United Nations Department of Economic and Social Affairs
Division for Sustainable Development

Sustainable Development in the 21st century
(SD21)

Review of implementation of
Agenda 21 and the Rio Principles

Synthesis

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Acknowledgement

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Introduction

One of the defining moments for sustainable development has been the United Nations Conference on Environment and Development (UNCED) that was held in Rio de Janeiro in 1992. The Rio conference came twenty years after its predecessor conference in Stockholm. UNCED gave birth to a number of international instruments that continue to provide the framework for sustainable development. This included the groundbreaking Agenda 21, which offered a practical approach to applying sustainable development policies at the local and national level, and the Rio Declaration on Environment and Development. Agenda 21 sought to provide a comprehensive blueprint of action to be taken globally, nationally and locally by organizations of the UN, governments, and major groups. The Rio Declaration established 27 principles intended to guide sustainable development around the world.

Twenty years after the Rio summit, this study aims to provide an assessment of the progress and gaps made in the implementation of Agenda 21 and the Rio Principles. This report is one of three companion reports produced under the first study of the "Sustainable Development in the 21st century" (SD21) project, an undertaking of the Division for Sustainable Development of the United Nations Department of Economic and Social Affairs (UN DESA). The study comprises three outputs (of which this report is the third):

- Detailed review of progress in implementation of the Rio Principles
- Detailed review of progress in implementation of Agenda 21
- Synthesis report on the review of Agenda 21 and the Rio Principles.

These three reports can be found can be found on the UN DESA website.[1]

Implementation of Agenda 21

When it was adopted in 1992 at the Earth Summit, Agenda 21 was meant to be "a programme of action for sustainable development worldwide". Furthermore, as stated in its introduction, it had the ambition of being "a comprehensive blueprint for action to be taken globally, from now into the twenty-first century". The ambition was high, and so were the stated goals of the Agenda: improving the living standards of those in need; better manage and protect the ecosystem; and bring about a more prosperous future for all.

Various chapters of Agenda 21 have progressed at different paces. Information on progress and gaps in the implementation of sustainable development commitments and decisions exist, but is often scattered. On some of the topics, global assessments have been undertaken by the international community (IPCC reports; Global Energy Assessment; IAASTD for agriculture). Academic institutions and think tanks often produce reports on specific sectors or topics (e.g. oceans, renewable energy, climate change).

Short reviews of the state of implementation of various chapters or clusters of chapters of Agenda 21 were produced by the UN for the Commission on Sustainable Development

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[1] http://www.un.org/esa/dsd/dsd_sd21st/21_index.shtml.

sessions in 1997 ("Rio+5") and 2001 in preparation for the 2002 World Summit on Sustainable Development. These reviews, which were 5-10 pages long, were produced by the UN agencies in charge of specific chapters of Agenda 21 according to the arrangements agreed by the now extinct Inter-Agency Committee on Sustainable Development.

The UN Division for Sustainable Development (DSD) regularly undertakes reviews of progress made under the clusters of issues in different CSD cycles, in the form of both issue-specific (sectoral) reports, so-called "overview reports", and trends reports. Since the Trends report produced by DSD for the World Summit on Sustainable Development in 2002 there has been no fully-encompassing review exercise done by the Division for Sustainable Development.

This study aims to provide a systematic, although not by any means fully comprehensive, assessment of the progress and gaps in the implementation of the programmes of action included in the 39 Chapters of Agenda 21 (this does not include Chapter 1 which is the Introduction). The study thus aims to complement existing exercises by:
1. providing a basic but systematic coverage of issues in Agenda 21 (as opposed to a subset of issues under each CSD cluster), including state of progress, institutional changes since 1992, outstanding issues that were either not included in Agenda 21 or rose to major importance since then;
2. assessing the main factors having caused progress or lack of progress on the different chapters, and suggesting alternative approaches to facilitate faster progress; and
3. synthesizing the lessons from the detailed examination of the chapters of Agenda 21 and suggesting priorities for progress across the board.

Implementation of the Rio Principles

The Rio Declaration on Environment and Development, adopted by 178 Member States in 1992 at the Earth Summit, was at the time perceived as a progressive statement by all nations that enshrined the recognition of the indivisibility of the fate of humankind from that of the Earth, and established sustainable development in an international framework.

The Declaration, a compact set of 27 principles, promoted concepts such as the centrality of human beings to the concerns of sustainable development (Principle 1); the primacy of poverty eradication (Principle 5); the importance of the environment for current and future generations and its equal footing with development (Principles 3 and 4); the special consideration given to developing countries (Principle 6); the principle of common but differentiated responsibilities (CBDR, Principle 7). It also enshrined the two critical economic principles of polluter pays (Principle 16) and the precautionary approach (Principle 15). It introduced principles relating to participation and the importance of specific groups for sustainable development (Principles 10, 20, 21, 22). Lastly, it requested Member states to put in place adequate legislative instruments to address environmental issues.

A review of the Rio principles was conducted by the UN Division for Sustainable Development for the 5th session of CSD in 1997 ("Rio+5"). Some of the principles have given rise to considerable amount of literature. While the underlying causes for the success of specific principles may be understood by experts in various fields of international law and sustainable development, a short and simple but all-encompassing summary seems to be missing. Yet, understanding why some of the principles have not succeeded in passing the test of inclusion in international and national law, or at least become the basis for accepted normal practices is critical to furthering sustainable development.

This study provides a systematic assessment of the state of implementation of the 27 Rio Principles; based on individual assessments, it also provides an overview of progress and identifies some areas where actions should concentrate for further progress.

Methodology

The UN Division for Sustainable Development (DSD) commissioned Stakeholder Forum for a Sustainable Future (SF) to undertake this review to provide an assessment of the progress and gaps made in the implementation of the above mentioned Rio outcomes; Agenda 21 and the Principles of the Rio Declaration.

Stakeholder Forum has a strong institutional memory that spans over two decades and has been deeply engaged in the processes that were developed out of the UNCED in 1992 – such as the Convention on Biological Diversity (CBD) conferences as well as the UNFCCC negotiations and other conferences organised both by the UN and other stakeholders (CSD, NGOs, local authorities, trade unions, youth, businesses, etc.).

The terms of reference for the study included:
- A comprehensive review of each of the Chapters of Agenda 21 and the Rio Declaration Principles;
- A synthesis report that offers an overview of the successful implementation of the above; as well as areas that have been a barrier or challenge to implementations; and
- A table or traffic light system to 'score' each of the Chapters and Principles to offer a quick reference to the status of implementations.

Detailed assessments of Agenda 21 and the Rio Principles

The work was carried out between May and November 2011. Stakeholder Forum used both in-house capacity and external consultants with particular policy expertise to undertake the review.

Based on the terms of reference, Stakeholder Forum developed a generic template for the review of each of the individual chapters and principles to streamline the process that was conducted by multiple people; and to ensure consistency in the research and writing approach. The template is outlined in more detail below.

Stakeholder Forum conducted the initial drafting in-house for each of the 39 Agenda 21 Chapters and 27 Rio Principles. This was done by a core team of researchers familiar with the area of work. Once initial drafts had been completed these were sent to DSD for comment and review and to identify gaps in the reports as well as to emphasise areas of focus and discuss areas that needed particular attention. Once feedback was received Stakeholder Forum engaged expert consultants to take the initial research and compile a more focussed and detailed analysis of particular Chapters and Principles. Stakeholder Forum then played a coordinating and editorial role on the updated versions of different chapters and principles.

The two detailed reports are based on desk review of the existing literature, including academic (peer-reviewed) literature, UN decisions and official reports, evaluations and assessments published by international think tanks and policy institutions, and others as relevant. This had its limitations, and these must be acknowledged.

Where possible, case studies were drawn upon to illustrate successful implementation or where barriers and challenges to implementation existed. These case studies are intended to be illustrative. While attempt has been made to cover a range of examples and to offer a

multiple set of views in the case studies, time and resources did not allow for a full and comprehensive review of every example.

Agenda 21 and Rio Principles drafting template

Introduction
This section should set the context, why the principle is important, what factors gave rise to it.

Implementation
This section should analyze the status of implementation of the principle globally, including the following:
- A broad and brief analysis of global implementation i.e. how prevalent the principle is in global and national decision-making, policy and law, the main drivers
- Examples of regional and national implementation (specific case studies only, a full-scale analysis of national implementation will not be possible)
- Examples of global, regional and national instruments, including evaluations of efficacy of instruments where possible
- An overview of the key actors and organizations that have influenced progress towards implementation, their past, ongoing and future campaigns

Challenges and Conflicts
This section should focus on some of the challenges to implementation of the Principle more generally, including:
- Disparities in the application of the principle across UN Member States, including an analysis of political, economic, cultural and industrial interests that might influence this
- Conflicting policies and legislation globally e.g. World Bank, IMF, WTO
- Interest groups and actors that are opposed to the implementation of the principle

The Way Forward
This section should provide an analysis of the possible 'way forward' for the Principle, based on the author's own analysis of the 'state of the debate' but also referring to views of experts in the field. It should include the following:
- Identification of further steps that could be taken to more fully implement the Principle in question
- Identification of the trade-offs associated with the Principle that must be addressed
- Identification of particular actors (where relevant) whose approach will need to change
- Identification of prevailing social, political, environmental and economic drivers which will influence the likelihood of implementation.

Scorecard Methodology

The scorecards for both the Agenda 21 chapters and the Rio Principles are subjective assessments based on the knowledge and expertise of the relevant authors of the chapters of the detailed reviews of Agenda 21 and the Rio Principles. To reflect different views and provide robustness to the scoring process, two assessors were asked to rate progress for each chapter and principle, providing a brief rationale for their overall assessment. The qualitative assessments were translated into a traditional "traffic light" colour code, using a *"RAG+"* code of colours outlined in Table 1 below.

Table 1 – SD21 Scorecard Traffic Light Rating System

	Excellent progress/fully achieved
	Good progress/on target
	Limited progress/far from target
	No progress or regression

Agenda 21 Chapters - Overview

Success on Agenda 21 has been highly variable. Despite being a comprehensive plan to deliver sustainable development, implementation has not always been systemic. However, there are good examples of where Agenda 21 has achieved positive and lasting outcomes.

Overall, based on expert ratings, progress on Agenda 21 has been limited. Of the 39 Agenda 21 Chapters, most were rated by both expert assessors as having only made limited progress to date. Three chapters (chapter 4 on Changing consumption patterns; chapter 7 on Promoting sustainable human settlement development; and chapter 9 on Protection of the Atmosphere) were rated as having made no progress or witnessed a regression. Only five chapters were rated by both assessors as having achieved good progress or better: chapters 27 and 18 on involvement of NGOs and local authorities, chapter 35 on Science for sustainable development, chapter 38 on International institutional arrangements, and chapter 39 on International legal instruments and mechanisms). Ratings varied across the two assessors for a few chapters, but overall the two sets of rating are fairly consistent. The summary scorecard on the implementation of Agenda 21 is given in Table 2 in annex.

Successes

Agenda 21 (and the original Rio Earth Summit more generally) brought the concept of sustainable development into common parlance if not making it a household phrase. It had a strong influence on the language of subsequent international agreements and documents (such as WTO preamble, the Cairo agenda on population (1994), the Social Summit outcome (1995), the Beijing Women's Conference (1995), the Habitat agenda (1996), the Rome Food Summit (1996). Overall, one clear and positive impact of Agenda 21 has been to help put the concept of sustainable human development at the heart of development, as opposed to more technology-oriented "solutions" in the so-called "development decades" of the 1960s and 1970s (for example, strategies based on rapid industrialisation and large-scale agricultural projects).

Arguably, Agenda 21's biggest success has come through driving ambition on what sustainable outcomes are achievable on a sector by sector basis. For example, our understanding of biodiversity, of the contribution that agriculture makes to development or of the role of indigenous peoples in society, has been advanced in no small part through Agenda 21.

Rio not only produced Agenda 21 and the Rio Declaration, it also produced international law instruments that dealt with specific sector issues, such as the Forest Principles, the Convention on Biological Diversity (CBD) and the UN Framework Convention on Climate Change (UNFCCC). Furthermore, Rio also caused the creation of the UN Commission on Sustainable Development (CSD), the UN Convention to Combat Desertification and the Straddling Fish Stocks Agreement. As an event it is one of the most important examples of the delivery of international law, both hard and soft, that the UN has managed in its history.

Agenda 21 tried to address the issue of integration of environment and development through the creation of the Commission on Sustainable Development (CSD). The Commission was a compromise between those who wanted to transform the Trusteeship Council into a Sustainable Development Council, and therefore making it one of the permanent bodies of the UN and those countries that wanted no follow up mechanism. The placing of CSD as a functioning commission of the Economic and Social Council (ECOSOC) did have some early successes with the issues of persistent organic pollutants (eventually resulting in the Stockholm Convention on POPs), prior informed consent (resulting in the Rotterdam

Convention on PICs), oceans (the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea) and forests (UN Forum on Forests). It would initiate the conversations and then set them off to be negotiated more formerly in other processes.

Furthermore, Agenda 21 has engendered a much stronger notion of participation in decision-making. This affirmation of the important role of non-governmental actors has percolated all levels of government, international law and international governance. This includes promoting a greater granularity in demographics for analysis and decisions. For example, Agenda 21 helped bring the gender dimension in all development work and beyond, including gender-differentiated official statistics.

