

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/323534703>

Improving measurement and reporting of progress for the United Nations Convention to Combat Desertification

Technical Report · March 2013

DOI: 10.13140/RG.2.2.31615.71840

CITATIONS

0

READS

375

9 authors, including:



Jessica Smith

University of Cape Town

20 PUBLICATIONS 44 CITATIONS

SEE PROFILE



Matt Walpole

Fauna and Flora International

96 PUBLICATIONS 10,790 CITATIONS

SEE PROFILE



Max Fancourt

University of Leeds

11 PUBLICATIONS 62 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



UNEP-WCMC Ecosystem Assessment [View project](#)



Biodiversity Indicators Partnership (www.bipindicators.net) [View project](#)

Improving measurement and reporting of progress for the United Nations Convention to Combat Desertification



UNEP-WCMC

219 Huntingdon Road,
Cambridge CB3 0DL
United Kingdom
Tel: +44 (0) 1223 277314
Fax: +44 (0) 1223 277136
Email: info@unep-wcmc.org
Website: www.unep-wcmc.org

ISBN: 978-92-807-3329-7

Job Number: DEW/1656/UK

© 2013 United Nations Environment Programme

The United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) is the specialist biodiversity assessment centre of the United Nations Environment Programme (UNEP), the world's foremost intergovernmental environmental organisation. The Centre has been in operation for over 30 years, combining scientific research with practical policy advice.

This publication may be reproduced for educational or non-profit purposes without special permission, provided acknowledgement to the source is made. Reuse of any figures is subject to permission from the original rights holders. No use of this publication may be made for resale or any other commercial purpose without permission in writing from UNEP. Applications for permission, with a statement of purpose and extent of reproduction, should be sent to the Director, UNEP-WCMC, 219 Huntingdon Road, Cambridge, CB3 0DL, UK. The contents of this report do not necessarily reflect the views or policies of UNEP, contributory organisations or editors. The designations employed and the presentations of material in this report do not imply the expression of any opinion whatsoever on the part of UNEP or contributory organisations, editors or publishers concerning the legal status of any country, territory, city area or its authorities, or concerning the delimitation of its frontiers or boundaries or the designation of its name, frontiers or boundaries. The mention of a commercial entity or product in this publication does not imply endorsement by UNEP.

DISCLAIMER

The contents of this report do not necessarily reflect the views or policies of UNEP or contributory organizations. The designations employed and the presentations do not imply the expressions of any opinion whatsoever on the parts of UNEP or contributory organizations concerning the legal status of any country, territory, city or area and its authority, or concerning the delimitation of its frontiers or boundaries.

For all correspondence relating to this report please contact:
info@unep-wcmc.org

Photo credit cover © Tim Booth / Shutterstock.com

WITH SUPPORT FROM:



UNEP-WCMC 2013.

Improving measurement and reporting of progress for the United Nations Convention to Combat Desertification.
UNEP-WCMC Biodiversity Series No. 34.

UNEP promotes environmentally sound practices, globally and in its own activities. This report is printed on paper from sustainable forests including recycled fiber. The paper is chlorine free and the inks vegetable-based. Our distribution policy aims to reduce UNEP's carbon footprint.

Improving measurement and reporting of progress for the United Nations Convention to Combat Desertification

Foreword

The United Nations Convention to Combat Desertification (UNCCD), which entered into force in 1996, is a unique convention, linking environment and development to sustainable land management in support of poverty reduction and environmental sustainability. Some 195 nations have ratified the convention in support of the people that ultimately depend on and maintain the biodiversity and ecosystem services provided by drylands, making it an essential part of the post-Rio+20 agenda, as well as the post-2015 sustainable development agenda.

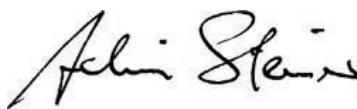
Like any tool, the impact and progress of the Convention needs to be measured to allow for better and swifter action and policy, and as such its reporting and review system has evolved down the years. The United Nations Environment Programme (UNEP), in its capacity as one of the implementing agencies for the Global Environment Facility (GEF), has supported the Convention in this process. In particular the Performance Review and Assessment of Implementation System (PRAIS) project developed an indicator-based reporting system a vital way of tracking progress in achieving the poverty reduction and environmental sustainability objectives of the Convention.

This document was prepared by UNEP-WCMC to inform the mid-term review of The Ten-Year Strategic Plan and Framework to Enhance the Implementation of the Convention for 2008-2018, which incorporates the new system of evidence and results-based management. The Parties to the UNCCD have also embarked on a process to further develop and adapt the review system on the basis of their experience, best practices and lessons learned. Of particular importance is the linking of national reporting to the alignment of National Action Programmes (NAPs) in light of the Ten-Year Strategy, similar to the current reviewing and updating of National Biodiversity

Strategies and Action Plans under the Convention Biological Diversity and the Strategic Plan for Biodiversity 2011-2020.

UNEP stands ready to assist the UNCCD, its bodies and Parties, and seeks to learn from the Convention's experience, which is relevant for other processes and conventions—not least its two sister Rio Conventions, which cooperate through the Joint Liaison Group.

Ahead of the 2013 World Day to Combat Desertification, the theme of which is creating awareness about the risks of drought and water scarcity in drylands and beyond, this document provides a stepping stone to improved systems of evidence and results-based management that will allow the Convention to better fulfill its mandate and ultimately improve lives in a sustainable manner.



Achim Steiner
United Nations Under-Secretary General
and Executive Director
United Nations Environment Programme

Preface

At the UN Conference on Sustainable Development (Rio+20) in June 2012 world leaders recognized land degradation, desertification and drought as serious global challenges, impeding sustainable development of all countries and committed to “strive to achieve a land-degradation neutral world” by restoring land and avoiding further land degradation.

They also reaffirmed their resolve under the United Nations Convention to Combat Desertification (UNCCD) to take coordinated action nationally, regionally and internationally, to monitor land degradation globally and further develop and implement scientifically based and socially inclusive indicators for monitoring and assessing the extent of desertification, land degradation and drought.

This has been a great achievement for the UNCCD, which was born following the first Earth Summit in Rio de Janeiro two decades ago. UNCCD is the sole legally binding international agreement, which links environment and development to sustainable land management. Parties to the Convention work together to improve the living conditions in the drylands, to restore and maintain land productivity and to mitigate the effects of drought.

In 2001, the Parties to the UNCCD started a process to improve the review of the implementation of the Convention with the establishment of a second subsidiary body (the Committee for the Review of the Implementation of the Convention) and progressed well thanks to the outcomes of a working group to improve the quality and format of the reports submitted to the COP. But it was only in 2007, with the adoption of the 10-year Strategy, that a review of the implementation of the Convention and evidence-based decision making became possible. The performance review and assessment of implementation system (PRAIS) and its methodological

tools (performance and impact indicators), as well as the new terms of reference of the CRIC adopted by the COP in 2009, opened the door to the current reporting and review process, which is now at its second cycle.

The PRAIS project has been instrumental in piloting the new quantitative monitoring, assessment, reporting and review system requested by Parties, and marked the kick-off of a system that is now delivering the results that Parties expected. This is especially true with regards to information available for decision making towards the implementation of the 10-year Strategy and consequently poverty reduction and the protection of the ecosystems in drylands.

I welcome this publication by the UNEP World Conservation Monitoring Centre as an important contribution to the work of the UNCCD.

UNCCD's move towards evidence and results-based management by means of PRAIS system has paved the way for an important shift in global monitoring of land degradation, desertification and drought and preserving our valuable land resources for future generations.



Luc Gnacadja
Executive Secretary
United Nations Convention to Combat Desertification

Figures

Figure 1 The GLASOD estimate of global land degradation 1997 - **17**

Figure 2 The UNCCD's 10YSP cycle and the PRAIS system - **29**

Figure 3 UNCCD operational objectives and achievements as of 2010 - **32**

Figure 4 Percentage of population informed about DLDD and/or synergies with climate change and biodiversity - **35**

Figure 5 Number of affected countries with DLDD-specific capacity-building initiatives by region - **35**

Figure 6 Number of affected country Parties that established Integrated Investment Frameworks - **35**

Figure 7 Information management framework applicable to the PRAIS process (modified from Schulte-Herbrüggen et al. 2011) - **37**

Boxes

Box 1 DLDD – what does it mean? - **15**

Box 2 Summary of the 2007 Situation Analysis - **18**

Box 3 Key elements of the UNCCD Ten-year Strategy - **24**

Box 4 The PRAIS Project - **28**

Box 5 Recommendations from the PRAIS reporting on performance indicators - **30**

Box 6 Illustration of the findings from the 2010 reporting and review cycle - **34**

Box 7 Insight derived from the impact indicator piloting - **42**

Tables

Table 1 Summary of evidence approaches among a selection of MEAs - **21**

Acronyms and Abbreviations

10YSP	10-year Strategic Plan and Framework to Enhance the Implementation of the Convention for 2008-2018	MA	Millennium Ecosystem Assessment
CBD	Convention on Biological Diversity	MDG	Millennium Development Goal
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora	MEA	Multilateral Environmental Agreement
CMS	Convention on Migratory Species of Wild Animals	NAP	National Action Plan
CONS	Consolidated indicators	NFP	National Focal Point
COP	The Conference of the Parties	NPP	Net primary production
CRIC	Committee for the Review of the Implementation of the Convention	OECD	Organisation for Economic Cooperation and Development
CST	Committee on Science and Technology	PACD	Plan of Action to Combat Desertification
CSO	Civil Society Organisations	PRAIS	Performance Review and Assessment of Implementation System
EBD	Evidence-based decision making/Management	PSC	PRAIS Project Steering Committee
EMG	Environmental Management Group	RBD	Results-based decision making/Management or Performance-based decision making/Management
DLDD	Desertification, Land Degradation and Drought	RC(s)	Reference Centre(s)
DPSIR	Driver Pressure State Impact Response	SLM	Sustainable Land Management
FAO	Food and Agriculture Organisation	SO (123)	Strategic Objectives 1 through 3
FNR_Rio	Piloting integrated processes and approaches to facilitate national reporting to Rio Conventions	STI	Science and Technology Institution
GEF	Global Environment Facility	TEEB	The Economics of Ecosystems and Biodiversity
GM	Global Mechanism	UN	United Nations
GSP	Global Soil Partnership	UNCCD	United Nations Convention to Combat Desertification
Gt.	Gigatonnes	UNCED	United Nations Conference on Environment and Development
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (German technical cooperation)	UNCOD	United Nations Conference on Desertification
IFS	Integrated Financing Strategies	UNDP	United Nations Development Programme
IGO	Inter-governmental Organisation	UNEMG	United Nations Environment Management Group
IIWG	Intersessional Intergovernmental Working Group	UNEP	United Nations Environment Programme
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services	UNEP-WCMC	United Nations Environment Programme - World Conservation Monitoring Centre
IPCC	Intergovernmental Panel on Climate Change	UNFCCC	United Nations Framework Convention on Climate Change
M&A	Monitoring and Assessment	UNGA	United Nations General Assembly
		WOCAT	World Overview of Conservation Approaches and Technologies (Switzerland)



Pilgrims and camel in Pushkar, Rajasthan, India.
© Neale Cousland / Shutterstock.com

Contents

	Executive Summary	11
1.	Introduction	15
	1.1 Better data, better decisions	20
	1.2 The UNCCD case	23
2.	The Introduction of PRAIS	27
	2.1 What PRAIS can reveal	31
3.	Data and information management	37
4.	Introducing the impact indicators	41
5.	Horizons	45
6.	Annotated bibliography	49

Acknowledgements

This publication was compiled and written by a team at UNEP-WCMC comprising Philip Bubb, Max Fancourt, Philipp Gassner, Jamie Gibson, Peter Herkenrath, Melissa Jaques, Abisha Mapendembe, Murielle Misrachi, Björn Schulte-Herbrüggen, Lucy Simpson, Jessica Smith, Damon Stanwell-Smith, Megan Tierney, and Matt Walpole, with contributions from Mariam Akhtar-Schuster (DesertNet International), Marc Paquin (Unisféra), Luca Perez (formerly UNEP-WCMC, now European Commission), Tristan Tyrrell (independent consultant), Massimo Candelori, Victor Castillo, Jasmin Metzler, Sara Minelli, Anja Thust and Sergio Zelaya. Peer-reviewers of the report were Mariam Akhtar-Schuster (DesertNet International), Pamela Chasek (International Institute for Sustainable Development), Sara Minelli (UNCCD secretariat), Lindsay Stringer (University of Leeds), Juliane Zeidler (Integrated Environmental Consultants Namibia), and layout was done by Carolyné Daniel (Zoï Environment Network). Thank you to all of these individuals and institutions for contributions to this report.

