High-level Expert Group Meeting for the Global Sustainable Development Report – Engaging National Assessments
Beijing, 12-13 December 2013

UN Global Sustainable Development Report

Introduction

Richard Alexander Roehrl
UN Division for Sustainable Development
United Nations Department for Economic and Social Affairs

The Dubrovnik Declaration on Strengthening the Science-Policy Interface (Oct. 2013)

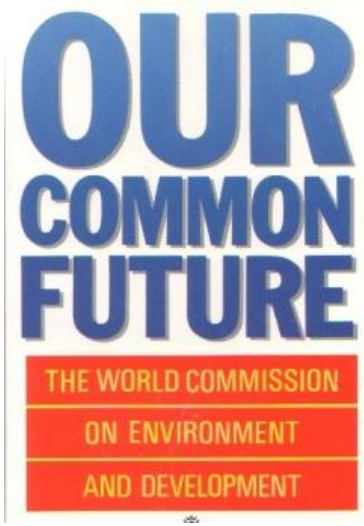
What we have done since Jan. 2013?

- SD21 project for Rio+20
- UNHQ consultations (23 UN staff contributions) and review of hundreds of assessments
- UN task team with 20 partner organizations:
  - DESA, ECLAC, ESCAP, ESCWA, ECE, UNCTAD, UNEP, UN-Habitat, UNESCO, FAO, ILO, IMO, IAEA, WFP, UNFPA, CBD, UNFCCC, UNCCD, World Bank, (IMF)
- 8 UN Expert Group Meetings
- Inputs from hundreds of scientists
- Thousands of crowdsourcing contributions
- Global climate-land-energy-water-development model
- Executive Summary of a Prototype Report launched at HLPF in Sept. 2013

What remains to be done until April 2014?

- Complete drafts of the Technical Summary and of the Full Report
- Review process and finalization of summaries and full report
- Translations (volunteers?) and editing
- Refine database of assessments and complete Website.
- UN SG report on options for scope and methodology of the Global Report

Great global issues at the UN:
Peace, freedom, development, environment



1987

1992

2012

2013

What is sustainable development?

Values	What is to be sustained?	For how long?	What is to be developed?
Freedom Equality Solidarity Tolerance Respect for nature Shared responsibility ….	**(S1) Nature** Earth Biodiversity Ecosystems	5, 10, 20, 50, 100 years, forever, etc.	**(D1) People** Child survival Life expectancy Education Equity, Equal opportunity Human security
	(S2) Life support Ecosystem services Resources Environment		**(D2) Economy** Wealth Productive sectors Consumption
	(S3) Community Peace Cultures Groups Places		**(D3) Society** Institutions Social capital States Regions

Source: Kates et al. (2005)

United Nations Department of Economic and Social Affairs

RIO+20 United Nations Conference on Sustainable Development

Prototype Edition

Global Sustainable Development Report

Building the Common Future We Want

"Eliminating poverty and hunger; feeding, nurturing, housing, educating and employing 9 billion people; securing peace, security and freedom; and preserving the Earth's life support systems in the next two generations"

http://sustainabledevelopment.un.org/globalsdreport/

Thousands of sustainable development assessments

- In 2012 alone, 40,000 authors from 2,200 cities published 150,000 articles on sustainable development!!
- 3 groups of assessments
  - Intergovernmental scientific assessments
  - Scientific-technocratic assessments
  - Scientific research collaborations
- Differences in scope, scale, process, participation, resources and perceived policy relevance.
- Popular models: IPCC; UN publications.
- National assessments indicate big differences in priorities

Which sustainable development issue should decision-makers consider for action?

1. Regional conflicts due to global competition for natural resources (oil and minerals)
2. The climate-land-energy-water-development nexus
3. Political instability and social unrest from increased income and wealth inequalities
4. Child labour
5. Inexistent or decreasing environmental justice in developing and developed countries.
6. Youth unemployment
7. Persistence of poverty in poor and even in rich countries
8. Anthropogenic reductions in net primary productivity
9. Weak family structures
10. The poor and the weak everywhere are the losers of increasingly market-based solutions
11. Large-scale increases in genetic mutations in humans to accumulation of toxic chemicals in our environment and in food chains
12. Human appropriation of net primary production
13. Asteroid threat to human civilization
14. Violence in schools
15. Ethnic violence

Team of young scientists suggested solutions oriented issues?

- Marine microbial ecology and bioreactors
- Bio-catalysis
- Phosphorus use efficiency in agriculture
- Protein substitutes
- Large scale land investments
- Ocean acifidication
- E-waste

How many “New York Cities” are we going to build this year?