Agenda 21 was the first UN document to identify roles and responsibilities for stakeholders. The nine chapters on "Major Groups"[2] have had a large impact on the engagement in implementation and monitoring of Agenda 21. The Rio summit also marked the critical point which brought many stakeholders into a relationship with the UN at the global level.

The participation of the Major Groups – as outlined in Chapter 23 – has been improved with formalised processes in place to acknowledge the contribution to dialogues on sustainable development. Specifically, the status and importance of NGOs – as outlined in Chapter 27 – has increased tremendously over the last decades. NGOs play roles as moral stakeholders, watchdogs, mediators, implementers, advocates, and experts. They have become increasingly professionalised and UN agencies have grown dependent on NGOs in mutually beneficial relationships. Multiple NGO networks are spearheading different aspects of sustainable development. However, how much of this "improved participation" is simply rhetoric is debateable.

Local Agenda 21 has been one of the most extensive follow-up programmes to UNCED and is widely cited as a success in linking global goals to local action. In 2002, over 6,000 local authorities around the world– the Major Group addressed in Chapter 28 – were found to have adopted some kind of policy or undertaken activities for sustainable development, either as a main priority or as a cross-cutting issue. However since then no extensive survey has been conducted, and interest seems to have subsided, as sustainable development had to face competition from sectors that promised access to tangible resources, such as climate change.

Agenda 21 was an heir to past UN action plans which sought to cost each line item. However, Agenda 21 represented a progressive vision for action that set standards of ambition and success incomparably higher than the plans of old. It also built a strong narrative for action, which in itself was progressive.

Challenges

In retrospect, the format for Agenda 21 based on sectors may have contributed to defeating the concept of integration that is at the heart of sustainable development, which seeks to promote cross-sectoral solutions. Segmentation in sectoral issues has paved the road for turf wars and silo-isation, both at the international level and at the national level. Often stretching the boundaries of a discussion to explore interlinkages with other sectors is viewed as as either competition for attention and resources, or worse as a direct threat. Hence, related topics are frequently treated in various fora with no links being establish to connected issues, generating policy incoherence and confusion. This has also led to strategic gaming, with

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[2]Agenda 21 recognizes nine major groups of civil society, and stipulates the need for new forms of participation at all levels to enable a broad-based engagement of all economic and social sectors in making sustainable development happen. The Major Groups are: Business and Industry, Children and Youth, Farmers, Indigenous Peoples, Local Authorities, NGOs, Scientific and Technological Community, Women and Workers and Trade Unions.

interlinked issues being seen or "sold" as trade-offs (e.g. trade versus intellectual property rights in food and biodiversity). The UN agencies have struggled to effectively address these interlinkages.

Another issue is that some sectors were not included in Agenda 21. This broke the all-encompassing nature of the document. For example, energy and mining are key sectors that were not included as individual chapters. Moreover, key issues would today be more prominent than their space in Agenda 21, for example transport and waste flows. However, energy, transport and tourism were each discussed in 1997 in a five-year review from Rio.

Some areas of Agenda 21 have remained largely unsuccessful and could even be deemed failures. For example, globally, consumption and production patterns remain unsustainable. Although resource use has significantly reduced per unit of global economic output over the last 25 years[3] (by around 30 per cent), globally we are using around 50 per cent more natural resources than we were over the same time period. Furthermore, this resources consumption is distributed inequitably. North American per capita consumption is around 90 kg of resources per day, around 45 kg per day for Europeans and around 10 kg per day for people in Africa.[4]

Despite a number of initiatives and increasing levels of awareness and discussion surrounding sustainable consumption and production (SCP), the world has seen extremely little if any progress, in regard to reaching the objectives outlined in Chapter 4. The Ecological Footprint of the global population has increased by over a third since the production of Agenda 21. Since UNCED the world has seen a steady growth in consumption, and consumption not only remains very high in the developed world, but is witnessing dramatic increases in the consumer population of large emerging countries such as Brazil, India and China. Yet, the basic needs of an even larger section of humanity are not being met. Whilst production systems have become more efficient, the patterns of consumption appear to have become more unsustainable, supported and exacerbated by the globalisation of production, with very little in terms of national policies and strategies to encourage changes in unsustainable consumption patterns.

While some progress has been made around Chapter 9 – protection of the atmosphere – on the front of ozone depletion, greenhouse gas emissions and other atmospheric pollutants remain a huge and growing problem.

Chapter 7 – human settlement development – lacks progress. While there are some good examples of progressive urban policy, the socio-economic inequalities and negative environmental issues within many urban areas remain widespread in both developing and developed countries, and slum populations are still rising.

In retrospect, Agenda 21 reflected a somewhat static view of the world, largely due to the fact that the agenda was cut into 40 sector chapters. Agenda 21 did not address the interconnectedness of the various goals, because it was not "allowed" to examine the economic system itself. Nor did it explore the fundamental drivers of sectoral and inter-country outcomes, which include:
- the role of corporations, and multi-national corporations (MNCs) in particular;
- the role and impacts of trade and globalisation;
- the role of international economic governance in helping steer the whole system;
- the importance given to future generations in everyday policy-making.

[3]Jackson, T. (2009) Prosperity without growth: economics for a finite planet. 1st edition. Earthscan. London
[4]Friends of the Earth (2009) Overcomsumption? Our use of the world's natural resources. Accessed at: www.foe.co.uk/resource/reports/overconsumption.pdf

There had been an attempt by the UN Centre for Transnational Corporations to table a 41st Agenda 21 chapter on "Transnational Corporations and Sustainable Development". This was rejected and within two years the Centre had been closed down with it function shifted to United Nations Conference on Trade and Development (UNCTAD). In Johannesburg ten years after Rio the attempt to bring the topic of trans-national corporations to the table resulted in the JPoI merely voicing support for some more voluntary action. NGOs then moved their efforts to the ISO process, a result of which was the ISO 26000 on Social Responsibility (2010). But overall, results on this front have been meagre.

Trade had played only a small role in Rio. This issue was subsequently put to the WTO by the CSD as challenge to the new body to integrate sustainable development into trade decisions. The WTO's founding agreement recognizes sustainable development as a central principle, but in practice numerous challenges remain to adequately address contentious issues involving trade and development – as illustrated by the stalled Doha round of negotiations under WTO, more than 10 years after it started.

The main global economic institutions - the IMF and World Bank - have not meaningfully reformed their practises to embrace sustainable development. Although certain policies can be shown to support sustainability, the overall activities of both institutions and the regional development banks have supported the present economic model.

The creation of the Interagency Committee on Sustainable Development (IACSD) to oversee the Task Managers for Agenda 21 did achieve some coordination and implementation in the UN agencies and programmes. But with additional funding this could have achieved much greater levels of implementation. The closure of the IACSD as a part of the UN reforms in the late 1990s reduced the coordination and integration amongst UN Agencies and Programmes, with a negative impact on the mainstreaming of the sustainable development concept.

Agenda 21 also failed to adequately address the institutional structures. It underestimated the inertia and resistance of institutional structures at all levels. These issues included siloisation, bias against developed country representation in rule-making, focus of politicians on "development first" and a disconnect between different levels of government.

Conclusions

Twenty years after the Earth Summit, Agenda 21 retains strong relevance, and remains the most comprehensive undertaking by the UN system to promote sustainable development. While there are some gaps in coverage, the issues that humanity is struggling with now are more or less similar those covered by the chapters of Agenda 21. However, while Agenda 21 has acquired considerable coverage amongst nation states, its implementation remains far from universal or effective. Progress has been patchy, and despite some elements of good practice most Agenda 21 outcomes have still not been realised.

Rio Principles - Overview

The review of the Rio Principles shows that many of the principles have been transposed into further international laws or national instruments, but have not necessarily filtered down into meaningful action in practice. Without full compliance and enforcement mechanisms there is little to ensure that States comply with the objective and aspiration of the principles. However, there are some successes in this regard, such as Principle 10 (Access to Environmental Information) as enshrined in the Aarhus Convention which covers most European Union (EU) members.

Overall, based on expert ratings, progress on the Rio Principles has been slow. Of the 27 Rio Principles, 17 were rated by both expert assessors as only having made limited progress to date. The summary scorecard on the implementation of the Rio Principles is given in Table 3 in Annex.

Successes

As a soft law instrument, successful implementation of the Rio Declaration takes many shapes and can be loosely understood through analysing the various 'offspring' agreements or national laws that have transposed aspects of the Principles. Where such a transposition has occurred, and the principle has been applied in practice, its application has often been tested in the courts; the result of which is that some of these principles have been widely accepted as part of international jurisprudence.

The most prominent examples of this legal application are Principles 10 and 15, along with Principles 5, 17 and 24, all of which demonstrate varying elements of successful transposition and wide adoption of the principle in laws. Principle 3 and 21 are steadily gaining momentum on implementation and of latter years, in conjunction given their interrelation, both have seen an explosion of activity where increasingly more effort is being made to apply them in practice.

Principle 5 – eradicating poverty and raising the standards of living for all – helped put the spotlight on the inequity that exists in the world and the wealth divide between rich and poor. Popular campaigns have shown that the relevance of Principle 5 reached much wider audiences than those involved in the multi-lateral processes, and the desire and intent to act captured the imagination of society on the whole. As such, the Millennium Development Goals (MDGs) were agreed with sincere intent to secure poverty eradication. Focussing on key indicators the MDGs are a direct heir of Principle 5. In 2015 the MGDs expire and there will be a review of their successful application and whether or not the goals have been achieved.

Principle 10 – access to justice, information and public participation – is the foundation of the successful regional instrument that enshrines the principle in the Aarhus Convention, which applies to most EU member States as well as a handful of other acceding parties that elected to participate in it. The Aarhus Convention has provided valuable means by which the various elements of the Principle have been promoted through application at the national level, as well as providing a forum (the Compliance Committee) that can hear complaints where it is claimed that Nation States are not adhering to the Convention. Notably, cases have been brought by civil society organisations that have challenged their government's lack of implementation or compliance to the Convention, which has resulted in the development of a body of case-law that has strengthened the Principle overall. In addition, the elements of Principle 10 have been borne out in jurisdictions that are not parties to the Aarhus regional instrument, but have nonetheless used it as a persuasive example to underpin activities such as establishing national environmental courts or tribunals.

Principle 15 – the precautionary principle – is widely accepted as a foundation of environmental law at both the national and international levels. It has been tested in a range of courts and jurisdictions, notably the World Trade Organisation (WTO) arbitral body where initially it was found in some cases that trade rules superseded the precautionary principle; however in more recent years this has not been the approach adopted by most states and the principle itself is well established in international jurisprudence and is increasingly becoming more accepted at the national level.

Environmental impact assessments (EIAs, Principle 17) – are commonly used as national instruments that are integral to the planning and development processes. Whilst the efficacy of these instruments has been challenged, the process by which EIAs as well as other strategic impact assessments have been transposed into national legal instruments provides an instructive framework for how soft law can be applied in a very practical way. The popularisation of such tools demonstrates that where there has been the impetus to develop such a 'national instrument' (as defined in the Principle itself), the regulation to support it and the subsequent application of it in practice can develop with reasonable speed and intent.

Principle 24 – relating to the destructive nature of warfare – has been well implemented in national and regional instruments. There are multiple examples of where the principle of "respect[ing] international law providing protection for the environment in times of armed conflict", as the principle itself states, has been enshrined in national legislation and there are various international inter-governmental and non-governmental bodies that focus specifically on ensuring the successful application of these instruments. In practice, however, it has been difficult to quantify how, and if, the principle has been successful in achieving the overall objective.

Challenges

The drive to eradicate poverty, stemming from Principle 5 as outlined above, successfully led to the MDGs; however the final aspect of the principle – that of "reducing disparities in standards of living", which can be read as referring to both within and across-country inequalities, has been relatively forgotten, or left out of the development discussion, as attention has become almost exclusively focussed on reducing income poverty. The MDGs reinforce this approach, as does the theme of the Rio conference on 'green economy in the context of poverty eradication.' It will be important to ensure that discussions about reducing the disparities in standards of living and wealth distribution are incorporated into the Rio+20 discussion and any subsequent regimes that stem from it.

Principle 7 – global co-operation to conserve, protect and restore the health and integrity of the Earth's ecosystem– enshrines the principle that was already gaining traction before UNCED, that of common but differentiated responsibilities. This concept has successfully filtered out into discussions in the multi - and bi-lateral regimes, at both international and national level and in specific areas including from climate change (under UNFCCC). It is now seen as a "mandatory" element to every development discussion since UNCED. However, increasingly conflicting interpretations of this principle have stalled progress in the climate change discussions.

A critical dimension of the sustainable development concept is that of public participation in the decision-making as well as implementation process. This has been successfully adopted as practice in the various international framework regimes (CBD, UNFCCC) and as noted above, the concept has been successfully enshrined in instruments such as Aarhus and others. However, the lack of ability for many groups and stakeholders to participate in the process at national and local level remains an issue.

Additionally access to justice remains a barrier for many who seek legal redress for environmental damages or concerns. Notably, a claim was brought to the Aarhus compliance committee against the UK, arguing that the costs of bringing an environmental case in the UK was 'prohibitively' expensive, undermining one of the cornerstones of the Aarhus Convention. The compliance committee found in their favour, declaring the UK non-compliant to Aarhus, and time will now tell how the UK responds to such a declaration and whether this 'gap' will be filled.

