World Bank Poverty Indicator," *The World Bank*, <u>http://data.worldbank.org/indicator/SI.POV.NAHC</u>.

⁶¹ "The World Bank Gini Index Indicator," The World Bank, http://data.worldbank.org/indicator/SI.POV.GINI.

⁶² "The World Factbook: Malawi (2015)." *Central Intelligence Agency*.

https://www.cia.gov/library/publications/the-world-factbook/geos/mi.html.

⁶³ "Country Report: Malawi (2015)." The Economist Intelligence Unit. <u>http://country.eiu.com/malawi</u>

⁶⁴ "The World Factbook: Malawi (2015)." *Central Intelligence Agency.*

https://www.cia.gov/library/publications/the-world-factbook/geos/mi.html.

65 Ibid.

⁶⁶ "Country Report: Malawi (2015)," *The Economist Intelligence Unit*, <u>http://country.eiu.com/malawi</u>.

⁶⁷ "Country Notes," *African Economic Outlook*, <u>http://www.africaneconomicoutlook.org/en/</u>.

⁶⁸ "Country Report: Malawi (2015)," *The Economist Intelligence Unit*, <u>http://country.eiu.com/malawi</u>.
⁶⁹ Ibid.

⁷⁰ "The World Factbook: Malawi (2015)," *Central Intelligence Agency*,

https://www.cia.gov/library/publications/the-world-factbook/geos/mi.html.

⁷¹ "Country Report: Malawi (2015)," The Economist Intelligence Unit, <u>http://country.eiu.com/malawi</u>.

⁷² "Growing Demand for Family Planning in Malawi." *IRIN Website.*

http://www.irinnews.org/report/97377/growing-demand-for-family-planning-in-malawi.

⁷³ United Nations Development Program, Human Development Report 2007/2008, (2008),

http://hdr.undp.org/sites/default/files/menon_roshni_2007a_malawi.pdf.

⁷⁴ IFPRI, Malawi's Farm Input Subsidy Program, (IFPRI, 2014),

http://www.ifpri.org/sites/default/files/publications/massppn18.pdf.

⁷⁵ Ibid.

⁷⁶ "Country Report: Malawi (2015)." *The Economist Intelligence Unit*. <u>http://country.eiu.com/malawi</u>.org

⁷⁷ "Aid At A Glance," OECD, <u>http://www.oecd.org/countries/malawi/aid-at-a-glance.htm</u>.

⁷⁸ The Economist Intelligence Unit, *Country Report: Malawi*, (2015), <u>http://country.eiu.com/malawi</u>.
⁷⁹ Ibid.

⁸⁰ "The World Factbook," accessed March 11, 2015,

https://www.cia.gov/library/publications/the-world-factbook/geos/am.html

⁸¹ Ulrich Bartsch, Donato De Rosa, Gohar Gyulumyan, and Tigran Kostanyan, *A Cloudy Outlook for Armenia*, (The World Bank, 2014), <u>http://www.worldbank.org/en/country/armenia/publication/a-cloudy-outlook-for-armenia</u>

⁸² World Bank, *Trade Promotion and Quality Infrastructure Project*, (The World Bank, 2014)

⁸³ Ibid.

⁸⁴ Ibid.

⁸⁵ Asian Development Bank, Armenia: Infrastructure Sustainability Support Program, (2012)

⁸⁶ Ibid.

⁸⁹ Ibid.

⁹⁰ UN ISDR, Central Asia and Caucasus Disaster Risk Management Initiative (CAC DRMI): Risk Assessment for Central Asia and the Caucasus, Desk Review, (2009).

⁹¹ Ibid.

⁹² Arsen Karapetyan and Anush Khachatryan, *Public Green Space in Armenian Cities: A Legal Analysis*, (2010)

⁹³United Nations, *State of the World's Cities 2008/2009* (2009)

⁹⁴ The World Bank, *The Republic of Armenia: Climate Change and Agriculture Country Note,* (June 2012).

http://siteresources.worldbank.org/ARMENIAEXTN/Resources/CN_Armenia_FINAL.pdf

⁹⁵ Ibid.

96 Ibid.

⁹⁷ United Nations, Ministry of Territorial Administration of the RA, and International Center for Human Development, *Post-2015 Development Agenda: National Consultations Republic of Armenia, The Future We Want*, (2013). http://www.un.am/up/file/Armenia%20Post%202015%20National%20Consultation%20-%20English.pdf ⁹⁸ Ibid.

⁹⁹ Ibid.

¹⁰⁰ "Data, United States," *The World Bank Group*, 2015, <u>http://data.worldbank.org/country/united-states</u>.

¹⁰¹ Bureau of Economic Analysis, *Gross Domestic Product: Third Quarter 2014 (Third Estimate)*, retrieved January 26, 2015.

¹⁰² Bureau of Economic Analysis, "National Income and Product Accounts," *Bureau of Economic Analysis.* July 30, 2014, accessed July 30, 2014,

¹⁰³ Rakesh Kochhar and Richard Fry113 comments, "Wealth Inequality Has Widened along Racial, Ethnic Lines since End of Great Recession," *Pew Research Center*, accessed May 4, 2015,

http://www.pewresearch.org/fact-tank/2014/12/12/racial-wealth-gaps-great-recession

¹⁰⁴ Chairman Alan Krueger Discusses the Rise and Consequences of Inequality at the Center for American Progress-January 12, 2012.

¹⁰⁵ "WHO | United States of America," *WHO*, accessed May 4, 2015, http://www.who.int/countries/usa/en/ ¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid.

¹⁰⁹ Ibid.

¹¹⁰ CDC's Office of Minority Health & Health Equity (OMHHE), "CDC - Reports - Health Disparities - Inequalities - CHDIR - Minority Health," accessed May 4, 2015, <u>http://www.cdc.gov/minorityhealth/CHDIReport.html</u>

¹¹¹ World Health Organization assesses the world's health system. Press Release WHO/44 21 June 2000.
¹¹² "Mirror, Mirror on the Wall, 2014 Update: How the U.S. Health Care System Compares Internationally," accessed May 4, 2015, http://www.commonwealthfund.org/publications/fund-reports/2014/jun/mirror-mirror
¹¹³ Climate Change Division US EPA, "Carbon Dioxide Emissions," Overviews & Factsheets, accessed May 4, 2015, http://www.epa.gov/climatechange/ghgemissions/gases/co2.html

¹¹⁴ Ibid.

¹¹⁵ "EDGAR – Emission Database for Global Atmospheric Research," *European Commission*, (April 5, 2015), <u>http://edgar.jrc.ec.europa.eu</u>

¹¹⁶ "U.S. Must Commit to Sustainability to Overcome Mounting Economic and Ecological Strains," *Worldwatch Institute,* (2013),

http://www.worldwatch.org/us-must-commit-sustainability-overcome-mounting-economic-and-ecological-strains.

Chapter 4: Creating a National Vision for Sustainable Development

A national vision for sustainable development is important for the success of the SDGs because it lays the groundwork from which a country can successfully implement their strategy and achieve goals.

In this chapter, you will:

- Learn how to create or realign existing vision documents with the SDGs.
- Identify who should be included in the planning discussions about how to apply the SDG framework to the national context.
- Understand how to create or strengthen existing national governing bodies to be accountable for achieving SDGs.

Additionally, this chapter provides a hands-on tool for implementing a two-day getting-started workshop that will allow stakeholders to collaboratively design a National Sustainable Development Vision (NSDV).

What is a National Vision for Sustainable Development?

The SDGs provide a global framework for sustainable development, guided by a spirit of solidarity, cooperation and mutual accountability,¹ to help countries strengthen their national post-2015 agendas by aligning them with global SDG objectives. Vision documents and mission statements are used by national leaders and governing bodies to communicate the values that are most important to a country, and to garner not only public support, but also regional and international recognition. A NSDV is the first step in creating a National Sustainable Development Strategy that will be developed at a later date. The exercise of defining a national vision, or revising an existing one, is just as important as the document itself. A successful collective visioning process brings diverse groups of stakeholders together to align the goals of particular sectors, populations, and regions, within a global framework for sustainability.

The visioning process will look different in every country. For some, this process may happen annually, for others, this will be their first time. Whatever the case, the objectives are the same, and the consequences of failing to realign national agendas to complement global sustainability goals will result in shared global burdens; persistent poverty, corruption, growing inequality, failing education and health systems, climate change, and irreversible damage to our planet's ecosystems. A strong SDG agenda, capable of significant global change by 2030, starts with commitment at the national level. This section offers suggestions on how countries can build national accountability around the SDGs and solidify their own commitment to the global SDG process.

Why is it important to build one?

For countries that do not currently have a national vision, creating an SDV will be an important exercise in convening various groups of stakeholders around common goals for sustainable development that are tied to a global strategy. The message embodied in a NSDV is one of hope and accountability for a country's shared future, but unlike other nationally drafted visions, at its core is a commitment to an international agenda, defined by the partnerships between nations to achieve a globally aligned vision.

Using the SDGs as a framework will help those in attendance identify gaps in current strategies for development, as well as identify missing groups of stakeholders that may have been overlooked during previous strategic planning processes. The process will allow countries to reflect on lessons learned during the MDG planning process in order to create or strengthen national governing bodies to be accountable from the start for achieving SDGs in a national context.

The vision will identify short-term and long-term strategies for achieving the SDGs. To establish these strategies, countries must reflect on their past and present situation in order to shape their future. One such method of identifying growth or stagnations is to locate where a county lies on key developmental indexes. Using tools like this can serve as a benchmark from which to improve. It is important for countries to apply a positive deviance approach by focusing on their strengths and building upon their accomplishments.

What characterizes a good National Sustainable Development Vision?

Mission oriented

An effective NSDV is broader than simply a statement that expresses where the country stands in terms of the SDGs. A NSDV marks a country's long-term mission towards sustainability and its aspirations for future generations. It reflects why sustainable development is important to the country, and what sustainability means to a country at this point in its historical development. A NSDV provides direction and a road map for a country's future, which creates purpose and identity.

Time-bound

In order for a NSDV to be effective in mobilizing efforts it must be set within a specific time frame. For example, it will answer the question: "What will our country look like in the next 15 years?" Setting a time frame allows the country to make sure that scarce resources are focused on the most pressing initiatives. Clarity permits policymakers to have a shared sense of priorities, and ensures that actions are streamlined towards solving them.

Culturally relevant

An effective NSDV must also take the country's past into consideration to make the vision relevant to the current reality of the country. A strong NSDV fits the country's history, context, culture and values, and provides a sense of purpose for the people and actors of the country. A NSDV represents a future that extends beyond what is possible today, striving for high standards that inspire people to commit to the cause.

Easy to communicate

Lastly, an effective NSDV needs to be action oriented, easy to communicate, aspirational, with a clear goal, time-bound, and most of all, concise. It is the expression of why a country is deciding to incorporate the SDGs into its national agenda and what it is striving for thorough planned

actions. This requires the vision to be clearly articulated and understood by all the stakeholders involved, and therefore should be available in all languages and dialects spoken in the country.

Vision Statement: What is Your Purpose?

A clear vision statement presents the main purpose of an organization or institution in a structured and crisp manner. Vision statements are most commonly used for businesses and nonprofit organizations, but a good vision statement can be equally useful for laying out the vision and purpose of a strategy. A vision statement can be used as a guide for decision-making, a reminder of stated objectives, an invitation for collaboration from like-minded partners, and way to gain the trust of constituents.

The vision statements below offer examples for how governments might frame their own objectives for a National Sustainable Development Strategy. They vary in scope, but both speak to the most relevant dimensions of the strategies' goals.

African Union's Agenda 2063

"Aiming to encourage discussion among all stakeholders, 'Agenda 2063' is an approach to how the continent should effectively learn from the lessons of the past, build on the progress now underway and strategically exploit all possible opportunities available in the immediate and medium term, so as to ensure a positive socio-economic transformation within the next 50 years."

In this vision statement, the African Union defines the purpose of its long-term strategy for growth and change and outlines the core values that underpin it. The statement is clear in defining and communicating the organization's Agenda, yet remains sufficiently broad to encompass the national strategies of member states.

Mexico's National Energy Strategy 2013-2027

"Through this strategy we aim to achieve: the social inclusion of the population, by providing access to the benefits that derive from the use of electricity; the long-term sustainability of the sector; and the mitigation of negative impacts that the production and consumption of electricity may have on human health and the environment, including the reduction of greenhouse gas emissions."*

This national vision statement emphasizes the multidimensional approach of the energy sector's strategy, aligns itself with the missions of other sectors, and highlights specifics goals it aims to achieve.

^{*} Unofficial translation by the authors

Sources:

Kim Jonker and William Meehan, Curbing Mission Creep (Stanford Social Innovation Review, Winter 2008)

African Union, *Agenda 2063 Vision and Priorities*, <u>http://agenda2063.au.int/en//vision</u> retrieved on April 5, 2015

Estados Unidos Mexicanos - Secretaría de Energía, *Estrategia Nacional de Energía 2013-2027*, <u>http://tinyurl.com/anxarq7</u> retrieved on April 5, 2015

What needs to be in place for a NSDV?

Political will

In order to develop a strong NSDV, a high level of political will is needed. Governments must be convinced that sustainable development is the right path to follow. This helps engage and encourage a diverse range of stakeholders, such as the private sector and NGOs, to take action to achieve the vision. A participatory approach where all sectors of society are working towards the same objective is key for achieving the vision's goal.

Central coordinating body

The NSDV of a country needs to be specific enough to shape the decision making process, and appropriately broad to allow new innovative strategies. In order to make the decision making process effective, there must be a central coordinating body that provides direction and helps the country monitor the actions needed to achieve the vision's goal.

Alignment with national strategies

The NSDV should respect national policies and priorities, providing a source of inspiration for the key stakeholders and policymakers. It's not meant to compete with the national agenda, but to strengthen its purpose. For achieving this, a balance of top-down and bottom-up approaches is needed, including as many voices as possible.

Who needs to participate in the process?

Stakeholder engagement

In creating a NSDV for the country, or in the case of revising an existing one, a stakeholder engagement process is needed to ensure participatory equity, accountability and transparency. An inclusive process allows stakeholders to give voice to the needs and interests of the people they represent, and creates an opportunity for establishing partnerships and networks among them. An effective stakeholder engagement will help define a NSDV that enables better planned and more informed policies, projects, programs and services.

To achieve this, it is important to identify stakeholders that are related to the implementation of the SDGs in the country. While some countries have vast experience in integrating stakeholders into their national planning and may follow their specific practices for creating a NSDV, others will need to include this in their planning strategies. Although stakeholders vary from country to country, a general framework of the main stakeholders for creating a NSDV is provided as follows:

National governments

This includes professional staff in ministries of planning and finance, as well as those in line ministries that are responsible for the day-to-day work of preparing the national development

strategy. In addition, representatives from local governments and municipalities should also be considered.

Civil society organizations

This includes representatives of formal organizations that are outside the state and market such as social movements, volunteer organizations, indigenous peoples' organizations, non-governmental organizations, community-based organizations, and academic institutions.

Private sector

This includes main representatives of the private sector such as business leaders, chambers of commerce and industry, cooperatives and unions, economic development corporations, and manufacturers, among others.

Development partners

This includes bilateral and multilateral donors, UN agencies, regional development and central banks, as well as other relevant international institutions.

What does the process look like?

The process of developing a NSDV is divided into four parts:

- 1. Sensitization phase
- 2. Building governance & accountability
- 3. Collaborative national SDV creation
- 4. Signing and dissemination of the SDV Statement, accompanied by a SDG Letter of Intent

The most critical part of the process is a two-day multi-stakeholder Sustainable Development Strategy workshop resulting in the production of a NSDV and the signing of a national SDG Letter of Intent. The newly drafted or realigned NSDV will be disseminated along with the signed SDG Letter of Intent, officially recognizing a country's commitment to not only its own NSDV, but to accomplishing the global SDGs as part of a universal agenda for sustained prosperity. This is the first step in the future development of a National Strategy for Sustainable Development, which is outside the scope of this guide.

1) Sensitization Phase

Why?

The first part of the process is to inform stakeholders that a NSDV will be created, why it is being created, and what their role is in it. For successful implementation, each stakeholder must understand the importance of their role in sustainable development and be actively engaged in the process of creating a NSDV. Therefore, a decentralized sensitization exercise is

recommended to engage stakeholders, and generate ideas that represent stakeholder views to inform the NSDV development.

What?

In the sensitization phase a representative of the national government will be responsible for meeting with key stakeholder representatives across sectors.

The main objectives of the brief meetings will be to explain:

- What is a NSDV?
- Why is it important?
- What is each stakeholder's role is within the NSDV?
- What are the next steps?