Overview of sustainable development progress, 1950-2013

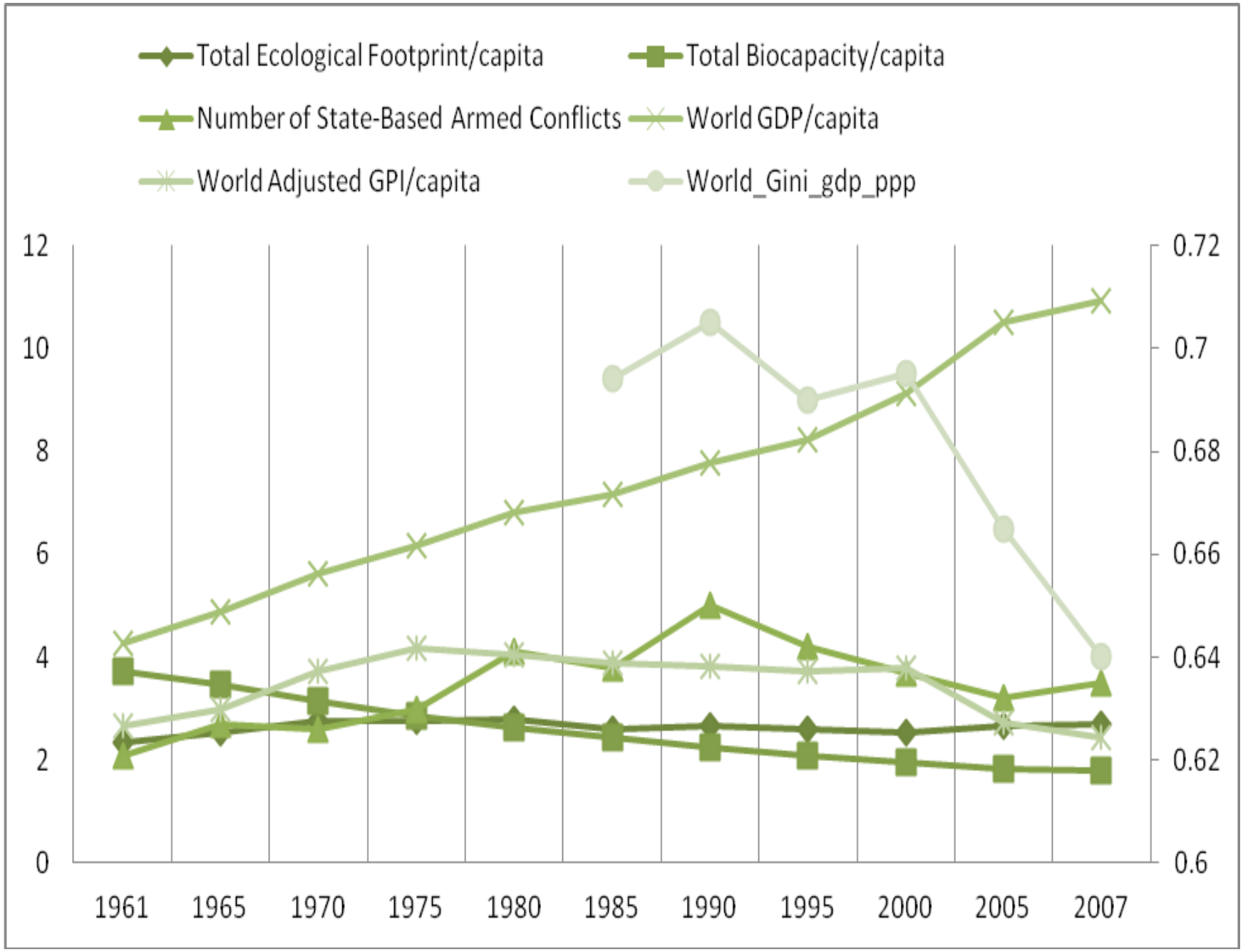
- **The world has fed, nurtured, housed, educated and employed an additional 800 million people each decade since 1970 and 1.1 billion in the 2000s.**
- **Built cities for 770 million people (93 New York cities) in the past 12 years.**
- **World GDP 10x and GDP per capita 4x larger.**
- **~ 850 million hungry, hardly changed for decades.**
- **+ 200 million slum dwellers compared to 1990.**
- **Increasing evidence that Earth's basic life support systems are being jeopardized.**

Great progress (1950-2013)*?*

To sustain	*To develop*
Nature ??	**People** Life expectancy extended by 22 years since 1950. Better global health. The 2000s were the first decade since 1980 when both the absolute numbers and the proportion of people in absolute poverty declined. 150 million less people suffer from hunger than in 1970. Universal primary education achieved in most parts of the world. 88% literacy rate of 15- to 24-year-olds in developing countries. 500 million fewer people lack access to safe drinking water than in 1990 Overall well-being of people (as measured by HDI) improved since 1950
Life support The protected terrestrial and marine areas have been greatly expanded in developed and developing countries. Temperate and boreal forests were reforesting since the 1980s. Concentrations of local air pollutants have decreased in some cities. Ozone layer on a long-term path to stabilization by 2020/2030.	**Economy** The world economy doubled since 1990 to US$69 trillion in 2012. Greater material consumption overall and less per unit of value added. Trade has grown at more than twice the rate of economic growth since 1950. Total assistance to developing countries more than doubled since 2000 to US$126 billion in 2012. The proportion of net ODA to donors' gross national income regained the 1990 level of 0.32% in 2010. Renewable energy's share increased from 5.4% in 1970 to 8.2% in 2010.
	Society ??

