Rio+20 should be a time of reflection and decision. Despite considerable institution building since the UNCED in 1992, many sustainability issues, including climate change, biodiversity loss, poverty, and access to basic human needs (e.g., clean water and sewerage treatment), remain. Rio+20 needs to focus greater attention on the barriers to progress as well as possible solutions, such as greater attention to the potentials offered by a green economy. Rio+20 must also set new concrete goals and targets for action that take into account the natural and resource constraints facing the planet.

The common effort to develop an international environmental politics is reflected in the 26 principles of the Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration). Principle 2 of the Stockholm Declaration calls attention to the importance of preserving the environment for not only the current but also future generations: “The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate”. Principle 4 points to our responsibility to protect and “wisely manage the heritage of wildlife and its habitat, which are now gravely imperiled (…)”. Principle 5 highlights the importance of safeguarding against the danger of the future exhaustion of non-renewable resources of the earth and ensuring that benefits from their use are shared by all. And, principle 6 points to the need to control the release of toxic and other substances that “exceed the...
capacity of the environment to render them harmless (…) in order to ensure that serious or irreversible damage is not inflicted upon ecosystems”.

In many ways, it can be argued that the Stockholm Declaration was the first effort to address sustainability concerns at the international level, and to have this embodied in an internationally agreed manifesto. Many of the principles issued speak to the basic sustainability concerns that still must be addressed at Rio+20.

Certainly much progress has been made (primarily in wealthier countries) in improving air quality, reducing water pollution, banning or controlling the use of many toxic chemicals, and finding new, ecologically less hazardous ways to manufacture many products. Capacities for environmental governance were strengthened through the creation of particular national administrations, framework legislation, and various international bodies, including the United Nations Environment Programme (UNEP). Moreover, the number and kinds of environmental actors grew steadily – international, national, and local groups, think tanks, international bodies addressing these critical matters, and green-leaning political parties.1

Yet, basic economic growth models remained largely unchallenged, and environmental protection was dominated by end-of-pipe pollution control solutions. It was not until the Brundtland Commission report in 1987, Our Common Future, that a global debate about the need for new approaches to growth and development that recognize resource constraints, address global inequalities, and protect the environment for the enjoyment and use of this and future generations was initiated.2

**Rio 1992: An All Encompassing Approach, but with Limited Results**

By the time of the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro there was growing global concern that in our rush to develop, the very future of the planet was being put at risk. Building on the success of the Montreal Protocol that was formed in 1987 to ban chemical substances (primarily chlorofluorocarbons) that destroy stratospheric ozone, there was a sense of urgency about developing similar global agreements to address the pressing problems of climate change, biodiversity loss, and tropical deforestation, and promoting sustainable development.3 The UNCED concluded with the formation of the Convention on Biological Diversity (CBD), a largely forgotten set of forestry principles, and the United Nations Framework Convention on Climate Change (UNFCCC). It also led to the formation of Agenda 21, an action plan for sustainable development. Let’s have a closer look at the achievements and deficits of each of these.

**Biological Diversity**

The CBD was established to address the rapid extinction of plant and animal species as a result of human settlements, economic and agricultural activities, land use change, pollution, poaching, and other factors. It has three straight forward objectives, as article 1 states: “(…) the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources (…)”. In 2002, the World Summit on Sustainable Development endorsed a goal of achieving a significant reduction in the current loss of biodiversity by 2010. It was not met.

At the meeting in Nagoya, Japan, in 2010, several new targets were established: to cut in at least by half the loss of natural habitats, expand nature reserves to 17 percent of global land area by 2020 (current levels are about ten percent), and expand marine protected areas from about one percent of the world’s seas to ten percent. Countries are expected to draw up national plans for biodiversity preservation. Agreement was also reached in a Nagoya Protocol for rules on how countries should share benefits derived from genetic resources. Despite inadequate funding and a failure to meet initial biodiversity loss reduction goals, there has been less political acrimony in relation to the biodiversity negotiations than has been the case in the climate change negotiations. Land under some form of protection status is undoubtedly increasing.

Still, more needs to be done to prioritize biodiversity preservation and to convince governments and societies of the importance of protecting especially the most biodiverse areas of the planet.4

**Climate Change**

In relation to climate change, article 2 of the UNFCCC called for a “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”. Notably, the preamble to the convention also addressed the importance of inter-generational equity calling for the protection of “global climate for present and future generations of mankind”. In 1997, the Kyoto Protocol was negotiated with great fanfare and eventually came into force in 2005.