This will serve as an opportunity to engage them in the NSDV design process and confirm the attendance of a stakeholder representative at the 2-day Sustainable Development Strategy Workshop and ongoing SDG strategy planning meetings.

It is important to remember that the sensitization process is not a top down exercise, but ideally horizontal in nature. The purpose of these initial interactions between government representatives and key stakeholder groups is to sensitize both parties to the current challenges they face in achieving national development objectives. There are valuable insights for both sides to gain and the initial dialogue, understanding, and partnership born between various stakeholders during the sensitization phase will help inform the successful creation of national SDG agendas.

2) Building Governance and Accountability

National Council on Sustainable Development (NCSD)

Every country has their own preferred method or governing body for steering national initiatives. These existing mechanisms, especially those previously used for drafting vision documents, mission statements, poverty reduction strategy papers, and nationally integrated programming, should be utilized for SDG governance.

In particular, it is recommended that existing National Councils or Commissions on Sustainable Development (NCSD) that have been created in over 100 countries as an outcome of the 1992 Rio Earth Summit, be utilized as a governing body for the NSDV process. SDSN has recommended that revitalizing NCSDs, or setting them up where none currently exist, is a good strategy for tasking a national body with the overall development and oversight of national SDG strategies.²

Following the successful completion of the sensitization phase, chosen or elected representatives from various stakeholder groups not currently represented on the NCSD or other governing bodies (i.e. Ministers of key sectors, established civil society/NGO/private sector partners, and thought leaders from national universities, certain minority groups, etc.), will be invited to join the NSDV planning process by assuming a place on the NCSD. In particular, their

attendance will be crucial for achieving a broad stakeholder consensus to inform the NSDV process and cumulative 2-day workshop. The dialogue born from this meeting will lay the foundation for strategic partnerships moving forward, as well as ingrain a sense of shared accountability for achieving the SDGs both nationally and globally.

3) NSDV Development Process

The cornerstone of the NSDV development is a two-day, multi-stakeholder workshop to facilitate and spark the type of collaborative thinking and decision-making that is needed to develop a NSDV statement. A detailed description, suggested agenda and relevant tools for the two-day workshop is below:

Two-Day Sustainable Development Strategy Workshop

This box provides general guidelines for how countries can conduct a two-day workshop to begin preparing a National Sustainable Development Strategy. Based on methodologies and tools developed by SDSN, the International Institute for Sustainable Development, and the UK Government, the proposed workshop format is conducive to multi-stakeholder collaboration, building on each participant's expertise to promote an informed discussion and gradually reach consensus.

The expected outcomes of the workshop are building blocks that will be used in the future to draft a National Sustainable Development Strategy:

- A National Sustainable Development Vision.
- A set of Priority Drivers of sustainable development.
- A framework for developing Resilient Pathways.

The workshop should be convened by the government, the National Council or Commission for Sustainable Development, or by a local partner university. It should include 15-40 participants who represent different ministries, business community, civil society organizations, academia, political parties, and there should be one facilitator for every 10 participants.

It is important that all stakeholders are informed of the expected outcomes of the workshop in advance, both to align expectations and to ensure that organizations send the appropriate representative. A non-partisan individual or team should document the entire exercise, recording the intermediate and final outcomes with notes or photographs as well as noting the main points of convergence and divergence.

Day 1

Current Strategy and Trends

The workshop should begin with a stocktaking session that reviews the SDGs, briefly presents the current national development strategy and the projections for the country under the current scenario. Sector-specific strategies, if they exist, should also be briefly presented. This session will establish a baseline for the rest of the discussion.

Setting the Vision

The presentation should be followed by a break-out discussion (4-8 participants per group) of a vision for what the country will look like in 2030, having met the SDGs. Each group should focus on one of the following broad sectors: poverty; agriculture & food security; social provision, including health & education; economic growth; and climate change.

Participants should ask and answer questions like:

- "How do we go from where we are now to meeting the SDGs by 2030?"
- "What affects our ability to meet the SDGs by 2030 in this sector?"

Participants should write their answers in adhesive notes and add them to a poster-sized <u>STEEPLE</u> (Society, Technology, Environment, Economics, Politics, Legal, Ethical) framework.^c The framework could be adapted to the characteristics of the workshop, for example by adding health or population.

Groups should present and discuss their conclusions in a plenary session, highlight points of convergence and overlap between the five sectors, and produce a draft outline for a National Sustainable Development Vision. The outline should be used to produce a National Sustainable Development Vision Letter of Intent, to be written by the government and signed by all stakeholders in order to ensure continued engagement and commitment.

Identifying Drivers of Sustainable Development^c

In the break-out groups, participants should use the STEEPLE framework from the previous session to identify drivers of change that will have an impact on progress toward the agreed upon vision. Each thematic group should consider the linkages across sectors and address the overlaps constructively. Drivers should be written in active language, such as " people move from rural areas to cities due to the impacts of climate change."

Organizers should make available, to the extent possible, qualitative and quantitative data on each of the five sectors and covering the topics of the STEEPLE framework. Participants should feel empowered to make judgments and decisions even in situations of limited information and uncertainty.

Groups should reconvene at a plenary session, in which each driver can be organized on a matrix according to high/low impact and high/low uncertainty.^c Those on the high impact/high uncertainty corner should be noted as high priority areas of focus.

Day 1 should be concluded with a brief recap of the outcomes produced during the day.

Day 2

Day 2 should begin with a recap of the outcomes produced in the previous day and should set the expectations for the rest of the workshop. The main expected outcome is a draft outline for a National Sustainable Development Strategy.

Prioritization

Starting with the high impact/high uncertainty drivers identified at the end of Day 1, participants should prioritize drivers to be addressed in the National Sustainable Development Strategy. One criterion could be to prioritize drivers that cross many sectors and themes, but facilitators can be flexible to other ideas presented by the plenary. Priority drivers should address all SDGs and should not give any single goal undue importance

Pathways^b

A pathway is a set of actions required to achieve a result. In this session, participants should break out into the five sector groups to devise pathways for each of the prioritized drivers. Each group should focus on its own sector, but it is crucial that they consider how proposed actions will impact other sectors. The expected outcome

of this exercise is a sequence of actions and milestones that must be reached to address the high impact/high uncertainty drivers and meet the SDGs by 2030. The groups should then reconvene and present their pathways, which should be summarized in one national framework.

Resilience Test^b

In a plenary session, participants should identify risks to the deployment of each pathway. Most important, facilitators should provoke them to think of first-, second-, and third-order implications of success and failure along each pathway. Questions raised at this point could be, "What would happen if we failed to achieve this? Who would be affected? How would that ripple out to other sectors?"

This activity demands a significant level of trust among participants as well as a willingness to give and tolerance to receive constructive criticism, as individuals and sector groups must be engaged in collectively devising mitigation strategies for high risk areas while accounting for all perspectives. Facilitators must therefore be aware of and ready to diffuse any potential tension that may emerge.

Conclusion

The workshop should conclude with a brief recap of the outcomes produced (National Sustainable Development Vision, Priority Drivers to achieve the SDGs by 2030, and Resilient Pathways). The organizers should outline the next steps and should appoint an individual or division within the government as responsible for articulating those outcomes in a National Sustainable Development Strategy (based on the minutes of the workshop). This should be done by someone at a high rank, preferably at the Office of the President or Prime Minister, or the Ministry of Sustainable Development.

The outcomes of the workshop should also be used to inform the country's statement during the UN SDGs Summit in September 2015. As an early step, the government should finalize a National Sustainable Development Vision Statement and SDG Letter of Intent to be signed by all stakeholders involved. Finally, it is important to communicate the National Sustainable Development Strategy to all participants once it is finalized and launched in order to keep them engaged in promoting and achieving the collective goals.

Draft Workshop Agenda

Day 1

9:00 Welcome

- Set expectations (outcomes) for Day 1 and for the workshop
- Introduce facilitators
- 9:15 The SDGs, current strategy and trends
 - Presentation by government officials, university and/or sector-specific organization
- 10:00 Visioning exercise part I
 - Break-out groups

11:45 Visioning exercise - part II

- Plenary session
- Outcome: draft National Sustainable Development Vision

12:45 Lunch

2:00 Drivers - part l

• Break-out groups

4:00 Coffee-break

4:15 Drivers - part II

- Plenary discussion
- Outcome: high impact/high uncertainty priority areas
- 5:15 Wrap up for the day
 - Recap the day's exercises and outcomes
- 5:30 End of Day 1

Day 2

9:00 Welcome

- Recap outcomes from Day 1
- Set expectations (outcomes) for Day 2
- 9:15 Prioritization exercise
 - Plenary Session
 - Outcome: priority drivers for sustainable development
- 9:45 Pathways part I
 - Break-out groups
 - Outcome: thematic groups' pathways

10:45 Pathways - part II

- Plenary session
- Outcome: national pathways covering the five thematic groups

12:00 Lunch

- 1:30 Resilience test
 - Plenary session
 - Outcome: resilient pathways

3:30 Conclusion

- Thank all participants
- Explain next steps by the government
- 4:00 End of Day 2
 - Outcome: draft outline of a National Sustainable Development Strategy

Sources:

^a Sustainable Development Solutions Network, *SDSN TG7 Issue Brief: Planning and Implementing Action* (New York, Sustainable Development Solutions Network, 2014) <u>http://tinyurl.com/n3ztpue</u>

^b Livia Bizikova et al., *Participatory Scenario Development and Future Visioning in Adaptation Planning: Lessons from Experience, Part I* (Winnipeg, International Institute for Sustainable Development, 2014) <u>http://tinyurl.com/od9vmbx</u>

^c Cabinet Office and Government Office for Science, *Futures Toolkit for Policy-makers and Analysts* (London, Government of the United Kingdom of Great Britain and Northern Ireland, 2014) <u>http://tinyurl.com/pmn2g3j</u>

The purpose of the NSDV statement is to focus the efforts of national leadership and stakeholders in order to set the stage for the creation of a National Sustainable Development Strategy implementation and planning process to follow.

4) NSDV Statement and SDG Letter of Intent

Once the NSDV statement is solidified, national leaders must circulate the statement throughout the country to build momentum around the SDG planning process. It is recommended that the NSDV statement is accompanied with a NCSD signed SDG Letter of Intent that signifies the successful completion of a collective visioning process, and the official launch of the national SDG process by a coalition of multi-sector leaders. A signed letter of intent is a testimony to the dedication and commitment of each country's stakeholders to achieving the universal agenda set forth by the SDGs. It is a binding symbol of broad stakeholder accountability for achieving the NSDV and a written agreement tying national objectives to global outcomes.

NSDV dissemination

Once the NSDV statement is written and the letter of intent is signed by all participants of the Sustainable Development Strategy Workshop, both documents should be widely and publicly disseminated. They should be leveraged as promotional tools for communicating the national SDV and for sensitizing the general public to their country's commitment to the global SDGs.

The NSDV should be strong in its intentions, but dynamic in its allowance for feedback and change. NCSD members are responsible for reporting back to their constituents regarding progress made and should invite all stakeholders involved in the initial sensitization process to contribute feedback. Stakeholder groups are encouraged to think of innovative ways to convene and engage citizens in dialogue about the larger SDG process and the changes nations must make in order to achieve their own NSDVs. Each NSDV achieved represents a crucial contribution to the achievement of the universal SDG agenda.

Opportunities for stakeholder engagement include:

- 1. Radio and television content devoted to exploring national sustainable development challenges.
- 2. Panels and discussions regarding SDG priorities at national expos and business conferences.
- 3. Creation of a SDG youth council aimed at promoting awareness of SDG priorities among youth.
- 4. Collaboration with regional governments to discuss overlapping SDG priorities.

Conclusion

The creation of a NSDV is crucial to create a National Sustainable Development Strategy for their post-2015 planning agendas. A NSDV will align national efforts with global SDG objectives

allowing for accurate monitoring of specific indicators in accordance with international standards. A NSDV will additionally create momentum to evaluate current development strategies and will help governments identify potential gaps, as well as uncover new approaches and pathways to achieving the SDGs by 2030. For this reason, a collaborative, inclusive, Sustainable Development Strategy Workshop, and the workshop's outcomes; a NSDV and signed SDG Letter of Intent, are vital to ensuring an accountable and transparent planning process moving forward.

¹ United Nations, *A New Global Partnership: Eradicate Poverty and Transform Economies Through Sustainable Development* (New York: United Nations Publishing, 2013) 7-8.

² From Aniket Shah, to SDSN Secretariat Staff, March 12, 2015.

Chapter 5: Implementation Planning

Source: United Nations

In the planning and implementation stages, the SDGs will move from the realm of global concept and national vision to the realm of concrete action. Countries will be called upon not only to commit to the SDGs, but to undertake specific steps to use the SDG framework to improve the lives of their people. Each country's specific implementation pathway will vary according to needs and capacities.

In this chapter, you will:

- Understand the specifics of preparing to implement the SDGs
- Explore tools to inform critical policy decisions
- Find information on engaging partners in the SDG implementation process

I. National Sustainable Development Strategies

What is a National Sustainable Development Strategy?

The National Sustainable Development Strategy (NSDS) is the implementation plan for the NSDV - it turns vision into action. Specifically, the NSDS is a target-oriented, continuous, long-term, comprehensive, and synergistic process that has an impact on a the economic, social, environmental, and institutional dynamics of a nation.¹ The main objective of the NSDS should be to establish a balance between the three pillars of sustainable development: sustainable economic growth and technological progress, sustainable social development, and environmental protection, with support from a robust institutional and governance framework. Additionally, the NSDS should be informed by the global and national development priorities that were previously captured in the MDG period as well as the government's macro planning and socio-economic policies. It should be a projection of the nation's aspirations of achieving a better quality of life for its people. The NSDS should place the nation on a development trajectory that includes efficient and innovative resource use and well-integrated social, economic, ecological, and governmental systems.²

Designing the NSDS requires an inclusive, coordinated design process. This process will take different forms in different countries, but it is crucial that it be underpinned by the following basic principles: high-level commitment, stakeholder inclusiveness, transparency, coordination between partners, and accountability. It is also imperative to schedule regular reviews of the NSDS as the country progresses toward meeting its goals.

This handbook proposes a set of generalized organizing steps in preparation for an NSDS Development Meeting. For guidelines on facilitating the meeting itself, refer to Chapter 7 on Participatory Methodologies and Management in <u>DFID's Tools for Development Handbook</u> and to the Sustainable Development Workshop box (Chapter 5).

Key components of the NSDS

Trends and context

The NSDS should begin by acknowledging the national and international trends that will shape the course of the country's sustainable development pathway. These include domestic environmental, social, economic, and institutional trends as well as cross-cutting global issues like climate change, regional cooperation, or trade markets.³ This part of the NSDS also recognizes progress made to date toward the MDGs and other national or regional development objectives. This work will be based on the benchmarking previously undertaken during the NSDV exercise (see Chapter 4 for details).

Priority areas for intervention

Each country must identify priority areas for strategic intervention based on the NSDV and in the context of other national policy goals. These priority areas should also reflect the country's commitments to international agreements with respect to sustainable development and should build upon progress made during the MDG period.

Implementation

Implementing an NSDS requires several different and simultaneous levels of decision-making and action. The country must first identify or create institutional mechanisms that can facilitate coordination across sectors and stakeholders, as regular communication and consultation will be imperative for success. Simultaneously, an action plan consistent with the identified priority areas should be created and utilized as a roadmap. Lastly, monitoring, evaluation, and reporting systems should be strengthened and standardized and should include a set of quantifiable indicators. With adequate monitoring and evaluation, governments will be able to identify successes and shortcomings and take corrective or adaptive action as needed.⁴

Creating an NSDS

Step 1: Identify relevant stakeholders and actors

Before organizing the team responsible for organizing the NSDS, countries will need to identify all potential stakeholders in the sustainable development process, including actors from each of the categories below:

- National, regional, and local government across all ministries
- Civil society organizations
- Business and industry
- UN agencies
- International financial institutions
- Regional cooperation agencies
- Development partners and donors
- Academia and research bodies

It is especially important to involve typically underrepresented groups in this process in order to ensure a supportive environment that encourages and enables active participation, dialogue, and accountability.

Step 2: Organize an Administrative and Oversight Structure

The structure of the NSDS design oversight body, which may be called the National Council for Sustainable Development, will vary by country. However, this sample organizational structure serves as a guideline, highlighting the important principles of high-level commitment, stakeholder inclusiveness, transparency, coordination between partners, and accountability (Figure 5.1).



Figure 5.1: SDG Organizational Structure

The *SDG Coordinator* should be a high-level government official, ideally from the Ministry of Planning or the equivalent. He or she is responsible for overseeing the NSDS design process, setting up the Planning Committee, guiding the Committee's work plan, and ensuring broad stakeholder participation.