But there are many to thank for its contents: this publication summarises work spanning several projects, working with many organisations and involving the efforts of more than a hundred individuals. Notably, the United Nations Convention to Combat Desertification (UNCCD) Performance Review and Assessment of Implementation System (PRAIS) project was funded by the Global Environment Facility (GEF) and the European Commission (EC), implemented by the United Nations Environment Programme (UNEP), and executed by the UNEP World Conservation Monitoring Centre (UNEP-WCMC) in close cooperation with the UNCCD Secretariat and

the Global Mechanism. Those to highlight individually at the global level of the project are Stephen Twomlow, Mohamed Sessay, and Adamou Bouhari (UNEP), Massimo Candelori and Anja Thust (UNCCD secretariat) and Simone Quatrini (Global Mechanism). The project worked in collaboration with 14 regional and sub-regional Reference Centres across the globe namely: Arab Centre for the Study of Arid Zones and Drylands (ACSAD); Caribbean Environmental Health Institute (CEHI); Central Asian Countries Initiative for Land Management (CACILM); Centro Agronómico Tropical de Investigación y Enseñanza (CATIE); Comité permanent Inter-Etat de Lutte contre la Sécheresse dans le Sahel (CILSS); Comité des Forêts de l'Afrique Central (COMIFAC); Desert Research Foundation of Namibia (DRFN); IGAD Climate Prediction and Application Centre (ICPAC); International Crops Research Institute for the Semi-Arid Tropics (ICRISAT); Joint Research Centre of the European Commission (JRC); Observatoire du Sahara and du Sahel (OSS); Regional Community Forestry Reference Centre (RECOFTC); Secretariat of the Pacific Regional Environment Programme (SPREP); and UN Economic Commission for Latin America and the Caribbean (ECLAC). Another project to highlight is the UNCCD impact indicators pilot exercise (impact-pilot.unccd.int) which was initiated and implemented by the UNCCD secretariat, supported by UNEP-WCMC, and funded by the EC and the Government of Spain. Delegates from Algeria, Armenia, Argentina, China, Colombia, Mexico, Portugal, Senegal, South Africa, Spain and Tunisia were instrumental in the project. Individuals to particularly thank in this context are Victor Castillo and Sara Minelli (UNCCD secretariat), as well as Barron Orr (University of Arizona).



Women prepare food at the village, Sharga, North Darfur.
© Albert González Farran / UN photo

Executive Summary

1. Introduction

The United Nations Convention to Combat Desertification (UNCCD) is a significant international agreement tackling an important environment and development issue that affects the well-being of billions of people around the world. It promotes improved land management, particularly in dryland areas, in order to support poverty reduction, food security and sustainable development worldwide. The United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) is a supplier of environmental information, increasingly concerned with mainstreaming biodiversity and ecosystem-related information into development processes. The Centre supports partners to set up systems that generate their own continuous sources of management information on these topics.

Following a review of the Convention's effectiveness, combined with wider changes in policy and donor approaches in the preceding years, the UNCCD laid out a plan in 2008 to strengthen its evidence base and move further towards results based management. UNEP-WCMC has been active particularly in supporting the Performance Review and Assessment of Implementation System (PRAIS) during its initial phase in 2010-2011, bringing its experience with and lessons from other comparable processes, and building on the growing body of knowledge on evidence- and results-based management.

This document aims at informing the process of the Ten-Year Strategy mid-term evaluation by exploring and synthesising the experiences of the UNCCD in the move to more results-based management and the introduction of PRAIS. It will be of particular interest to Parties and the bodies of the Convention, including the Committee for the Review of the Implementation of the Convention and the Committee on Science and Technology.

1.1 Better data, better decisions

International environment and development processes have faced increasing scrutiny in recent years, particularly as donor governments have faced pressing domestic economic challenges. Evidence that interventions do indeed make a difference, and the ability to report on tangible results on an ongoing basis, are therefore increasingly called for within international processes. Such moves are very much in line with the mandate of UNEP-WCMC, who has been a provider of environmental information systems for more than 30 years. Through ever more sophisticated metrics and monitoring, accurate and timely information available to the appropriate targets audiences, evidence-informed decision-making can be supported.

1.2 The UNCCD case

The negotiation of the Convention faced criticism that desertification policy was not adequately underpinned by scientific evidence. A situation assessment of the Convention undertaken in 2007 showed that the evidence base and results-based management approaches were perceived weaknesses of the Convention, hampering its ability to attract the necessary levels of support. An opportunity to improve through a clear set of performance and impact indicators, linked to the Convention's new set of strategic and operational objectives, was identified. The new strategic plan set out a framework to review the monitoring, assessment, reporting and review processes of the Convention. The country Parties to the Convention agreed to a continuous review and refinement of the system, and would be able to use the insights that it generates in navigating towards the achievement of their new strategy.

2. The introduction of PRAIS

The new reporting and review system (PRAIS) was established by Parties in late 2009 and resulted in shift towards evidence and results-informed management for the UNCCD. UNEP agreed to support the Convention in putting the system into practice, with financial support from the Global Environment Facility (GEF), the European Commission (EC) and others, and identified UNEP-WCMC to support the introduction phase. PRAIS changed the way countries reported and reviewed, initially and significantly by providing a baseline of the Convention's performance and by moving the entire reporting process from narrative paper reports to an online information management system. The project worked quickly, in coordination with a network of 14 sub-regional technical partners who provided front-line support and training in the regions where they were already engaged.

The introduction of the online reporting system was successful with only a small number of countries submitting their report using an offline format. The regional approach piloted by the project, especially the training-of-trainers using existing regional technical centres, successfully promoted cooperation and capacity building. One of the most important lessons learnt is that coordination mechanisms at many levels play a fundamental role in the success of the introduction of such a new process, particularly one conducted so rapidly. Most national focal points reported that data collection was the most challenging task within the new system. A number of recommendations were developed on the basis of the experience in 2010, notably that more time is needed for reporting, regional technical support is critical to success, and countries need support in managing their data.

2.1 What PRAIS can reveal

The first analysis of PRAIS data indicates substantial progress in the implementation of the Convention in some areas and highlights the need for improvements in other areas, particularly the alignment of national action programmes to reflect the new strategic orientation of the Convention. A global target on awareness-raising for desertification, land degradation and drought has nearly been met, ahead of schedule, however a target to ensure Parties to the Convention have adequate land management investment frameworks in place is behind schedule. Together the results point to some major successes and other areas where efforts need to be concentrated in order to meet the strategic plan of the Convention including its targets, some of which are due as early as 2014.

3. Data and information management

A big challenge in assuring the quality of the evidence, and the consequent value of the information generated by the system, is how data are validated at source, managed and then aggregated into a whole. The introduction of PRAIS also brought with it a whole new way of thinking about managing the Convention's information systems. It introduced profound challenges to the system in terms of validity, reliability, bias, comprehensiveness and gaps in the reporting. The comprehensiveness and reliability of the data is expected to improve following subsequent iterations of the reporting exercise. Specific recommendations were developed to improve the system in this regard, including steps for data validation and greater access to the data to enable enhanced analysis. Data management challenges are particularly important to address in the system given that the next round of reporting introduces impact indicators, which are more varied and complex, for example, collecting data can be spatial as well as temporal in nature.

4. Introducing the impact indicators

The major value of PRAIS for decision-making reveals itself when evidence on the efforts of stakeholders can be linked to its on-the-ground impacts. The UNCCD's set of impact indicators span a range of land and livelihood-related priority concerns. Introducing these indicators to the system in 2012 truly unlocks the value of the system for decision-making by showing what investments are working and where, and pointing out areas for further attention by the international community. It is an ambitious and challenging task to collect this information and therefore the system needs to be flexible to the wide range of realities worldwide. In order to identify indicators and modalities that are fit for purpose yet rigorous enough to meet quality requirements, a scientific refinement process was complemented by a piloting of the indicators reporting by 11 countries representing all the UNCCD's regions.

The piloting exercise found that reporting on the majority of these indicators would be feasible, however, issues of data availability and accessibility exist, and terminology between scientists and policy-makers varies enormously. The experience led to a number of recommendations, notably that the development of common operational criteria for the identification of affected areas and regional training would be essential to success, and a minimum of six months would be required for reporting, for Parties to be able to negotiate across Ministries. The impact indicators have been rolled out worldwide from 2012, but the first round of synthesis of this data is not available yet.

5. Horizons

The information derived from PRAIS is designed primarily for Parties to review the Convention's implementation at global level and to monitor progress in action programmes implementation at national level, and the system is continually evolving and improving. As a secondary use, this information complements and can feed into scientific assessments and other policy processes on land degradation and related issues, including the emerging initiative on the Economics of Land Degradation and debates on the appropriate mechanism for science-policy advice on land and soil. Having sound performance and impact information available from the PRAIS can only strengthen these other initiatives, and in turn be strengthened by them. UNCCD Parties will be continually improving the PRAIS, until it's a seamless science-policy-management system that delivers on the Convention's mandate for the vulnerable in the world's drylands and areas at risk from land degradation. UNEP-WCMC is eager to continue supporting UNCCD in its transition, and working with partners to tackle the important issues which are revealed through this new and continuous information source. The Centre is also eager to bring its knowledge and experience working with UNCCD on these issues to its work within IPBES and other international processes relating to biodiversity and ecosystems which it supports.



Two young boys help their parents to harvest the potato crop, Bamiyan, Afghanistan.
© Helena Mulkerns / UN photo

Chapter 1

Introduction

The United Nations Convention to Combat Desertification (UNCCD) is a significant international agreement tackling a critical environment and development issue.

Desertification, land degradation and drought (DLDD – see text box 1) is increasingly considered a global problem, as their extent and impacts continue to affect environmental and social stability beyond their geographic extent (Reynolds et al. 2007; Nkonya et al. 2011). Over 40% of the earth's land surfaces are dry, encompassing arid, semi-arid, and dry sub-humid climatic zones that are home to approximately 2.5 billion people who are particularly vulnerable to DLDD (MA 2005b; Reynolds et al. 2007; Reynolds et al. 2011). Many of these people are already amongst the poorest in the world, and Africa contains the

largest area of drylands in the world, totalling 13 million square kilometres. The Millennium Ecosystem Assessment (MA) of the state or condition and trend of the world's drylands conservatively estimated that 20% of drylands are seriously degraded (MA 2005b). However, estimates of degradation vary from as low as 10% to a high of 80% (Washington-Allen and Ravi 2011). Seventeen percent (17%) of drylands are already desertified and 24 billion tonnes of topsoil are lost every year as a result of desertification (BMZ 2011). The MA (2005) predicted an increase in desertified areas.

Box 1

DLDD – what does it mean?

Land degradation refers to the reduction in the capacity of the land to provide ecosystem goods and services over a period of time (Nachtergaele et al. 2010). This approach emphasises the maintenance of basic system functions that include human uses (Baartman et al. 2007). More recent definitions extend land degradation to spatial and time dimensions, as is reflected by the UNCCD, which defines land degradation in the context of its focus on drylands: 'the reduction or loss in arid, semiarid, and dry sub humid areas, of the biological or economic productivity and complexity of rainfed cropland, irrigated cropland, or range, pasture, forest, and woodlands resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation patterns' (UNCCD, Article 1f). Land degradation threatens the long-term biological and/or economic resilience and adaptive capacity of the ecosystem (Holling 1986; Dean et al. 1995; Kasperson et al. 1995; Holling 2001; IPCC 2001; Baartman et al. 2007; Nkonya et al. 2011).

Desertification refers to land degradation in the arid and semiarid zones. However, the term conveys the idea of land being converted into deserts, which is not true for all land degradation processes. Desertification can be seen as a specific type of land degradation, occurring mainly, but not exclusively, in dryland regions (Reynolds et al. 2007). The more inclusive term of land degradation is preferred, as it implicitly includes desertification (Nkonya et al. 2011).

Drought describes a naturally occurring phenomenon in which precipitation is significantly below normal recorded levels that have been established through long-term observations. UNCCD defines drought as 'the naturally occurring phenomenon that exists when precipitation has been significantly below normal recorded levels, causing serious hydrological imbalances that adversely affect land resource production system' (UNCCD, Article 1c). Droughts are generally considered a temporary event (Kemp 1994). From an agricultural and economic viewpoint, a drought is characterised as adversely affecting land resource production systems (Akhtar-Schuster et al 2010) by leading to reduced crop yields or even crop failure.

International recognition of the importance of DLDD as a major economic, social and environmental problem can be traced back to 1977 when the United Nations Conference on Desertification (UNCOD) adopted a Plan of Action to Combat Desertification (PACD). Despite these efforts, land degradation in drylands continued to intensify (UNCCD 2011d) and during the 1970s, approximately 3.6 billion hectares, about 70%¹ of the total area of the world's drylands, or nearly one quarter of the global land area, were affected by DLDD (UNCED 1992). Realising the urgency of the situation, strategies for addressing DLDD were discussed as a key item at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. The Conference supported a new, integrated approach to the problem – resulting in the adoption of the UNCCD in 1994.