Yet, at the beginning of the 2010s, global greenhouse gas emissions continue to grow at alarming rates. Few countries are on a trajectory to reduce their greenhouse gas emissions or growth in those emissions on the magnitude that will be necessary to limit global warming below levels considered dangerous by the scientific community.

Moreover, the Kyoto Protocol has lost the support of key countries. Although the Protocol did set into place new institutions for addressing greenhouse gas emissions both nationally and internationally (e.g., the Clean Development Mechanism, Joint Implementation, emissions trading) and helped to raise awareness in many parts of the world about climate change, it was not

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1 For a useful overview of 40 years of efforts to address global environmental and sustainability challenges see Conca and Dabelko (2010).
2 An in-depth exploration of the concept of sustainable development is provided by Baker (2006).
3 The development of international environmental law between Stockholm and Rio and its limitations are discussed in Fazelsmaerts (1992).
ratified by one of the biggest emitters – the United States. They criticized the agreement as ineffective and unfair as it did not require developing countries to take action to limit the growth in their emissions. More recently, Canada, which has seen its greenhouse gas emissions rise enormously over the past two decades, has formally withdrawn from it. Although the European Union was able to keep the Kyoto Protocol alive in the Durban climate negotiations, reaching a common accord on a second phase of the agreement to cover the period from 2013 to the still undecided date of either 2017 or 2020, Japan and Russia have indicated that they will not take on any new commitments. Thus, while the Kyoto Protocol was salvaged in Durban, its future looks dim.

There is still some hope that an international climate agreement could be reached in the coming decade. In Durban, a consensus was forged to continue to work towards the establishment of a new climate agreement by 2015 that should be enforced by 2020. But what it is to look like and whether key countries will ratify it, remains an open question. In the meantime, the international community is also guided by the Cancun Agreement, a non-legally binding statement of national intentions for cooperation on climate change. Its objective is to keep global average temperatures from rising above two degrees Centigrade above pre-industrial levels. Under the agreement, countries set voluntary greenhouse gas emission targets for 2020 and established new mechanisms for aiding developing countries with addressing and adapting to climate change (the Green Climate Fund, a Technology Mechanism) and deforestation (REDD, Reducing Emissions from Deforestation and Forest Degradation). Yet, whether the international community will reach a settlement which can slow the growth in global greenhouse gas emissions and eventually reduce those emissions, remains highly uncertain.

**Sustainable Development**

*Agenda 21* is an action plan established at the *UNCED* with 40 chapters addressing areas for action for sustainable development. They focus on such issues as poverty, consumption, human health and settlements, combating deforestation, protecting oceans, workers’ rights, children’s rights, and means for implementing these and other goals. In many ways, *Agenda 21* was broad and encompassing, trying to integrate thinking related to environmental degradation, poverty, governance and participation. In response to *Agenda 21* a Commission on Sustainable Development was formed and many countries established national level sustainable development commissions.5

The *World Summit on Sustainable Development* in 2002 in Johannesburg, South Africa, reaffirmed the importance of the issues addressed in *Agenda 21* as well as the *Millennium Development Goals* – targets for measuring progress on some of the most basic human needs and rights. The *Millennium Development Goals* call for the eradication of extreme hunger and poverty, achieving universal primary education, promoting gender equality, reducing child mortality rates, improving maternal health, ensuring environmental sustainability, combating HIV/AIDS, malaria, and other diseases, and promoting a global partnership for development. 2015 has been set as a date for achieving specific targets related to these various goals.

Some of the *Millennium Development Goals*, for example reducing by half the number of people without access to safe drinking water, appear to be on target. Yet, some of them, for example reducing by half the number of people without access to sanitation services appear unlikely to be met. Above all, over a billion people still live without access to electricity and millions live on the edge of survival. Clearly much more needs to be done.

To sum up, when we take stock of *CBD, UNFCCC*, and *Agenda 21*, it becomes clear that international efforts to address these challenges remain insufficient. The snail’s pace at which the international climate negotiations have moved forward and the failure to slow the pace of biodiversity loss are matters of great concern. 20 years of international efforts to deal with climate change and biodiversity loss through the formation of global agreements have met with only limited success.6 While it is important not to abandon these efforts, it is equally important to simultaneously pursue alternate paths of action.