The *SDG Planning Committee* acts as a coordinating body for the NSDS process and allows the *SDG Thematic Working Groups* to align actions and share knowledge.

The *SDG Thematic Working Groups* will coordinate cohesive strategies within sectors and ministries and should include relevant representatives from each of the groups noted above.

Step 3: Set agenda and desired outcomes for NSDS Development Meeting

Although the NSDS Development Meeting will proceed different in each country, the agendas should include:

- An orientation to the SDGs, during which stakeholders will be invited to begin forming their potential roles in coordination with other actors
- A joint assessment of current policies and actions relative to the initial benchmarking of results
- An identification of sustainable development challenges
- An emphasis on accountability and commitment
- A focus on integration and alignment across sectors

Participants can then use a backcasting process, described below, to identify the steps needed to reach the SDGs, which will be incorporated into specific actions in the NSDS. By the end of the NSDS design process, stakeholders will agree on short-term as well as long-term action plans that link directly to SDG targets.

The use of backcasting in NSDS planning

Backcasting is a tool that policymakers can use to determine what actions an NSDS should include. As such, it should be developed through a participatory and iterative process of consultation and feedback that reinforces stakeholder ownership, accountability, and consensus.

The thematic working groups should convene with the aim of formulating action plans, timelines, and implementation plans. The emphasis will be on using backcasting to produce an overarching "country specific plan" with actionable goals. The completion of the backcasting exercise and consequent drafting of an action plan should be followed by a period of public commentary to ensure that the views of all stakeholders are incorporated.

The main steps involved in backcasting as a planning tool for the Development Meeting can be found in Figure 5.2. For more information on backcasting - definition and methodological framework - please see Appendix 5.

Use of Backcasting for Deep Decarbonization

About the project

The Deep Decarbonization Pathways Project, an initiative of the Sustainable Development Solutions Network (SDSN) and the Institute for Sustainable Development and International Relations (IDDRI), aims to demonstrate the ways in which countries can develop low-carbon economies.^a The goal is for countries to collectively limit the rise in global mean surface temperature to less than 2 degrees Celsius. Achieving this goal will require major reductions in GHG emissions and therefore significant changes to countries' current energy, infrastructure, and production systems.

Benchmarking

The first stage of the project focuses solely on technical feasibility and solutions. Each Country Research Partner undertook a backcasting exercise, beginning by setting desirable levels of future GHG emissions - based on both the global temperature goal and national contexts. They then determined the technical changes and strategies that would be needed to reach those benchmarks. These benchmarks follow recommendations for emission levels per person and by sector, such as transport, power generation, and industry, that are consistent with a limited temperature rise. Although the GHG levels are fairly set, the project allows for, and indeed assumes, a certain level of flexibility in implementation to account for updates in climate science, new innovations in technical methodologies, and lessons learned.

The importance of backcasting

Backcasting is crucial to the deep decarbonization process as it allows countries to design long-term economic and societal transformations that can effectively reduce GHG emissions. Without it, countries are likely to continue along a path of incremental, short-term, and superficial change that will be insufficient to meet the global temperature goal. The project highlights the importance of including backcasting in the climate negotiations that will take place ahead of the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC).

^aIDDRI, a non-profit policy research institute based in Paris, works on strategies for global governance as they relate to sustainable development issues, including climate change, biodiversity, food security, urbanization, and other development pathways.

Source: Sustainable Development Solutions Network; Institute for Sustainable Development and International Relations. *Pathways to Deep Decarbonization.* New York: SDSN, IDDRI, 2014.

II. Preparing for Implementation: Budgeting

Countries will take primary responsibility for financing development. Without long-term, sustained, financial allocation, there can be no credible advancement toward meeting the SDGs. To meet these objectives, governments will need to mobilize adequate public and private finances while leveraging Official Development Assistance (ODA) and other national and international sources. See table in Appendix 3 for information on funding sources based on country income type.

Under the post 2015 framework, access to ODA or climate finance substantially depends on the mobilization of the domestic resources. In many sectors, international minimum standards exist

for domestic resource mobilization, such as the Abuja target for health and the Maputo target for Agriculture. SDSN and UNDP have proposed that developing countries raise 20% of their GNI from domestic budget revenues, which is estimated to be 17-18% of the GNI for low income countries.

Key priority areas to increase government revenues include:

Improved taxation policy

Tax revenue in low income countries account for only 10-14% of the GNI, while middle income countries collect one third more revenue. The difference is mainly due to a narrow tax base, which results from the formal sector making up a smaller share of total employment and business activity. Large informal sectors in developing countries and individuals employed by agriculture often go un-taxed. Inefficient transfer policies aggravate the situation by inflating profits in low-tax jurisdictions and reducing the profits of high-tax jurisdictions. Tax deductions, credits, exemptions, and exclusions granted to organizations should also be reviewed to increase tax revenue. A well designed tax system implemented by trained officials can play a significant role in increasing domestic resources.

Expenditure efficiency

Through better selection, design, and management of government projects, countries can improve the efficiency of their public expenditure. Fostering transparency by making government data publicly accessible can also improve the efficiency of public expenditure. For example, Uganda was able to increase the amount of budgeted public expenditure that was received by schools from 13% to over 90% by making information on budgets and disbursements available for public access.

Re-evaluation of subsidy schemes

While some subsidies are essential in their provision of social safety nets to low-income individuals, public spending can be significantly reduced by eliminating poorly targeted subsidy schemes.

Sustainable and effective revenue streams from natural resources

Countries must manage their natural resources in a sustainable manner. Renewable resources should not be used beyond their regrowth rate, while non-renewables should be invested in building long-term growth. Countries also need to develop their capacity to negotiate fair contracts in extractive industries. Disclosing contracts, particularly biddable contracts, can increase domestic revenue. Through initiatives like the Extractive Industries Transparency Initiative (EITI), the World Bank is building nations' capacity to improve transparency in revenue flows and contract disclosure.

National development banks

Countries with significant savings may want to consider utilizing National Development Banks to mobilize public and private resources and invest them in the SDGs.

Curb illicit activity

Illicit financial flows can be curbed by strengthening national regulations to decrease illegal capital flows across borders.

Considering the complex nature of sustainable development, each funding source may have a different impact. Public financing, for instance, will be used for public goods (non-commercial investment) while commercial investment should be financed by the private sector or through public private partnerships (PPP). Appendix 4 is an illustration of some of the public and private financing needs for the SDGs.

Governments have often seen high social returns on investment in those sectors most instrumental in building human capital, including health, education, safe water, sanitation, and infrastructure. Other actors, however, might prioritize private investments because of the low direct returns of these public sectors, and may not take a lead roles in such ventures. Initial investment by the public sector, however, can bring in private investors in the future. Funding for such projects can be obtained from regular domestic resources, such as taxes or custom revenue, as well as from ODA and other international organizations and investors. Private businesses can also play an important role in the social service delivery mechanism. It is important to note that when encouraging the private sector to deliver social services, most of their financing will have to come from public sources. See Appendix 5 for details on investment needs by sector.

Financial need can be assessed by using different costing methodologies such as intervention-based needs assessments, costing based on aggregate unit costs, costing based on Incremental Capital Output Ratios, or costing based on aggregate input-outcome elasticities.⁵

U.S. Foreign Assistance & Global Partnerships

Over the last decade, the United States has used the MDGs as a way to guide its own strategic decision-making with regards to official assistance to developing countries. The programs of several major initiatives have tackled specific MDGs:

- *Feed the Future* aims to eliminate food and nutrition insecurity and reduce rural poverty by increasing agricultural productivity, supporting smallholder farmers, investing in agricultural research and development, and enhancing resilience to shocks (MDG 1).^a
- The *President's Emergency Plan For Aids Relief* supports programs that aim to control and eradicate HIV/AIDS, with a focus on accountability, transparency, and impact (MDG 6).^b
- The *President's Malaria Initiative* supports the reduction and eventual elimination of malaria morbidity and mortality (MDG 6).^c
- The Global Climate Change Initiative is the framework under which the United States supports

low-carbon growth, reduced emissions from defore station, and increased resilience to climate change (MDG 7).^d

• The *Millennium Challenge Corporation* provides grants for projects that aim to reduce poverty and foster sustainable economic growth in countries that have demonstrated a commitment to good governance, economic freedom, and people-focused investments.^e

The United States has also committed to enabling the progress of the MDGs through disbursement of Official Development Assistance (ODA) and through debt forgiveness, both of which fall under the purview of MDG 8. The United States' ODA has not reached the internationally agreed upon figure of 0.7% of Gross National Income (GNI), yet it is consistently the biggest international donor in absolute terms. In 2013, the United States contributed \$30.879 billion to ODA (net), comprising 0.18% of GNI, with most of these resources going to social infrastructure, followed by humanitarian aid.^f The United States was also one of the first lending countries to offer debt-service relief. The United States has committed to canceling all its debts with countries that meet the criteria of the Highly Indebted Poor Countries initiative, most of which have been in Africa.^{g,h}

Sources:

^a Feed the Future. "About," accessed May 2, 2015, <u>http://www.feedthefuture.gov/about</u>

^b PEPFAR. "About," accessed May 2, 2015, <u>http://www.pepfar.gov/about/agendas/index.htm</u>

^cPresident's Malaria Initiative. "About," accessed May 2, 2015, <u>http://www.pmi.gov/about</u>

^d USAID. (2015) "U.S. Global Climate Change Initiative," accessed May 2, 2015, <u>http://www.usaid.gov/climate/us-global-climate-change-initiative</u>

^e Millennium Challenge Corporation. "About," accessed May 2, 2015, <u>https://www.mcc.gov/pages/about</u>

^fOECD. "Aid Statistics by donor, recipient and sector. Compare your country," accessed May 2, 2015, <u>http://www.compareyourcountry.org/aid-statistics?cr=oecd&lg=en#</u>

^g International Monetary Fund. (2014) "Debt Relief Under the Heavily Indebted Poor Countries (HIPC) Initiative." <u>https://www.imf.org/external/np/exr/facts/hipc.htm</u>

^hThe United States and the MDGs. (2007) "US Contributions to Reducing Global Poverty. An Assessment of the the U.S. and the Millennium Development Goals." InterAction, Bread for the World, Oxfam America, and World Wildlife Fund.

http://www.interaction.org/document/united-states-and-mdgs-us-contributions-reducing-global-poverty

Budget Allocation

Once finalized, the budget must be allocated to proposed activities. There are a variety of tools to support public financial management for the SDGs. A Medium Term Expenditure Framework (MTEF) can be used to allocate multi-year budgets.⁶ MTEFs support the implementation of the SDGs by providing governments with a progressive tool to consider expenditures across a broad range of sectors in accordance with emerging issues.⁷

Performance Budgeting is another tool that can be used to allocate expenditures and enhance accountability. Performance budgeting links specific performance results (e.g. outcomes and outputs) to budget allocation. According to the World Bank, this results-based approach aims to

improve effectiveness and "focus on the results that are being delivered for resources provided, rather than just how much money is being spent."⁸

Budget allocation should integrate public accountability mechanisms. Tools for promoting transparency and accountability include: external audits, online publication of budgets, and reviews by civil society. Accountability measures should track expenditures against budget lines, outputs, and unit costs.⁹

Timor-Leste Budget Transparency Portal

In 2011, Timor-Leste launched the Timor-Leste Budget Transparency Portal, a free, publicly available, interactive website updated daily that aims to enhance financial transparency. The portal provides information on approved budgets, actual amounts paid, and amounts reserved in the budget, all of which are searchable by ministry, program, category, or district. Timor-Leste hopes that the portal can be used to democratize government decisions, reduce the risk of corruption, and improve investor confidence.

Sources:

Timor-Leste Ministry of Finance. "Budget Transparency Portal," accessed May 2, 2015, https://www.mof.gov.tl/budget-spending/budget-transparency-portal/?lang=en

Timor-Leste Ministry of Finance. "Timor-Leste Budget Transparency Portal," accessed May 2, 2015, <u>http://budgettransparency.gov.tl/public/index?&lang=en</u>

Developing a SDG Financing Strategy can help assign budget allocations. The projected costs of the NSDS can be covered by a range of sources, including domestic resources, user fees, international aid, and private sector investments.

Mobilize Financial Resources

It is estimated that additional investments of \$2-3 trillion per year are required to achieve the SDGs.¹⁰ Refer to Chapter 2 for more information on Financing for Sustainable Development. Once domestic resources have been allocated, remaining gaps in the Financing Strategy can be filled through a variety of national and international public and private sources (see Figure below for a summary of financing sources).


Soveneign wealth funds handle public money, but are managed like private investors.

Public-Private Partnerships (PPPs)

The SDGs will increasingly rely on mobilizing investment from the private sector. Public Private Partnerships (PPPs), which combine public financing, regulation, and private market participation,¹³ should be individually considered for each SDG investment area.¹⁴ Additionally, government cost sharing is typically a prerequisite to receive financing from the private sector. PPPs can take on a variety of forms:

- Private provision of public contracts: The private sector supplies publicly financed • contracts in any sector
- Market price corrections: A tax credit for investing in new technologies, renewable • energy, export guarantees, etc.
- Differential pricing by business: Businesses may provide discounts or free products and • services in low-income settings against a promise from governments to maintain (higher) patent-protected pricing in all other markets

- Global fund mechanisms: The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and the Gavi are examples of a successful public-private partnership.
- Technology consortia: The public sector can fund a consortium of public and private entities to carry out research and development.¹⁵

Gavi: Global Alliance for Vaccines and Immunizations

Gavi, the Global Alliance for Vaccines and Immunizations, was created in 2000 as a public-private partnership with the mission to increase access to immunizations in low-income countries.^a Gavi's partnership model leverages the knowledge and expertise of individual partners (e.g. UNICEF's supply division procures vaccines);^b Gavi's business model provides an added value to finance new vaccines by pooling demand from developing countries and moving the vaccine market by providing long-term stability and predictable financing.^c Gavi's advanced market purchase commitments for new vaccines have prompted businesses to scale up research and production efforts.^d

Sources:

^a Gavi. "Gavi's mission," accessed May 2, 2015, <u>http://www.gavi.org/about/mission/</u>

^b Gavi. "The Partnership Model," accessed May 2, 2015, <u>http://www.gavi.org/about/partners/the-partnership-model/</u>

^cGavi. "The Business Model," accessed May 2, 2015, <u>http://www.gavi.org/about/gavis-business-model/the-business-model/</u>

^d Schmidt-Traub, G. & Sachs, J. *Financing Sustainable Development: Implementing the SDGs through Effective Investment Strategies and Partnerships.* (8 April 2015). <u>http://unsdsn.org/wp-content/uploads/2015/04/150408-SDSN-Financing-Sustainable-Development-Paper.pdf</u>

Participation and coordinated assistance of all the stakeholders identified in the national vision strategy are necessary in order to meet both the technical and financial needs of new programming. Additional "essential support includes achieving fairer and more open markets for trade in developed countries, supporting debt relief, mobilizing global science and technology, curbing climate change, and fighting environmental degradation."¹⁶

Using the checklist laid out in the national vision strategy preparation section, the following groups should be identified and involved in the planning phase of implementation: bilateral donors, UN agencies, regional development banks, and civil society groups.

To begin engaging partners, stakeholders should consider a formal agreement to set forth the terms of the partnership. This agreement will translate the vision into actionable steps tailored to each partner. Online platforms and other technology can be used to disseminate information on preliminary progress and facilitate partnership activation.

Innovative Financing

Though international aid, public investments, and private investments are indispensable, they are unlikely to suffice. Finding innovative financing mechanisms that typically target global public goods will be important.¹⁷ Since 2006, innovative financing mechanisms have raised over \$6 billion.¹⁸ The Leading Group on Innovative Financing for Development has mapped a range of such mechanisms, which include airline ticket levies and financial transaction taxes (see Appendix 7).

The Role of Remittances

In many nations, remittances from abroad supplement net household incomes. These private flows within families often significantly contribute towards household expenditure, a large proportion of which is spent on energy and food. However, these supplementary funds come with a social cost. Nations experience a drain on domestic human capacity when more lucrative opportunities are available abroad. Remittances should therefore be not be confused with ODA, public financing, diaspora bonds, or even funds that can locally finance SDG initiatives. Due to expenditure constraints, as well as the scale of funds, remittances are unlikely to have any significant contribution towards financing SDGs.

III. Data Management and Reporting Systems

Revolutionizing Data Management

Building capacity and innovative methodologies for data collection, management, and reporting will be crucial for measuring SDG progress. Robust statistical systems are needed for the regular and timely tracking and incentivization of progress towards achieving the SDGs. Such systems will enable countries to assess the effectiveness and efficiency of their development plans as aligned with the 17 goals. The institutionalization of vigorous data collection and analysis can enable actors to identify opportunities that can enhance efforts towards achieving the SDGs.