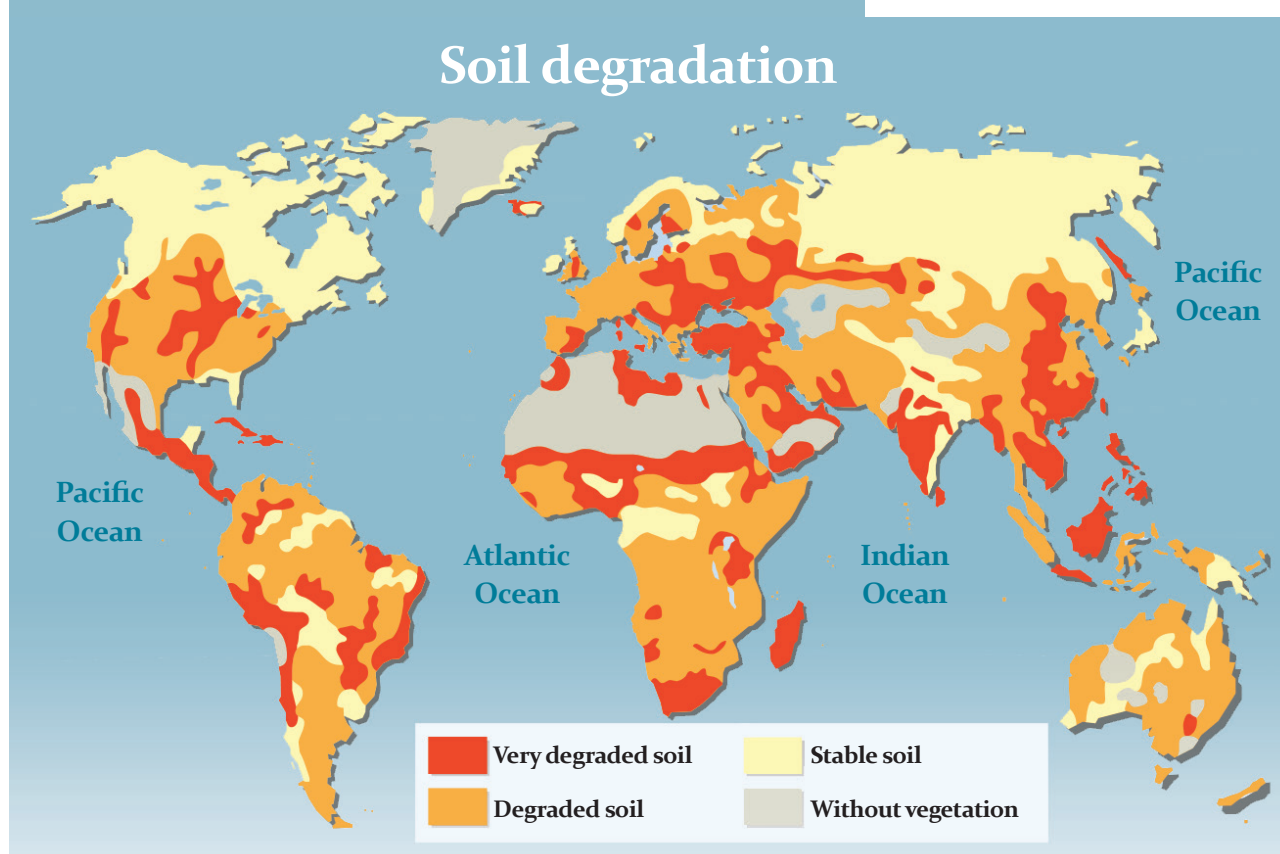
At the Rio Summit, two other Conventions that were adopted a few days before the Summit featured highly: the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD). These two and the UNCCD became later collectively called the 'Rio Conventions'. While there are extensive synergies between the three conventions, the UNCCD is the one that focuses most directly on livelihoods, development and poverty alleviation, and arose from the prominent demands of developing countries, notably from African countries (Johnson et al. 2006).

Despite local successes in addressing DLDD between 1981 and 2003 substantial challenges remained. The effects of DLDD are most strongly felt in developing countries; however, the processes are taking place globally and in all ecosystems (Adeel et al. 2009). Yet citizens and governments of industrialised nations seldom perceive DLDD as an immediate concern, let alone as a global issue affecting resource availability. Early on, during the establishment of the Convention, they raised concerns about considering desertification as an international environmental problem, rather than a developmental issue. This situation is exacerbated by the fact that the UNCCD focuses on drylands, despite humid areas and wetlands increasingly being at risk of degradation, particularly as a result of climate change. The past narrow focus on the symptoms of DLDD, such as loss of top soil and decreased food production, oversimplified the issue and resulted in a lack of understanding of how societal and economic factors, including poverty, child malnutrition and population growth, can drive DLDD processes (Gilbert 2011). Global trends, including devastation of agricultural land as a result of climate change, the stress on land from agro-fuel production, rising food prices, and the growing food needs of a global population projected at nine billion by 2050, all drive resource use at the local level, which needed to be reflected in the UNCCD.

¹ This figure was criticised, as there were no valid tools to estimate the actual extent of desertification and as of 2012 Parties have not agreed on a common definition for affected areas. The MA (2005B) stated an extent of land degradation of some 10–20% with medium certainty, replacing the figure of 70%. However, all four scenarios of the MA (2005B) predict a likely increase of desertified areas.

Figure 1

The GLASOD estimate of global land degradation 1997



Source: Philippe Rekacewicz, UNEP/GRID-Arendal

Attempts to address these shortcomings began as the UNCCD entered its second decade and implementation phase. During the first decade, the UNCCD's focus had been on the development of an international governance system to assist countries, particularly affected developing countries, in shaping policies to achieve the Convention's objectives (Unisféra & IECN, 2007). As these systems were put in place, it became apparent that their effectiveness in facilitating countries' efforts needed to be assessed, resulting in growing awareness about incongruities between knowledge and policies. Consequently, Parties to the Convention questioned the effectiveness, and even the relevance of the UNCCD scientific

advice, and recommended reforms. A new Group of Experts to support existing advisory processes was established (Martello 2004). Despite such efforts there was a lack of demonstrable progress and increasingly climate change diverted attention. Parties responded to this challenge by establishing the Intersessional Intergovernmental Working Group (IIWG) to conduct a multi-stakeholder consultation with strong involvement of UNCCD Parties leading to the 2007 Situation Analysis. The findings of the consultative Situation Analysis (see text box 2) highlighted the lack of evidence-based decisions as the key underlying cause for the shortcomings of the Convention and effective DLDD mitigation.

Box 2

Summary of the 2007 Situation Analysis

There is a lack of relevant knowledge and a reliable science foundation for decision making.

Problem: the CST failed in its tasks to 'bring together scientists from around the world to address the most pressing and relevant research questions and generate relevant knowledge that would lay a reliable foundation for decision making'². The lack of scientific data was particularly concerning, since assumptions crucial to the establishment of the Convention were challenged (Adeel et al. 2009).

Suggested solution: the CST should focus on the scientific and technological needs of Parties, and focus on gathering and disseminating scientific findings to Parties and other stakeholders working on DLDD (Bauer & Stringer 2009; Grainger 2009; Akhtar-Schuster et al. 2011; Chasek et al. 2011; Gilbert 2011; Verstraete et al. 2011). Special consideration should be given to the important role of indigenous knowledge within the context of DLDD and efforts must be made towards its integration with academic expertise (DNI 2011; Thomas et al. 2012).

Linkages between DLDD, poverty and ecosystem services are not sufficiently taken into account.

Problem: the direct and reinforcing relationship between poverty and land degradation is not sufficiently recognised by the Convention. The valuable contribution of ecosystem services on poverty alleviation and subsequent reduction of pressure on the land are not sufficiently considered.

Suggested solution: develop an enabling environment with decision making based on evidence. Develop an evidence base for the costs of land degradation, including direct costs from declining agricultural productivity, and social costs due to the weakening of local capacities and institutions. Generate knowledge about the economic benefits of preventing DLDD and rehabilitation measures. Opportunities to create and use synergies between the Rio Conventions should be strengthened.

Insufficient use of evidence is limiting access to financial resources.

Problem: the implementation of the Convention is hampered by insufficient funding for addressing DLDD. The lack of clear evidence on DLDD and its linkages to national priorities (e.g. poverty alleviation) limits the Parties' success in mainstreaming UNCCD objectives into national development plans, and in mobilising national resources.

Suggested solution: need for a stronger evidence base to support mainstreaming and allocation of resources to DLDD mitigation strategies.

Inadequate reporting weakens cooperation and effective implementation of the Convention.

Problem: reporting is a key strategy to encourage compliance with the provisions of an international instrument, yet the absence of an effective framework with clear reporting guidelines has hampered the use of reporting for implementation of the Convention.

Suggested solution: focus on a performance-based approach with reporting as a key strategy to encourage Convention implementation. This requires robust guidelines and performance indicators, adequate capacity and financing.

Source: Unisféra and IECN, 2007

Insufficient scientific groundwork hampered successful DLDD governance, with strong negative implications on poverty eradication goals, the understanding and awareness about dryland ecosystem services, and financial issues. This called for more evidence-based decision making. Communication of scientific evidence in policy-friendly formats is only a recent development, and ways must be found to incentivise data and information generators to communicate their work at the policy level. In addition, performance and results based management was seen as crucial for effective DLDD policy implementation of the UNCCD. Effective DLDD mitigation management and policies require efficient monitoring and assessment processes to assess the performance of management strategies and inform planning processes (Unisféra & IECN 2007, Grainger 2009).

As a result of the above shortcomings, the Convention did not forge the necessary strategic partnerships, disseminate authoritative information to its Parties and overcome financial shortages through increased awareness about the urgency of DLDD at the national level. There was thus a lack of improved mainstreaming of DLDD into national policies. The resulting shortage of investment in the mitigation of DLDD, as well as restoration efforts, is particularly striking, considering the growing evidence that DLDD will worsen with increased climate change impacts (IPCC 2007a), as all four Millenium Assessment (MA) scenarios (MA 2005a) predict.

1.1 Better data, better decisions

While international environment and development processes have faced increasing scrutiny in recent years, particularly as donor governments have faced pressing domestic economic challenges, calls for better use of evidence in the management and development of policies and programmes have existed for decades. The concept gained prominence after the late 1990s through advanced application in the field of medicine. The value of the evidence base for decision making increases with the ‘robustness’ of the evidence (Spencer et al. 2003), defined by its

- Credibility: high internal validity of information
- Generalisability: evidence can easily be transferred between purposes and contexts
- Reliability: high quality and easily replicable research processes, monitoring, evaluation or impact assessments used to build evidence
- Objectivity: low bias and unambiguous interpretations of information.

Despite the benefits, evidence-based decision making is no panacea and has various limitations. Evidence is an important requirement for decision making, but other factors, such as development, implementation, monitoring and revision of policies are continuously influencing the wider social and political contexts. Thus, it may be argued that the term ‘evidence informed’ is more applicable, since policy is affected by a wide range of factors and not research evidence alone (Packwood 2002).

Growing demands for better and more responsive services, and better accountability for achieving results with taxpayers’ money has been a major trend in the past two decades (Binnendijk 2000). Public sector reforms took place in OECD countries, such as the 1993 ‘Government Performance and Results’ in the United

States or the 1995 ‘White Paper on Better Accounting for the Taxpayers’ Money’ in the United Kingdom which led to new approaches in defence, education and health, but also in international environment and development. This sector also needed to respond to ‘aid fatigue’, the public’s perception that aid programmes are failing to produce significant development results, which it could accomplish to some degree by establishing more evidence- and results-oriented management systems (Binnendijk 2000). These approaches can now be found throughout the UN system, with the UN Development Group as a prime example. Evidence that interventions do indeed make a difference and the ability to report on tangible results on an ongoing basis are called for within all international processes as a matter of routine today.

Like most other Multilateral Environmental Agreements (MEA), the UNCCD was developed at least to some degree in response to scientific analysis that provided both the impetus and the evidence on which the MEA is built. Accordingly, many MEAs have a form of in-built evidence-based approach, given that they are designed to address evidence-based issues. The common format is:

- Targets
- Indicators
- Reporting
- Assessment

Country Parties report to the MEAs as one mechanism to contribute to their evidence process. Table 1 provides examples of the efforts of some MEAs on evidence-based approaches. It distinguishes between quantitative and qualitative reporting, and a mix of both. Several Conventions make use of indicators, or plan to do so, while several Conventions collaborate on indicators through the Biodiversity Indicators Partnership (UNEP-WCMC 2012). The indicators in most cases measure progress made towards set targets.