The precautionary principle, whilst successfully implemented in a range of instruments and tested in case-law, remains mired by ideological divergence, which is undermining the achievement of the overall objective of eliminating those actions that have the potential to cause serious and irreversible harm. Prominent examples where this tension is not resolved include the discussions under UNFCCC. The debate around Genetically Modified Organisms (GMO) also suffers from divergences in ideology relating to the potential harm that could be caused, but which are as yet unknown.

Whilst the polluter pays principle (Principle 16) has been transposed into a range of legal instruments in a number of jurisdictions and contexts, there remain ideological differences to its practical application which have undermined the successful implementation of the principle on the whole. Such ideological differences in some areas have led to the development of parallel systems that are not based on the polluter pays principle, such as in the case of waste disposal supply chains. In practice pollution and waste continue to pervade our lifestyles, reflecting the less than successful implementation of the principle.

Principles 3 and 21 focus on the concept of intergenerational equity. Justice for future generations has been a key element of sustainable development since the Brundtland report. There has been a range of initiatives to bring the principle into the processes of decision-making at both the national and international levels. However on the whole the principle has not been reflected at the institutional level and has not had the governmental support that reflects the civil society and wider stakeholder appetite to bring the concept to the heart of sustainable development governance.

Principle 8 – sustainable production and consumption and the promotion of appropriate demographic policies – is deemed to have been unsuccessful in achieving its intended goal. Unsustainable consumption patterns have continued to rise, at a steady pace in industrialised countries. The BRIC countries (Brazil, Russia, India and China) are seeing blooming consumer classes that aspire to high per capita consumption levels and other developing countries will follow suit in time. Population projections are estimating a 30% rise in population by 2050. These trends are compounding each other and increasing the unsustainable impacts of human activities beyond the ability of ecosystems to recover.

Other specific difficulties identified in the review include:

- The tension between national sovereignty on resources, a fundamental tenet of Principle 2, and the issues associated with management of the commons that relates to trans-boundary pollution, climate change and biodiversity is starkly borne out as international multilateral regimes fail to adequately implement an approach to overcoming this contradiction; and
- A potential contradiction in the set of Principles between Principle 12 (growth and free trade as the model) and Principle 8 (addressing unsustainable consumption patterns). Over the last two decades it has become increasingly apparent that where and when trade and a need for rethinking of consumption patterns come up against one another, trade wins. This results in an undermining of the practice of sustainable development. Overall, Principle 8 remains largely unaddressed. Instead a "business-as-usual, growth at all costs" paradigm has continued to dominate.

Conclusions

The Rio Principles are the heir to the Stockholm principles agreed in 1972, and both have a primary focus on environment and development. The construction of a whole set of principles clearly intended to find a common ground between developed and developing countries. However, this framework left largely open interpretations about was how to achieve

sustainable development in practice. In particular, the lack of guidelines to accompany the Principles resulted in little cohesion for the implementation of the majority of the principles, and ultimately many principles remain aspirational soft law instruments that countries do or do not transpose into national legislation.

Overall, the social equity dimension is not prominent in the Rio principles. A decade after Rio, the World Summit for Sustainable Development in Johannesburg brought the social dimension to the fore, but did not re-open the discussion on the Rio Principles. As such, one of the three pillars of sustainable development remains relatively absent from the highest-level sustainable development document (the Rio Declaration) that have been developed and agreed these past two decades.

What happened to the Rio deal?

The Original Rio Deal

Rio recognised the need to redirect international and national plans and policies to ensure that all economic decisions took into account environmental impacts. The deal arising from Rio took a three-pronged approach:
  1. Developed countries would take the lead in changing production and consumption patterns (their economic model);
  2. Developing countries would maintain their development goals but take on sustainable development methods and paths;
  3. Developed countries committed to support developing countries through finance, technology transfer and appropriate reforms to the global economic and financial structures or practices.

Issues requiring an integration of economic and environmental concerns (such as climate, the interaction of trade and environment, and the relation between intellectual property rights and environmental technology and indigenous knowledge) were to be resolved through international cooperation, in which the development needs of developing nations would be adequately recognised.

At the end of Rio there was a perceived agreement that funding, capacity building and technology transfer would be forthcoming once developed countries moved out of recession. What was seen as the 'peace dividend' from the fall of the Soviet Union was where funding would come from.

Agenda 21 had an implicit framework for action relying on nation states acting on their own for delivery, with some top-level international coordination. Agenda 21 was costed out at $625 billion USD a year as developed countries sought to address their own unsustainable development patterns. It also had meant to create a doubling of Official Development Aid (ODA) to $125 billion USD a year after Rio.

What happened?

Despite this well-meaning deal, reality has fallen considerable short of ambition. Significantly developed countries did not curb their consumption patterns and failed to find sustainable development path built on sustainable production methods. As a result, pressure on the global environment continued to rise since 1992. Specifically, despite continued intergovernmental process (e.g. climate change talks and further Earth Summits) little progress has been made toward implementation of the deal. Most recently an international agreement on climate change has all but stalled.

Funding arrangements and transfers of technology from developed to developing nations around the Agenda 21 outcomes have been not delivered as promised. No "additional resources" were provided to facilitate the transition. In fact, Official Development Aid (ODA) fell from $62.4 billion in 1992 to $48.7 billion in 1997. It was not until 2002 that it again topped the $60 billion mark. This "lost decade" was marked by regression of key development statistics with many of the world's poorest countries suffering from worsening poverty. However, aid flows from donor countries totaled $129 billion in 2010, the highest level ever.[5] At the Monterrey Financing for Development Conference in 2002, world leaders pledged "to make concrete efforts towards the target of 0.7%" of their national income in international aid. However, as of 2003, only five countries had already met or surpassed the 0.7% target: Denmark, Luxembourg, Netherlands, Norway and Sweden. In 2005, total aid from the 22 richest countries to the world's developing countries was just $106 billion—a shortfall of $119 billion dollars from the 0.7% promise.[6] In practice, ODA is often unpredictable, poorly targeted and does not make it to where it is needed. It is estimated that about "only about 24% of bilateral aid actually finances investments on the ground".[7]

Disputes continue on how to implement Agenda 21. For example, the Group of 77 developing countries still favour the implementation of the financial agreement in Rio and this would include a separate, specific global fund, as well as commitments that financing will not be obtained through reallocation of existing development assistance. Developed nations favor financing it through bilateral, regional and multilateral mechanisms and more and more through foreign direct investment -- a path promoted in the 1990s after Rio and which has been shown to mostly benefit a small number of countries and other funding sources, both public and private (e.g. remittances and future global private equity fund schemes).

At the same time, there came a realisation that the implicit basis for the compromise, which was that globalization in the form of economic growth plus free trade could lift all boats, was not delivering automatic dividends and was in fact further marginalizing some developing regions. Developing nations felt that they were short-changed on trade issues. Due to the lack of change delivered by the historical development model, the major developing countries are following the developed countries model of development and the pressure on the planet is increasing.

In 2000 the Millennium Development Goals (MDGs) were established following the Millennium Summit. The aim of the MDGs was to encourage development by improving social and economic conditions in the world's poorest countries. However, in the last decade, the MDGs have taken the focus off of the larger sustainable development agenda and focused the attention of the international community on a narrower set of goals – which did not address any of the fundamental drivers, even more so than Agenda 21. The MDGs were adopted as "the" reference framework by the development community leading to the aim of alleviating poverty without properly addressing underlying causes. For example, the MDGs were focused solely on developing countries and did not address consumption issues of developed countries, which were a central tenet of the Rio package. Also, after the Earth Summit and increasingly in the 2000s, resources started to flow to climate change-related issues, further marginalizing sustainability as the integrated concept needed to resolved interconnected issues.

During the 2000s, a divergence of outcomes developed among developing countries. Some countries registered rapid and sustained economic successes, whereas many others saw at best limited progress. Despite still officially speaking with a unified voice, there was recognition of the divergent interests and needs between countries. How this divergence will affect the

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[5]All ODA figures are from the OECD statistics website - http://stats.oecd.org/qwids/
[6]Sachs, Jeffrey. The End of Poverty - http://www.earth.columbia.edu/pages/endofpoverty/oda
[7]Sachs, Jeffrey. The End of Poverty - http://www.earth.columbia.edu/pages/endofpoverty/oda

approach to development in the discourse and in practice is still unclear, but is certainly one of the questions that will loom large on the development agenda for the next decades.

The last Principle included in the Rio Declaration, Principle 27, called for ways of working for sustainable development based on 'good faith' and 'a spirit of partnership'. Since 1992, progress has been made on environmental, social and economic fronts, and many developing countries have increasingly been able to improve their own chances for prosperity and sustainable development. However, the general pace of progress, and the deficiencies and stalls seen in many crucial multilateral processes, question the notion that action has truly been guided by good faith and a spirit of partnership. Challenges and examples noted throughout this report show that huge strides have yet to be taken, and in the prevailing economic crisis of the time any 'good faith' is likely to be further tested. Weak, non-committal outcomes from major opportunities for partnership working such as Copenhagen, with its backdrop of slow progress against Kyoto commitments, climate scepticism and MEA fatigue; backwards trends on some of the MDGs; a prevailing aversion of governments to actively engage in changing unsustainable consumption patterns in favour of the pursuit of economic growth; and the long drawn-out Doha Rounds of the WTO, are all striking examples where good faith and partnership working seem to have been eschewed for individual goals and interests.

Acknowledging Contradictions

The international developments on sustainable development have given rise to a contradiction. On the one hand, the Brundtland Commission put on the fore two critical dimensions in its report and definition on sustainable development: 1) caring about future generations (translated in Rio Principle 3) and 2) addressing unsustainable consumption patterns of the rich (translated in Rio Principle 8). Principles 15 and 16 of the Rio Declaration (the so-called "polluter pays" and precautionary principles) provided general guidance for a prudent management of resources and sinks.

On the other hand, one way of seeing the Rio principles is as a "business as usual plus (BAU+)" arrangement. The fundamental assumptions of post-war neo-liberal economics (i.e. economic growth coupled with free trade) were left unchallenged. Instead, they were adorned with "safeguards" that satisfied both North and South. This has resulted in "environmental safeguards" which ensured that discreet environmental issues of concern for the North were managed, and "development safeguards" which ensured economic development of the South could continue unimpeded.

Implicit was a hope that a BAU+ model was able to deliver sustainable consumption and production patterns and longer-term decision-making, and that these were compatible in practice through decoupling of resource use from consumption. However, there was quickly no doubt left about which of the two would prevail when conflict arose or absolute decoupling proved to be difficult to achieve. Business as usual has prevailed and unsustainable patterns of consumption and production persist. This in turn means that global commons (e.g. forests, atmosphere, biodiversity, oceans) are still managed unsustainably, and worse are being degraded beyond their ability to recover unless pressure is lessened.

It has now become clear that humanity's environmental impact is increasing, and in the future rising population and increased affluence, will compound this impact. Historically, reductions of impacts (e.g. CO_2 emissions) through improved technology have been insufficient to counterbalance increases linked with those factors, as per the IPAT equation (i.e. human impact (**I**) on the environment equals the product of **P**= population, **A**= affluence, **T**=

technology).[8] Thus, based on historical evidence, it is unlikely that action on technology alone can keep environmental damage in check in the future.

In order to progress, an acknowledgement of other tensions between different principles included in the Rio declaration will probably have to occur. These include:

- sovereignty versus global goods – ensuring that the sovereign right to exploit resources (Rio Principle 2) is balanced against the global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem (Rio Principle 7);
- precaution versus free trade markets – resolving the tensions between the precautionary approach (Rio Principle 15) and unfettered use and diffusion of new technologies with unknown potential impacts, and better incorporating risk in decision-making procedures. This spans a number of areas, including chemicals, agriculture, nano-technologies, to investment decision tools and climate change;
- polluter pays versus global markets– ensuring that the polluter should bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment (Rio Principle 16).

Based on the detailed assessment of Rio Principles and Agenda 21 chapters, it seems clear that the "market' outcomes have to be more regulated based on principles that put values first (e.g. the fundamental principles enunciated in the Millennium Declaration: freedom, equality, solidarity, tolerance, respect of nature and shared responsibility). Currently there is a lack of linkage between commonly agreed values and principle and market practices. This has clear links to the underdeveloped social dimension within the Rio Principles. Further development of such values could help shift behaviours, drive practices and ultimately achieve sustainable outcomes.

Areas for Action

This report, based on the detailed reviews of Agenda 21 and the Rio Principles, has outlined areas that would need to be addressed in order to enable more rapid progress towards the objectives set in Rio 20 years ago. As discussed in previous sections, they relate to international economic governance; trade; international cooperation; the role of corporations in the achievement of sustainable development; participation and access to justice; and the incorporation of long-term considerations in decision-making. The list below, based on the submission from Stakeholder Forum to the Rio conference, offers some proposals for action in these areas. This list should not be taken as being all-encompassing, or even as suggesting that these actions are the only ones that should get consideration. In each of these areas, there are probably many ways to proceed, in particular according to the level of ambition that can be mobilized around the achievement of sustainable development.