During the measurement of the MDGs' impact, many individuals, organisations, and governments were excluded from the monitoring and evaluation due to a lack of resources, knowledge, capacity, and opportunity. As a result, many important indicators for MDG progress were not collected, were released too late, were not well documented and harmonized, or were not informative for decision making.¹⁹

In order to avoid these issues in the future, the following questions need to be asked: What is the current capacity of statistics or monitoring and evaluation in your country, community, or organization?; What are your current methods of data collection?; Is there enough capacity and sources of data to accurately track the progress of achieving the Sustainable Development Goals?

With the launch of the SDGs, there is a great opportunity to increase investments in National Statistical Systems (NSS), encourage the use of modern, systematic data-collection methods across government divisions, and promote a culture of evidence-based policy making.²⁰ Effective monitoring and evaluation for the SDGs will require new investments and the strengthening of

capacities in NSSs. Countries should take stock of their own capacity in data collection and analysis to see what investments, capacity development ,and technology transfer is needed to collect the necessary data for tracking SDG progress. Capacity building should not only focus on NSSs but also on national populations. Data collection capacity and data literacy need to be improved within the general population, intermediaries, and public servants. These processes will be facilitated by the proliferation of new technologies that have increased the volume and types of data available, creating a multitude of new opportunities for planning, monitoring, and evaluating development.²¹

SDG Data Coherence

The adoption of the SDGs present the global community with a unique opportunity to mobilize the data revolution and institutionalize the importance of data for development. However, a major challenge is that countries produce a wide variety of different statistical documents, with many different styles and levels of thoroughness.^a

To help achieve more global cohesion of development data, especially for the SDGs, in 2014 the UN established the Independent Expert Advisory Group (IEAG) on a <u>Data Revolution for Sustainable Development</u> to assist countries with effective data analysis for the SDGs.

The IEAG will guide NSSs on defined methodologies, guidelines, priorities, and strategies to support countries in data collection, reporting, and analysis in order to prepare and analyze data to track SDG progress. The IEAG will work with a number of departments within the UN Secretariat and UN agencies, government agencies, national statisticians, donors, and expert advisors as well as other organizations concerned with collecting SDG data, monitoring, and evaluation.

Source:

^aJessica Espey, "Data for Development: A Needs Assessment for SDG Monitoring and Statistical Capacity Development," *Sustainable Development Solutions Network* (April 17, 2015).

Building Effective National Data Management

The development of a National Statistics Office (NSO) will help countries assess national gaps, opportunities, and priorities in data monitoring and reporting. The creation of a National Strategy for the Development of Statistics will ensure that government agencies and non-government organizations have a cohesive vision for constructive data usage. The UN Statistical Commission and IEAG can assist the NSO in implementing new data analysis and indicator methodologies when necessary. This collective effort will strengthen national ICT and data analysis capacity. To ensure an effective and sustainable NSS, the NSO requires the backing of a national budget, political will, and donor agencies. Its mission and initiatives must be grounded in, and inspired by, the country's needs rather than international agencies' priorities.

This office should foster collaboration between national ministries, private companies, civil society organizations, and NGOs focused on the SDGs in order to standardize systems for data collection, analysis, and dissemination. The NSO can also help verify the quality and usefulness

of data collected by these stakeholders. A centralized NSO will hold the country accountable to its citizens and donors.²² As seen below, Rwanda successfully initiated its 2009-2014 national strategy to guide the mission, goals, and implementation of the NSS.

Building Statistical Capacity: Rwanda

The National Institute of Statistics of Rwanda coordinates the National Statistical System (NSS), which encompasses the institutions responsible for collecting, analysing, and disseminating official statistics. A National Strategy for the Development of Statistics guides the NSS, which covers administrative, civil registration, and survey and census data. In fulfilling this role, the NSS will contribute to greater accountability and more effective decision-making while emphasizing standardization and automated processes.

Rwanda has also set certain conditions for data accessibility. The data should be free, machine-readable, and available for reuse. It will be accessible in several formats, including a Statistical Data & Metadata exchange, an application program interface, and SMS alerts. Rwanda still anticipates challenges, such as managing a high number of complex reporting requirements and ensuring standard processes.

Source:

Habimana, Dominique. "Responding to the data demand for the SDGs monitoring -- use of new technology for data sharing in Rwanda." *46th Session of the United Nations Statistical Commission.* New York, 2015. <u>http://tinyurl.com/muazo2c</u>

An effective NSS such as Rwanda's requires qualified data analysts, sufficient ICT infrastructure, and support for training officials in government ministries. The NSO should engage innovative research centers to produce new analytic tools to evaluate progress on SDGs.²³ Adequate software and hardware will be required to revamp administrative data systems such as vital registries. Consistent censuses and household, agricultural, and labor force surveys that compile official statistics must be complemented by metrics from businesses and civil society organizations to ensure that data on all segments of the population are documented.²⁴ Investments in technology – particularly mobile data collection, GIS, and crowdsourcing – will help digitize and communicate information and facilitate geospatial analysis. While these technological advancements will reduce long-term costs, innovative funding mechanisms will be needed to establish and maintain a robust data ecosystem.

The NSO must devise a comprehensive budget that allots specific funds to data production and management, information dissemination, capacity building, and monitoring and evaluation. The budget should also document funds to be provided by the government and raised through foreign assistance.²⁵ Diligent monitoring and evaluation of data collection and analysis will ensure that countries continuously utilize available information to reassess progress towards SDGs and inform future programs and policies.

Ministries Responsible for SDG Data Management

The following table demonstrates how a country could assign ministries to share the responsibility of and create collaboration in monitoring, managing, and reporting data on each Sustainable Development Goal. The sample ministries listed are based upon those in Kenya's government.

Goal 1	<i>End poverty in all its forms everywhere.</i> Ministries: Agriculture; Labor, Health; Education; Housing and Urban Development
Goal 2	<i>End hunger, achieve food security and improved nutrition and promote sustainable agriculture</i> Ministries: Agriculture; Health; Housing and Urban Development; Environment, Water and Natural Resources
Goal 3	<i>Ensure healthy lives and promote well-being for all at all ages</i> Ministries: Health; Education; Labor, Social Security and Services; Spkorts, Culture and the Arts
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all Ministries: Education; Labor, Social Security and Services
Goal 5	Achieve gender equality and empower all women and girls. Ministries: Education; Health; Labor, Social Security and Services; Agriculture; Housing and Urban Development; Enterprise Development
Goal 6	<i>Ensure availability and sustainable management of water and sanitation for all.</i> Ministries: Health; Environment, Water and Natural Resources; Housing and Urban Development; Transport and Infrastructure
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all. Ministries: Transport and Infrastructure; Energy; Housing and Urban Development; Industrialization
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all Ministries: Industrialization; Enterprise Development; Agriculture; Education; Labor, Social Security and Services
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation Ministries: Transport and Infrastructure; Industrialization; Enterprise Development; Labor, Social Security and Services; Information, Communication and Technology

Goal 10	<i>Reduce inequality within and among countries</i> Ministries: Regional Affairs, Commerce and Tourism; Foreign Affairs
Goal 11	<i>Make cities and human settlements inclusive, safe, resilient and sustainable</i> Ministries: Housing and Urban Development; Transport and Infrastructure; Information, Communication and Technology
Goal 12	<i>Ensure sustainable consumption and production patterns</i> Ministries: Industrialization; Enterprise Development; Agriculture; Health; Education; Environment, Water and Natural Resources
Goal 13	<i>Take urgent action to combat climate change and its impacts</i> Ministries: Environment, Water and Natural Resources; Transport and Infrastructure; Energy; Industrialization; Agriculture
Goal 14	<i>Conserve and sustainably use the oceans, seas and marine resources for sustainable development</i> Ministries: Environment, Water and Natural Resources; Marine Affairs and Resources
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss Ministries: Environment, Water and Natural Resources; Regional Affairs, Commerce and Tourism; Industrialization
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels Ministries: Devolution and Planning; Interior; Labor, Social Security and Services
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development Ministries: Foreign Affairs; Interior; Regional Affairs, Commerce and Tourism

Innovations in Data Collection and Application

The IEAG recommends that countries use a combination of traditional data collection methods as well as new innovations that can reduce cost and expand data resources for NSSs. Additionally, the IEAG proposes a culture of open source and public access in order to increase the potential for innovative uses of data.²⁶

Methods of Data Collection

Traditional	Innovative
Census Data	Satellite Imagery
Household Surveys	Unmanned Aerial Vehicles (UAVs)
Agricultural Surveys	Crowdsourcing
Administrative Data	Smart-meters
Civil Registration and Vital Statistics	Smart-phone and tablet-based data collection
Economic Statistics (including labor, establishment, and trade statistics)	Data mining ²⁷
Geospatial Data	
Other Environmental Data	

Major concerns to be addressed by NSSs include both the availability and quality of data collected.

Data availability

A lack of data availability can significantly challenge the measurement of progress towards any development goal, especially the larger-scale SDGs. One way to fill the gap of unavailable data is to use proximate information related to the same indicator. For example, to measure improved nutrition, instances of malnutrition like stunting, wasting, height for age, and anemia can be measured. A lack of quantitative data on a national level can be mediated by identifying gaps and collecting data from development practitioners working in the field. For example, if national data on displaced populations is missing, the United Nations High Commissioner for Refugees may be helpful in providing the statistics.

Data discordance

Possible problems with collected data may arise, including inconsistent or contradictory information, conflicts between inputs and outcomes, and nonsensical information. To mitigate this problem, it is important to triangulate data. Wherever possible, data should be collected from multiple sources to validate it. For example, health indicators can be collected from household surveys, community health workers, clinics, and hospitals for cross-verification. Rural poverty can be analyzed by using census data and satellite imagery to compare the ratio of thatched roofs to metal roofs in remote areas. Issues of harassment can be identified through police reports as well as crowdsourcing information from social media sites.

Innovative Data Collection: Brazil

The Brazilian Institute of Geography and Statistics (IBGE) shared new census methods that used mobile devices for data collection, processing, and dissemination. The devices used an open source platform that enabled either immediate or delayed data uploading to a central database. However, access to electricity and internet, especially in rural areas, still proved challenging.

Overall, IBGE was able to ensure data quality and security, improve efficiency, coverage, and oversight, follow a faster and more flexible process, represent data geospatially for greater accuracy, reduce paper flow, and develop new to ways to share data. Brazil is still looking to improve its model and is sharing its experience with national statistical agencies in Africa and South America.

Source:

Ranos, Roberto Luis Olinto, and Roberto Neves Sant'Anna. "IT in the Brazilian 2010 census: new technologies in population and housing censuses." *46th Session of the United Nations Statistical Commission.* New York, 2015. <u>http://tinyurl.com/lx86a8y</u>

IV. International Partners

International development partners will play a significant role in achieving the SDGs. Such partners include the SDSN, regional development banks, regional and sub-regional political institutions, UN agencies, and bilateral donors. Each partner is expected to support the national strategies developed to reach the SDGs. They may lend support by providing ODA and debt relief, establishing fair and open markets for trade in developing countries, mobilizing global science and technology, and curbing climate change and environmental degradation.

The Role of SDSN

Working with UN agencies, multilateral financing institutions, the private sector, and civil society, SDSN brings together experts and practitioners from academia, civil society, and the private sector. UN Secretary-General Ban Ki-moon launched the SDSN in August 2012 with a mission "to accelerate practical problem solving for sustainable development."²⁸ The SDSN promotes joint technical and policy work and integrated approaches to overcome development challenges. Across all levels of development, the SDSN promotes the importance of monitoring progress and evidence collection to inform policy and program decisions.

To increase global impact, the SDSN created Regional and National SDSNs "to assist governments in diagnosing local, national, and regional sustainable development challenges and in devising long-term strategies."²⁹ Additional priorities and objectives include promoting education for sustainable development and promoting solution initiatives. For example, the SDSN Caribbean, hosted at the University of the West Indies in Kingston, Jamaica, coordinates efforts of "universities, research centers, civil society groups, governments, and businesses interested in identifying and promoting Solutions Initiatives around the Caribbean."³⁰ SDSN

Caribbean focuses on sustainable development efforts in three priority areas for the region including <u>blue economy</u> (sustainable marine technologies and markets), energy, and climate change adaption and is open to all countries bordering the Caribbean Sea and any institution working on the goals in the region.³¹

The SDSN and its partners have launched the following regional networks:

- Amazon Hosted by Amazonas Sustainable Foundation (FAS), Manaus, Brazil
- Australia/Pacific Hosted by Monash University, Melbourne, Australia
- Caribbean Hosted by the University of the West Indies, Kingston, Jamaica
- Great Lakes Hosted by the University of Rwanda
- Mediterranean Hosted by the University of Siena, Siena, Italy
- Sahel Hosted by the Université Cheikh Anta Diop in Dakar, Senegal
- South Asia Co-Hosted by TERI University in New Delhi, India and BRAC University in Dhaka, Bangladesh
- Southeast Asia Hosted by the United in Diversity Forum in Bali, Indonesia

Regional and National SDSNs are responsible for coordinating and supporting SDSN members in their catchment to further bridge scientific and practical expertise. The SDSN is continually expanding, "motivated by the idea that hundreds or even thousands of universities and research centers around the world should be playing these roles at the local, national, regional, and global levels."³² The National and Regional SDSNs are able to support and develop SDSN members, including universities, research centers, civil society organizations, and other knowledge centers, as:

- Research centers
- Key partners in problem solving alongside government, business, and civil society
- Educators Social entrepreneurs in solution initiatives.³³

Visit <u>http://unsdsn.org/</u> to find further guidance and contact information for SDSN members.

The Role of Regional Development Banks

As multilateral financial institutions, Regional Development Banks (RDB) promote development within their region through low-interest loans and grants to low- and middle-income countries. In addition to financing development, RDB provide cross-sectoral technical assistance for private-sector growth, improved health and education, sustainable infrastructure, stronger public administration, and natural resource management.³⁴ The four major RDBs are the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), and the Inter-American Development Bank (IDB).³⁵

The RDBs are in a unique position to promote large-scale projects that span local, national, and international partnerships. By financing projects across industry, topic, and scale to bring together public and private interests, RDBs are vital to achieving sustainable development goals. For example, the EBRD has signed with government partners to build the Nurek Solid Waste sub-project to improve municipal and environmental infrastructure in Tajikistan.³⁶ RDBs will continue to play a critical role by creating an enabling financial environment and supporting the

progress of the SDGs. RDBs can support and strengthen the capacity of local financial institutions to promote universal access to financial services.³⁷

For countries to achieve the SDGs, RDBs must invest in holistic development strategies, driven by ethical public-private partnerships. For example, several RDBs are already investing in sustainable transportation, as articulated in the 'Progress Report 2013–2014 of the MDG Working Group on Sustainable Transport."³⁸ These support "climate-resilient, low-carbon growth in developing countries."³⁹ As during the MDGs, RDBs can serve as international facilitators and further regional efforts to improve national statistical systems.⁴⁰

RDBs can contribute coordinating experience and networks of partners at regional, sub-regional, and country levels to increase statistical capacity, develop indicators, and strengthen monitoring systems. The *Statistics for Transparency, Accountability, and Results: A Busan Action Plan for Statistics*, 2011⁴¹ builds on the *Marrakech Action Plan for Statistics, 2004*; reuniting key stakeholders to identify gaps and shortcomings of existing data collection and to create recommendations and estimates for these improvements. Global statistical systems are still inadequate. Better statistics for improved policy and programming would not only benefit national policymakers, but also citizens receiving services, businesses, and investors, including banks themselves.

Regional and Sub-Regional Political Institutions

Regional and sub-regional political institutions play a key role in developing regional positions concerning actions and steps to take towards implementing the SDGs. This draws on their objective to foster cooperation, political and economic integration, and dialogue amongst states within a set geographical or geopolitical boundary. Through consultative processes concerning sustainable development, regional and subregional organizations encourage participation and collaboration among member states. Such regional collaboration is imperative to implementing the post-2015 agenda.