Table 1

Summary of evidence approaches among a selection of MEAs			
MEAs	Current reporting format	Indicators used in national reporting	Example of decision/resolution relating to indicators and/or provision of evidence-based information
Convention on Biological Diversity (CBD)	• 5th national report (due March 2014) - narrative format - seeks both qualitative and quantitative information - aligned with the Strategic Plan for Biodiversity 2011-2020 and Aichi Biodiversity Targets - outcomes-focused - Parties are requested to use indicators in their reports.	• Biodiversity indicators have been discussed since 1995. • After adoption of the 2010 biodiversity target through COP 6, indicators became operational. • Requests have been made for countries to use indicators to track progress against the 2010 biodiversity target featured in the 4th national reporting cycle. • Indicators aligned with the Strategic Plan for Biodiversity 2011-2020 and Aichi Biodiversity Targets are being developed.	E.g. CBD COP decisions X/7 (national reporting) and X/10 (outcome-oriented goals and targets and associated indicators for the period beyond 2010)
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	• Annual reports - seek mostly quantitative trade data • Biennial reports - seek information on legislative, regulatory and administrative measures taken to enforce the Convention	• Development of indicators linked to the CITES 'Strategic Vision 2008-2013' was requested. • CITES contributes information on the status of species in trade to the Biodiversity Indicators Partnership as a key indicator partner.	E.g. CITES resolution 14.2 (CITES Strategic Vision: 2008-2013) and decision 14.37 (Rev.CoP15) (national reports)
Convention on Migratory Species of Wild Animals (CMS)	• National reports require a mix of quantitative and qualitative information	• CMS COP 9 in 2008 requested the Secretariat to liaise with the CBD Secretariat to adopt suitable indicators to measure the achievement of the 2010 target. • CMS COP 10 requested the Secretariat to cooperate with others to develop and adopt suitable indicators to measure the impact of joint capacity-building activities.	E.g. CMS resolution 9.4 (future of national reports) and resolution 10.6 (2012-2014 capacity-building activities)
Convention on Wetlands (Ramsar Convention)	• National reports require a mix of qualitative and quantitative information linked to the Convention's Strategic Plan	• Ramsar COP 9 in 2005 agreed on an initial set of eight ecological outcome-oriented indicators for assessing the effectiveness of the Convention's implementation. • The emphasis of the indicators is on science-based ecological outcomes regarding the state of the wetland environment, rather than on activities carried out under the Convention.	E.g. Ramsar COP resolution IX.1 Annex D (Ecological 'outcome-oriented' indicators for assessing the effectiveness of the implementation of the Ramsar Convention)

A notably successful example of an evidence-based approach is the fight against stratospheric ozone depletion. The international, peer-reviewed ozone assessments (Watson et al. 1988), conducted as part of an intergovernmental process, provided the scientific and technical basis for the Vienna Convention to Protect the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer, to eliminate the production and use of ozone-depleting chlorine- and bromine-containing chemicals (UNEP 1999). The findings of these assessments linked human activities to ozone depletion, resulting in increased levels of ultraviolet radiation at ground level, which in turn leads to an increase in the incidence of skin cancer (UNEP 1999). The solid scientific evidence resulted in governments being willing to make stringent decisions to eliminate the consumption and production of ozone-depleting substances (Watson 2005). This is very similar to the process of review undertaken under the UNFCCC with regards to Greenhouse Gas (GHG) inventories and National Communications. UNFCCC's GHG inventories are based on guidelines approved by the Intergovernmental Panel on Climate Change (IPCC), thus representing best available scientific knowledge at certain points in time. Such examples offer useful lessons for the UNCCD, and it is worthwhile that these processes share not only their outcomes but also their lessons learned in terms of continually improving their evidence management systems.

The United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) is the biodiversity assessment and information arm of UNEP. UNEP-WCMC is a supplier of environmental information, increasingly concerned with mainstreaming biodiversity and ecosystem-related information into development processes. The Centre supports partners to set up systems that generate their own continuous sources of management information on these topics. One notable example is the Biodiversity Indicators Partnership, which has provided information to track the achievement of targets set by the CBD and is assisting countries to set their own nationally-relevant targets to combat biodiversity loss. Acknowledging that the loss of biodiversity and degradation of ecosystems persists despite the established evidence base documenting this trend, UNEP-WCMC is increasingly concerned with mainstreaming, or integrating, information about biodiversity and ecosystem management into other kinds of information and decision making systems, for example in the land, development and agricultural sectors.

1.2 The case of the UNCCD

The introduction mentions that negotiation of the Convention faced criticism that desertification policy was not adequately underpinned by scientific evidence, and a situation assessment of the Convention undertaken in 2007 showed that the evidence base and results-based management approaches were perceived weaknesses of the Convention, hampering its ability to attract the necessary levels of support. The UNCCD reporting system employed during the first three reporting cycles (1999, 2002 and 2004) used largely descriptive national reports from country Parties as the primary source of information on the implementation of the Convention. These reports provided a qualitative assessment of activities and progress at the national level, and have proved useful, to some extent, for assessing the capacities of individual countries in responding to DLDD. However, the irregular interpretation of the questions countries needed to answer in their reports, and modifications to the report templates between reporting cycles, have meant that comparisons between years and across countries have been difficult – such challenges in monitoring the implementation and effectiveness are common to many environment-related conventions (Balmford et al. 2005, Davidson & Finlayson 2007).

In recognition of the urgent need for improving the implementation of the UNCCD and introducing an indicators and results-based management system, Parties to the UNCCD made two important decisions in 2008. First, Parties adopted the 10-year Strategic Plan and Framework to Enhance the Implementation of the Convention for 2008-2018 (10YSP) during the eighth session of the COP in Madrid (2007) (see text Box 3 and UNCCD 2007b). The 10YSP aims to devise a global partnership to reverse and prevent DLDD, and to mitigate the effects of drought in affected areas to support poverty reduction and environmental sustainability. An opportunity to improve through a clear set of performance and impact indicators, linked to the Convention's new set of strategic and operational objectives (detailed in text box 3), was identified. The new strategic plan set out a framework to review the monitoring, assessment, reporting and review processes of the Convention. Second, the establishment of the PRAIS (COP 9, Buenos Aires) a quantitative, indicator-based reporting and review system, with targets linked to the operational objectives of the Strategy, specific reporting requirements for all stakeholders and a schedule for the reporting and review process for both operational and strategic indicators, financial flows for the implementation of the convention and best practices.

Box 3

Key elements of the UNCCD Ten-year Strategy

Full title:

10-year Strategic plan and framework to enhance the implementation of the Convention

(Decision 3/COP 8, 2007)

Vision: The aim for the future is to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability.

Mission: To provide a global framework to support the development and implementation of national and regional policies, programmes and measures to prevent, control and reverse desertification/land degradation and mitigate the effects of drought through scientific and technological excellence, raising public awareness, standard setting, advocacy and resource mobilisation, thereby contributing to poverty reduction.

Strategic Objectives

1. To improve the living conditions of affected populations
2. To improve the condition of affected ecosystems
3. To generate global benefits through effective implementation of the UNCCD
4. To mobilise resources to support implementation of the Convention through building effective partnerships between national and international actors

Operational Objectives

1. Advocacy, awareness raising and education: to actively influence relevant international, national and local processes and actors in adequately addressing desertification/land degradation and drought-related issues.
2. Policy framework: to support the creation of enabling environments for promoting solutions to combat desertification/land degradation and mitigate the effects of drought.
3. Science, technology and knowledge: to become a global authority on scientific and technical knowledge pertaining to desertification/land degradation and mitigation of the effects of drought.
4. Capacity-building: to identify and address capacity-building needs to prevent and reverse desertification/land degradation and mitigate the effects of drought.
5. Financing and technology transfer: to mobilise and improve the targeting and coordination of national, bilateral and multilateral financial and technological resources in order to increase their impact and effectiveness.



Displaced Darfuris Farm in Rainy Season, Tawila, Sudan.
© Albert Gonzalez Farran / UN photo



A young girl of the nomadic Ngok Dinka tribe of the Sudan leads cattle to water and food, Abyei, Sudan.

© Fred Noy / UN photo

Chapter 2

The Introduction of PRAIS

COP9 in 2009 decided to establish the Performance Review and Assessment of Implementation System (PRAIS) to effectively review the implementation of the 10YSP based on a new reporting approach based on indicators.

The roles and responsibilities involved in implementing the 10YSP were distributed to the various UNCCD bodies, partners and stakeholders. While the Committee for the Review of implementation of the Convention (CRIC) has the overall task to assist the COP in monitoring the implementation of the Convention against the information provided by parties and other reporting entities, the Committee on Science and Technology (CST) was given primary responsibility to fulfil a newly defined objective on science, technology and knowledge, and therefore plays a key role for evidence-based decision making within the Convention. In order to fulfil this mandate, the CST was to 'be strengthened to assess, advise and support implementation, on a comprehensive, objective, open and transparent basis, of the scientific, technical and socio-economic information relevant to understanding the causes and impacts of DLDD, and shall inform COP decisions' (UNCCD 2007b, p.20). The Committee for the Review of Implementation of the Convention (CRIC) was to play a central role in improving feedback loops to measure progress, and support continuous improvement in implementing the strategic plan.

PRAIS was envisaged as a revolution in evidence and results- informed management for the UNCCD. UNEP assisted the Convention's institutions in putting the system into practice, with financial support from the Global Environment Facility (GEF), the European Commission (EC) and others, and identified UNEP-WCMC to support the introduction phase. PRAIS changed the way countries reported and reviewed, initially and significantly by providing a baseline of the Convention's performance and by moving the entire reporting process from narrative paper reports to an online information management system. The PRAIS process was seeded through the UNEP/GEF project 'Enabling a Paradigm Shift on Monitoring and Assessment within the UNCCD' (the PRAIS Project), which was to assist Parties to undertake monitoring, assessment, reporting and review by putting in place the capacity to roll-out this new approach (see text box 4 and figure 1). The project worked quickly in coordination with a network of 14 sub-regional technical partners who provided front-line support and training in the regions where they were already engaged.

Box 4

The PRAIS Project

The UNEP/GEF project 'Enabling a Paradigm Shift on Monitoring and Assessment within the UNCCD'

The short and medium-term capacity development needs, particularly in the field of monitoring & evaluation (M&E) and knowledge management that were raised by the introduction of the new system have been addressed by the UNCCD mainly through the PRAIS Project. The project was implemented by UNEP and executed by UNEP-WCMC under the guidance of and close collaboration with the UNCCD Secretariat and the Global Mechanism.

The main purpose of the PRAIS Project was to assist UNCCD Parties by building capacities for the 2010 Fourth Reporting and Review process of the implementation of the Convention. Implemented from January 2010 until June 2011, the PRAIS Project focused on:

1. development of reporting tools based on the approved set of performance indicators established under the new Monitoring and Assessment Framework of the Convention, i.e. PRAIS
2. building capacities of affected Parties for the preparation of their fourth national reports
3. establishment of an on-line reporting platform to facilitate the reporting process and improve knowledge management within the Convention
4. and contributing to the additional strengthening of the monitoring framework of the UNCCD through the documentation and dissemination of lessons learnt.

Taking into consideration that at that time no allocations were made by GEF to support enabling activities, the secretariat facilitated catalytic funding in order to kick-start data compilation and validation at national level.