1. Progressing and Protecting Human Development

1.1. **A Rights-Based Approach** – There is a need to propose an explicit global social contract, instead of dealing with social issues as a "safeguard" type of concern. A true rights-based approach to dealing with welfare, well-being and environmental issues is essential to sustainable development. Such an approach would put people at the heart of development that is also sustainable.

1.2. **Increasing participation –** Access to environmental information, participation in transparent decision-making processes, and access to judicial and administrative proceedings should be basic rights for all, at all levels of decision-making, including

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[8]Jackson, T. (2009) Prosperity without growth: economics for a finite planet. 1st edition. Earthscan. London

local, national and international processes. Worldwide implementation of Principle 10 of the 1992 Rio Declaration is a priority. This could take the form of regional replications of the Aarhus Convention in other parts of the world, or even more widespread adoption of the Aarhus Convention. More broadly, increased integration between local authorities, national authorities, and other stakeholders in their communities is needed.

1.3. **Giving a voice to Future Generations** – The needs of future generations are a crucial element of sustainable development, but are not represented in the relevant decision-making processes. A way to remedy this situation and ensure that long-term interests are heeded would be to create High Commissioners/Ombudspersons for Future Generations at UN and national levels.

2. Sustainable Management of the Earth

2.1. **Acknowledge Environmental Limits –** There is an urgent need to formally recognise key environmental limits and processes within which we must remain, and the thresholds that we must respect in order to maintain the sustainability of our planet.

2.2. **Sustainable Management of Natural Resources and Capitals –**All levels of government should ensure that national accounts reflect the state of natural assets and ecosystems and their role in sustaining human and economic activity; thereby promoting focused investment toward their conservation and enhancement to avoid environmental crises.

3. The Green Economy

3.1. **Beyond GDP –** The current reliance on economic growth and GDP as an indicator of success has led to perverse outcomes. It has not delivered fair levels of well-being for society or individuals. One view is that GDP is an inadequate metric through which to gauge well-being over time.

3.2. **Fiscal Reform** – Taxes should be used to incentivise positive behaviours and discourage harmful ones. Furthermore, a global Financial Transaction Tax (FTT) should be implemented with revenue ring-fenced for implementing sustainability programmes. Lastly, all subsidies that undermine sustainable development should be eliminated, particularly those underpinning fossil fuel use and unsustainable agricultural and fishing practices.

3.3. **Re-start a Meaningful conversation about the role of corporations in the achievement of sustainable development.** This could take the form of a Convention on Corporate Social Responsibility. As a first step, corporations should report on their environmental impacts and contribution to well-being, or explain why they are not doing so. Furthermore, government could commit to develop national regulations which mandate the integration of sustainability issues in the Annual Report and Accounts, and therefore providing effective mechanisms for investors to hold companies to account on the quality of their disclosures.

4. Sustainable Institutions and Governance

4.1. **Sustainable Development Goals –** The introduction of Sustainable Development Goals (SDGs) is a possible foundation for building further international political commitment, providing measurable 'tangible goals' for sustainable development. The SDGs would address the Agenda 21 aims produced at Rio 20 years ago. The SDGs

would be applicable to all countries, and therefore act as a complementary, successor framework to the Millennium Development Goals (MDGs), which end in 2015 and focuses mainly on the Global South. Furthermore, SDGs would also more evenly spread the focus from only the poverty reduction pillar of the MDGs to better account for the environmental and social pillars of sustainable development. For example, by providing measurements against metrics of planetary boundaries, and a strong focus on consumption patterns in the Global North. However, the SDGs should not detract from the urgent need for a post-2015 framework that focuses on poverty or from funding for that agenda.

4.2. **Improving International Co-operation and Development Aid** – As outlined in review of Agenda 21 Chapter 33, future agreements concerning sustainable development financing should be centred around measureable and time-bound targets, as one of the biggest challenges in implementing future targets has been and will be ensuring the finance committed is truly delivered to developing countries. Improving the quality of aid and ensuring it is delivered on the ground is as important as increasing the amount of aid.

4.3. **Reform of International Financial Institutions –** As discussed in Agenda 21 Chapters 33 and 38, there must be better incorporation of sustainable development parameters in the existing International Financial Institutions (IFIs), particularly in terms of funding, operations, strategic plans, objectives and implementation. Additionally, governments should seek to strengthen the efficiency of the Global Environment Facility (GEF).

4.4. **National, Local and Regional Governance** – National and local Sustainable Development Strategies should be revived and refreshed with full engagement and support from business and all parts of civil society. These strategies should be underpinned with route maps outlying national actions towards a green and fair economy. Advisory bodies such as Councils for Sustainable Development need to be adequately resourced to play their full part in bringing forward new thinking and maintaining pressure for progress.

4.5. **International Court for the Environment** – Environmental problems extend across international boundaries, but there are few effective international institutions to deal with them properly. Strengthening international environmental law mechanisms is essential to securing sustainable development. This could take the form of an International Court for the Environment, which would build trust, harmonise and complement existing legal regimes and provide clarity and access to justice as well as redress.

Annex

Table 2 –Agenda 21 Scorecard

Note: The summary assessments given for each of the chapters are those of individual experts. They do not pretend to represent an unbiased and objective evaluation of all the aspects of specific chapters of Agenda 21. For more comprehensive reviews, the reader should consult the detailed review of Agenda 21, which is a companion to this report.

Chapter	Rationale	Rating	Rationale	Rating
2. International Cooperation to accelerate sustainable development in developing countries and related domestic policies	The efforts made by developing countries in terms of trade liberalisation have not been matched by efforts from developed countries in terms of agricultural subsidies reductions. As such, the Doha Development Round has been in a stalemate for a long time. The amount of subsidies has reduced over the last two decades but organised schemes such as Aid-for-Trade are static. ODA is not enough nor as much as promised, and the aid system has inherent problems leading to corruption and lack of devolution. A good number of countries have had debt relief but this is not enough both in number of countries and amount of relief.		While developing countries have made efforts to liberalise trade rules and open their borders to trade from around the world, developed countries have not responded in kind. Subsidies for agricultural production in developed countries continue to limit the competiveness of developing countries' exports, undermining the supposed benefits of liberalisation. Moreover, developing countries are falling behind in their aid commitments, coming nowhere near the 0.7% of GDP promised.	
3. Combating Poverty	Significant progress was being made towards the MDG 1 of reducing the number of people living on less than US$1.25 per day but this has been seriously hindered by the financial crisis and as such the target is unlikely to be met. MDG 2 on increasing levels of education will not be met either with only a slow increase in the number of children in school (including an increase in the number of girls). Child mortality has fallen but not as fast as expected, and women are still overrepresented in the informal employment sector. The poverty gap has reduced overall but there are now more suffering from chronic hunger. This is also affected by the lack of ODA.		While progress has been made and the number of people living in extreme poverty has decreased, other measures of poverty (e.g. inequality, access to food, sanitation and water) show that limited or even poor progress has been made.	
4. Changing Consumption Patterns	Unsustainable consumption patterns have continued to rise, at a steady pace in industrialised countries but remain at an unsustainably high per capita plateau with very little evidence of reducing or any concerted efforts globally to address this problem. BRIC countries are seeing blooming consumer classes that aspire to high per capita consumption levels and other developing countries will follow suit in time.		Despite a number of initiatives and increasing levels of awareness and discussion surrounding SCP, the world has seen extremely little, if any progress, in regard to reaching the objectives outlined in Chapter 4. Since UNCED the world has seen a steady growth in consumption and consumption patterns remain very high in certain parts of the world – with dramatic increases in the consumer population of India and China. Yet, the basic consumer needs of an even larger section of humanity are not being met. Whilst production systems have become more efficient, the patterns of consumption appear to have become more unsustainable, supported and exacerbated by the globalisation of production and subsidies, and with very little in terms of national policies and strategies to encourage changes in unsustainable consumption patterns (a target outlined in the Chapter), globally, consumption has spiraled dramatically out of control. The Ecological Footprint of the global population has increased by over a third since the production of Agenda 21.	

5. Demographic Dynamics and Sustainability	There has been slow, but some positive progress with family planning and the use of contraception, but in key population growth areas, contraception levels remain low. However global fertility levels are decreasing, which is helping the low contraception levels. There have been some successes in reducing infant mortality due to MDG motivation, but the target is far from reach in the majority of regions.		The global focus on demographic dynamics has actually declined somewhat due to it becoming apparent that it is actually consumption rates which pose a greater threat to sustainable development. Largely through the work of intergovernmental institutions, there have been important steps forward in developing and disseminating knowledge and data on the links between demographics and sustainability. Yet large gaps still exist in our understanding of the relationship between these factors and the broader global environmental system. The creations of specific MDGs attempting to combat certain population-related development issues have had a positive impact in many developing countries and communities. Nonetheless, most nations remain significantly off course from achieving these targets by 2015. In general, therefore, it would appear that the formulation and implementation of integrated population-sustainable development policies remains absent at both the national and local levels.	
6. Protecting and Promoting Human Health Conditions	While progress has been made in reducing child and maternal mortality, it has not been enough; 1 in 4 children are still underweight and family planning funding has decreased. HIV/AIDS treatments are providing significant benefits but the number of new infections is outstripping the supply of treatment. Malaria has garnered increased attention but the impacts of this have not yet been felt and the area is still rife with inequalities between rich and poor. Diarrhoeal diseases are proving to be the biggest challenge with a lack of attention given to sanitation and water provision. The sanitation MDG is lagging the farthest behind. To meet the health MDGs there needs to be another US$20 billion injected. Environmental health hazards such as indoor cooking systems are being ignored but are having serious impacts on health of the poor, especially in urban areas.		Progress has been made in some areas (infant mortality and communicable diseases), other areas still suffer from lack of progress (environmental causes) and health issues are still widespread and endemic.	
7. Promoting sustainable human settlement development	While there are a few examples of urban projects the overall situation is one of continuing socio-economic inequality. The Right to Adequate Housing became a Human Right in 2006 and the proportion of the population living in slums has decreased, but in absolute numbers there are now many more people living in slums than previously. A lack of housing and the out pricing of the majority of the population from accessing adequate housing is a problem in both developing and developed countries. One major reason for the lack of settlement initiatives is the lack of funding going into this area. Furthermore, adequate water and sanitation provisions are a major part of suitable human settlements yet they are the areas most lacking in progress. The main problem is that there has not been the required modernisation within settlement planning that is needed to deal with the increased urbanisation and population growth. Most benefits at the moment are being accrued by the richer members of society.		While there are some good examples of progressive urban policy, the socio-economic inequalities and negative environmental issues within many urban areas remain widespread in both developing and developed countries. Slum populations are rising and conditions in slums continue to worsen.	

8. Integrating environment and development into decision-making	Whilst most countries have created institutions and laws specifically aiming to mainstream environment and development in decision making processes, their influence and impact at the policy, planning and management levels remains limited in the majority of countries. Numerous market-based instruments and other incentives have emerged to promote the integration of environmental considerations into business practices. These have had a notable impact in some cases, however on the whole their scope and impact remains limited, with 'business as usual' prevailing in most regions, countries and communities. Despite advances in technology and the development of global mechanisms to support their implementation, most countries - especially in the developing world – do not possess fully functioning systems of Integrated Environment and Economic Accounting systems.	[orange]	There has been some implementation and integrations of National Sustainable Development Strategies but far from complete coverage. UN Agencies have done some work in advancing this agenda (e.g. IAP and PEI). While progress has been made using EIAs in Europe, this practice is limited elsewhere.	[orange]
9. Protection of the Atmosphere	Progress in limiting the emission of greenhouse gases into the atmosphere has been non-existent, with annual CO2 emissions growing year on year, and even the rate of growth increasing. Efforts to achieve international agreements on curbing emissions have repeatedly met with failure, with little to suggest concrete measures will be taken in the future. Separately, while emissions of ozone and particulate matter have decreased or stayed the same in developed regions, the pictures is far less promising in developing countries with huge rises in emissions observed.	[red]	While some progress has been made in this area (e.g. ozone depletion), GHG emissions and other atmospheric pollutants remain a huge problem and growing. Anthropogenic climate change is one of the biggest challenges to sustainability	[red]
10. Integrated approach to the planning and management of land resources	There have been minor success in implementing the objectives outlined in Chapter 10 – the limited (due to lack of investment in human and fiscal resources) implementation of suitable land use and land management policies, strategies and action plans; the increase in international and regional initiatives and institutions; the quality and quantity of land use information is improving through such technologies, which are being utilised alongside socioeconomic data to inform a comprehensive collection on land-use. Yet, the pace of implementation of Chapter 10 remains uneven and inefficient with large unnecessary overlapping and conflicts in efforts at various government levels, the extremely alarming incidence of tenure insecurity and the scale of 'land grabs', ineffective and weak dissemination of technologies and data provision (particularly at the national levels). Such issues are all compounded by the high levels of corruption among elites and by the increases in human population which will decrease the average availability of land per person globally.	[red]	UN's FAO has lead various initiatives to promote sustainable land use (e.g. promotion and development of planning, management and evaluation systems for land and land resources, the development of land evaluation frameworks; land use databases). However, progress of further and more widespread implementation of such strategies remains limited due to lack of investment of human and financial resources.	
11. Combating Deforestation	Overall rates of deforestation have decreased thanks largely to widespread afforestation/reforestation programmes, however the destruction of primary forest remains alarmingly high in across all regions. Progress in sustaining the multiple roles and functions of forests has therefore been limited. This can be attributed to the failure of many countries to effectively combat the drivers of deforestation – especially agriculture. Numerous institutions and initiatives have been created at the global, regional and national levels to improve the observation and systematic assessment of the full value of forests. Nonetheless, the impact of these advances and initiatives continue to be frequently undermined by the poor governance and weak institutions present in the developing countries which house the Earth's largest forest resources.	[orange]	While, the last two decades have seen a significant increase in efforts to conserve biodiversity through forest initiatives, the FAO stresses that the current rate of deforestation is still 'alarmingly high' In the last two decades the overall rate of deforestation has shown signs of decreasing. However, this is not due to decreased wood removal, but rather improved afforestation rates.	