Examples of efforts taken by regional organizations towards the SDGs in their respective regions are as follows:

- The African Union has mandated that the African Union Commission, United Nations Economic Commission for Africa, African Development Bank, and the UNDP Regional Bureau for Africa devise an African Common Position for the post-2015 process. Multiple regional and sub-regional consultations with national and regional policy-makers, civil society organizations, the private sector, and academia are expected to result in the design of this African Common Position.⁴²
- One of the main objectives of the **Organization of American States** (OAS) is to ensure and promote sustainable development in the Western Hemisphere. For example, the organization's Executive Secretariat for Integral Development oversees programs and projects focuses on achieving results in areas such as economic growth, social equity, and environmental protection. By supporting member states in the development and implementation of such policies and projects, the OAS holds a fundamental role in achieving the SDGs in the region by promoting cooperation and collaboration.⁴³

At the 132nd Inter Parliamentary Union Assembly held in Vietnam from 28 March to 1 April 2015, the Secretary-General of the Association of Southeast Asian Nations (ASEAN) delivered remarks on the organization's plans to continue to promote sustainable development. For example, ASEAN is in the process of developing a Post-2015 Vision, which will be consistent with the UN Post-2015 development agenda. Among its many objectives, ASEAN's Post-Vision plans to strengthen regional mechanisms and institutional arrangements to engage partnerships and encourage support from all ASEAN member states to achieve realization of the SDGs.⁴⁴

Member states of regional and sub-regional institutions should expect these institutions to continue to hold consultative meetings, promote collaboration, and identify and agree upon their region's sustainable development priorities. Such collaboration should result in the development of outcome documents that governments and UN agencies can refer to in order to promote these priorities within the region as well as cooperation between regional organizations and the UN.⁴⁵

Government professionals may also use SDplanNet, a sustainable development planning network created to help national and subnational officials share best practices and build capacity in the implementation of sustainable development strategies. SDplanNet is a vehicle that practitioners, government planning offices and departments, and regional organizations have already been using to assist in the implementation of mandates for sustainable development.⁴⁶

V. UN Agencies and Country Teams

Governments may consult with UN agencies, funds, and programs on SDG-focused planning. Due to their technical expertise, UN entities and agencies may provide valuable advice for a government in implementing the SDGs, depending on the needs of the state. UN country teams (UNCTs), for example, are critical in supporting the government process and in providing technical support for assessment and implementation of development programs. UNCTs can support consultative processes as governments design their SDG-based national development strategies. UN agencies can support a government's national development strategy by reviewing and contributing to policy analysis, drawing on experience in the country and from other countries. This work should then feed into ongoing UN processes.

To align their activities with the SDGs and national development strategies, UNCTs must review their country cooperation strategies and programs, such as the UN Development Assistance Framework. Each UN agency may appoint a focal person to the specific government-led working group that covers its area of technical expertise. The UN can give essential technical support for all areas covered by the SDGs. This support can be provided through existing country-level programs directed by agency headquarters and regional centers so that it is not seen as an additional burden.⁴⁷

To ensure coordination between the UNCTs and other development partners, all UN agencies should fully participate and build upon ongoing UN processes. The UN Secretary-General established the UN Task Team in 2011 to promote such coordination across the UN system in preparation for the post-2015 agenda. The establishment of the UN Task Team was meant to foster greater collaboration among UN agencies as well as all other stakeholders. It supports

the multi-stakeholder consultations being led by Member States on the post-2015 agenda by providing technical and analytical expertise and inputs.

Member States actively consult with UN agencies, as well as with civil society, the private sector, and academia, on how to implement and promote the SDGs through the UN Task Team.⁴⁸ Active consultation of Member States with UN agencies and entities encourages coordination and collaboration concerning the SDGs, which in turn will guide implementation of the goals within countries.

VI. Conclusion

While this chapter highlights important principles that underpin the NSDS planning process - administrative oversight, budgeting and the role of various institutions - an important element of planning is to build on current development plans. For example, if a country already has a Vision 2050 document, the SDGs should be integrated into the vision document as one of its key milestones. Planning for effective monitoring and evaluation for the SDGs will require additional investments and the strengthening of existing capacity in National Statistical Systems (NSS).

Going forward, the NSDS provides a country-specific framework for action plans tailored according to needs, resources and priorities. However, it should not be seen as a blueprint or rigid approach; rather, it should be taken as flexible and a continuous process of learning and planning.

http://www.un.org/esa/agenda21/natlinfo/countr/serbia/nsds_serbia.pdf

- ² Government of South Africa. "National Framework for Sustainable Development in South Africa." (2008, July). <u>https://www.environment.gov.za/sites/default/files/docs/2008nationalframeworkfor_sustainabledevelopment.</u> <u>pdf</u>
- ³ Government of South Africa. "National Framework for Sustainable Development in South Africa." (2008, July). <u>https://www.environment.gov.za/sites/default/files/docs/2008nationalframeworkfor_sustainabledevelopment.</u> <u>pdf</u>
- ⁴ Government of South Africa. "National Framework for Sustainable Development in South Africa." (2008, July). <u>https://www.environment.gov.za/sites/default/files/docs/2008nationalframeworkfor_sustainabledevelopment.</u> <u>pdf</u>
- ⁵ Millennium Project. "Preparing National Strategies to Achieve the Millennium Development Goals: A Handbook". (March 13, 2015).

⁷ The World Bank. "Beyond the Annual Budget: Global Experience with Medium Term Expenditure Frameworks." (Washington, DC: World Bank, 2013),

¹ Government of Serbia. "National Sustainable Development Strategy." (2007). Belgrade.

http://www.unmillenniumproject.org/documents/handbook111605_with_cover.pdf

⁶ The World Bank. "Medium Term Expenditure Frameworks." (2013) <u>http://go.worldbank.org/FZLQ2JO6F0</u>

http://issuu.com/world.bank.publications/docs/9780821396254/1

⁸ The World Bank. "Results, Performance Budgeting and Trust in Government."

http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/LACEXT/EXTLACREGTOPPUBSECGOV/0,,contentMDK: 22696757~pagePK:34004173~piPK:34003707~theSitePK:832592,00.html

⁹ UN Millennium Project. "Preparing National Strategies to Achieve the Millennium Development Goals: A Handbook" (2005) <u>http://www.unmillenniumproject.org/documents/handbook111605 with cover.pdf</u>

¹⁰ Schmidt-Traub, G. & Sachs, J. "Financing Sustainable Development: Implementing the SDGs through Effective Investment Strategies and Partnerships." (8 April 2015).

http://unsdsn.org/wp-content/uploads/2015/04/150408-SDSN-Financing-Sustainable-Development-Paper.pdf¹¹ United Nations (UN). "Report of the Intergovernmental Committee of Experts on Sustainable

Development Financing." (2014). <u>http://www.un.org/ga/search/view_doc.asp?symbol=A/69/315&Lang=E</u> ¹² United Nations (UN). "Report of the Intergovernmental Committee of Experts on Sustainable

Development Financing." (2014). <u>http://www.un.org/ga/search/vie</u>w doc.asp?symbol=A/69/315&Lang=E

¹³ Schmidt-Traub, G. & Sachs, J. "Financing Sustainable Development: Implementing the SDGs through Effective Investment Strategies and Partnerships." (2014)

http://unsdsn.org/wp-content/uploads/2014/11/Full-FSD-draft-for-public-consultation_clean.pdf

¹⁴ UNCTAD. "World Investment Report 2014, Investing in the SDGs: An Action Plan." (2014) <u>http://unctad.org/en/publicationslibrary/wir2014_en.pdf</u>.

¹⁵ Schmidt-Traub, G. & Sachs, J. "Financing Sustainable Development: Implementing the SDGs through Effective Investment Strategies and Partnerships." (2014).

http://unsdsn.org/wp-content/uploads/2015/04/150408-SDSN-Financing-Sustainable-Development-Paper.pdf ¹⁶ Bahadur, Chandrika, Kruk, Margaret, Schmidt-Traub, Guido. *Preparing National Strategies to Achieve the Millennium Development Goals: a Handbook*, pp. 4. (October 2015).

http://www.unmillenniumproject.org/documents/handbook111605_with_cover.pdf¹⁷Leading Group on Innovative Financing for Development. "Innovative Financing." http://www.leadinggroup.org/rubrique77.html.

¹⁸ Leading Group on Innovative Financing for Development. "Mapping of Innovative Financing Mechanisms", http://www.leadinggroup.org/rubrique327.html.

¹⁹ The United Nations Secretary-General's Independent Expert Advisory Group on a Data Revolution for Sustainable Development, "A World That Counts, Mobilizing the Data Revolution for Sustainable Development," *Independent Expert Advisory Group Secretariat* (2014).

²⁰ Jessica Espey, "Data for Development: A Needs Assessment for SDG Monitoring and Statistical Capacity Development," *Sustainable Development Solutions Network* (April 17, 2015).

²¹ The United Nations Secretary-General's Independent Expert Advisory Group on a Data Revolution for Sustainable Development, "A World That Counts, Mobilizing the Data Revolution for Sustainable Development," Independent Expert Advisory Group Secretariat (2014).

²² UN Economic and Social Council. *Official Records of the Economic and Social Council*, Supplement No. 4, (2005). *http://unstats.un.org/unsd/statcom/doc06/2006-27e-CapacityBuilding.pdf*.

²³ The United Nations Secretary-General's Independent Expert Advisory Group on a Data Revolution for Sustainable Development, "A World That Counts, Mobilizing the Data Revolution for Sustainable Development," Independent Expert Advisory Group Secretariat (2014).

²⁴ Leadership Council of the Sustainable Solutions Development Network, "Indicators and a Monitoring Framework for the Sustainable Development Goals, Launching a Data Revolution for the SDGs," *Sustainable Development Solutions Network*. Revised Working Draft. (January 16, 2015).

²⁵ Jessica Espey, "Data for Development: A Needs Assessment for SDG Monitoring and Statistical Capacity Development," *Sustainable Development Solutions Network* (April 17, 2015).

²⁶ Leadership Council of the Sustainable Solutions Development Network, "Indicators and a Monitoring Framework for the Sustainable Development Goals, Launching a Data Revolution for the SDGs," *Sustainable Development Solutions Network*. Revised Working Draft. January 16, 2015.

²⁷ Jessica Espey, "Data for Development: A Needs Assessment for SDG Monitoring and Statistical Capacity Development," *Sustainable Development Solutions Network* (April 17, 2015).

²⁸ The Sustainable Development Solutions Network. "Join the Sustainable Development Solutions Network, The benefits of membership." (29 October 2013),

http://unsdsn.org/wp-content/uploads/2014/03/140124-Join-the-SDSN-the-benefits-of-membership.pdf

²⁹ The Sustainable Development Solutions Network. "What We Do," accessed April 12, 2015, <u>http://unsdsn.org/what-we-do/national-and-regional-networks/</u>

³⁰ University of West Indies & SDSN. "The Caribbean Sustainable Development Solutions Network," accessed April 12, 2015, <u>http://beta.unsdsn.org/wp-content/uploads/2014/04/140422-Caribbean-Concept-Note.pdf</u>

³¹ University of West Indies & SDSN. "The Caribbean Sustainable Development Solutions Network," accessed April 12, 2015, <u>http://beta.unsdsn.org/wp-content/uploads/2014/04/140422-Caribbean-Concept-Note.pdf</u>

³² The Sustainable Development Solutions Network. "What We Do," accessed April 12, 2015, <u>http://unsdsn.org/what-we-do/national-and-regional-networks/</u>

³³ The Sustainable Development Solutions Network. "What We Do," accessed April 12, 2015, <u>http://unsdsn.org/what-we-do/national-and-regional-networks/</u>

³⁴ Center for Global Development. "Regional Development Banks (ABCs of the IFIs Brief)," accessed April 12, 2015, <u>http://www.cgdev.org/publication/regional-development-banks-abcs-ifis-brief</u>

³⁵ Center for Global Development. "Regional Development Banks (ABCs of the IFIs Brief)," accessed April 12, 2015, <u>http://www.cgdev.org/publication/regional-development-banks-abcs-ifis-brief</u>

³⁶ European Bank for Reconstruction and Development. "Project Summary Documents," accessed April 12, 2015, <u>http://www.ebrd.com/work-with-us/project-finance/project-summary-documents.html</u>

³⁷ Center for Global Development, "Regional Development Banks (ABCs of the IFIs Brief)," accessed April 12, 2015, <u>http://www.cgdev.org/publication/regional-development-banks-abcs-ifis-brief</u>

³⁸ The International Institute of Sustainable Development. "Progress Report Shows MDBs on Target To Meet Sustainable Transport Investment Goals."

http://sd.iisd.org/news/progress-report-shows-mdbs-on-target-to-meet-sustainable-transport-investment-goal s/

³⁹ The International Institute of Sustainable Development. "Progress Report Shows MDBs on Target To Meet Sustainable Transport Investment Goals."

http://sd.iisd.org/news/progress-report-shows-mdbs-on-target-to-meet-sustainable-transport-investment-goal s/

⁴⁰ The United Nations, "A Regional Perspective on the Post-2015 United Nations Development Agenda." <u>http://www.regionalcommissions.org/post2015regionalreport.pdf</u>

⁴¹ Paris21, The *Statistics for Transparency, Accountability, and Results: A Busan Action Plan for Statistics*, November 2011. <u>http://www.paris21.org/sites/default/files/Busanactionplan_nov2011.pdf</u>

⁴² World Health Organization. "Africa post-2015 process." *The Partnership for Maternal, Newborn and Child Health*. <u>http://www.who.int/pmnch/post2015/en/index5.html</u>

⁴³ Organization of American States, Executive Secretariat for Integral Development. (2015). <u>http://www.oas.org/en/sedi/dsd/</u>

⁴⁴ Association of Southeast Asian Nations. "Sec-Gen Minh Updates World Parliamentarians on ASEAN's Sustainable Development Efforts." (1 April 2015).

http://www.asean.org/news/asean-secretariat-news/item/sec-gen-minh-updates-world-parliamentarians-on-as ean-s-sustainable-development-efforts

⁴⁵ Sustainable Development Policy and Practice. *African Regional Consultative Meeting on SDGs.* <u>http://sd.iisd.org/events/african-regional-consultative-meeting-on-sdgs/</u>

⁴⁶ Urama, K., Ozor, N., & Acheampong, E. (2014). *Achieving Sustainable Development Goals (SDGs) Through Transformative Governance Practices and Vertical Alignment at the National and Subnational Levels in Africa*. <u>http://www.iisd.org/publications/sustainable-development-goals-sdgs-transformative-governance-africa</u>

⁴⁷ United Nations. "A Regional Perspective on the Post-2015 United Nations Development Agenda," accessed April 12, 2015, <u>http://www.regionalcommissions.org/post2015regionalreport.pdf</u>

⁴⁸ United Nations. "Development Policy and Analysis Division," accessed April 12, 2015, <u>http://www.un.org/en/development/desa/policy/untaskteam_undf/</u>

Chapter 6: Conclusions and Next Steps



This guide provides tools and best practices to assist stakeholders, from state governments and politicians to NGOs, prepare to get started with the process of implementing the SDGs. It provides insights into the ways a country can progress from their current development levels to more sustainable ones that align with the United Nations post-2015 development agenda.

The SDGs will support long-term approaches to sustainable development that must be addressed at the global, regional, and local levels. The goals will be complementary to the tools of international law, such as legally binding global treaties and conventions, by providing a shared normative framework that fosters collaboration across countries, mobilizes all stakeholders, and inspires action. Hence, the SDGs will serve as a report card for the global community to measure progress toward sustainable development and to help ensure the accountability of all stakeholders for achieving the goals.

The set of proposed 17 coherent and integrated goals, 169 targets, and 100 global monitoring indicators will be the dynamic guide for our global future. Therefore, it is the responsibility of all to ensure that this vision becomes a reality. To accomplish such a task, all stakeholders ought to bear in mind the best-practices as described within this guide, including the following:

The 2015 Process Will Shape the SDGs

Three high-level negotiations in year 2015 will shape the SDG process moving forward. These negotiations aim to clarify stakeholders' implications and create a participation pledge in shaping the future of the SDGs. First, the International Conference on Financing for Development (FfD) will determine how to finance the required investments in sectors such as infrastructure, education, agriculture, and health in addition to the large investments required for global cross-sectoral areas such as natural resource management and natural disaster resiliency. The United Nations Summit for the Adoption of the post-2015 Development Agenda (UN SDGs Summit) will convene at the UN General Assembly in September 2015 and determine the final version of the SDGs. And finally, the Conference of the Parties (COP21) will establish an ambitious global agreement to guide future efforts to combat climate change, including structural changes to energy systems, land-use, and in societies' development pathways as a whole. The active participation and meaningful involvement of stakeholders at such negotiations will enable the final set of SDGs to include diverse visions by a variety of stakeholders.

SDGs and the Local Context

The SDGs are relevant in differing ways for each country. It is critical that each country and other interested sectors understand each individual SDG and aim to achieve the set. It is also imperative that these goals be considered through the lens of a local context so that countries can design a unique strategy for implementation. By understanding the key challenges that a country currently faces to achieve sustainable development, countries can then go on to develop effective national visions to achieve the goals.

Furthermore, to correctly adapt these indicators to a local context, each country ought to go through a process of benchmarking to identify its' most important challenges and understand where they as a country stand with respect to the indicators.