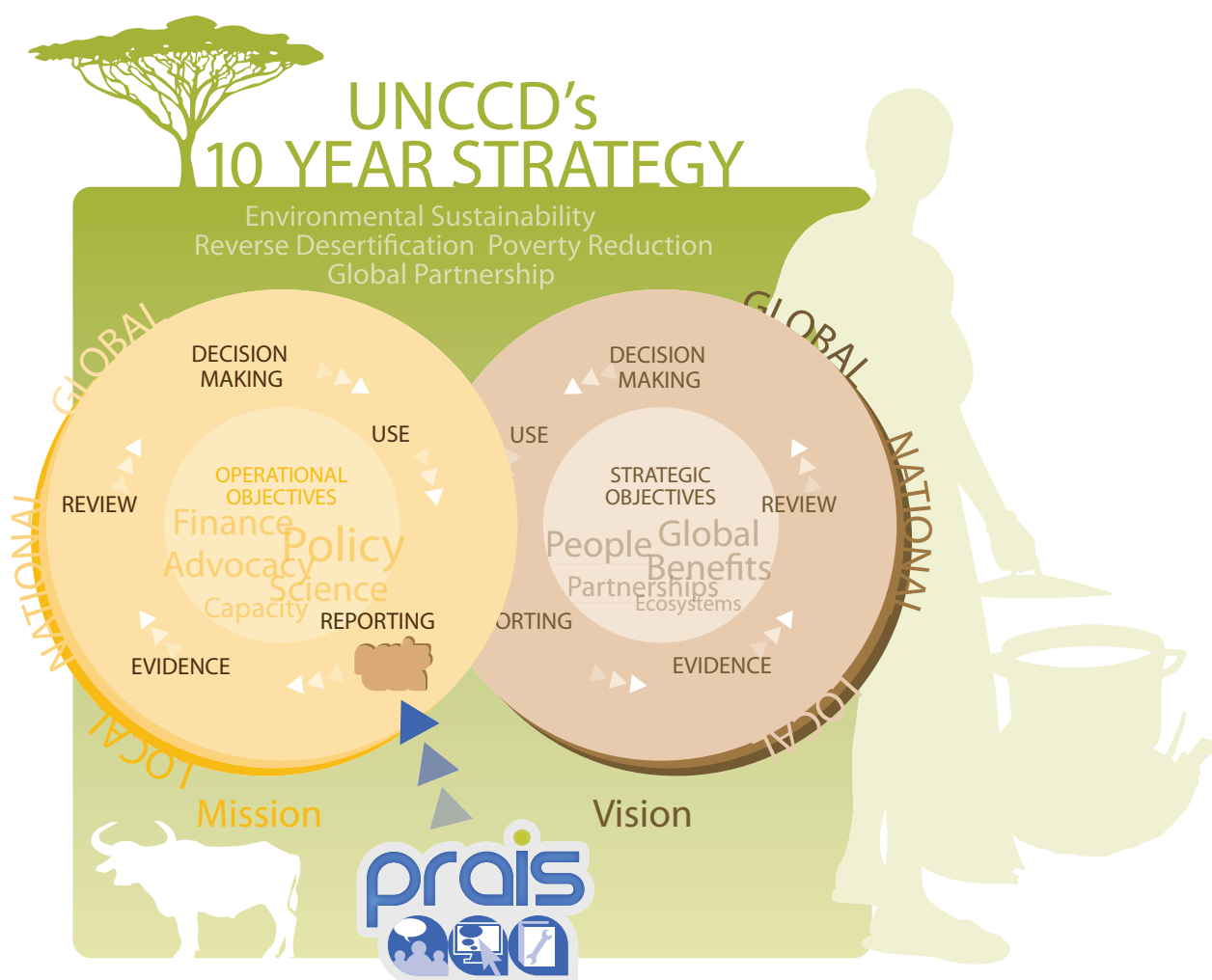
The PRAIS Project was implemented with the active participation of a network of 14 sub-regional and regional institutions, the Reference Centres (RCs), with recognised expertise in the field of SLM and experience in implementation of the UNCCD in their respective regions. RCs worked closely with the Regional Coordination Mechanisms of the UNCCD. During the implementation of the project, the RCs facilitated the reporting and ensured adequate support throughout the process in the respective regions and sub-regions by providing training, capacity building and continued technical backstopping to country Parties. In order to inform the global analysis prepared by the project, the RCs were tasked to document and consolidate key lessons from the reporting process of their respective region and sub-regions and on the supporting activities they provided within the framework of the PRAIS project.

The introduction of the online reporting system was successful with only a small number of countries submitting their report using an offline format. The regional approach piloted by the project, especially the training-of-trainers using existing regional technical centres, successfully promoted cooperation and capacity building. One of the most important

lessons learnt (see text box 5 for detail) is that coordination mechanisms at many levels play a fundamental role in the success of the introduction of such a new process, particularly one conducted so rapidly. Most national focal points reported that data collection was the most challenging task within the new system.

Figure 2

The UNCCD's 10YSP cycle and the PRAIS system



The introduction of PRAIS, most notably its use of online reporting of indicators, was well received by Parties, who found the approach to be a major step towards improving evidence based-management systems within the UNCCD and confirmed their strong commitment to the full implementation of PRAIS. Importantly, many Parties highlighted that

the new framework is useful not only for monitoring the Convention, but also for national planning purposes. Parties have called for an in-depth analysis of all the information that PRAIS generates and for a process to enable them to benefit from this new knowledge and use it to more effectively implement the Convention.

Box 5

Recommendations from the PRAIS reporting on performance indicators

Adequate time needed for reporting

A realistic timeframe for the reporting process, and the related enabling and capacity building activities, should be a major consideration for future reporting processes.

Adequate resources need to be provided

In order to enable country Parties to meet the demands of the new system, all UNCCD stakeholders need to make the effort to provide sufficient resources initially, and then to a lesser degree in the medium- and long-term maintenance of the system.

Communication needs to be improved

Improved communication and coordination of the reporting process is required in order to increase efficient reporting at all levels. This includes a more streamlined Helpdesk service, as well as a more proactive role for the National Focal Points and improved cooperation of stakeholders.

Wider and more frequent consultation of stakeholders

Increased consultation with and participation of UNCCD stakeholders during all phases of the reporting process is fundamental to ensure better quality and ownership of the reporting process, particularly at the national level.

We must continue to learn from experience

The refinement of the PRAIS system on the basis of best scientific knowledge available and lessons learnt from experience is crucial to make the reporting and review process more fit-for-purpose, realistic and flexible.

More solid and rigorous data needs to be collected

While certainly representing a major step forward, the 2010 experience of indicator-based reporting has shown a number of limitations in terms of data availability and collation that need to be resolved in order to obtain more solid and rigorous data that can be unequivocally compared across countries, including protocols for quality checks.

The PRAIS Portal needs to evolve

The PRAIS Portal is an effective tool, which requires upgrades through subsequent reporting cycles, including the development of analytical tools and a public area.

Reporting for the different Conventions needs to be more integrated

Country Parties frequently asked for improved integration and harmonisation of reporting among Rio Conventions and other MEAs. The long-term monitoring framework represented by PRAIS, with its quantitative and online reporting systems, represents opportunities for improved sharing of environmental information and potential integration, and another UNEP/GEF project implemented by UNEP-WCMC (Piloting Integrated Processes and Approaches to Facilitate National Reporting to Rio Conventions) has explored further steps to achieve this.

Countries need assistance to manage their data

Continued national-level capacity building on monitoring systems and managing data is required to strengthen and refine assessment within the UNCCD. This should particularly focus on the establishment of integrated and adequate databases, environmental information systems, data-sharing protocols, and mechanisms.

There is a need to continue to work at the regional level

The regional approach piloted by the PRAIS Project has already built cooperation in and among regions, and should be used for any follow-up project. Despite some challenges, the RCs have proved to be effective partners for supporting the implementation of the Convention at the regional and sub-regional level.

Resources need to be made available for capacity building

The partnership with the GEF and other donors should be expanded into a structured, long-term capacity-building engagement for the implementation of the UNCCD.

There is a need to continue and improve training events

The training events delivered under the PRAIS Project have been a useful tool for sharing knowledge on the new reporting system, supporting the preparation of the reports, and establishing regional and sub-regional 'communities of practice' which have a common understanding of requirements, and of roles and responsibilities.

This highlights that while DLDD is a global problem it is manifested nationally and locally resulting in a need to utilise the data gathered through the new reporting schemes across scales (UNCCD, 2011e). Furthermore, experiences demonstrate that the full benefits of the new system are still to be realised, and that this will largely depend on both improving the system itself, and on the ability of the UNCCD and its stakeholders to effectively use the information it generates for policy-making and communication. A number of recommendations were developed on the basis of the experience in 2010, notably that more time is needed for reporting, regional technical support is critical to success, and countries need support in managing their data (see text box 5).

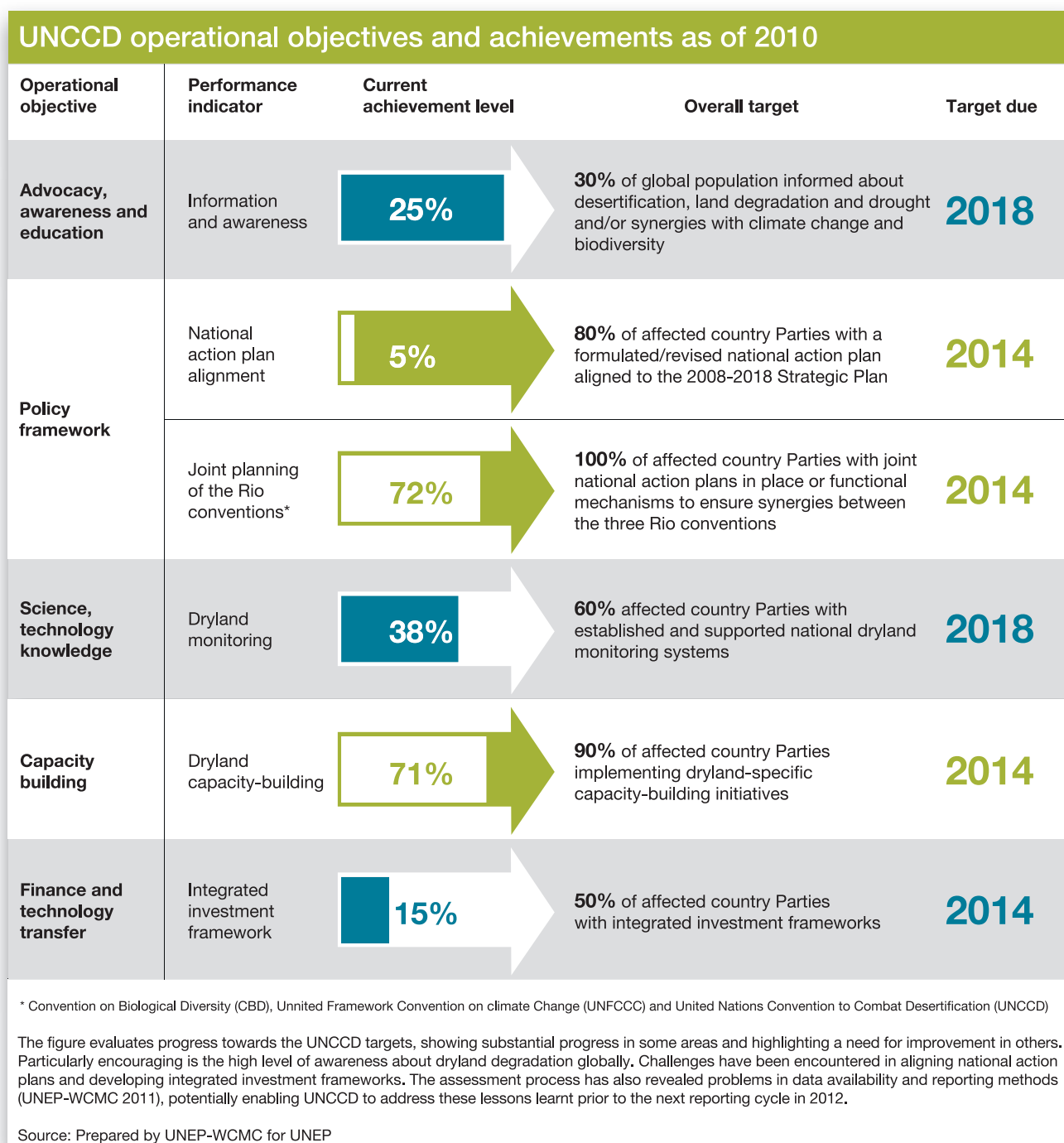
A fundamental characteristic of the new PRAIS system is its inbuilt learning mechanism through the concept of an 'iterative process' (UNEP-WCMC 2011c). This acknowledges the need to continuously refine and improve indicators and reporting requirements based on the best scientific knowledge available at the time, and lessons learnt from experience. As a result, the PRAIS system is expected to become ever more fit-for-purpose, realistic and flexible. Such an extensive and continuous feedback process on a national reporting exercise is rather unique among MEAs and is expected to contribute to improving monitoring, assessment, reporting and review processes generally.

2.1 What PRAIS can reveal

PRAIS allowed the establishment of a solid, quantitative baseline for monitoring progress towards the implementation of the Convention, and more specifically the achievement of the objectives of the Strategy. This achievement was fully recognised by Parties during CRIC 9 and CRIC10. GEF support through UNEP and the efforts of the UNCCD Secretariat and its Global Mechanism were seen to have facilitated this paradigm shift in the implementation of the Convention. The first analysis of PRAIS data indicates substantial progress in the implementation of the Convention in some areas and highlights needs for improvements in other areas.

Analysis of PRAIS data (ICCD/CRIC(9)/3-7 – see also figure 3 for a summary) indicate substantial progress in the implementation of the Convention in some areas and highlights needs for improvements in other areas. Particularly encouraging is the high level of awareness about DLDD globally. The level of joint planning of the three Rio conventions (UNCCD, CBD, UNFCCC) and DLDD capacity building undertaken by Parties indicates near compliance with UNCCD targets. Substantial progress has been made in the implementation of DLDD monitoring, especially since most countries without a dedicated DLDD monitoring system utilize monitoring systems partially covering DLDD indicators. Challenges have been encountered in the alignment of NAPs and the development of integrated investment frameworks, yet most countries indicated fulfilling targets before the respective due date.