12. Managing Fragile Ecosystems: Combating Desertification and Drought	Although some progress has been made to implement the objectives outlined in Chapter 12, such progress remains inadequate and is increasingly becoming hampered by the present and projected impacts of climate change, increasing global human population and increasing levels of consumption. Major obstructions to implementation remain the lack of practical and effective information and monitoring systems (particularly in relation to the socio-economic impacts of desertification and drought) and institutional inadequacies – particularly those of the UNCCD, which remains disjointed and disconnected from two additional UN conventions (UNCCC, UNCBD).	The effectiveness of the United Nations Convention to Combat Desertification (UNCCD) has been limited, due to insufficient interaction with the scientific community and a lack of harmonisation with the Conventions on Biodiversity and Climate Change. Moreover, while the Global Earth Observation System of Systems (GEOSS) might have strengthened information and monitoring at the global level, efforts at the regional and national levels have been less successful, with Africa in particular lacking the scientific capacity to adequately assess desertification. Most worryingly, there is deep concern over the capacity of developing countries to cope with drought induced by climate change.	
13. Managing Fragile Ecosystems: Sustainable Mountain Development	Despite successes – for example, with the Mountain Agenda receiving increasing recognition and action across levels, a reasonable programme of work on mountain biological diversity, successful implementation of various PES schemes (although not widespread) – Chapter 13 has failed to address a number of critical issues effectively (e.g. fresh water, biodiversity, cultural diversity and heritage, infrastructure development for mountain communities). There remains a significant dearth of comprehensive policies and laws, across all levels, to specifically protect mountain areas and communities, with mountain populations continuing to be marginalised within sustainable development policies. There remains a considerable gap in terms of scientific knowledge and mountain-specific data to provide a higher level of understanding of mountain regions. Such specific scientific knowledge and data are critical when considering the impacts of global climate change. Finally, the promotion of alternative livelihoods has been meagre and has seen very little successful activity.	The effort to strengthen the sustainable development of mountains has been significantly undermined by sector-based institutional structures which fail to account for cross-cutting issues and are insufficiently harmonised. Efforts to improve data collection and monitoring are similarly lacking, severely limiting the overall effectiveness of sustainable mountain development initiatives. The lack of comprehensive national mountain development strategies is a further aggravating factor.	
14. Promoting Sustainable Agriculture and Rural Development	Whilst we are still yet to see the 'major adjustments' called for by Chapter 14, a small level of progress has been made towards objectives outlined in the Chapter and the recent renewed international focus on agriculture as a mechanism for sustainable rural development is encouraging. Yet, with increasing levels of competition for land and other natural resources, higher energy prices, volatile food prices and new market demands (e.g. biofuels), combined with the lack of investment seen in agriculture over the last two decades, weak technology transfer, institutional incoherencies and weaknesses across all levels, poor infrastructure and lack of access to markets, much still remains to be achieved. Particularly so in light of the impacts of climate change, which are predicted to increase food insecurity and hamper rural development, especially within sub-Saharan Africa.	Agricultural productivity has seen huge gains across the world, but the situation in Sub-Saharan Africa continues to be bleak, with no increases in labour productivity. Moreover, while public investment in agriculture in Asia has risen, African governments have failed to live up to the commitments of the Maputo Declaration. Growing populations and resource scarcity look likely to hit the poorest countries hardest, while the ability of agricultural systems in developing countries to cope with the impact of climate change is also in question.	
15. Conservation of Biological Diversity	Efforts have been made at all levels to protect and preserve biodiversity: 170 countries have national biodiversity action plans, public awareness campaigns and scientific research and monitoring efforts have increased, and the number of protected areas globally has risen. But despite these efforts, in the 20 years since the Rio Summit, biological diversity has continued to decline and prognosis for biodiversity is grim with high levels of extinction expected to occur over the next hundred years. The underlying drivers of biodiversity loss, unsustainable use of biological resources, pollution, habitat destruction, invasive species, and climate change, continue to increase.	Since the Rio Summit, biodiversity has continued to decline, and prospects for the future are bleak, with extinction likely for many species. None of the objectives of the Convention on Biological Diversity were met globally by 2010, with either no progress at all or regression in certain areas, such as unsustainable consumption of biological resources and protection of traditional knowledge. Moreover, overall levels of funding remain inadequate to efforts to achieve the necessary levels of biological conservation.	

16. Environmentally Sound Management of Biotechnology	The biotechnology industry has seen huge growth over the past 20 years, yet the benefits for development, particularly in poorer countries as highlighted in Agenda 21, haven't been realised. There is still a huge amount of controversy surrounding many biotech applications e.g. GM crops and stem cell research, and there are countless regulations related to different biotech applications, which has led to incoherent and conflicting national and regional policies, further dividing opinion. Progress in international cooperation has also been slow, partly because of private sector dominance, but also these conflicting regulations and controversy.	(orange)	Attempts to create enabling mechanisms for the development and the environmentally sound application of biotechnology have been largely piecemeal, with many examples of regional and international legislation but little in the way of a comprehensive, unifying framework. While biotechnology is growing in importance, its application in the developing world has been limited, with activity largely confined to industrialised countries. There is also a profound lack of consensus over the potential benefits and risks involved in biotechnology, considerably undermining public and political confidence.	(orange)
17. Protection of the oceans, all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources	In the 20 years since Rio, the state of world's oceans and coastal areas has continued to decline. Coastal areas are being heavily degraded with about 400 now intermittently or always oxygen depleted, including over 200 dead zones. Fifty percent of global fish stocks are fully exploited with 40% of total fish catch done unsustainably. Management of High Seas fisheries is only in its infancy and Small Island Developing States are still suffering from loss of biodiversity, habitat loss, coastal degradation, sea level rise and extreme weather events. Progress has been made in substituting integrated coastal zone management (ICZM) and ecosystem based approaches for sectoral approaches, however, implementation has been difficult.	(orange)	Significant progress at the global and regional level with development of governance and commitments to ICZM. However, as seen in many other areas, national and local implementation is slow or non-existent in many cases. The result is that marine ecosystem health continues to decline rapidly with most fisheries either in decline or over-exploited. There are some success stories. The EU Marine Strategy Framework Directive has paved the way for marine spatial planning, and many countries advancing on this. However we remain a long way from any targets and a long way from reversing the damage that is ongoing.	(orange)
18. Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources	Global implementation of IWRM is less than 30% and in most cases is significantly lower if not completely non-existent. Some advances in the developed countries with the implementation of the Water Framework Directive in the EU paving the way for an ecosystem-based approach to resource management. MDG 7 has given impetus to providing improved drinking water supplies and in some cases is on target; however sanitation provision is nowhere near meeting the target. Climate change pressures are only going to exacerbate already slow progress in IWRM and provision of clean water and adequate sanitation.	(orange)	Implementation of integrated water resource plans remains low (less than 30%), but this is an improvement from 1990. However, it is estimated that at least 1.1 billion people still lacked access to safe drinking water and about 2.7 billion were without adequate sanitation.	(orange)
19. Environmentally sound management of toxic chemicals, including prevention of illegal international traffic in toxic and dangerous products	Good progress has been made in most of the programme areas outlined in agenda 21. The Stockholm and Rotterdam Conventions, as well as the Strategic Approach to International Chemicals Management (SAICM) and the EU REACH legislation are helping to improve chemicals management. Some issues, such as illegal trafficking in chemicals remain a serious problem, and many countries, particularly developing countries have a long way to go to improve their national frameworks for managing chemicals. Overall progress is encouraging though.	(green)	Globally numerous international institutions and initiatives have been created to deal with the management and regulation of chemicals. Successes include ozone depleting substances, mercury and DDT. Labelling of chemicals has also seen significant progress. However, globally the growth of the chemicals industry is enormous, with production and consumption in developing countries increasing. There is a link between poverty and increased exposure to toxic chemicals. Despite progress, the consensus is that they are insufficient to achieve the goals set out in Agenda 21.	(orange)
20. Environmentally Sound Management of Hazardous Wastes, Including Prevention of Illegal International Traffic in Hazardous Wastes	Although some regions have made significant progress notably the EU, which has introduced much more stringent laws related to hazardous waste (WEEE directive, revised Waste Framework directive etc.), globally hazardous waste generation continues to increase, and illegal trafficking, dumping and transboundary movements of waste (particularly WEEE) remain serious issues. The Basel Convention, which is more or less the only international legislation dealing with hazardous waste, has some serious weaknesses which need to be addressed.	(orange)	Economic growth, industrialisation and urbanisation have led to rapid increases in volumes of hazardous waste, with electrical and electronic waste increasingly giving cause for concern. Efforts by the EU to deal with the volumes of hazardous waste currently produced are undermined by the inability of developing countries to do likewise, with companies from industrialised regions often paying poor countries to accept waste. Trans-boundary waste, including illegal trafficking, undermines the capacity of regulators to do anything about the problem, with initiative such as the Basel Convention seemingly having little effect.	(orange)

21. Environmentally sound management of solid wastes and sewage-related issues	Progress was made in developed countries at waste minimisation, however per capita waste levels are completely unsustainable. Annual waste production globally increasing by ~8% and data are too unreliable to know if progress is really being made or simply 'exported' either physically through dumping waste on other countries or indirectly through outsourcing waste producing industries while still reaping the benefits. Some success stories exist though mainly in developed countries, with significant increases in recycling rates and innovative new technologies for reuse, new regulations to put final disposal burden onto producer aims to promote more sustainable ecodesign. However, the key issue of reducing waste production altogether is still not being adequately addressed.		Significant progress has been made in some areas of solid waste management, particularly recycling and final disposal. The majority of this progress has taken place in developed countries though, with developing countries often lacking the resources to cope with increasing volumes of waste, which is so closely linked to economic development. Minimizing waste continues to be the most challenging aspect of waste management, but this has in the last few years, become the focus of many countries national strategies, and positive results are beginning to be seen in developed countries.	
22. Safe and environmentally sound management of radioactive wastes	The International Atomic Energy Agency has introduced several laws, regulations and codes of practice over the past 20 years that have greatly improved the management of radioactive waste. Some of the specific targets set out in Agenda 21 (e.g. restrictions on the transboundary movements of waste, and banning dumping at sea.) have already been achieved, and overall progress is encouraging. There are still issues to be addressed though, e.g. high level waste disposal , and the IAEA's Joint Convention needs strengthening as it does have its flaws.		With about 95% of all radioactive waste worldwide being managed by Parties to the Joint Convention signed in 1997, it plays a key role in ensuring the safe management of waste at the global level. However there are currently no practices in place with which to dispose of high-level waste and spent nuclear fuel. The general consensus is that deep geological disposal is the best option for high-level waste, and underground facilities are currently in the planning process. This is expensive and highly technical, and some countries lack capacity to implement such disposal practices. Additionally legacy waste which has been poorly disposed of remain a huge environmental and health risk.	
23. Major Groups - preamble	Involvement of multiple social groups in governance processes has increased significantly on all spatial levels since 1992. It is widely recognized that broad public participation in decision-making is a prerequisite for sustainable development, and new forms of participation have emerged. The Internet and new information and communication technologies have revolutionized access to information. Still there is need for improvement, since not all governments are equally eager to involve their citizens in meaningful partnerships. Only a few countries have institutionalized constant participation of Major Groups in national decision-making for sustainable development. Closer collaboration is needed for transparency, legitimacy, and accountability.		The quantity of non-state actors engaged in UN summits and processes has grown tremendously since the adoption of Agenda 21. Agenda 21's establishment of the concept of nine Major Groups has increased the diversity of actors involved in many UN processes. However, there are still occasions when Governments are meeting and Major Groups are not included, and other cases when they are allowed token presence in negotiations but there is a lack of meaningful participation. Only a few countries have institutionalized constant participation of Major Groups in national decision-making for sustainable development.	
24. Major Groups - Women	General awareness and tracking of gender issues has increased, but the man is still the norm, and the overall situation for the world's women is far from target. Although differences are big across regions, women remain the poorest of the poor everywhere. Many women have experienced a decline in their quality of life and a number of governments have turned back advances in women's autonomy. Global success stories are improvements in literacy and education for girls and women, the ratification by most governments of international women's rights treaties, and the right for women in most countries to hold public office.		The women's major group has been very successful in their overall participation in global processes, and their activities clearly predates 1992 and Agenda 21. It seems obvious that their successes are related to areas that traditionally have been labelled –women issues – health, population welfare, but Agenda 21 gave women also a clear role in sustainable development. Gender mainstreaming is now a household word in all activities and there is at least on surface little resistance to giving women a role. Still this acceptance is often symbolic, and pertains to some countries more than other.	