The utilization of new technologies to measure progress on the newly devised indicators, as well as to strengthen the existing monitoring systems of the MDGs, is a critical component of the SDG strategy. The SDGs can and should benefit from modern tools to collect data at the global, national, and local levels, and even to go further and look for disaggregated data that helps to shape the planning, management, and achievement of the goals.

National Vision for the SDGs

A national vision for sustainable development that communicates the values that are most important to a country and garners public, regional, and international recognition for such values is critical for the success of the SDGs. Such a vision lays the groundwork from which a country can successfully implement their strategy and achieve its' intended goals. Upon the onset of getting started, countries must define a national vision regarding SDG implementation or if an existing sustainable development plan exists, revise the existing one to incorporate and integrate the SDGs. The national vision should identify short-term and long-term strategies for achieving the SDGs. With the guidance of the SDGs, countries will be able to identify gaps in current strategies for development, as well as detect missing stakeholders that may have been overlooked during previous strategic planning processes.

This guide proposes a collective visioning exercise that necessitates the engagement of stakeholders. While some countries have already put into place specific stakeholder engagement strategies, an example of a general framework could include the following stakeholders: representatives from a country's national government, civil society, private sector, as well as development partners, among other relevant stakeholders. In addition, while the process of developing or revising a Sustainable Development Vision (SDV) will vary from country to country depending on its' context, the recommended process includes four overarching components: sensitization, building governance and accountability, SDV multi-stakeholder meeting, and the signing of a letter of intent.

Major Challenges for Development

To develop a national vision for the SDGs, stakeholders and country officials must identify major challenges that they anticipate to face when working toward achieving the SDG targets. By understanding the symptomatic global patterns and their root causes, countries can effectively address these, starting from the planning stage. Horizontal scanning and performance assessment can help guide the process of identifying challenges. Using these methods, countries can identify country-specific challenges regarding economic development, social development, environmental protection, and governance for sustainable development.

Planning for Implementation

Once the national vision or framework for action is established, stakeholders ought to shift efforts toward preparing for the implementation of the SDGs. The guide illustrates specific and practical exercises that a stakeholder can use to set a strategic course for action, including tools for budgeting and mobilizing potential funding sources, and methods for managing SDG data on multiple platforms and engaging the support of relevant partner organizations. A country must determine where it stands in terms of funding the SDGs and addressing the gaps prior to implementation. The strategic planning approach proposed in this document is backcasting.

The approach implies the generation of a desirable future and then identifies the key elements that have to be addressed today in order to achieve that desired vision.

The tools presented within this guide cover general aspects of strategic planning, however, the guide emphasizes that each individual country must decide which tools to use for their local context. This includes a country understanding its' present level of development, the stage of their NSDS, and the current state of their institutions, information systems, partnerships, as well as funding needs and strategies. Such country-specific facts and relationships will define for a country the best tools to be used and will shape the implementation strategy for each country.

In its entirety, this guide has provided the global community with tangible insights and suggestions regarding the various avenues a country can follow to initiate the process of creating a NSDS and to eventually launch such a national vision with aim to achieve the SDGs. The SDGs provide the global community with an operational sustainable development framework in accordance with the United Nations post-2015 development agenda. Stakeholders at all levels must utilize the framework's goals, targets, and monitoring indicators as a blueprint for a successful and more sustainable future. Bearing in mind the best practices provided within this guide, action must now be taken to put such a framework into operation and to ensure that such a vision becomes a reality.

Appendices



Appendix 1: The Sustainable Development Goals

Goal 1. End poverty in all its forms everywhere

This overarching SDG seeks to eradicate poverty by targeting its root and structural causes. SDG 1 implores countries to focus on improving economic and social conditions for populations living below the national poverty line by enacting comprehensive national social protection programs, strengthening property and contract laws, and reducing the total fertility rate. This SDG also includes measures that seek to improve disaster resilience and increase utilization of banking services.

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

One of the greatest challenges the world is facing is that of adequately feeding a growing population while respecting the planet's natural boundaries. SDG 2 seeks to eradicate hunger and all forms of malnutrition, with a particular focus on children under 5 years of age, girls, and women. In addition, it aims to improve agricultural productivity through sustainable farming practices that maintain species' genetic diversity and ensure resilience to climate change. A special emphasis is given to raising the incomes of small-scale producers, particularly women and other vulnerable groups, and to promoting rural prosperity.

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

This SDG aims to improve access to healthcare and reduce all causes of mortality and morbidity. In addition to improving quality of healthcare and access to facilities, SDG 3 seeks to promote healthy behaviors. Environmental issues that can lead to poor health outcomes, such as water and soil pollution, are also considered, making this SDG relevant not only to those focused primarily on health-related issues but also to those working on environmental and social issues.

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

SDG 4 proposes a comprehensive and multi-generational approach to learning in order to maximize the world's potential for sustainable development. The first few years of a child's life are crucial for cognitive development, and this SDG therefore encourages countries to ensure that all girls and boys have access to quality early childhood development programs. It also calls on countries to ensure universal primary and secondary education and to increase access to tertiary education. In addition to increasing access, this goal also focuses on improving the quality of educational programs and providing training in advanced 21st century skills (cognitive, analytical, social, cultural, civic, and emotional) to prepare a population for the challenges of

sustainable development. Cross-cutting issues of particular importance in achieving this goal include gender equality and the empowerment of girls.¹

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

In both developed and developing countries, women and girls are often denied the same access to education and economic and political opportunities as men and boys. When they are offered access to such opportunities, discriminatory practices frequently prevent women from operating on the same terms as their male counterparts. SDG 5 aims to reduce this inequality by tackling social, political, and economic practices that continue to perpetuate this problem.

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

With water resources stretched to their limits across the globe, ensuring the sustainable management of water is crucial. The availability of safe and high quality sanitation will be key in ensuring that these water resources contribute to good health outcomes for those who use them. SDG 6 asks countries to ensure safe management of water resources for urban and rural populations, treat wastewater flows to national standards, and conserve water resources so as to ensure their sustainability over time. Further measures include the elimination of open defecation, increased use of sewage facilities, promotion of handwashing and other hygiene measures, and ensuring adequate and safe drinking water and sanitation in clinics and schools.

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

The seventh SDG recognizes the crucial importance of energy in the development process. Increased access to energy should be from decarbonized sources, which means increasing renewables and improving energy efficiency overall. International cooperation needs to be enhanced to achieve this SDG and to promote investment in energy infrastructure. Special attention is given to ensure that reliable electricity and modern cooking solutions reach the most vulnerable sectors of society.

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

SDG 8 seeks for every country in the world to achieve sustainable economic growth, while ensuring that they are inclusive of the rights, opportunities, and voice of marginalized groups. There is also a strong emphasis on ensuring that economic growth does not come at the expense of the environment. Policies that aim to stimulate growth must place sustainability in the center of their considerations so that future generations are not negatively impacted by current practices.

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

SDG 9 aims to develop high quality, reliable, sustainable, and resilient infrastructure and promote inclusive and sustainable industrialization. Innovation and investments in these fields can generate employment, help preserve the environment, and address climate change. SDG 9 also aims to increase the access of small-scale industrial and other enterprises to financial services and integrate them into value chains and markets. Such access can raise industries' share of employment and gross domestic product, allowing them to upgrade their infrastructure and retrofit industries as well as amount spent on research and development (R&D).

Goal 10. Reduce inequality within and among countries

Economic development can result in a widening of income gaps within a nation's population, and this SDG aims to promote growth that is inclusive of all segments of a society. The first indication of inclusive growth is sustained income growth among those with the 40% lowest income levels of the country, at a rate higher than the national average. The process of economic growth must be accompanied by empowerment and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, economic, or other status. Discriminatory laws should be removed and appropriate legislation should be put in place. The reduction of inequality may utilize fiscal, wage, and social protection policies as well. At the international level, representation of all countries must be enhanced across economic and financial institutions. Finally, migration policies across countries need to facilitate orderly, safe, regular, and responsible mobility.

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

As urban migration increases, making cities and human settlements inclusive, safe, resilient, and sustainable places becomes crucial to growing a strong economy in the long-term. SDG 11 aims to improve access to adequate, safe, sustainable, and affordable housing; basic services and transport systems; and to enhance inclusive, and sustainable urbanization and capacity for participatory, integrated, and sustainable human settlement planning and management in all countries. Special attention is given to promoting inclusion, resource efficiency, protection of cultural heritage and environment, mitigation and adaptation to climate change, and resilience to disasters.

Goal 12. Ensure sustainable consumption and production patterns

This SDG expands on SDG 2 and calls on countries to put in place mechanisms to use natural resources efficiently and sustainably, to achieve environmentally sound management of chemicals and wastes, and to reduce food losses and food waste. SDG 12 also aims to ensure that people everywhere are knowledgeable about sustainable development and live lifestyles that are in harmony with nature. Developed countries are to take the lead on this SDG, and to support developing countries to strengthen their capability to move towards more sustainable

patterns of consumption and production. Companies, especially large and trans-national companies, are particularly encouraged to adopt sustainable practices.

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

Climate change has started to have catastrophic impacts on the environment as well as the socioeconomic dimensions of human life. Global temperature increases must remain below 2 degrees Celsius in order to avoid further harmful effects on the planet. Climate change mitigation and adaptation have are featured prominently in the sustainable development agenda. SDG 13 aims to strengthen resilience and adaptive capacity to climate-related hazards and natural disasters; to integrate climate change measures into national policies, strategies, and planning; and to improve public awareness, human capacity, and institutional capacity.

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

As the global population expands, countries that rely on marine resources will need to pay increased attention to their conservation. SDG 14 implores all countries - not only those with coastlines - to take into account the sustainability of economic and social activities that affect marine ecosystems. This SDG encourages countries to enact policies to protect marine and coastal areas and ensure that fishing activities remain at sustainable levels. Further important points include the maintenance of ocean pH levels, the certification of fisheries, mangrove replenishment, coral reef ecosystem protection, and monitoring the eutrophication of estuaries. SDG 14 stakeholders are primarily coastal and island nations.

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

Nature is under anthropogenic stress. Many species around the world are threatened by extinction, and fertile soil and land resources are being lost. To curb this alarming trend, it is crucial to properly address biodiversity loss, desertification, and land degradation. SDG 15 aims to ensure conservation, restoration, and the sustainable management of terrestrial and inland freshwater ecosystems and their services (specifically forests, wetlands, mountains, and drylands).

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

SDG 16 aims for societies to be peaceful and inclusive by ensuring justice for all people through effective, accountable, and inclusive institutions. All forms of abuse, exploitation, trafficking, torture, and violence must be prevented. Nations must combat organized crime and activities that facilitate crime, such as illicit financial and arms flows. SDG 16 also encourages the recovery of stolen assets and the reduction of corruption and bribery. To attain these ideals, effective, accountable, and transparent institutions at all levels need to be developed and strengthened.

One indicator that this SDG is being achieved is the existence of responsive, inclusive, participatory, and representative, decision making at all levels, including the participation of developing countries in institutions of global governance. Individuals' rights include having a legal identity, through formal birth registration, and public access to information in accordance with national legislations and international agreements. Non-discriminatory laws and policies for sustainable development, as well as building capacity to prevent violence and combat terrorism and crime, are some of the factors that will be instrumental in achieving this SDG.

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

Achieving success with regards to the SDGs will require concerted support by key global partners as well as strong implementation and monitoring mechanisms. To that end, SDG 17 encourages countries to strengthen the enabling environment around the SDG process. This SDG will measure spending on sustainability as a percent of Gross National Income (GNI), official development assistance as a percent of GNI, meeting of SDG targets, annual reporting of SDG indicators, and the Evaluative Wellbeing and Positive Mood Affect. The SDG will also take into account secondary measures such as spending on R&D as a share of GDP, tariffs imposed on agricultural and textile products from developing countries, and the value of least developed country exports as a percentage of total global exports.

¹Sustainable Development Solutions Network [SDSN] Thematic Group on Early Childhood Development, Education and Transition to Work 2015

Appendix 2: Funding Sources

Country	Funding Sources ¹
Low Income	 Domestic Budget Revenues Least Development Countries (18% of GNI) Other Low-Income Countries (20% of GNI) Official Development Assistance (ODA) Official Development Assistance for Climate Finance Pooled International Finance Mechanisms
Middle Income	 Domestic Budget Revenues Lower-Middle-Income Countries (22% of GNI) Upper-Middle-Income Countries (24% of GNI) Other Official Flows (OOF) Other Official Flows for Climate Finance Loans by Multilateral Development Banks Pooled International Finance Mechanisms Commercial Private Finance
High Income	 Domestic Budget Revenues High-Income Countries (at least 24% of GNI) Domestic Private Funds Mobilized International Private Funds Mobilized Commercial Private Finance

¹_Schmidt-Traub, G. & Sachs, J. "Financing Sustainable Development: Implementing the SDGs through Effective Investment Strategies and Partnerships." *Sustainable Development Solutions Network* (8 April 2015). <u>http://unsdsn.org/wp-content/uploads/2015/04/150408-SDSN-Financing-Sustainable-Development-Paper.pdf</u>

Appendix 3: SDG Public/Private Financing

Open Working Group Goal	Scale of incremental investments	Share private investme nts	Share public investments	Role for household contributions?	Priority pooled international finance mechanisms described in this paper
Goal 1: End poverty in all its forms everywhere	Covered under other goals				All pooled finance mechanism contribute to this goal, including IDA
Goal 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	+++	++	++	Limited role in agriculture	Proposed Smallholder and Nutrition Fund (building on IFAD and GAFSP)
Goal 3: Ensure healthy lives and promote well- being for all at all ages	++	+	+++	0	GAVI, GFATM, GFF, UNFPA, UNICEF
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	++	+	+++	0	Global Fund for Education (building on Global Partnership for Education)
Goal 5: Achieve gender equality and empower all women and girls	+	+	+	0	Largest investment needs covered under other areas (e.g. health, education); other mechanisms to be determined
Goal 6: Ensure availability and sustainable management of water and sanitation for all	+++	++	++	+	Dedicated financing mechanism or regional facilities
Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all	+++	+++	+	++	SE4All and infrastructure finance
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Covered under other goals				All pooled finance mechanism contribute to this goal, in particular IDA and infrastructure modalities
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	+++	+++	+	N/A	See infrastructure section

Goal 10: Reduce inequality within and among countries	Covered under other goals				All pooled finance mechanism contribute to this goal
Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable	+++	++	++	N/A	See in particular infrastructure section; other financing mechanisms also contribute
Goal 12. Ensure sustainable consumption and production patterns	++	++	++		In particular GCF, GEF, proposed Smallholder Fund, and infrastructure finance
Goal 13. Take urgent action to combat climate change and its impacts	+++	+++	++	N/A	GCF, GEF, infrastructure finance, other pooled finance mechanisms
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	+++	++	++	N/A	GEF and proposed Smallholder and Nutrition Fund
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	+++	++	++	N/A	GEF and proposed Smallholder and Nutrition Fund
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	+	+	+++	N/A	IDA and budget support mechanisms, other mechanisms to be determined
Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development	+	+	+	0	A small pooled financing mechanism is needed

^[1] Schmidt-Traub, G. & Sachs, J. "Financing Sustainable Development: Implementing the SDGs through Effective Investment Strategies and Partnerships." (8 April 2015). *Sustainable Development Solutions Network*. <u>http://unsdsn.org/wp-content/uploads/2015/04/150408-SDSN-Financing-Sustainable-Development-Paper.pdf</u>

Appendix 4: Investment Needs

Investment Area	Increme	ntal annual i	nvestment needs in	Corresponding pooled finance	Current annual	Projected annual	
	Total needs	Private, commerci al financing	Public, non- commercial financing	Of which ODA/public climate finance	mechanisms	disbursements	need
Health	51-80	~0	51-80	TBD	GAVI, GFATM, GFF, UNFPA, UNICEF	[5.6]	TBD
Education	[22]	~0	[22]	13.6	Proposed Global Fund for Education	0.4	TBD
Food security	38	2	36	TBD	IFAD, GAFSP, proposed Smallholder Fund	[0.4]	TBD
Access to modern energy (SE4AII)	34	10.5	23.5	12.8	GCF	N/A	[6]
Access to water and sanitation	27	3-5	22-24	TBD	Global Water and Sanitation Fund or regional facilities	TBD	TBD
Data for the SDGs	[7.5]	~0	[4.5]	[3]	Dedicated trust fund	0.3	[0.5]
Ecosystems including biodiversity	[18-48]*	[3-7]	[15-41]	TBD	GEF	1.1	TBD
Other agriculture	210	195	15	0	N/A		
Large infrastructure	698-1279	291-595	398-684	TBD	N/A		
Climate Change mitigation	[380-680]	[300-564]	[80-115]	TBD	GCF	N/A	100
Climate change adaptation	60-100	0	60-100	TBD	GCF	N/A	TBD
Total	[1535-2529]	[805-1379]	[728-1151]	TBD		TBD	TBD

Source: Schmidt-Traub and Shah (forthcoming)¹

Note: These estimates are preliminary and incomplete. Numbers in square brackets are particularly uncertain or incomplete and subject to refinement.