Or terrible failure (1950-2013)?

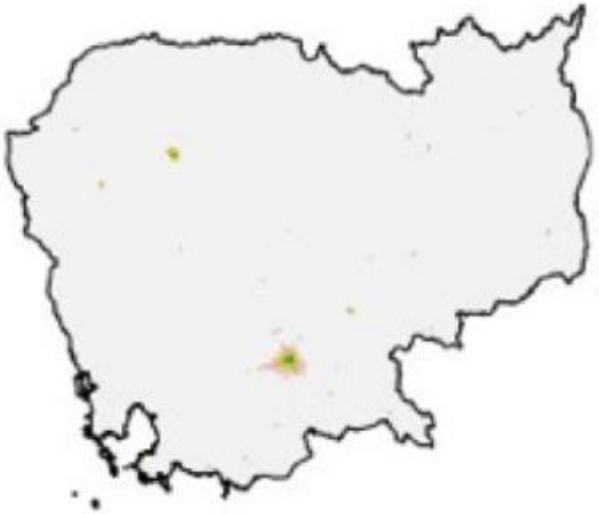
To sustain	*To develop*
Nature Anthropogenic interference with one-half of the terrestrial ecosystems and one-quarter of the freshwater supply. Biodiversity continues to decrease at rates 100 to 1,000 times their pre-human levels. Global fossil fuel-related CO_2 emissions have increased at an accelerated rate. 2000s largest increase in any decade in human history: 24.8 $GtCO_2$ in 2000 to 35.1 $GtCO_2$ in 2012. 41% of the oceans showed high human-induced impacts on marine ecosystems in 2012.	**People** Persistent life expectancy gaps between regions and widening between men and women. More years in injury and illness. 850 million people suffer from hunger which is slightly more than in 1990. 740 million people lack access to safe drinking water. 2.4 billion lack access to basic sanitation (650 million more than in 1990). 1.27 billion people without electricity access, 2.59 billion without clean cooking. 383 million employed people getting by on less than US$1.25 per day.
Life support Human settlements now cover 7% of the world's ice-free land cover and their croplands another 21%. Loss of half of the world's forests. Tropical forests declined by 12-14 million ha per year in the 1990s and 2000s. Local and regional freshwater shortages common. Water stress in one-third of the world. Share of overexploited fish stocks tripled from 1970 to 30% in 2012. Half the world population in degraded coastal zones.	**Economy** Consumption grossly inadequate for poorest. Growing income inequality
Community More State-based armed conflicts than in the cold war. Diversity of cultural heritage, traditions, and traditional knowledge and 90% of indigenous languages threatened,	**Society** Fewer stable families than in past decades. Crude marriage rate halved since 1970 and divorce rate increased in developed world. Crisis of multilateralism. Societal consensus on Intergenerational equity lost or under pressure


Total Ecological Footprint/capita
Total Biocapacity/capita
Number of State-Based Armed Conflicts
World GDP/capita
World Adjusted GPI/capita
World_Gini_gdp_ppp
12
10
8
6
4
2
0
0.72
0.7
0.68
0.66
0.64
0.62
0.6
1961
1965
1970
1975
1980
1985
1990
1995
2000
2005
2007

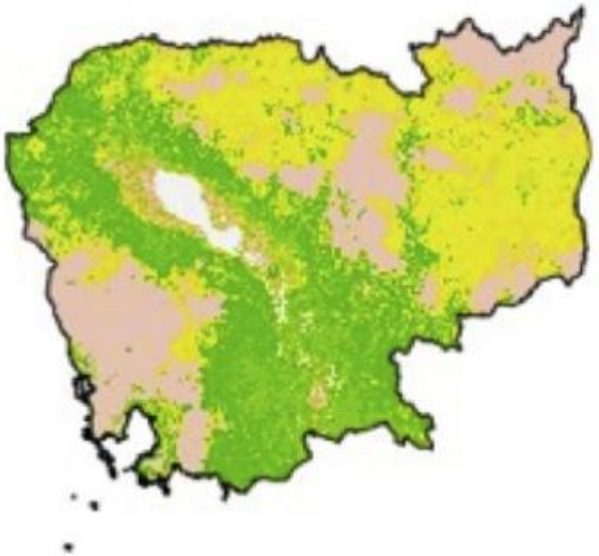
Cambodia – "Monitoring progress from space"