25. Major Groups - Children & Youth	Young people still face disproportionate levels of poverty, gender discrimination and health problems, and global youth unemployment recently hit a high record. On the positive side, the world has seen growing acceptance of youth as legitimate actors in decision-making since UNCED, and the UN has put in place support structures for promoting the role of youth. The Convention on the Rights of the Child has become almost universally ratified, though implementation levels vary. Many governments recognize the need to invest in the young generation for sustainable development and are committed to create improved opportunities in the coming years.	[orange]	Integrating the work of youth in the UN is problematic as youth is a transitional group. As it is still neither well understood nor integrated into institutional systems or processes, the group is often paid lip service to, and its presence often becomes symbolic – 'it is good to be seen with youth'. Integrating youth into negotiations is improving, in no small part thanks to the recognition by Agenda 21, but progress has been difficult, uneven and slow. Trying to integrate children in the work of the UN in general and negotiations in particular, also shows a particular lack of understanding for how this particular group lives and operates. To work with children, organisations need to be developed with that in mind and run by people with special knowledge. The UN does not possess this at the moment. Mentoring programmes for youth concerning negotiations, process understanding, etc., have been on the agenda but are still not developed. Consequently there is a long way to go before the children and youth group has a proper position within the UN.	[orange]
26. Major Groups - Indigenous Peoples	Targeted initiatives and international support structures for indigenous peoples have been established since UNCED, including the UN Declaration on the Rights of Indigenous Peoples. Implementation on the national level has been uneven, and while improvements are visible in some places, many states do not even acknowledge the presence of indigenous peoples in their countries. There is a long way to go for improving the living conditions of indigenous peoples, who are still marginalized and experiencing more poverty and health problems than the rest of the population across many regions. Traditional knowledge and cultural lands are too often disrespected.	[orange]	UNCED in Rio in 1992 was clearly a breakthrough for Indigenous Peoples in many aspects, and the Johannesburg Summit marked another high with the recognition of the 's' in peoples. It is also obvious that Rio started a process that gave the indigenous groups an opportunity to pursue their policies for representing their peoples and consequently a recognition of participation in process globally. Still, their participation is hampered by a general lack of resources, and they are far from reaching their targets.	[orange]
27. Major Groups - NGOs	The status and importance of NGOs has increased tremendously over the last decades. NGOs play roles as moral stakeholders, watchdogs, mediators, implementers, lobbyists, and experts. They have become increasingly professionalized and UN agencies have grown dependent on NGOs in mutually beneficial relationships. Multiple NGO networks are spearheading different aspects of sustainable development. On the national level, NGOs have in some cases become the main service providers towards sustainable development by taking over responsibilities that would normally be the task of governments. Most governments are in dialogue with NGOs and encourage their initiatives, while other governments are still suppressing NGOs.	[green]	Rio plus 20 was a breakthrough for civil society and work on international processes. The number of NGOs registered with the UN soared after 1992. There has been considerable success in integrating NGOs in the work of all entities of the UN, process as well as implementation. It would be impossible as well as incorrect to relate the success in number to the Rio process alone. Quite clearly the NGOs have been driving process and implementation at all levels in the work on sustainable development, local, national, regional and global. Still the process is organic and ever evolving, thus targets are not fulfilled by any means.	[green]
28. Major Groups - Local Authorities	Local Agenda 21 has been one of the most extensive follow-up programmes to UNCED and is widely cited as an unprecedented success in linking global goals to local action. Many local authorities around the world have adopted some kind of policy or undertaken activities for sustainable development, either as a main priority or as a crosscutting issue. Progress so far does not mean that the work is over, but rather that there is potential to build further on the success. Multi-level governance is needed, as well as increased integration between local authorities and multi-stakeholders in their communities.	[blue]	The foundation of ICLEI in New York in 1990, or the 'International Council for Local Environmental Initiatives' as it was first called, heralded global interest among local authorities for sustainable development. Today there are several global organizations consisting of local authorities as members, and these are proof of interest among local authorities to work on sustainable development. However the initial high level of activity seems to have waned among local communities. Questioning the position local authorities hold in UN processes, they do not feel they have found a relevant position in these processes. Despite these issues and a few setbacks, a degree of recognition to the success of many local authorities must be given, even if there are too many municipalities not participating,.	[green]

29. Major Groups - Workers & Trade Unions	Most global trends for workers have gone in the wrong direction since UNCED. Income inequalities have grown dramatically in most regions of the world and are expected to rise further, and unemployment rates are the highest ever reported. Work related accidents, injuries and deaths are unacceptably common and have been increasing in developing countries. Changes in workforce structures have made new kinds of occupational health problems common. Worker's conditions are dependent on national legislation and vary between countries. Companies seldom take measures beyond the minimum required to improve the life situation for their workers. Trade unions are often threatened.	█	Being the oldest non governmental entity in the UN family and used to being a serious and negotiating member of the international community – the tripartite agreement with ILO dates back to 1919, the commitment of trade unions to international process work cannot be attributed to Agenda 21 and Rio in 1992. Slow in accepting sustainable development as an issue, often fearing that sustainable development concerns might jeopardize job opportunities, trade unions have changed dramatically, because of Agenda 21 and the ensuing work of the UN on sustainable development and environment related work. Trade unions have shown great innovative skills in dealing with especially two of the three pillars of sustainable development, - the social and economic one - but have been struggling to find their proper role in relation to other aspects related to Agenda 21 work.	█
30. Major Groups - Business & Industry	The private sector has potential to become a positive driver for sustainable development. Positive initiatives are emerging but are far too limited, such as social and sustainable entrepreneurship, green innovations and cooperative enterprises. Current global trends show that the vast majority of businesses prioritize short-term economic gains on the expense of social and environmental conditions. Environmental costs have grown with globalization of markets and industrial production patterns. Companies continue to violate human rights, exploit natural resources and pollute the environment. The business sector engages in greenwashing, controls some areas of science, and lobbies hard to defeat regulation efforts.	█	The business community always seems to be referred to as a "must" in talks about future development of the world, and more often than not because of the amount of money and finances it represents. The business community was a reluctant participant in Rio in 1992, but because of Rio and the ensuing work on environment, business has become an interested partner in sustainable development projects. It often represents a reactive force, and has at times acted in a more conservative manner than was necessary, still the business community has entered the sustainable development thinking with strong force. Despite laudable efforts of the local, national and global business communities to engage on the agendas of Rio and Johannesburg, with a few notable exceptions, the business community is still underperforming.	█
31. Major Groups - Science & Technology	The process of sound scientific knowledge production has improved as science has become more interdisciplinary and transdisciplinary. The field of sustainability science has grown rapidly and multiple research initiatives advance knowledge about Agenda 21 issues. Scientific global assessments have become common tools for improving communication and cooperation among the scientific and technological community, decision makers and the public. Codes of practice and guidelines related to science and technology are under development.	█	Sustainable development has a number of times been labelled an impossible political concept and an equally impossible scientific concept. Were the science community to be evaluated only in terms of its presence and contribution to the CSD process this would indicate little progress. The main problems here are, as in other instances – that so much of CSD is politics. And scientists by nature, to keep and preserve their independent and objective position and role, shy away from politics. But as sustainable development issues have penetrated many other institutions of the UN where scientists are operative, the colour of appreciation changes. UNESCO, UNEP, UNRISD, UN University – there are numerous institutions working with sustainable development related issues where scientists are active. Many global, regional and bilateral environment conventions have a basis in scientific facts backed up by scientific processes. But targets listed in Agenda 21 and also reiterated in the JPOI have not been fulfilled	█
32. Major Groups - Farmers	Food producers in rural communities in developing countries often live in poverty, even though their farming practices are low-resource and sustainable, which Chapter 32 aimed to promote and encourage. On the other hand, large subventions are still provided to unsustainable high-resource agriculture, which is the largest single cause behind climate change and loss of ecosystem services. The amount of organic farming has grown in all world regions since UNCED, but constitutes only 0.9% of the total agricultural land. Agricultural data and information have become more commonly available, but farmers are not sufficiently involved in the research-technology-knowledge nexus.	█	Recognizing the importance of food and agriculture, FAO was one of the first of the UN Specialised agencies to be established. The issue of food was also one of the hot topics for discussion in Rio in 1992, and provided the background for the development of one of the three Rio Conventions, the UNCBD. Rio brought sustainable farming to the global agenda. Inspired by Agenda 21, and the later development of the CBD and its protocol, including differentiated development of activities in other food and sustainable development oriented agricultural issues, the role of farmers, and in particular the role of small farmers have been recognised and these groups have also been given an arena upon which to act. Still, new issues keep emerging such as food safety and food security, as well as bio engineering, water shortages etc.	█

33. Financial resources and mechanisms	While Chapter 33 adequately lists resources and mechanisms vital to the implementation of Agenda 21, none of the Chapter's financing methods were expanded upon enough to be effectively implemented. Furthermore, the absence of clear reporting procedures made the inadequate provision of Agenda 21 financing difficult to address. Nonetheless, at present there are increased resources available for sustainable development. Funding has steadily increased from Multilateral Development Banks and the Global Environmental Facility, and while ODA substantially fell following UNCED, development assistance levels have bounced back. Innovative financing methods have also grown in importance and possibility (i.e. Kyoto Protocol, High Level Advisory Group on Climate Change Financing). However, if the implementation and measurement of sustainable development financing remains as vague as was set out in Chapter 33, these financing increases could become ill-used and unsustainable.	■	While funding has improved in recent years, Funding arrangements and transfers of technology from developed to developing nations around the Agenda 21 outcomes have been not delivered as promised. ODA fell from $62.4B (USD) in 1992 to $48.7B in 1997. It was not until 2002 that it again topped the $60 billion mark. This "lost decade" was marked by regression of key development statistics with many of the world's poorest countries suffering from worsening poverty. However, aid flows from donor countries totalled $129B in 2010, the highest level ever, and an increase of 6.5% over 2009. Other challenges include inadequate measurement and reporting; lack of collaboration; questions of aid effectiveness; trade and debt relief inequalities.	■
34. Transfer of environmentally sound technology, cooperation and capacity-building	Although a raft of measures have been put in place to facilitate technology transfer, progress has generally been perceived as slow, with the rate of technology transfer having fallen over the lifetime of the Clean Development Mechanism. Policymakers have so far failed to deal with the complexity involved in transferring Environmentally Sound Technologies from one institutional context to another, undermining the capacity of developing countries to benefit from 'leapfrogging'.	■	Knowledge sharing has improved with the establishment of a multitude of partnerships and networks. Various initiatives exist to facilitate technology transfer. However, progress in actually transferring technology remains slow.	
35. Science for sustainable development	Since 1992, virtually countries have strengthened the scientific basis for sustainable management, often through the creation of specific science-development institutions. Advances in the BRICS countries have been particularly pronounced, seeing the capacity and capability of the developing world becoming more closely aligned with that of their Northern counterparts. This, along with the continued development of specialised global scientific organisations – chief amongst them the IPCC - has resulted in a greatly increased understanding of global environmental processes. This is in turn closely related to tangible improvements made in long-term scientific assessment at the global, national and regional levels. There nonetheless remain significant problems surrounding the coherence of global scientific efforts and the myriad agencies which undertake both research and assessment. Despite some progress, the sustainable energy puzzle remains largely unsolved and many developing countries still lack the institutional capacities to place science at the centre of sustainable development programmes.	■	Since the beginning of the 21st century, global investment in science and technology research and development has clearly developed, and scientific understanding of the Earth's carrying capacity and impacts of human activity has deepened considerably. Many initiatives have improved the ability of countries around the world to appropriately assess progress in meeting sustainable development criteria, and various mechanisms have, to an extent, worked to incorporate scientific information into the decision making process. That said, at the global level scientific assessment remains somewhat incoherent, and capacity constraints continue to impact upon many developing countries.	■
36. Promoting education, public awareness and training	Achieving universal basic education and the eradication of illiteracy, central to Chapter 36, the Millennium Development Goals and the Education for All agenda, remains a distant dream, with 67 million children out of school in 2008 and 17% of adults lacking basic literacy skills. Progress on re-orienting national education strategies towards sustainable development has been more promising, with many countries incorporating principles of sustainable development into curricula and establishing national coordinating bodies for the promotion of education for sustainable development. However, education for sustainable development lacks a clear definition, and whilst the outlook for education in general remains bleak, the capacity of education to act as an instrument for sustainable development appears limited.	■	The Johannesburg Plan of Implementation 2002 re-energised efforts to operationalise this part of the agenda, emphasising that education is an indispensable element of achieving sustainability and led to the establishment of the UN Decade of Education for Sustainable Development. However, the goals of providing universal basic education and eradicating illiteracy are still far from realised. In 2008, 67 million children were out of school and 17% of the world's adult population lacked basic literacy skills. Discrimination in education provision also persists as two thirds of adults lacking basic literacy skills are women.	■