¹ Schmidt-Traub, G. & Sachs, J. "Financing Sustainable Development: Implementing the SDGs through Effective Investment Strategies and Partnerships." *Sustainable Development Solutions Network*. (8 April 2015). <u>http://unsdsn.org/wp-content/uploads/2015/04/150408-SDSN-Financing-Sustainable-Development-Paper.pdf</u>

Appendix 5: Backcasting

Definition

Backcasting can be defined as "generating a desirable future, and then looking backwards from that future to the present in order to strategize and to plan how it could be achieved."¹ This method has attracted attention from influential policymakers around the world and is considered a best practice in strategic planning.² In the SDGs' context, backcasting is a problem-solving framework that first envisions a desirable sustainable outcome or normative scenario as defined by one of the SDGs, and is followed by a process of backwards analysis of how to achieve the specified future. Follow-up activities are then defined and planned. In turn, pathways are developed towards achieving the desirable future.³

The utility of participatory backcasting has been observed in complex social science problems where dominant trends and externalities are inherent to the problem, and where the scope and time frame of the project are broad enough to develop and implement several alternatives.⁴ Due to the undefined variables and relationships that exist in the complexity of social science, a participatory process provides space to better discover the fluidity of the society experiencing the problem and the factors needing to be tackled.⁵



Figure A6.1 Backcasting process.

Methodological framework of participatory backcasting

Although there are different approaches to backcasting, several ways to involve stakeholders, and variations on the number of applicable steps, the process can be generalized and translated into a methodological framework consisting of five stages:

- 1. "Strategic problem orientation;
- 2. Construction of sustainable future visions or scenarios;
- 3. Backcasting analysis;
- 4. Elaboration, analysis, and defining follow-up and (action) agenda;
- 5. Embedding of results and generating follow-up and implementation."⁶

Step 1: Analyze current strategies

At the onset of SDG planning, countries will need to take stock of the current situation by defining the baseline status of the SDG areas (economic, social, and environmental) as well as the current strategies towards achieving those goals.

Ideally, all SDG-TWGs should have conducted their own baseline assessment prior to the initiation of the backcasting process. The groups will analyze all existing policies that have relevance to the respective SDGs, and flag areas where a country does not have a well-defined strategy. For instance, many developing countries do not have a long-term plan for combating climate change, and the development meeting is the right time to initiate one. Analyzing existing national development strategies will help identify areas for improvement. Existing policies could be found in government strategy documents at the ministerial or sectoral levels, in national development reports, and in other high-level governance documents.

Step 2: Create a national vision for sustainable development

A vision for sustainable development is an integral part of developing a systemic framework for change. It has the capacity to change development paths and stimulate movement towards sustainability, provided that it is done with the involvement and ownership of all stakeholders. This vision will eventually guide operational strategies and long-term milestones.

Step 3: Create solutions and action plans

The creation of solutions and action plans is considered the backbone of the backcasting process because it illustrates a solution to a major problem. These plans will respond to questions such as:

- What parameters are needed to achieve a sustainable society?
- What are the driving forces of change (cultural, demographic, economic, environmental, governmental, and technological) in the macro-environment that influence the identified challenges?

- What are the most economically efficient and effective investments that will make society ecologically and socially attractive?
- Given limited delivery capacity, which interventions should be implemented nationwide?
- How should the delivery of urban and rural interventions be sequenced, respectively?
- What is the appropriate timeframe for national, district, and local rollout?

For example, a country that identified in step 1 that it is prone to natural disasters can create a vision in step 2 to mitigate disaster-related losses to the economy. In step 3, they will devise an action plan for achieving this vision. This might include the formulation of a national disaster resilience strategy or the introduction of an early warning system. These can include both-short term and long-term solutions. A successful strategy will not only focus on the role of government but also on that of individuals, businesses, NGOs, and other bodies.

The planning process proceeds by linking today with tomorrow in a strategic way: What shall we do today to get there tomorrow? All stakeholders should be communicating about the short-term actions that are needed to accomplish the visions in the future, as this will promote joint action. The action plan often covers a duration of one year and should detail activities to be performed, expected outputs, and delivery dates. The action plans should be prepared by those responsible for their implementation. Implementation strategies, which will be discussed in the next section, often require quarterly performance benchmarks and reporting on results.

Overall, the strategy should be considered as adaptive to change since pathways will have to be revised and updated based on new scientific insights, technological innovation, and lessons learned from implementation. It is recommended that any change in policy should be made after consultation between the major stakeholders, in order to ensure coherence of the overall strategy.

Backcasting for Multiple Sustainable Land-Use

The Netherlands introduced a participatory backcasting approach to decision-making with the government's Sustainable Technology Development (STD) program. One of the first uses of backcasting came out of the STD's sub-program on nutrition, which, in 1993, began devising a sustainable vision for the future of the country's agricultural system.

To begin the backcasting exercise, representatives from research institutes, the food industry, and government ministries developed a "future image" for the Dutch food system. They envisioned closed-cycle systems,^a local food production, and lower energy and resource use. Next, they had to determine what technologies or steps were needed to reach these future goals.

Multiple Sustainable Land-use (MSL), an approach that integrated agricultural systems with important elements like recreation, water management, and other non-agricultural functions, became the frontrunner of the potential solutions. STD elaborated on the necessary technologies and possible uncertainties of adopting MSL, and then undertook a feasibility study and a pilot project.

The pilot took place in Winterswijk, an area whose intensive farming systems, especially in livestock, had led to air, water, and soil pollution and reduced groundwater levels. A backcasting exercise tailored to the region showed that technologies, institutions, and organizational structures stood out as the areas most in need of improvement to reach future goals. This regional exercise and its results were complementary to and part of the general MSL vision.

STD determined that applying MSL in Winterswijk could drastically reduce the area's environmental challenges. STD defined two MSL scenarios, one based on existing land use and another requiring changes toward more traditional land uses. In addition to the environmental benefits, the scenarios would increase employment and economic value. In addition, the process resulted in ideas for three types of farming systems and several proposals to implement the solutions.

Overall, the MSL backcasting exercise served several purposes. It provided a shared vision for agricultural development, offered a guiding structure for research and activities, facilitated ongoing dialogue, coordination, and alignment among a wide range of stakeholders, and enabled resource mobilization from diverse sources.

^a Closed-cycle refers to systems that do not require external inputs.

Source: Quist, Jaco. *Backcasting for a Sustainable Future: The Impact after 10 Years.* Delft, The Netherlands: Eburon Academic Publishers, 2007.

¹ Philip J. Vergragt and Jaco Quist, "Backcasting for Sustainability: Introduction to the Special Issue," *Technological Forecasting and Social Change*, Backcasting for Sustainability, 78, no. 5 (June 2011): 747–55, doi:10.1016/j.techfore.2011.03.010.

² Ibid.

³ Jaco Quist and Philip Vergragt, "Past and Future of Backcasting: The Shift to Stakeholder Participation and a Proposal for a Methodological Framework," *Futures* 38, no. 9 (November 2006): 1027–45, doi:10.1016/j.futures.2006.02.010.

⁴ Jaco Quist, Wil Thissen, and Philip J. Vergragt, "The Impact and Spin-off of Participatory Backcasting: From Vision to Niche," *Technological Forecasting and Social Change*, Backcasting for Sustainability, 78, no. 5 (June 2011): 883–97, doi:10.1016/j.techfore.2011.01.011.

⁵ Freek van der Pluijm, Karen Marie Miller, and Augusto Cuginotti, "Backcasting Using Principles for Implementing Cradle-to-Cradle," in *Facilitating Sustainable Innovation through Collaboration*, ed. Joseph Sarkis, James J. Cordeiro, and Diego Vazquez Brust (Springer Netherlands, 2010), 203–16,

http://link.springer.com/chapter/10.1007/978-90-481-3159-4_11.

⁶ Quist and Vergragt, "Past and Future of Backcasting."

Appendix 6: Innovative Financing

Innovative Financing: practices and players

Tax on airline CO2 emissions

The idea to allocate part of a tax on carbon disside emissions from air travel to UNITAID.

Participant Norway

Full Mechanisms

The idea: public-private partnership based on financial incentives from the public sector rewarding successful innovations of the private sector.

Neath: Advanced Market Commitments (AMC)

Participants: Bally, United Kingdom, Canada, Norway, Russia, Gabes Foundation Botal: \$ 1.45 to

Objective: Accelerating vaccine development and manufacture by an insestment guarantaeing the price of the vaccines once developed introducing the vaccine in 40 countries and save 7 million lives by 2000.

Agriculture Agriculture Pull Mechanisms

Perticipents: Australia, Canada (\$100 m), the United States. The United Kingdom Gates Foundation

Objective: Improving agricultural, productivity in developing countries and achieving food security for the most vulnerable populations.

Airticket levy

The idea to levy a small tax on air tickets to support financing health services (UNITAID and Global Fund to fight AIDS, tuberculotis and mataria).

Porticipanta Berrin, Cameroon, Chile, Congo, France, Jordan, Madagascar, Mali, Mauritius, Niger, Norway, South Korea

Results: support to the Global Fund and to UNTAID (sog billion USD since the implementation of the servit development of new products IARV for children, decreased prices of medicines, provision of direct purchase drugs.

DebtaHealth

The ideat to help increase recipient countries' investment in development through debt conversion.

Portepoints: Germany with Indonesia (50 M C): Pakistan (40 MKX and Wory Coast (29 M C): Australia: with Indonesia (54.6 MKC)

Results: financing of projects to fight tubliculosis

Products Red Initiative

The Alex Creating products whose benefits will be partly donated to a multilateral fund.

Porticipants: Companies willing to contribute to development projects.

Results: Since its creation in 2006 the initiative level alls million USD which have been allocated by the Global Fund to projects in Revents, Ghana, Leadha, Swazkand, South Africa and Zantsa.

Carbon Markets

The idea to allocate to climate adaption a part of the proceeds generated through the auction of carbon dioxide allowances.

Participants: Germány

Results: financing of projects for biodiversity conservation and climate change adaption (580 MC levied)

Matching Funds

The idea: a three-way philanthropic matching program is which donars match contributions from corporations, foundations and other organizations, as well as from customers members and employues.

Participants on GAVI Matching Fund UK. Igo MEI: Gales Foundation (550 M)

Results expectent deliver life-saving vaccines to the poorest countries.

FFirm

The ideat to raise funds on international capital markets by issuing bonds backed by long-farm plottges from donor countries. The funds that are raised are allocated to GAVI.

Participants on GAVT Matching Funct UK (1.g.bitlion) over 20 years), France IL7 taltion USD over 20 years), Traty (forth USD over 20 years), Australia (2584/USD over 20 years), Norway (254/USD over 20 years), Netherlands (2144/USD over 20 years), Netherlands (2144/USD over 20 years), Spath Sewden (38M/USD over 20 years), Spath Africa (20M/USD over 20 years), Brazil (20M/USD over 20 years), Brazil (20M/USD over 20 years), Brazil

Results: through its front-loading approach. IFFirm has already raised 3.4 billion USD enabling GAVI to double spending on immunication.

Figure A7.1: Innovative Financing Strategies. Source: Leading Group on Innovative Financing for Development. 2009.

Appendix 7: Armenia Case Study

Armenia was one of 50 initial groups asked to conduct national consultations on the post-2015 development agenda. In 2013 the UN Country Team in Armenia, in partnership with the Government of Armenia, formed a Post-2015 Task Force, Co-Chaired by First Deputy Minister of Territorial Administration, Mr. Vache Terteryan, and UNFPA Assistant Representative, Mr. Garik Hayrapetyan. The consultations were conducted by a local think-tank – the International Centre for Human Development NGO (ICHD) – that worked jointly with the RA Ministry of Territorial Administration, with the support of the United Nations, under the general supervision of the United Nations Population Fund. The thematic areas included: a) Youth, Women, Disabled, Inequality (including education); b) Women's Groups, Health; c) Labor, Employers and Industry; d) Food Security and Nutrition; and e) Environmental Sustainable Development.

All the thematic groups held discussions in a Town Hall Meeting format, a participatory platform, which utilized scenario-based discussions. The discussions led to further shaping of the Post-2015 agenda for the country and provided basis for SDGs and development priorities discussions.

This case study will attempt to show how the SDGs can be implemented in the Armenian context. The Goals 9, 11, 13 and 15 were identified as priorities by UNDP Armenia and would be discussed below.

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

Key Challenges:

Armenian infrastructure is deteriorating. Many of Armenia's power plants (40%), hydroelectric plants (70%) are more than 30 years old, and need significant repairs due to lack of adequate maintenance. Equipment in thermal power plants does not meet international technical standards. A similar situation is found in wastewater treatment plants, where poor operating conditions and lack of funds for repairs has lead increasing discharges of untreated wastewater into rivers. Road infrastructure is also rapidly deteriorating due to lack of funds for maintenance.

Transport infrastructure demands special attention. Being a landlocked country, road and railway access plays a pivotal role for the economy. Before independence in 1991, railways carried 30 million tons of freight per year. Since the closing of Armenia's borders with Azerbaijan and Turkey, this figure experienced a ten-fold decline. While transport by train is still quite significant – 70% of imports and exports rely on railway systems – the state of infrastructure makes transport highly inefficient. Track speed is often limited to 30 km per hour and 362 km of the 732 km network are not fully operational. Similarly, about 10% of the highway network requires rehabilitation. A total of 61% of local roads – which account for 39.5% of total road length – need immediate upgrading. Road safety is also a major concern as the number of

traffic accidents and people killed increased by 115% and 71% between 2001 and 2008, respectively.

The situation is worsened by Armenia's severe continental climate. Low temperatures frequently disrupt transport and heavy snowfall during winter resulting in higher cost, particularly affecting exported goods. These weather conditions demand intense (and expensive) maintenance of infrastructure.

The condition of physical infrastructure assets is not the only concern. The financial sustainability of infrastructure is also at risk. Armenia has an increasing gap between financing needs and resources to meet the demand of public infrastructure. As expenditure in infrastructure maintenance grows and new infrastructure replacement projects require large investments, the government debt continues to increase significantly. Between 2008 and 2011, the ratio of government debt to gross domestic product raised from 16.1% to 41.7%. In 2012, the external debt for project finance accounted for 84.5% of total debt of the government.

The absence of modern infrastructure is undermining the competitiveness of Armenian firms, which fail to find export markets. More than 50% of Armenia businesses lack international quality certifications, a barrier to potential export destinations including the European Union, USA and Russia. In addition, according with the Ranking on Global Competitiveness Index Report, Armenia has a weak "innovation and sophistication," ranking 112/142 among the listed countries. Indeed, the sophistication of Armenia's export products has declined significantly over the years as the technological content of its export basket has decreased. Foodstuffs, metals, and minerals are predominant exports. Given its small size, Armenia cannot aim to compete in scale. Instead, it should compete in quality. Unfortunately, there is a limited amount of innovation in the private sector.

Key Opportunities:

After the government's adoption of the "Strategy for the Reform of the Republic of Armenia's Quality Infrastructure (2010-2020)" in 2010, several improvements in standardization, accreditation, and certification procedures have been introduced. These offer a opportunity to enhance current infrastructure services. The government recently developed a "National Metrology Strategy" in order to provide modern metrology system in Armenia. This may facilitate accreditation and certification processes in the country. In addition, the government has established industry-specific sector boards to foster public-private dialogue. Modernization of quality infrastructure and the development of industry-academia collaborations comprise major areas of support.

While overall FDI in Armenia has experienced a sustained decrease since 2009, the ICT sector has been able to attract increasing amounts of efficiency-seeking FDI. High-tech multinationals seem interested in leveraging factor market efficiencies to increase exports. There has been an increasing commitment by these firms through joint initiatives with the government, universities and donors which has enabled the growth of the IT sector and strengthened the links between national and multinational IT firms.
Critical analysis of data sources for priority SDGs:

Benchmarking Goal 9 is particularly challenging as data for 4 out of the 6 indicators for this goal (indicators 58, 59, 60 and 63) is not available. In two of these indicators (59 and 63) different proxies were found to benchmark the country. For the indicator 59 (Mobile broadband subscriptions per 100 inhabitants) two proxies were used, namely 'Mobile-cellular telephone subscriptions per 100 inhabitants' and 'fixed (wired) broadband subscriptions per 100 inhabitants' for the indicator 63, 'Personnel in R&D (per million inhabitants)' the proxy 'Research and development expenditure (% of GDP)' was used. As for the indicator 60 (Index on ICT maturity), it is still being developed by SDSN. SDSN suggests OECD, and UNESCO as leading agencies to provide some of these indicators. However, no data was found for Armenia in either of their databases.