Figure 3



The response rate (101 out of 194 Parties submitted their reports within the deadline) was beyond expectations, particularly because this was the first reporting cycle of its kind. The results are already providing a representative global summary. Reporting

against Operational Objectives allows the assessment of the level of progress in 2010 towards achieving the targets (UNEP-WCMC 2011b; figure 3). Text box 6 highlights some interesting findings from the first round of this new reporting approach.



Recession of Aral Sea dried up, Muynak, Uzbekistan.
© Eskinder Debebe / UN photo

Box 6

Illustration of the findings from the 2010 reporting and review cycle

Advocacy, awareness-raising and education

The aim for the future is to forge a global partnership to reverse and prevent desertification/land. Successful campaigns in national and local media have achieved a relatively high level of awareness - 25% of population aware about DLDD against a target of 30% by 2018 - among the populations of country Parties (see figure 4). The majority of countries (90%) undertook concrete action to increase the participation of Science and Technology Institutes and Civil Society Organisations (CSOs) in DLDD-related activities. Furthermore, 81% of reporting countries undertook action to increase the delivery of DLDD education initiatives.

Policy framework

The percentage of affected countries which have aligned their National Action Plans (NAPs) under the UNCCD with the Strategy is currently only 3%, despite a target of 80% by 2014, though 63% of country Parties have a NAP, albeit not aligned, and 75% of reporting countries are planning to have their NAP aligned by the end of 2013. These results should be of concern since NAPs are not only important for managing the ecological and socio-economic effects of DLDD, but their participatory approach in development also encourages buy-in and on-going commitment from a broad range of stakeholders, both within and outside government agencies. When asked why countries have not aligned NAPs to the 10YSP, most Parties cited the lack of financial resources as the most important factor, while further reasons were a lack of capacity, poor internal coordination and understaffing.

Science, technology and knowledge

Just over a third (38%) of all country Parties have implemented a DLDD monitoring system, the target for which is 60% by 2018. Encouragingly, the majority of countries with DLDD monitoring systems in place ensure that the system is both functioning (81%) and regularly updated (69%). Of the countries without a DLDD monitoring system, 76% (38/50) have a monitoring system that partially covers DLDD.

Capacity-building

About three-quarters of countries are implementing DLDD-specific capacity-building projects (see figure 5) —this is close to reaching the target of 90% by 2014.

Financing and technology transfer

15% of affected country Parties, sub-regional and regional entities have developed integrated investment frameworks (see figure 5), compared to a target of 50% by 2014. This is particularly interesting because the lack of financial resources was cited as the main reason for difficulties in NAP development and alignment. It has been recognised that there is a need to have a Strategic Plan and integrated investment framework in place before funds from international aid agencies, such as the GEF, flow to support action on DLDD.

Figure 4

Percentage of population informed about DLDD and/or synergies with climate change and biodiversity

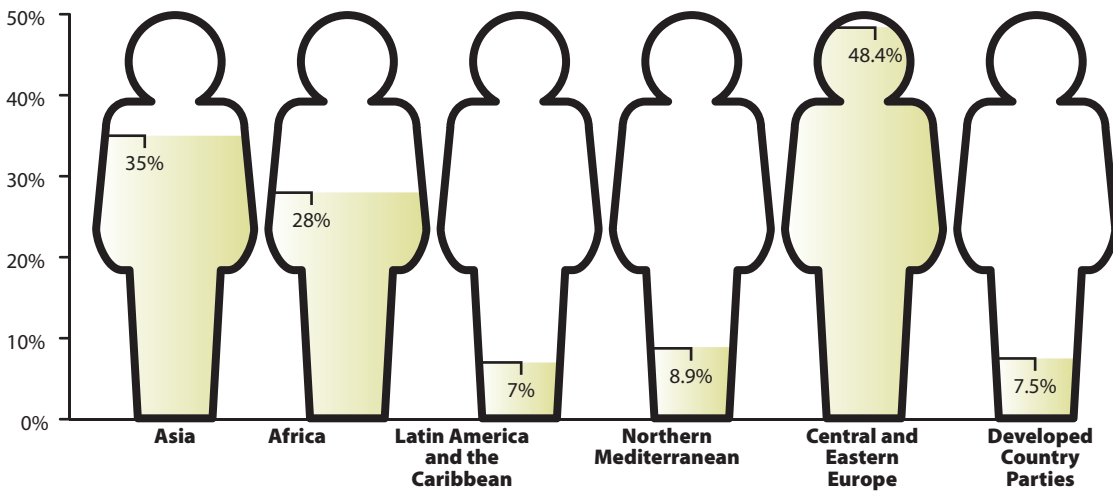


Figure 5

Number of affected countries with DLDD-specific capacity-building initiatives by region

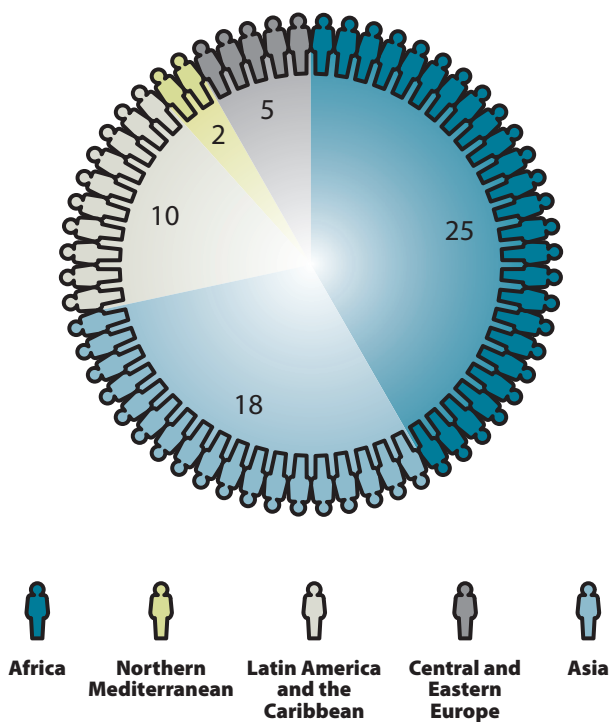
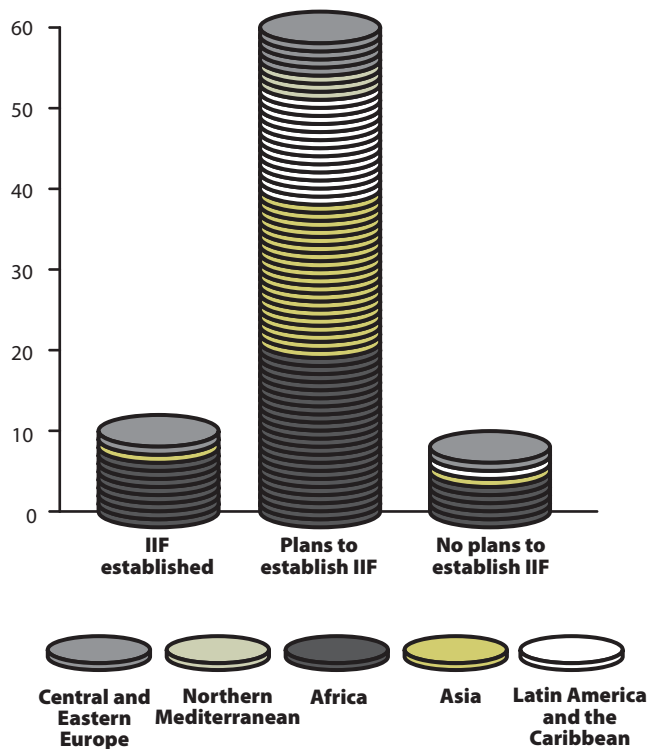


Figure 6

Number of affected country Parties that established Integrated Investment Frameworks





A farmer gathers wheat, Bamyan, Afghanistan.
© Eric Kanalstein / UN photo

Chapter 3

Data and information management

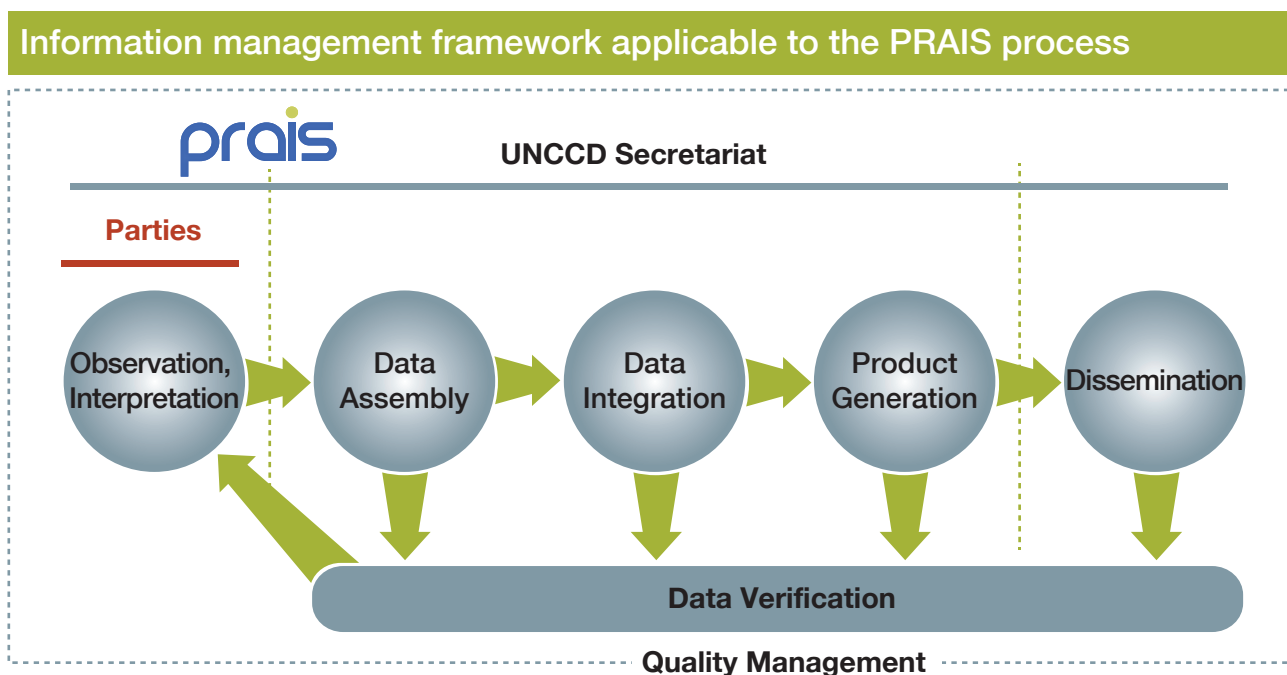
While the introduction of indicator-based reporting poses an enormous potential for assessing status, trend and drivers of DLDD, the new reporting process and the vast amount of data it generates also create new challenges for the management of data.

These need to be addressed, in order to harvest the full potential of the scientific analyses. A big challenge in assuring the quality of the evidence, and the consequent value of the information generated by the system (recalling section 1.1), is how data are validated at source, managed and then aggregated into a whole. The introduction of PRAIS therefore also brought with it a whole new way of thinking about managing the Convention's information systems. It introduced profound challenges to the system in terms of validity, reliability, bias, comprehensiveness and gaps in the reporting.

Good data management results in higher data quality than can be expected in the absence of such processes and hence provides greater confidence in the

outcomes of analyses. Furthermore, data that is in 'good shape' is cost-effective: it can be easily analysed and harmonised, and products can be developed quickly (Schulte-Herbrüggen et al. 2011). The CRIC instructed the Secretariat to improve the quality of data in national reports and data management systems (Decision 17, UNCCD 201b). As a response, UNEP-WCMC carried out a review to identify 'best practices' for data management relevant to the UNCCD and how these can assist in addressing some of the new challenges introduced by PRAIS (Schulte-Herbrüggen et al. 2011). The review found that management of the PRAIS data by the Secretariat is a complex process involving different stakeholders and management steps (Figure 7).

Figure 7



Source: modified from Schulte-Herbrüggen et al. 2011

Both the Parties and the Secretariat play important roles in ensuring high data quality. It is the Parties' responsibility to submit national reports of high quality and data validity in the first instance. However, the Secretariat can help Parties achieve this by creating an 'enabling environment' – an environment that facilitates the process of high quality data submission by Parties. Following the submission of the national reports by the Parties, data quality assurance by the Secretariat has two components: data verification and maintaining data quality. The verification process of national reports should be simple, well-documented and feasible within the time available. To maintain a consistently high level of data quality, written working documents (procedures) outlining activities and working steps related to specific tasks are essential.