37. National mechanisms and international cooperation for capacity-building in developing countries	There are lots of national and international strategies for increasing countries' capacity but ultimately these are contradictory in theory and practice with most culminating in top-down generic solutions. What is needed is flexibility and iteration to fit within different contexts and to empower each country individually. The policies are too focused on measurable results when what is needed is endogenous change. However, there are a number of Declarations and initiatives that are leading the way in this area i.e. Paris Declaration and Accra Agenda for Action, plus signs of international cooperation with programmes such as the UN Delivering As One.		National Strategies for Sustainable Development (NSSDs) and poverty reduction strategies (PRSs) have emerged as the key mechanisms through which countries are able to assess their capacity needs and target improvements. However, capacity development has all too frequently been viewed as a technical, universal applicable process, and has tended to ignore the ways in which national capacity is a function of the local institutional and socioeconomic context. The results-driven perspective of developed countries, whose aid is frequently contingent on achieving strictly measureable objectives, has often worked to undermine the long-term sustainability of capacity development initiatives.	
38. International institutional arrangements	Chapter 38 is rated as "achieved already" since international institutional arrangements have been put in place as suggested in the chapter, and all mentioned UN agencies have made efforts to fulfill the roles envisioned for them in Agenda 21. However, the arrangements are not ideal since they include overlapping mandates resulting from a process of negotiation and compromise. Experience shows that the institutional support structure is not coherent enough for effective and efficient implementation. Greater coherence and institutional connections between different spatial levels are needed, and there is an urgent need to reform the institutional framework for sustainable development.		The changes to the UN proposed in Agenda 21 have each come to fruition, and much has been done to unite the development and environment agendas at the international level. The establishment of the Commission on Sustainable Development represents a particularly significant achievement, given the complexity of the discussions to Rio. That said, there is concern over the ability of the CSD to live up to its mandate, and other institutional challenges remain, for example in the case of the frequently overlapping and contradictory Multilateral Environmental Agreements (MEAs). The lack of implementation apparent across a number of Agenda 21's objectives also brings the effectiveness of the UN's overarching structure into question.	
39. International legal instruments and mechanisms	Agenda 21 has been a significant catalyst for the generation and application of legally binding agreements in the environment and development domains. Multilateral environmental agreements have reporting requirements. The CSD provides review, assessment and fields of action in international law for sustainable development. UNEP and others have contributed to further development of implementation mechanisms. Effective participation in international law making is supported by capacity-building services, training materials, and funding to developing country delegates to attend negotiations. An international dispute resolution mechanism purely for environmental or sustainable development issues is lacking. Multilateral environmental agreements would need to be clustered for coherence.		Many Multilateral Environmental Agreements (MEAs) have been negotiated since 1992, creating a legal mechanism which situates environmental issues in the context of sustainable development. Moreover, the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the United Nations Convention to Combat Desertification (UNCCD) have each gone some way to strengthening the legal framework for sustainable development, successfully balancing the interests of different parties. However, it remains the case that legal commitments are often not matched by implementation, and there are also instances in which the legal framework is self-contradictory, as in the case of MEAs.	
40. Information for decision-making	Much has been done to strengthen frameworks of sustainable development indicators and provide a new basis for decision-making; the UN, OECD and EU have all worked to ensure environmental indicators are amenable to the demands of policymakers. However, the reduced capacity of developing countries to collect and analyse sustainable development data continues to give cause for concern, limiting the effectiveness of measures taken by the international agencies to harmonise environmental data at the global level. Insofar as bridging the data gap between developed and developing countries was a central objective of Agenda 21, it is far from clear that progress has been sufficient.		While a great deal of effort has been put into developing and implementing sustainable development indicators, data collection and analysis remains a challenge, particularly in developing countries. Even where data exists, its reliability and quality is at times questionable. Enhancing countries' institutional capacity to collect and assess data remains a priority. Furthermore, global indicator frameworks, in seeking to harmonize environmental data sets at the international level, risk distorting the local picture and compromising traditional and indigenous knowledge.	

Table 3 –Rio Principles Scorecard

Note: The summary assessments given for each of the Rio Principles are those of individual experts. They do not pretend to represent an unbiased and objective evaluation of all the aspects of specific Principles. For more comprehensive reviews, the reader should consult the detailed review of the Rio Principles, which is a companion to this report.

Principle	Rationale	Rating	Rationale	Rating
1. Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.	This human-centric approach has defined the environmental and sustainable development policy landscape for the decades since UNCED; however it is challenged by many quarters that advocate for an earth centred or earth jurisprudential approaches to development. The inherent contradiction in this principle results in its efficacy being undermined, even though the element of living in harmony with nature appears to have been widely adopted by civil society organisations and non-governmental and governmental actors alike.		The right to a healthy and productive life continues to elude over a billion people living in poverty. For a similarly large number living above the poverty line, patterns of consumption and the impacts of the industries in which they work can only be considered to be in disharmony with nature. Various institutions and initiatives have been created in attempts to limit humankind's negative impacts on nature, however these continue to be undermined by actions based upon anthropocentric logic, emphasizing the seemingly contradictory nature of the principle.	
2. States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.	This principle, if implemented without adhering to the foundations of sustainable development can only but contradict the essential approach to achieving SD. Unchecked exploitation of natural resources results in significant negative impacts on not only that country, but the wider world and can undermine efforts of the international community to make development sustainable. Efforts have been made to incentivise the non-exploitation of natural resources through paying compensation, such as the REDD mechanism; however this is just one small element of the serious situation that the world faces in terms of irresponsible resource depletion.		Certain initiatives have sought to limit transboundary environmental damage, with it becoming a requirement for states to carry out environmental impact assessments prior to resource extraction projects. However, it is increasingly difficult to accept that a state's sovereign right to exploit its resources is compatible with long-term sustainability objectives, particularly in the context of climate change. It is clear that success in protecting national interests has comprehensively outweighed the impact of mechanisms designed to coordinate the international response to sustainability challenges.	
3. The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.	Examples of institutionalising the rights of future generations are peppered throughout the two decades after UNCED; however all but one have been disbanded. There is increasing respect for adopting an intergenerational approach and there are promising proposals for Rio+20 that will go a long way to further entrenching principle 3.		There are several examples of the rights of future generations being integrated into national and international legal frameworks, however the majority of these are aspirational principles rather than concrete obligations. In spite of this, the increasing integration of an intergenerational approach in government and non-governmental actions is promising. Significant challenges still exist that will need to be overcome to fully embed long-term thinking into decision-making processes.	

4. In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.	With a range of environmental protection agencies being established in the world, and a focus on their broad remit (protection) the principle has seen some success in filtering down to the national and local level. Linked to EIAs the development process has mechanisms by which environmental protection is integrated into the planning and development process, however these are often seen as tick box exercises and not really offering full analyses of the issues. In addition, development in those countries that are aspiring to alternative standards of living, to match the development trajectory of the Northern countries, has priorities in poverty reduction, which can be in conflict with developing in a *sustainable* way.		Environmental protection has yet to be mainstreamed in the majority of development-oriented decision making processes despite numerous declarations, institutions and initiatives being created to increase their coordination. Studies such as the Millennium Ecosystem Assessment have clearly displayed the long term value of sustainably using natural resources, yet governments and businesses of all sizes in both the North and South continue to externalise environmental costs and exploit natural resources for short term economic gain. Even when laws protecting the environment have been ratified at the international and national levels, in many cases their impact is being undermined by poor governance and weak institutions unable to enforce them. The green economy has emerged as possible vehicle for pulling together human and natural interests, however is currently still largely at the conceptual stage with most economies remaining distinctly brown.
5. All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world.	The MDGs, heir to this principle are a shining example of how many elements of it have been translated into internationally agreed goals. The review of the MDGs in 2015 will offer some more light on how successful implementation of the principle has been; however so far very few are likely to be met. In addition, the latter element of the principle (standards of living) has not been well addressed and continues to be ignored in international processes.		Progress towards the MDGs is mixed, with widespread criticism. GDP is still the primary measure of growth, and inequality (inter-/intra- State) is masked. ODA & FDI levels are still too low - significantly lower than pledged at Gleneagles. However, significant international attention has been afforded, some successes yielded, and national debts cancelled.
6. The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.	With widespread inequity and disparity between countries, the principle has not been well adhered to and the wealth gap between rich and poor nations continues to widen. There appears to have been some efforts made to alleviate the needs of 'special countries' but in practice there are rare examples of this successfully resulting in the overall objective being achieved.		High number of MEAs, Conventions, funds etc. make the case and provisions for priority support, and some development successes have been seen in LDCs. However, prioritisation is still based on GDP, and LDCs are still marginalised. Technology transfer, aid, and climate change commitments, for example, could and should go further.

7. States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit to sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.	The concept of CBDR has been widely adopted in a range of conventions and MEAs. However, the practice of integrating CBDR in practice is less than adequate and the dominant approach in MEA negotiations has not led to fostering trust - to lead to 'global cooperation' but in fact, has done the opposite. The very recent news of Canada's impending withdrawal from the Kyoto Protocol is a case in point.		Significant number of MEAs, Conventions etc. signed and negotiated but still far too many deadlocks and stalemates. CBDR is still really just lip service which developed nations fail to live up to. Many crucial environmental agreements and targets have simply failed.
8. To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.	The Living Planet Indices have decreased by 60% since the 1970s and we are using 50% more natural resources than 25 years ago. Some decoupling has occurred but most of these efforts have been offset by other malevolent activities. There is still far too much waste production. Demographic pressures are continuing and while progress was made on providing family planning, demand is still far outstripping supply, nor does it take into consideration cultural and educational aspects of preventing pregnancies.		Unsustainable consumption patterns have continued to rise, at a steady pace in industrialised countries but remain at an unsustainably high per capita plateau with very little evidence of reducing or any concerted efforts globally to address this problem. BRIC countries are seeing blooming consumer classes that aspire to high per capita consumption levels and other developing countries will follow suit in time. Population projections are estimating a 50% rise in population by 2050 with demand for family planning services far outstripping supply at the national or local level and although global forums are talking about population issues and their impacts on global resources - a more serious and mature debate is looming with weak leadership shrinking from it.
9. States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies.	Some knowledge sharing is evident and some successes including the Montreal Protocol and subsequent conventions that aspire to increase tech transfers and dissemination of scientific knowledge. However, most of the aspirations have been rhetorical only with progress being slow. Significant barriers include the lack of an enabling environment in recipient countries with weak regulatory environments, social and political instability.		All three of the institutional arrangements to propagate technology transfer: (i) ODA from developed to developing countries; (ii) international investment and trade; and (iii) international public-private cooperation agreements are all under-performing and inadequate; specifically regarding the urgent need to address climate change mitigation. The levels of bilateral and multilateral ODA to fund international technology transfers appear low to most observers. The barriers to transfers of technology through government international trade and investment policies remain high in many countries and for many key technologies the commitment of resources to international cooperation activities remains inadequate.

10. Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.	The implementation of this principle has been very successful in some regions, and looks set to secure successful implementation in others. The Aarhus Convention has paved the way for nation states to adopt the principle in practice, however there are states that continue to be non-compliant with it. The proposal for a Convention on principle 10 will strengthen the implementation and application of this principle.	(green)	Civil society's crucial role in shaping sustainable development has been formally recognised by nation states and international agencies alike. Yet in many societies, increased access and consultation has not necessarily translated directly into greater influence. The Aarhus Convention has been a major step forward in institutionalising popular participation, access to information, and justice in environmental matters. In practice, however, even in countries which have ratified the Convention, many populations continue to face significant barriers to accessing relevant information and influencing decision making processes and are therefore unable to hold governments to account over unsustainable policies and actions.	(orange)
11. States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and development context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries.	Since the 1972 UNCED there has been a rapid and broad expansion of environmental legislation. For example: regulations limit emissions through taxation or trading in the currency of greenhouse gases; policy has been influenced by economic models showing that, in theory, development can 'decouple' from environmental degradation; laws ensure that stakeholder participation is a prerequisite to planning permission . But these legislative tools are too often ineffective. International environmental law is fragmented and weak: an array of environmental agreements exist, but ambitious text comes at the cost of enforceability. Furthermore, free trade rules dictate the parameters of environmental governance. At the national level, environmental aspirations are overshadowed by development and economic goals. The implementation of Principle 11 requires that: environmental legislation and goals must be re-prioritised; emerging economies implement sustainable approaches to economic development; countries focus on a greening of the global economy; and global environmental governance is reformed to ensure the coordination of national and international environmental legislation.	(orange)	Since 1992 environmental law has undergone a considerable expansion at the international, regional and national levels, with new legal provisions embodied in conventions, multilateral agreements and national legislation. The proliferation of Multilateral Environmental Agreements (MEAs) has been particularly notable, while many countries have also issued legislation in relation to Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs). However, legal instruments have all too often failed to lead to implementation, often due to discrepancies between the provisions embodied in international agreements and capacity at the national level. Moreover, the continued emphasis upon GDP as the primary indicator of socioeconomic progress has substantially undermined the ability of legislation to produce sustainable outcomes.	(orange)

12. States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.	Principle 12 has been implemented through a number of avenues: judicial recognition and interpretation has reinforced the meaning and importance of Principle 12 in international legislation and may one day elevate it beyond its current soft law status; it is already an operational guideline for the WTO; and appears as a guiding principle in numerous multilateral environmental agreements. However, it remains a key concern to States that environmental regulations can be both a direct conflict with the objectives of a liberalized international market, and also a barrier to entry into the market. The risk of a race to the bottom amongst trading nation States remains a real concern and trading rules continue to limit the ambition of national environmental regulations on imported goods. The need to agree such standards by consensus creates an often insurmountable hurdle to implementing Principle 12 through ambitious global deals.		Difficulties in securing multilateral consensus on environment and trade disputes have reduced the capacity of provisions embodied in trade law to protect the environment. To some extent, the prohibition of unilateral measures has created a vacuum in which environmental concerns are relegated in importance by the primacy of free trade laws. Examples of international agreements that have successfully balanced trade and environmental imperatives are scarce, and the extent of constructive dialogue on the subject at the international level is all too limited.	
13. States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.	There have been numerous multilateral agreements developed around the issue of liability and compensation for environmental damage. However international law lacks the maturity to be able to sanction States in violation of their duties as members of a global community: many of the examples of liability legislation are not in force and have not been in force for many years. This means that in the absence of domestic implementing legislation, States or individuals (in the case of civil and administrative liability regimes) are not bound by the provisions of the agreement. International law has not fully encompassed the provisions of Principle 13, and nor have States acted in an 'expeditious and more determined manner' to challenge this. The environmental liability and compensation regime is fragmented and poorly effective. An environmental regulatory framework is needed which is designed to effectively coordinate legislation, ensure its entry into force and its compliance with provisions of the global community. Despite these concerns, there is increasing momentum towards the development of environmental liability, as states and stakeholders increasingly look to the courts and judiciaries to assert their rights to environmental justice.		There are a range of international agreements stipulating sanctions for pollution and environmental damage, but their effectiveness is frequently limited by a lack of enforcement. Cases are often difficult to win, due to technical issues around latency periods, evidence of causation and the shear complexity involved with the evolution of law over time. International law lacks the maturity and power to sanction states in the event of violation, arguably rendering the development of legal instruments a fruitless endeavour.	