**Rio+20 and the Road Ahead**

What does all this mean for *Rio+20*? Many of the most basic matters related to sustainable development, environmental protection, poverty, global biodiversity loss and climate change have been on the international negotiating table for between 20 and 40 years. There has been progress in moving from broad statements to more concrete, measurable, and verifiable goals. There has been considerable capacity building for environmental protection and sustainable development, and there is a far greater understanding of the pressures facing the planet.

Yet, with the global population now at seven billion – compared to an estimated 1.2 billion in 1850 – and expected to grow to at least nine billion by 2050, the pressures on the planet are enormous and certain to get heavier. This is despite the fact that population declines are being experienced in parts of Europe, Japan, South Korea, and Russia.

There is also the problem that income inequalities remain extreme within many countries as well as between them. A very small share of the world’s richest people are responsible for the vast majority of global resource consumption.

At the *Rio+20 Conference* to be held in Rio de Janeiro in 2012, attention needs to focus on some of the underlying problems that continue to hinder progress on achieving climate change, biodiversity protection and sustainable development goals as well as developing effective global agreements.

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5 For a broader discussion of national sustainable development strategies see Wachter (2012, in this issue).
6 In reviewing trends in the emphasis placed on different environment and development priorities in over three decades of UN-based negotiations, Galizzi (2005) emphasizes the need to focus more attention on environmental risks in the negotiations.
To remove structures that support unsustainable economic activities is one pressing matter. Many apparent and hidden subsidies help preserve the environmentally harmful exploration and exploitation of energy and mineral resources. Subsidies, be it for the use of fossil fuels, or be it for the promotion of agricultural development at the expense of biodiversity and nature conservation, should be phased out.

Financial institutions can be named, too. Their lending practices often pay no heed to the environmental sustainability and social impacts of the supported projects. Therefore, sustainability criteria should be tied to (international) financing operations.

Green public procurement should also be promoted. Governments tend to be the largest consumers of energy and resources in most countries. With the introduction of green purchasing requirements for energy, products, and resources, governments can reduce their environmental footprints and lead the way for industries and consumers to follow. Sustainability requirements can also be linked to all government supported projects. For example, publicly funded construction should pay attention not just to short-term economic costs, but also to the construction materials used in their building and to the sustainability of their long-term demands for energy for heating and cooling. Positive incentives for the use of renewable resources and renewable energies should be encouraged through feed-in-tariff and quota schemes. Luxury consumption should be more heavily taxed.

Many of these ideas can be subsumed under the concept of green growth. Governments and economic actors need to be won over to the idea that long-term well-being is linked to economic development that is energy and resource efficient and protective of biodiversity.7 Despite an awareness of the health and environmental consequences of pollution, there remains a strong belief in many parts of the world that environmental protection can only be achieved after economies develop. This mindset needs to be changed. Development and environmental protection must come hand in hand. More industrialized countries have an obligation to be first movers, shifting away from the many unsustainable economic structures and practices of the past to cleaner, more resource respecting economic processes. They also need to significantly strengthen partnerships that can facilitate action in developing countries.

In essence, greater attention needs to be returned to some of the most basic points raised in the Stockholm Declaration in 1972: the need to manage wisely the limited and non-renewable resources of the planet and the importance of respecting the rights and interests of future generations.

More needs to be done to think about where the planet’s ecological limits are – points beyond which tipping points could be reached (e.g., with climate change, biodiversity loss, over-fishing, mineral extraction), and what can be done to reduce the possibility of coming close to such dangerous limits (e.g., Rockström et al. 2009). Similarly, much as was started with the Millennium Development Goals, a wider and more ambitious set of goals needs to be set for the future. They should be tied to an understanding of the ecological limits facing the planet. They should include short-, medium-, and long-term time horizons.

Rio+20 could do much to reemphasize the importance of the concept of sustainable development. This is a concept that has both benefited and suffered from its broad, integrated approach to looking at development, environment, and societal issues. It is precisely these interactions that will determine the quality of life and the availability of natural resources for this and future generations.

The tasks ahead remain daunting – and it is easy to become pessimistic. Yet, human creativity is a powerful force. What we now need is the political will to support action towards greater sustainability.

References


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7 For a critical view on green economy strategies see Brand (2012, in this issue).