Besides data quality management the access to data is a very important issue to achieving the ultimate objectives of the system. The principle of access to information is embedded in the text of many environmental conventions (UNEP 2006) and is essentially a form of international 'governance by disclosure' (Gupta 2008). National reporting is a key compliance mechanism that is used to examine the difficulties Parties may face in implementing the Convention, and to help determine measures to improve compliance. The adoption of indicator-based online reporting goes some way towards making it feasible for the Secretariat to make data available in database format in addition to summary text documents. Open access data sharing offers a broad range of benefits for DLDD mitigation management:

- Making data in national reports publicly available could assist stakeholders (e.g. intergovernmental agencies, specialist non-governmental and civil society organisations as well as scientific bodies) in developing strategies, programmes and projects to assist Parties, individually or collectively, with implementation of the Convention.
- Access to the PRAIS database would enable the public to assess the data and inform the Secretariat of inaccuracies in the dataset. Such a cost-effective peer-review system has been highlighted as an important quality control measure for the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Trade Database.
- It can also assist individual Parties, groups of Parties and/or regions to identify common issues that need to be addressed under the Convention. This can help facilitate the development of cost-effective and mutually-supportive regional initiatives to assist with and/or improve implementation. It should also lead to strengthened decision making in relation to environmental governance.
- Improving interoperability and providing open access to the data and information in the national reports could lead to improved decision making and serve to strengthen understanding of the global environment. It could also help identify areas of synergy across Conventions and reduce duplication in data collation.

Data management challenges are particularly important to address in the system, given that the next round of reporting introduces impact indicators which will compound challenges. Here as well policies on data access would be needed to engage the scientific community in delivering the reports and reviewing the results. Scientists are widely eager

to be involved in analysing data, and many institutions would be at-hand to contribute to improving the system if it was more open. The successful use of the impact indicators also requires a strong level of scientific competency as they are more varied and complex, for example in that data can be spatial as well as temporal in nature.



Children collect water at a well, Western Sahara, Algeria.
© Evan Schneider / UN photo



A Peruvian Woman in the Sacred Valley, Peru.
© Joel Shawn / Shutterstock.com

Chapter 4

Introducing the impact indicators

The major value of PRAIS for decision-making reveals itself when evidence on the efforts of stakeholders can be linked to its on-the-ground impacts. The UNCCD's set of impact indicators span a range of land and livelihood-related priority concerns.

The major value of PRAIS for decision-making reveals itself when evidence on the efforts of stakeholders can be linked to its on-the-ground impacts. The UNCCD's set of impact indicators span a range of land and livelihood-related priority concerns. Introducing these indicators to the system in 2012 truly unlocks the value of the system for decision-making by showing what investments are working and where, and pointing out areas for further attention by the international community. It is an ambitious and challenging task to collect this information and therefore the system needs to be flexible to the wide range of realities worldwide. The scientific peer review of the impact indicators (Orr 2011) stresses the importance of their adaptability.

In order to identify indicators and modalities that are fit for purpose yet rigorous enough to meet quality requirements, the scientific refinement process was complemented by a piloting of the impact indicators reporting by 11 countries representing all UNCCD regions. The piloting exercise found that reporting on the majority of these indicators would be feasible, however, issues of data availability and accessibility exist, and the different terminology between scientists and policy-makers would need to be addressed. The experience led to a number of recommendations, notably that the development of common operational criteria for the identification of affected areas and regional training would be essential to success, and a minimum of six months would be required for reporting, for Parties to be able to communicate across departments (see text box 7 for detail).

Box 7

Insight derived from the impact indicator piloting

The piloting exercise with 11 representative countries (Algeria, Argentina, Armenia, China, Colombia, Mexico, Portugal, Senegal, Spain, South Africa and Tunisia) delivered the following messages to feed back into the development of the system:

- The UNCCD impact indicator set is widely applicable, even when using alternative metrics.
- Reporting the majority of the UNCCD Impact Indicators was feasible using available data sets, however issues of data availability and accessibility exist.
- Appropriate and commonly understood terminology is essential to facilitate communication between scientists and policy-makers.
- It is helpful to utilise sub-optimal (e.g. older) available data sets if that is the only option.
- Some pilot countries found that national data collated for reporting to other Rio Conventions was difficult to access.
- Sub-national data required for assessing affected areas is limited.
- Some pilot countries found the UNCCD Impact Indicators had varying relevance at national and sub-national scales.
- Regional training would improve indicator production and reporting capacity.
- Reporting tools need to be improved, refined, and verified in all UN languages.
- A minimum of six months is required for reporting, to have sufficient time to initially secure data access.
- Cross-disciplinary (natural and social scientists, statisticians, economists) communication is important to build capacity.

Both the conceptual framework and the indicator set should be regularly re-evaluated for appropriateness as monitoring and evaluation efforts mature, and because needs may change and scientific tools may improve (UNCCD 2011a). To this end (decision 19/COP 10) an Advisory Group of Technical Experts (AGTE) is tasked with continuing the iterative, participatory contribution from the science and technology community to the indicator refinement process. One of the issues to be addressed as a priority by the group is the identification of the best scientific approach to operationally delineate affected areas. Furthermore, as DLDD is a global

problem that manifests locally, the AGTE is working on the development of a mechanism whereby the minimum set of globally harmonized impact indicators could be systematically complemented by regionally, nationally, and/or locally relevant and developed indicators.

The impact indicators have been rolled out worldwide from 2012, but the first round of synthesis of this data is not available yet. The results are eagerly anticipated as they will certainly be revealing, not least for the mid-term review of the UNCCD's 10-year Strategy scheduled to take place in 2013.



Misseriya tribe girl migrates north on donkey, Todac, Sudan.
© Tim McKulka / UN photo



Asian farmer raking soil and dry leaves, Thailand.
© Stéphane Bidouze

Chapter 5

Horizons

The information derived from PRAIS is designed primarily for Parties to review the Convention's implementation at global level and to monitor progress in action programmes implementation at national level, and the system is continually evolving and improving.

As a secondary use, this information complements and can feed in to scientific assessments and other policy processes on land degradation and related issues. Adeel et al. (2009) emphasise major DLDD issues that require greater scientific attention such as the scope of the Convention, the need to enhance the use of valuation, better documentation of the rate of land use change, and a paradigm shift from exploiting the land to renewing the land, i.e. towards land restoration. To address these challenges, the authors argue that biophysical and social sciences must be brought together to support decision making. However, information still remains scarce regarding the big picture of DLDD causal chains, as well as best practices on the meso scale (countries, subcontinents and regions). Integrated approaches are essential to tackle the range of interdependencies regarding DLDD at different scales, since DLDD is a global problem that manifests locally. Mitigation efforts, even those associated with global or national initiatives, ultimately involve local decisions and actions designed to improve conditions. Also, the causes and consequences of desertification vary considerably between and within countries. To enable a globally effective monitoring system which is also useful within country Parties, national and sub-national information is essential (UNCCD 2011a).

Given the urgency of addressing land concerns (Ostrom et al. 2007, Stringer et al. 2009, UNGA 2010, Oldeland 2010, MA 2005b), a timely science-policy response seems crucial. Since several of the feasible options require a long lead time and involve high uncertainties, such as the development of a

specialised land agency (CoE 2005), or an independent land panel (Akhtar-Schuster et al. 2011), an evolving process appears to be most feasible. Network-like options building on existing structures can function as a dynamic short-term solution to provide the groundwork and preparation for a subsequent, viable, and long-term platform. Moreover any type of land panel would be dependent on the prior spadework of a sound collaboration system of all stakeholders involved.

Although no specific institution was agreed on at UNCCD COP 10 in October 2011, all UNCCD stakeholders remained united behind the decision that policy advice and innovation must be based on sound science, and that the establishment of a credible scientific authority is crucial. The importance of an institutional arrangement to coordinate and foster knowledge, and make knowledge on DLDD more widely available, was duly recognised, since science backs up all three Rio Conventions, providing facts, analyses and recommendations for action. Delegates cleared the way for the UNCCD to consider establishing a new mechanism. They decided to 'set up an ad hoc working group ... to further discuss the options for the provision of scientific advice focusing on desertification, land degradation' (Smith & Walpole 2012, p.1). Other initiatives can also feed into any science-policy platform option, notably the emerging initiative on the Economics of Land Degradation. Having sound performance and impact information available from the PRAIS can only strengthen these other initiatives, and in turn be strengthened by them.

Discussion on science-policy options, as well as valuation of ecosystem services, hint at possibilities for increased synergies with the objectives of other multilateral environmental agreements. Cowie et al. (2011) argue that Sustainable Land Management is fundamental to achieving the goals of all three Rio Conventions. For instance, changes in land management undertaken to address DLDD can, if carefully implemented, simultaneously reduce net greenhouse gas emissions and contribute to conservation of biodiversity. Vice versa, protection of biodiversity promotes stability and resilience of agro-ecosystems and increases the carbon storage potential of dryland systems. It becomes evident that there is a crucial need for more research on synergies, conflicts, trade-offs, interconnections, feedbacks and spill-over effects among multiple objectives, drivers, actions, policies and time horizons (Cowie et al. 2011). Evidence based decision making should be a way forward towards linking the climate change and biodiversity debate to DDLD, to ensure a common successful future for these endeavours. Such efforts can build on the existing cooperation and coordination between the three Rio Conventions. The lessons learnt from the PRAIS system, with its unique structure and numerous benefits, can function as another point of communication with other MEAs, and has the potential to further improve the exchange of data and policy-relevant information between them.

UNCCD Parties will continually improve the PRAIS until it is a seamless science-policy-management system that delivers on the Convention's mandate for the vulnerable in the world's drylands and areas at risk from land degradation. UNEP-WCMC is at the ready to continue supporting UNCCD in its transition and working with partners to tackle the important issues which are revealed through this new and continuous information source. The Centre is able to bring its knowledge and experience working with UNCCD on these issues to its work within IPBES and other international processes relating to biodiversity and ecosystems which it supports. A continued and strengthened partnership will build on the numerous benefits already realised during the past years. Beyond that, dedicated finances and commitments are urgently needed to translate the insights gathered through the new management approach to the regional level, and enhance the implementation of good practices. This is certainly the most effective way to achieve lasting impacts on DLDD affected areas, as well as prevention measures in as yet unaffected regions, in order to contribute to ecological sustainability, the conservation of water, soil and biological resources, agricultural production systems, and food security, and thus the welfare of hundreds of millions of people.



Cattle receiving water drawn from a well in the drought-stricken area of Dali, Senegal.

© John Isaac / UN photo



Women collect water from the only well in Kuma Garadayat, North Darfur.
© Albert Gonzalez Farran / UN photo

Chapter 6

Annotated bibliography

- **Adeel, Z., D. Dent, P. Dobie, C. Mersmann, M. Niamir-fuller, S. Quatrini, and Y. Sokona** (2009). Revitalizing the UNCCD. United Nations University, International Network on Water, Environment and Health (UNU-INWEH). Hamilton Ontario, Canada.

The report gives suggestions for the strengthening of the effectiveness of the UNCCD. This includes a broadened scope on the global dimensions of sustainable land management, poverty alleviation and DLDD. Further macro-economic arguments, an independent science-and-policy council and more client orientation are needed.

- **Akhtar-Schuster, M., R. J. Thomas, L. C. Stringer, P. Chasek, and M. Seely** (2011). Improving the enabling environment to combat land degradation: Institutional, financial, legal and science-policy challenges and solutions. *Land Degradation & Development* 22, no. 2 299–312.

The paper assesses the efforts on mainstreaming land degradation issues into national policies and frameworks and the problems it is facing, resulting in a limited effectiveness of the UNCCD. The authors give possible solutions and identify institutional infrastructures through which scientific findings can more effectively enter policy. Namibia's good practices on integration exemplify a way forward.

- **Bauer, S., and L. C. Stringer** (2009). The Role of Science in the Global Governance of Desertification. *The Journal of Environment & Development* 18, no. 3: 248–267.

This article examines the institutional relationship between desertification science and policy through focus on the UNCCD and its subsidiary body, the CST. The authors argue that the UNCCD's limited impact may be partly due to an inadequate institutional interface between the political convention process and the scientific community. A body of international scientific expertise could help to further operationalise the normative provisions of the convention for on-the-ground implementation.

- **Chasek, P., W. Essahli, M. Akhtar-Schuster, L. C. Stringer, and R. Thomas** (2011). Integrated land degradation monitoring and assessment: Horizontal knowledge management at the national and international levels. *Land Degradation & Development* 22, no. 2: 272–284.

The authors identify improved horizontal knowledge management at the national and international levels as essential for monitoring and assessment of land degradation and desertification. At the national level, challenges include the lack of capacity, collaboration and information sharing. At the international level, there is need for increased synergies, in terms of interaction between the scientific bodies of the various MEAs, reporting, monitoring and assessment, and collaboration between organisations involved. Finally, this paper offers recommendations on how monitoring and assessment knowledge can be better managed.

- **Conliffe, A.** (2011). Combating ineffectiveness: climate change bandwagoning and the UN Convention to Combat Desertification. *Global Environmental Politics* 11, no. 3: 44–63.