2002 **2008**

Nighttime Light



Land Cover



Progress in implementation of existing commitments

- Agenda 21: highly variable and limited progress, deemed good on only 5 of 39 chapters
- Rio principles: limited progress on only 17 of the 27 principles
- 19 areas of OWG-SDG: 11 off-track, 4 limited or mixed, 4 good progress

Continuing along our present course of incremental progress until 2050

- The majority – but not all – scientists are concerned about the trend outlook for the next two generations.
- Excessive materials consumption by 6 billion people in both “North” and “South” which will be at the expense of 3 billion people living in poverty
- Transgression of the majority of “planetary boundaries”, heightening the risk of global ecosystem collapse.

Pathways to a "better future" in 2050: *Rio+20 sustainable development scenarios*

- All regions will be developed, poverty eradicated.
- Demand on natural sources and sinks will not exceed their regeneration capacity.
- But a world far from a utopia:
  - Billions under water stress and flood risks;
  - Chemicals' serious health threat
  - Human interference with the phosphorus/nitrogen cycles.
- Require overcoming all socio-economic and political constraints and make major technological advances.

Global cooperation is needed for achieving the “better future” in 2050

- to push technology performance and diffusion to their limits, increasing eco-efficiency > factor 3.2
- to direct wisely the one trillion US dollars that are spent on R&D every year
- to meet the global investment needs

Scenarios mostly agree on overall policy conclusions

- There is no single SD solution or policy.
- Making progress in one dimension can lead to both synergies and trade-offs.
- Complex trade-offs related to global commons need to be tackled globally.
- Education, RD&D and population goals have large synergies for both development and environment
- A broad pursuit of SD is far superior over pursuing single-issue objectives in isolation

Making sense of sustainable development?

- Views on SD progress and the way forward may appear contradictory, but are not necessarily so when underlying assumptions are made explicit.
- Politicians' sustainable development goals have become increasingly ambitious, while the recent trends have made their attainment increasingly challenging.

Potential future goals suggested by scientists

1. Eliminate poverty worldwide by 2030
2. Halve the proportion of people who suffer from hunger by 2015, further halve it by 2030, and eradicate hunger by 2050
3. Universal access to improved water source and basic sanitation by 2050
4. Universal health coverage
5. Universal primary education by 2020. Universal secondary education by 2030.
6. Create 63 million decent new jobs per year until 2050, achieving full, productive and decent employment for all.
7. Eliminate overfishing and restore fish stocks.
8. Stabilize biodiversity at the 2020/2030 level (depending on region) by 2050.
9. No net forest loss and no more destruction of primary forests by 2020.
10. Stabilize global materials (e.g. non-renewable resource) consumption at 2015 levels.
11. Achieve 0.7% ODA/GNI (OECD countries), focusing on the poorest and most vulnerable countries. Mobilize resources for a global SDG fund commensurate with estimated needs by 2018.
12. GDP per capita > US$10,000 PPP in all countries by 2050.
13. Reduce the wide disparity of per capita GDP between developed countries and developing countries.
14. Sustained increase in intergenerational earnings and educational mobility.
15. By 2030, ensure universal access to modern energy services; double the global rate of improvement in energy efficiency; and double the share of renewable energy in the global energy mix.
16. Reduce the number of slum dwellers to close to 0 by 2050.
17. Hold global mean temperature increase below 2 degrees Celsius.
18. Increase science and technology innovation capacity through knowledge sharing and technology transferring.

Climate-land-energy-water-development (CLEWD) nexus

- 26 case studies
  - National planning and assessment continue to follow almost exclusive sectoral lines.
  - Changing climate exacerbates already strained links in many parts of the world
  - Help identifying innovative and better solutions
- Global CLEW model → GHG mitigation costs much lower than suggested by sectoral models
- Higher-level strategic CLEWD assessments might replace lower-level project assessments
- “Right” cluster of themes for integrated policy is case specific

Issues for consideration for the future direction of the Report

- Conduct a regular assessment of assessments to identify common ground and different views
- Take into account various types of knowledge and many perspectives, especially those in developing countries
- Allow for a wide range of participation through multiple channels
- Use the full range of new technologies and approaches
- Build an UN institutional platform for sustainable development models and scenarios to support the Report

"The population explosion; poverty; ignorance and disease, the pollution of our surroundings, the stockpiling of nuclear weapons and biological and chemical agents of destruction are all parts of a vicious circle. Each is important and urgent but dealing with them one by one would be wasted effort."

"Pollution is not a technical problem. The fault lies… in the sense of values of the contemporary world which ignores the rights of others and is oblivious of the longer perspective."

(Indira Gandhi, Stockholm Conference, 1972)

Interested to contribute?

http://sustainabledevelopment.un.org/globalsdreport#ideas