14. States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health.	There are several international agreements regulating and prohibiting the transfer of hazardous substances and many of these are updated to accommodate new harmful substances. Nevertheless there is on-going evidence of hazardous substances being dumped in the Third World. The GATT/WTO framework permits import restrictions on the grounds of hazardous substances. However national legislation effecting such restrictions is too often poorly enforced. For many developing countries the economic and political advantages of importing waste from the developed world outweighs health and environmental considerations.		The movement of hazardous waste across national boundaries is another example of international agreements failing to translate to implementation; although sophisticated legal instruments such as the Basel Convention have outlawed the transfer of hazardous waste from developed to less developed countries, the dumping of hazardous waste has continued since 1992. In addition, the failure of countries such as the United States to commit to the Convention has significantly limited its effectiveness.	
15. In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.	The precautionary principle has been widely accepted as in international jurisprudence and has been used in a range of governmental and inter-governmental decision-making fora. However, it has been challenged by states using the WTO trade rules, which have superseded the PP. It has some way to go before being fully implemented across regimes and given the full weight it deserves		Principle 15 has been applied in a range of instruments and widely implemented by states. However, some states continue to block the application of the precautionary approach and there is a lack of strong application in trade disputes. Further definition and coherent interpretation are required before full implementation to be possible.	
16. National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.	Although not a new concept at Rio, discussions and the implementation of economic instruments have increased, with many good examples and a greater awareness of theory and effectiveness. However, there are problems with many instruments in operation (e.g. failure to account fully for environmental benefits/costs; polluter pays not always implemented; lack of agreement/cooperation; corruption); many States still lack capacity and support; and a significant lack of consensus persists over instruments' suitability and implementation.		The externalisation of environmental costs, such as pollution, waste disposal and ecosystem degradation undermines the fundamental driver of sustainable development. Efforts to internalise such environmental costs have not been implemented in earnest. Whilst the polluter pays principle is well established in high level rhetoric, the practical application of it - not least by national authorities - has been less than successful. Pollution remains rife and conflicting approaches to waste management undermine the principle's objective: to disincentives waste production and polluting activities in the first place. The internalisation of such costs would mitigate against the distortion that the markets create when pollution is considered in economic terms. In addition, initiatives to value ecosystem services as a means by which the external costs of ecosystem degradation can be incorporated in decision making processes will go a long way to achieve practical solutions to the problems that polluting activities create.	

Principle	Assessment		Commentary	
17. Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.	Improvements have been made to EIA processes and implementation has increased and widened, with some good examples. However, there are still major flaws in the process itself; it is often skirted or corrupted; and many developing nations are severely lacking adequate procedures and support.	(orange)	EIAs are very much a part of many mainstream decision making practices pertaining to development activities; and many countries have transposed this principle into national legislation and regulatory instruments. However criticisms of EIAs remain: most prominent of which argue that the process is just a 'tick the box' exercise and does not have real teeth. Particularly in countries such as the UK where there is presently a 'presumption in favour of (sustainable) development', planning laws continue to favour the developer regardless of EIAs that can be conducted.	(green)
18. States shall immediately notify other States of any natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those States. Every effort shall be made by the international community to help States so afflicted.	With the advent of social media, the rapid development of the internet and de-centralised communications networks this principle has been widely put into practice whether the State has issued the warning or wider press.	(green)	Advances in communication technologies have enabled almost instantaneous dissemination of information on impending and occurring natural disasters and other emergencies. Even though some individual nations may lack the capacity to effectively detect and monitor such events directly, information from global and regional warning systems is now available to all countries.	(green)
19. States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith	A wide variety of MEAs and international fora call for the Principle's prescriptions but there lacks a standardised system or approach to ensure adequate consultation, notification and 'prior and informed consent'. As such, the Principle is open to wide interpretation and post-event arbitration has been required, which lacks a common approach itself - no real progress can be said to have been made.	(red)	Nearly twenty years after this principle was agreed, there are still cases being brought in the ICJ (such as the Pulp Mills case, referred to in the study) where a state has not consulted with another or sought prior consent before embarking on a project that will have potential transboundary affects. Challenges to implementation of this principle will continue as transboundary impacts felt as a result of climate change - one of the most significant transboundary environmental issues of our time. In respect of this, it is clear that States are not consulting one another or receiving prior consent before propagating activities that potentially will cause significant harm to others.	(red)
20. Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.	While the international scene has seemingly recognised women's essential contribution to economic development, in practice their activities are still often deemed informal and without measurable economic significance. Women are still seen as discrete entities rather than having an integral role in sustainable development, which is in part due to entrenched social structures and attitudes that are still prevalent. The focus on women is too narrow with discussions on gender assumed to be about women, and on women as victims rather than the more complex and dynamic relationships and cultural practices involved. Women are still not seen as actors in relation to fundamental issues such as tenure and property rights thus exacerbating the division and discrimination.	(red)	It is widely recognised that women will disproportionately feel the impacts of many environmental changes attributed to climate change (such as extreme drought conditions, which affects their access to water as well as crop and agricultural management). Women are also an integral part of resource management and have a wealth of knowledge in this are which can and should be integrated into mainstream decision-making processes. Unfortunately the principle does not explicitly recognise that women's involvement in the decision-making process is essential; but rather it remains vague on how women are to be involved. Twenty years after UNCED there are active women's constituencies in many of the main UN convention processes and UN fora; however at the national level the picture is less positive in both developed and developing nations. More needs to be done to integrate the valuable knowledge of women and approaches they take to achieve sustainable development.	(red)

21. The creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership in order to achieve sustainable development and ensure a better future for all.	The youth have shown that they are willing and very able to participate in the processes that are determining their future. Leadership has been shown from the youth themselves as they self-organize and self-mobilise to play their own role in safeguarding their own future. The development of internet, social networking and globalised communications has supported these efforts and helped the youth build their partnerships themselves. More now needs to be done at the governmental level to recognise and integrate the youth voice.	*(blue)*	Many initiatives have successfully sought to mobilise and give voice to young people, including the UN Convention on the Rights of the Child and the UN World Programme on Action for Youth. The most successful movements aiming to incorporate the voice of the young into decision-making processes around sustainable development have been led by young people themselves, as in the case of youth climate coalitions. Moreover, initiatives such as the United Nations Youth Participation programme have institutionally strengthened the provision for youth participation in decision-making.	*(blue)*
22. Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.	Since 1992 principle 22 has been incorporated into many global and national policy instruments, including the CBD, the Kimberley Declaration, the Declaration on the Rights of Indigenous Peoples and The African Convention on the Conservation of Nature and Natural Resources. The rights of indigenous populations have been increasingly recognised over the past 20 years. However despite multiple examples of the principle being incorporated into legislation, indigenous groups are still marginalised and there remains a large implementation gap, with the rights of these groups still frequently ignored despite the significant progress.	*(green)*	Indigenous people are recognized as formal stakeholders in a plethora of multi-lateral processes. Constituency and major group status has been secured in many fora; to some extent, the latter half of the principle has been implemented in the formal processes. However, in practice the voices of indigenous people are too easily ignored and overruled, and without full capacity building, the intricate processes can be alien - resulting in marginalisation and a lack of representation that does little to integrate these important perspectives into the mainstream.	*(orange)*
23. The environment and natural resources of people under oppression, domination and occupation shall be protected.	Progress in implementing this principle has been limited, although it is very difficult to give an accurate assessment of its incorporation into law, due to the various interpretations of international humanitarian and human rights laws, in which the principle may or may not be relevant. There are some examples, notably regarding the Israeli-occupied territories, where environmental protection has been referenced in legislation, but implementation of this has been limited. Overall there is very little legislation which the principle has filtered in to.	*(orange)*	Although the principle has been subsequently reaffirmed in international law, it does not appear to have been adopted in practice. Moving forward, proposals such as the recognition of a crime of ecocide should be given sufficient consideration to strengthen the principle's practical application.	*(orange)*
24. Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary.	In theory this principle has been widely adopted and transposed into a range of national and international instruments; and various international bodies monitor its progress. However, in practice warfare remains destructive and armed conflict continues to cause damage. Proposals such as ecocide would go a long way to securing stronger international implementation of this principle.	*(orange)*	This principle is widely recognised at the international and national levels and has been integrated into a range of legal instruments. Furthermore, the ICC represents a forum where cases can be bought. Efforts to strengthen the principle are still required however, especially considering the inherently damaging nature of war and the increasing potential for conflict in the future as a result of resource scarcity	*(green)*

25. Peace, development and environmental protection are interdependent and indivisible.	It is clear that Principle 25 has been reaffirmed in subsequent international treaties and discussed widely by an array of international institutions that have recognised the interdependence of peace, development and environmental protection. However, politically at least, environmental protection appears to have taken a backseat in light of the global recession when it could potentially be a unique opportunity to promote economic growth through investment in renewable technologies. It will therefore be interesting to see whether environmental protection remains strong when some western governments view it as a barrier to growth rather than a step-ladder to achieving it		There has developed over the two decades (and since before UNCED) an understanding and increasing appreciation that environmental degradation undermines peace. It is also ever more clear that the nexus between development, environmental protection and peace must be strengthened if sustainable development is to be achieved. However, there are examples where conflict has arisen as a result of resource exploitation as part of development approaches and increasing social living standards; and this undermines both peaceful societies and the nexus approach outlined in the principle.	
26. States shall resolve all their environmental disputes peacefully and by appropriate means in accordance with the Charter of the United Nations	All potential disputes that have arisen in recent history over environmental or natural resources have been resolved peacefully and constructively showing willingness and recognition on behalf of all Parties. Various bodies have been established whether under the UN or elsewhere in order to deal with potential conflict resolutions that may arise in the future. There is also recognition that environmental and natural resource issues can be at least indirect drivers of conflict thus there is more awareness of how to prevent such issues in the future.		Disputes over resources have been settled both inside and outside of the jurisdiction of courts. There is a body of case-law that illustrates how States have brought cases before the courts over access to, the use of, and negative impacting on natural resources that cause transboundary harm. The objective of the UN Charter - to foster peace amongst nation states - underpins a number of the principles in the declaration. However where resource scarcity has become an ever increasing concern to many nation states as well as citizens, tension can easily arise. More must be done by states to ensure that environmental disputes are peacefully dispelled and resource conflicts are mitigated by good faith early intervention. The body of existing international legislation, based on this principle, will go a long way to lay down the framework for successful peaceful resolution of disputes; however there remains a risk that practical solutions remains insufficiently deployed.	
27. States and people shall cooperate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.	There is will amongst many actors at the international and national level to aspire to achieving the principles. Overall however there are significant gaps in implementation of many individual principles. International law, building on many of the principles, has developed to establish key elements of the Declaration in its jurisprudence; and sustainable development as a concept and in practice is gaining strength at the local, national and international levels. However, difficulty has been highlighted in working out how to transpose the principles into practice at all levels and in a range of sectors. Without guidelines to the Declaration the spirit of partnership and any indication of good faith is undermined by lack of practical application.		The state of partnerships and cooperation, financial or otherwise, is extremely variable. Aid flows have not yet meet agreed target levels. Debt levels of developing nations remain very high. While some Rio Principle have transcended into soft law instruments, full implementation into environmental and sustainable legislation with good coverage over the world remains aspirational at best. Training for law-making in the context of sustainable development is linked to funding. So while some funding has been provided to developing countries, inequalities remain a barrier to engagement and co-operation in improving international law in this area.	