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

Key Challenges:

Armenia has a high urbanization rate, with 64% of population living in the cities. A high degree of urbanization concentrates disaster (particularly seismic) risks in cities, where infrastructure and the economy are also concentrated. The economy remains highly vulnerable. In any given year, there is a 20% chance that a major disaster will result in losses of 12.7% of GDP.

Risks associated with geophysical hazards are significant, as there is a high probability of intense seismic events occurring in large portions of Armenia. The most devastating seismic event was the 1988 Spitak earthquake that killed 25,000 people, injured 15,000, left 517,000 people homeless, caused significant damage to several cities, and resulted in direct economic losses of \$14.2 billion. The landslide hazard zone covers one-third of the country, primarily in foothill and mountain areas. Nearly 470,000 people are exposed to such risk (around 15% of the total population). Average annual damages caused by landslides amount to approximately \$10 million.

The risk of technological disasters is also significant. There are around 26 hazardous chemical enterprises in Armenia that use ammonium, chlorine, chloric acid, nitric acid, etc., and over 1,500 enterprises that are at risk of explosion or catching fire. The Metsamor nuclear power plant is located in a seismically active zone close to capital city of Yerevan.

Since 1991 various international organizations have supported the Government to strengthen its disaster and risk reduction (DRR) capacities. Despite all of these efforts and the fact that the Government of Armenia considers DRR as one of its priorities and has assigned political commitment in this area, the national disaster risk management system has limited capacities and resources to prevent, prepare, and respond to disasters.

The next urban concern is greenery planting. Overall, the amount of land devoted to green space is shrinking as a result of new construction. According to recent research papers, the norm for green space within cities is lower than 40% in most of the urban centers. Although, in 2008 the government issued a decree that requires green zones to account for 40% of all city

territory, contradictions among points in the different laws, discrepancies in the formulations, and loopholes allow local governments to use the land at their own discretion.

The next set of issues concerns waste removal, water drainage and sewage. Presently, waste products either go back into the soil unprocessed or are destroyed causing greater damage to the environment. According to the Armenian Law on Local Self Government, garbage collection and disposal service is one of the mandatory functions of local governments. Solid waste management remains the most problematic challenge for cities' leadership. To illustrate, a baseline study of 40 Armenian cities showed that it remains the first service priority for 33 of these cities. The main problems in the field of solid waste management can be grouped into four performance areas: (1) lack of legislative background and a poor management system, (2) lack of appropriate equipment, (3) lack of financial capacities, and (4) a weak relationship with the public in the cities.

As many former Soviet Union countries (Moldova, Kazakhstan, the Kyrgyz Republic, Tajikistan, to some extent Georgia), Armenia had little understanding of the problem of slums and do not have a term for slums. The governments used to rely primarily on modified versions of the Soviet concept of degraded (vethoe) and unsafe (avariinoe) housing, which refer to only one aspect of slums, namely housing stock conditions. In Armenia, 15% of non-slum households live in slum areas, while 21% of slum households live in non-slum areas. The worst example of slums is when there is compact placement of people in buildings constructed for non-residential purposes in collective centers, such as former schools, hospitals, and kindergartens where internally displaced families live for years.

Urban cities thrive with their transit systems as they provide a fast and reliable way to move around the city. Although not perfectly planned, the cities in Armenia have an extensive network of public transport. Yerevan alone has 76 microbus routes, 68 bus routes, 10 trolleybus routes, and even a metro line. However, accessibility and attractiveness problems limit transport functionality and prevent it from fulfilling its full potential as an effective way to move around the city.

Key Opportunities:

The Government of Armenia has undertaken serious steps in recent years towards integration of DRR into development policies and programs as a priority action for the country's development and safety.

In the past decade Armenia's government, with the support of international organizations, established National Disaster Risk Reduction Platform, accepted National Disaster Risk Reduction Strategy and created National Disaster Observatory. These actions have contributed to a conceptual transition in Armenia from a response-focused towards a more prevention-oriented approach.

Thirteen cities in Armenia officially joined the Global Resilient Cities Campaign aiming to improve environmental, social, and economic conditions - including combating the future variables of climate change in order to leave the community more prosperous and secure than before. The integration of the Ministry of Emergency Situations and Ministry of Territorial Administration in 2014 created new opportunities for deeper integration of DRR targets into city development and planning.

To maintain current DRR strategies in urban areas, Government of Armenia should continue integration of Disaster Risk Reduction Strategies with SDGs on the state and local levels. Local governments and Ministry of Emergency Situations could in addition adopt and implement a risk profiling system that focuses on prevention, mitigation, and preparedness but also strengthening response, recovery, and rehabilitation.

To address the problem of preserving the green space within Armenia's cities, the country must enforce the implementation of current state laws and technical requirements for the sizes of green zones in urban areas. The adoption of a single law "on green spaces in cities and settlements" could also prevent local governments from using the land at their own discretion.

Although waste management remains a problem for majority of cities in Armenia, there were several successful efforts by local governments and international partners (such as USAID) to tackle these issues through co-financing and technical assistance projects that procured solid waste collection services and disposal trucks. Several cities already established a working group and a standing committee, consisting of members from city staff, practitioners, staff from solid waste entities, local nongovernmental organization (NGO) representatives, and citizens that drafted performance management strategies that are used by the municipalities to improve their solid waste collection and disposal service. Another significant step in this area has been the establishment of the Waste Research Centre, a state non-commercial organization within the structure of the Ministry of Nature Protection of the Republic of Armenia. The activities performed by the center are aimed at providing assistance in preparing and implementing the state policy and strategy in the area of waste management, as well as regulating these issues. In order to minimize the volumes of hazardous and other types of wastes generated by these plants, Armenia should continue to undertake steps to realize economic and sustainable approaches for waste management.

Although Armenia is still lacking the systems to monitor slum development, Armenian government has taken significant steps in addressing the housing situation and adopting (first in the region) a coherent national housing strategy and Housing Code of Republic of Armenia. These should lay the groundwork for further initiatives to improve the slum situation in the cities.

Critical analysis of data sources for priority SDGs:

There is a significant lack of data regarding the proposed indicators for SDG 11, especially for the indicators concerning public transit, pollution, and waste management. Due to the high priority dedicated to DRR there are several reliable sources of information on recent risks and losses, mostly available through Ministry of Emergency Situation and UNDP. Without proper definition of the slums, the only information sources that could be used are international reports or scholar's articles; there is no official information from the government side.

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

Key Challenges:

Armenia is particularly vulnerable to climate change due to the nation's history of droughts, soil erosion, and natural disasters. According to the World Bank, "future climate projections indicate that Armenia will be exposed to average temperature increases of 1°C by 2030, 2°C by the 2070, and 4°C by the 2100, with a range from 1.5°C to 3°C in 2050." These projected temperature increases have the potential to further exacerbate the effects of rising sea levels, melting glaciers, and reduced river flows that have already impacted the region of the Southern Caucasus.

The country is heavily reliant on the agriculture sector for employment, with agriculture representing 44.2 percent of employment in 2008, and the economy, with agriculture (valued added) representing 21.9 percent of GDP in 2013. This contributes to climate change vulnerability, as agriculture is incredibly sensitive to environmental changes. Major environmental challenges facing the Armenian agriculture sector include: poor irrigation resulting in water losses, soil salinization, erosion, and overgrazing.

Water resources (precipitation, river flow, and snow cover) are also projected to decrease in Armenia, thereby stressing the role of water resource management. According to the World Bank, projections indicate, "precipitation decreases of 3% by 2030, 6% by 2070, and 9% by 2100, but the forecasts can vary substantially by month and by climate model." Additional projections include: "river flow decreases of 6.7% by 2030, 14.5% by 2070, and 24.4% by 2100 compared to the 1961 to 1990 baseline period." Snow cover is also projected to be significantly affected in Armenia, models illustrated decreases of "7% in 2030, 16 to 20% in 2070, and 20 to 40% in 2100."

The country's current lack of a transparent and detailed deep decarbonization strategy is an important indicator of their ability to meet SDG 13: take urgent action to combat climate change and its impacts. Armenia's weak enforcement of environmental legislation and international conventions may also contribute to the country's ability to adapt to climate change.

Key Opportunities:

The agriculture sector provides opportunities to combat climate change, particularly through the reduction of GHG emissions and implementation of adaptation measures. Specific opportunities should focus on adaptation activities appropriate for the present climate, while still developing adaptation options for a range of climate projections for Armenia. Water resource adaptation options include: improving irrigation systems, planting to deter erosions, improving soil fertility, and improving water management (e.g. increasing water storage and implementing incentives to reduce water demand).

Mountain forest resource management efforts are underway in Armenia to enhance resiliency to climate change impacts and maintain biodiversity. Forest management planning integrating

projected climate change risks can further protect Armenia's forest ecosystems from the devastating impact of severe deforestation.

Lack of public awareness has been identified as a major issue deterring environmental protection, increasing Armenian citizens' knowledge of the impacts of climate change may lead to behavior change. National consultations held in Armenia in 2013 on the Post-2015 Development Agenda identified increasing public awareness and environmental studies education as potential areas of opportunities.

Critical analysis of data sources for priority SDGs:

The four potential and indicative indicators recommended by the SDSN for Goal 13 were not available or difficult to locate for Armenia. Overall, the data was incomplete, outdated, and unreliable. Indicator 77, "availability and implementation of a transparent and detailed deep decarbonization strategy, consistent with the 2°C - or below - global carbon budget, and with GHG emission targets for 2020, 2030 and 2050" was challenging to identify, as there is not currently a centralized source containing details of all countries deep decarbonization strategies. Indicator 78, "CO2 intensity of new power generation capacity installed (gCO2 per kWh), and of new cars (gCO2/pkm) and trucks (gCO2/tkm)" was difficult to determine for Armenia and was not available in the IEA statistics, the component on new cars and trucks was particularly challenging to research. Indicator 79, "net GHG emissions in the Agriculture, Forest and other Land Use (AFOLU) sector (tCO2e)" was also challenging to capture, as the AFOLU sector is difficult to isolate and data was unavailable for Forest and Other Land Use in Armenia. This data is also outdated, as the UNFCCC database on GHG's last year of inventory for Armenia was 2010. Indicator 80, "official climate financing from developed countries that is incremental to ODA (in US\$)" was also difficult to identify, as OECD Statistics do not include this data.

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

Key Challenges:

Armenia prides itself as a country of landscapes of the stark beauty. However, unless the country's terrestrial ecosystems are used in a sustainable manner, the country may face desertification and degradation of Armenia's land resources. The country's biodiversity is also under threat due to the experience of the accelerated loss of vulnerable habitats and associated species, the reduction of ecological functionality, and the growing insecurity of ecosystem services. The caucasian leopard, for example, is on the verge of extinction due to overexploitation, habitat conversion and climate change continue to erode its natural habitat.

Armenia's current system of protected areas covers 311,000 ha (10% of the territory). Protected areas include state reserves, national parks, state sanctuaries and natural monuments. If Lake Sevan is excluded, the total percentage drops to 6%. Important habitat types such as desert/semi-desert, wetlands, steppe, meadow, steppe-meadow and high mountainous ecosystems contribute to 80% of Armenia's land, but are underrepresented under the current protected area system.

One of the biggest challenges for the country is climate change, described in a previous section. It is likely to alter the spatial requirements of some species. Protected areas are very small in comparison to country's size and, therefore, possess limited resiliency.

Overexploitation of biodiversity is also widespread in the country. The legislation is very lax in this regard and isn't properly enforced. Individual households often use resources for domestic fuel-wood even in the protected areas.

Unregulated tourism activity adds additional pressure on terrestrial ecosystems. In most cases tourists are not incentivized for proper behavior. As certain areas become more popular among tourist groups, they are increasingly littered. The garbage sometimes catches fire.

Unsustainable livestock grazing and forestry put additional pressure on growing crops and alter habitats of certain areas. A legacy of mining and the associated impacts to air, water, and soil resources threatens the biodiversity of certain regions. The use of agricultural lands for industrial purposes, particularly for sand mining, is very widespread. Such activities cause long-term damage to the environment; yet, no preventive measure is in place today.

The government body responsible for land protection and biodiversity conservation is the Ministry of Nature Protection (MNP). It hosts the Bioresources Management Agency (BMA), which is in turn charged with the management of the state reserves, national parks, and natural monuments. Several State Non-Commercial Organizations (SNCO) fulfill the role of protected area administrations and are responsible for on-the-ground protected area operations. An SNCO may manage a single protected area or a complex of several protected areas. Each SNCO reports to the BMA. The Ministry of Agriculture manages all forested lands in the country. The legislative framework mainly consists of the Law on Specially Protected Natural Areas (2006), but some of its aspects related to specific purposes, designations, and management requirements are guite vague. The weakest spot in the legislation is definition of any activity within sanctuaries. As long as this activity doesn't threaten "ecosystem sustainability", it is deemed legal. There are no national operational guidelines or norms/standards to guide the process of establishment, planning and management of Sanctuaries. Expanding state reserves and national parks to include more habitat varieties, protect vulnerable landscapes and secure ecological links is quite challenging, as most underrepresented landscapes requiring heightened protective measures are community areas with traditional economic uses such as grazing, hunting, and the collection of wild plants.

The public also does not consider environmental issues to be a priority because it is more concerned about social and economic situation in the country. Man-produced harmful effects on nature have a time lag and become evident only within a certain period of time. As a result, the public tolerates activities harming the environment and is not pressing government to take the action.

Key Opportunities:

Armenia's government is seeking new ways to alleviate habitat fragmentation in the country through a functional ecologically representative protected area network, which will reflect landscape ecology principles. The system should promote the long-term health of ecosystems

and the globally threatened species that rely upon these systems. The network is envisioned to be resilient and reflect the precautionary principle.

This system should rely on high-quality management and sustainable financing. Protected area staff should have the adequate training and capacity to execute their jobs professionally. Management should be supported by sound decision-making and rely on relevant monitoring and evaluation practices.

The development of the management plans for protected areas relies on both central and local authorities. Although there are no tangible examples of process required generating and implementing an organic management plan for a complex habitat conservation landscape, it creates an opportunity for creating one with a strong community participation component. Increasing community participation in the management of sanctuaries and other protected areas is one of the ways of alleviating pressure on Armenia's ecosystem. One way to handle the current situation is to develop the readily available information on changes damaging nature and the environment for public consumption. This information should also give a clear picture of the impact of such changes on the health of present and future generations and long- term economic damage or potential benefits, if any. Both environmental issues and their impact on human health must be monitored. Also, regular professional analysis and research must be performed, with the findings of such analysis and research publicized.

Another critical issue is precision and control of industry norms. Tax policy, as well as fine and penalty systems must be reviewed to develop into powerful levers for environmental protection and improvement. For instance, local public agencies of a particular area must receive certain share from fines and environmental fees.

Armenia is a signatory to the Convention on Biological Diversity and is, therefore, committed to implementation of the Program of Work on Protected Areas (POWPA). Armenia is also a participant of all the major environmental international agreements, which gives it additional incentive to pursue sustainable use of resources.

The best solution can be found through a negotiation model in the interests of all the parties, i.e. representatives of state, business and non-state sectors must seek optimal solutions at round-table discussions. If businesses fail to cooperate, strong administrative measures must be taken. The environmental management model can also be reformed. The key challenges are corruption and lack of transparency. For instance, one way is to create a commission with representatives of various groups and foster the cooperation of public, private and non-state sectors to ensure transparent and predictable decision-making.

The project "Developing the Protected Area System of Armenia: Improving Capacity Building and Management Regime" started in 2010, and was supported by UNDP/GEF, Ministry of Nature Protection and WWF Armenia. Mapping for the project was completed in 2013, and the project itself was expected to be over by the beginning of 2015. This is a necessary initiative, which would solve a lot of challenges.

Critical analysis of data sources for priority SDGs:

The data regarding the proposed indicators for this SDG is hard to come across, as most of them need additional clarification and, therefore, cannot be measured as of now. For example, "sustainable forest management" needs to be properly defined. World Bank Development indicators don't provide the full picture, as they reflect information relevant for the MDG indicators.

Master of Public Administration in Development Practice (MPA-DP) Columbia University School of International and Public Affairs (SIPA)

www.sipa.columbia.edu/mpa-dp

https://twitter.com/ColumbiaMPADP

sipa_mpadp@columbia.edu

420 W. 118th Street 14th Floor New York, NY 10027

(212) 854-2636

UN Sustainable Development Solutions Network (UN SDSN)

http://unsdsn.org/

https://twitter.com/UNSDSN

314 Low Library 535 W 116th Street New York, NY 10027 USA

(212) 870 2792