This article examines the role of linkage politics in revitalizing the UNCCD, perceived as largely ineffective. The author argues that the UNCCD has focused disproportionately on linkages to the UNFCCC and analyses whether the UNCCD benefits from the regime linkages. The article then discusses whether desertification issues that overlap with climate change might be better addressed under the UNFCCC.

- **Cowie, A. L., T. D. Penman, L. Gorissen, M. D. Winslow, J. Lehmann, T. D. Tyrrell, S. Twomlow, et al.** (2011). Towards sustainable land management in the drylands: Scientific connections in monitoring and assessing dryland degradation, climate change and biodiversity. *Land Degradation & Development* 22, no. 2: 248–260.

The authors stress the importance of sustainable land management to achieving the goals of all Rio Conventions due to the tight inter-linkage and complementarities between the three environmental goals addressed. The paper suggests coordinated action across the conventions based on the identification of synergies, conflicts, trade-offs, interconnections, feedbacks and spill-over effects.

- **Gilbert, N.** (2011). Science enters desert debate. *Nature* 477, no. 7364: 262.

The author summarises the symptoms and causes of the limited success the UNCCD has had so far and gives an overview of the considerations to create an advisory panel on land degradation akin to the IPCC. The comment also stresses the importance of a broadening of the narrow scope on the desertification discussion, including causes rather than symptoms, and a global scale rather than a focus on developing countries.

- **Grainger, A.** (2009). The role of science in implementing international environmental agreements: The case of desertification. *Land Degradation & Development* 20, no. 4: 410–430.

The Article describes a preliminary framework for evaluating the effectiveness of MEAs, and applies it to the UN Plan of Action to Combat Desertification (PACD) and UNCCD, both of which have proven ineffective. It concludes that linking the UNCCD to a large and diverse scientific network, similar to the Intergovernmental Panel on Climate Change, could improve matters. However, only another regime may be politically feasible, e.g. the successor to the Kyoto Protocol.

- **Martello, M.L.** (2004). Expert advice and desertification policy: past experience and current challenges. *Global Environmental Politics* 4, no. 3: 85–106.

In the context of the questioned effectiveness and relevance of science advice to the UNCCD, the paper assesses the incongruous knowledge and policy of the convention and reasons for it. The author suggests fostering greater coherence in the convention's expert advisory and implementation activities.

- **Packwood, A.** (2002). Evidence-Based Policy: Rhetoric and Reality. *Social Policy and Society* 1, no. 3: 267–272.

This review gives an overview of concept of evidence-based policy increasingly popular since the late 1990s. The author scrutinises the way in which the approach has been constructed and questions the underlying assumptions.

- **Reed, M. S., M. Buenemann, J. Atlhopheng, M. Akhtar-Schuster, F. Bachmann, G. Bastin, H. Bigas, et al.** (2011). Cross-scale monitoring and assessment of land degradation and sustainable land management: A methodological framework for knowledge management. *Land Degradation & Development* 22, no. 2: 261–271.

The authors argue for the incorporation of multiple forms of knowledge to improve land degradation monitoring and assessment, and sustainable land management. The suggested framework aims to provide outputs for policy-makers and land managers that enhance the sustainability of land management in drylands. It is divided into four generic themes: (i) establishing land degradation and SLM context and sustainability goals; (ii) identifying, evaluating and selecting SLM strategies; (iii) selecting land degradation and SLM indicators and (iv) applying SLM options and monitoring land degradation and progress towards sustainability goals.

- **Reynolds, J. F., A. Grainger, D. M. Stafford Smith, G., Bastin, L. Garcia-Barrios, R. J. Fernández, M. A. Janssen, et al.** (2011). Scientific concepts for an integrated analysis of desertification. *Land Degradation & Development* 22, no. 2: 166–183.

The paper describes a viable design of the proposed Global Drylands Observing System aiming at better knowledge about the extent and dynamics of desertification. The authors suggest the development of an integrated global monitoring and assessment programme via the use of modelling and show how insights from models can help implement effective policies.

- **Schulte-Herbrüggen, B., M. Jaques, P. Herkenrath, and J. Smith** (2011). Implications for data management of introducing indicators into UNCCD reporting: A review of good practice in data management and access for consideration of the 4th PRAIS Project Steering Committee. Cambridge, UK: UNEP World Conservation Monitoring Centre.

This report supports a more holistic and quality focused approach to the management of the PRAIS data, and encourages explicitly linking quality management across Parties and the Secretariat and implementing a strong focus on data verification. The authors focus on three objectives: (i) identify good practices for reporting data management; (ii) assess the level of good practices already incorporated into UNCCD PRAIS data management structures/processes; and (iii) develop high level recommendations for improving data management structures/processes for consideration of the PSC.

- **Schwilch, G., B. Bestelmeyer, S. Bunning, W. Critchley, J. Herrick, K. Kellner, H. P. Liniger, et al.** (2011). Experiences in monitoring and assessment of sustainable land management. *Land Degradation & Development* 22, no. 2: 214–225.

This paper compiles methodological approaches, which to date have been little reported in the literature on the monitoring and assessment of sustainable land management and have not received enough attention. Key lessons learnt include the need for a multi-scale approach, making use of common indicators and a variety of information sources, including scientific data and local knowledge through participatory methods. Methodological consistencies allow cross-scale analyses, and findings are analysed and documented for use by decision-makers at various levels.

- **Sharma, A.** (2009). Planning to deliver: making the Rio conventions more effective on the ground. Climate change, biodiversity, desertification. GTZ.

In the context of the insufficient effectiveness of multilateral environment agreements the report analyses national action plans, such as the NAPs of the UNCCD as the key tools to identifying national options for implementation of global agreements. Reasons for the shortcoming of the NAPs are identified as a lack of adequate funding and capacity, a clear road map and participation. Planning processes should therefore become fully internalised, cross-sectoral, decentralised and participatory, promoting ownership at every level. Solutions can establish better systems of accountability through more democratic global funding mechanisms and a strengthened civil society.

- **Shaxson, L.** (2005). Is your evidence robust enough? Questions for policy makers and practitioners. *Evidence & Policy* 1, no. 1: 101–111.

This article examines the reasons why evidence for policy is needed. It discusses where evidence is needed in the policy-making process, and the nature of the evidence base for strategy and policy. The authors identify five components of evidence robustness from a policy-making lens: credibility, generalisability, reliability, objectivity and authenticity.

- **Stringer, L.** (2008). Can the UN Convention to Combat Desertification guide sustainable use of the world's soils? *Frontiers in Ecology and the Environment* 6, no. 3: 138–144.

The article assesses a legally binding, international policy framework to guide the sustainable use of soils, important to effectively combat soil and land degradation. The author suggests the UNCCD should focus more explicitly on soil ecosystems and degradation processes, both within and beyond the drylands. This could promote synergy among the international conventions on desertification, biodiversity, and climate change, and could yield multiple global benefits for socio-environmental systems.

- **Thomas, R.J., Akhtar-Schuster, M., Stringer, L.C., Marques Peres, M.J., Escadafal, R., Abraham, E., Enne, G.** (2012) Fertile ground? Options for a science-policy platform for land. *Environmental Science & Policy* 16, 122–135.

The paper argues that the UNCCD lacks a science-policy platform to adequately feed in knowledge from the scientific community to the convention. Based on the outcomes of a global e.consultation on needs and options for a land panel, which was organised by the scientific network DesertNet International and UNU-INWEH, the authors describe possible options for the platform and its remit, role, benefits and modalities. Short-term options include ad hoc working groups within the planned IPBES. Long-term options include the establishment of a network of networks, which would scientifically underpin an international panel on land issues that can achieve the required legitimacy to inform policy-making.

- **Toulmin, C.** (2006) If you want to get a job done, you need the right tools: Next steps for the UN Convention to Combat Desertification. Sustainable Development Opinion Papers. London: IIED.

The author questions whether the equipment of the UNCCD is adequate to address the problems facing dryland peoples. The report suggests working closely with the UNFCCC, engaging with the changing aid architecture and securing rights to land and natural resources for dryland populations.

- **Trumper, K., C. Ravilious, and B. Dickson** (2008) Carbon in Drylands: Desertification, ClimateChange and Carbon Finance. A UNEP-UNDP-UNCCD Technical Note for Discussions at CRIC 7, Istanbul, Turkey – 03–14 November. UNEP World Conservation Monitoring Centre.

This technical note for discussions at CRIC 7 in 2008 reviews the potential for carbon sequestration in dryland ecosystems, including forests, grasslands and soils. It also considers ways in which carbon storage in drylands affects land degradation issues. The paper concludes that sustainable land management practices addressing DLDD in drylands can also have significant carbon sequestration potential. This may however be hampered by lack of finance, data and capacity, calling for cooperative policies and institutions.

- **UNCCD** (2007a) ICCD/COP (8)/16/Add.1 Report of the Conference of the Parties on its eighth session, held in Madrid from 3–14 September 2007. Addendum Part two: Action taken by the Conference of the Parties at its eighth session. UNCCD.

This official UNCCD document outlines the Ten-year Strategic Plan and Framework to enhance the Implementation of the Convention (2008–2018) aiming to forge a global partnership to reverse and prevent desertification and land degradation, and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability. The Strategic Objectives are: to improve the living conditions of affected populations; to improve the condition of affected ecosystems; to generate global benefits through effective implementation of the UNCCD; and to mobilise resources to support implementation of the Convention through building effective partnerships between national and international actors.

- **Unisféra & IIED** (2007). ICCD/COP(8)/INF.5. Follow-up to the Joint Inspection Unit report and strategy development to foster the implementation of the Convention. Situational analysis. UNCCD.

This document provides contextual information and analysis on the first decade of the UNCCD and perspectives on the forthcoming ten years. It outlines the comparative advantages of the UNCCD in the current international environmental and developmental governance context, highlights some of its strengths and weaknesses, and identifies recent evolutions in the international governance context that can create opportunities or new challenges for the Convention. It emphasises the lack of solid evidence from monitoring and assessment processes.

- **UNEMG** (2011). Global Drylands: A UN system-wide response. United Nations Environment Management Group.

This report focuses on the importance of the drylands issue on the global agenda and its relationship to other issues, including climate change, food security and human settlements. It scopes the key issues and proposes a way forward of the Issue Management Group on Land of the Environment Management Group, providing a coherent UN system-wide response to land challenges, and including the implementation of the 10-year strategic plan of the UNCCD. The report shows that environmental sustainability and poverty reduction are intricately linked and must be approached holistically.

- **UNEP** (2009). Piloting Integrated Processes and Approaches to Facilitate National Reporting to Rio Conventions (FNR_Rio). Project document. UNEP.

The project document introduces the project Piloting Integrated Processes and Approaches to Facilitate National Reporting to Rio Conventions (FNR_Rio). In the context of increasing reporting burdens for developing countries, it aims to develop integrated data collection/analysis and information management, increased cooperation and synergies, and improved overall planning and decision making processes for reporting to, and implementing, the Rio Conventions, primarily at the national level. The project is being implemented in six least developed countries and small island development states.

- **UNEP-WCMC (2011).** PRAIS Briefing 1: Process – Realising a paradigm shift in monitoring and assessment within the UNCCD. UNEP World Conservation Monitoring Centre.

The briefing describes the process of the Performance Review and Assessment of Implementation System sought to provide the quantitative evidence that is presently lacking regarding the implementation of the UNCCD and thus improve the inadequate evidence-base used for decision making within the UNCCD. PRAIS is based on performance indicators to assess the implementation progress made and a knowledge management system. Possible outcomes include increased engagement with the scientific community and synergies between the three Rio Conventions.

- **UNEP-WCMC (2011b).** PRAIS Briefing 2: Results – Fostering evidence-based decision making in UNCCD implementation: Initial results from PRAIS reports in 2010. UNEP World Conservation Monitoring Centre.

The briefing paper presents the initial results from Performance Review and Assessment of Implementation System reports in 2010. High levels of progress have been achieved towards targets on advocacy, awareness, education, capacity building, science technology and knowledge but limited progress has been made on targets related to the policy framework, financing and technology transfer. Improvements in reporting and analysis techniques are necessary to further improve the system.

- **UNEP-WCMC (2011c).** PRAIS briefing 3: Lessons – Implementing a new monitoring and assessment system for the UNCCD: Lessons learnt from the PRAIS Project. UNEP World Conservation Monitoring Centre.

The briefing paper identifies lessons learnt from the Performance Review and Assessment of Implementation System project. As an iterative process the system acknowledges the need for improvements, including more time for reporting, the integration of reporting-related processes among the Rio Conventions, capacity building support, improvement of the reporting templates and improved alignment between UNCCD reporting at the global and national level processes.

- **Verstraete, M. M., C. F. Hutchinson, A. Grainger, M. Stafford Smith, R. J. Scholes, J. F. Reynolds, P. Barbosa, A. Léon, and C. M. bow (2011)** Towards a global drylands observing system: Observational requirements and institutional solutions. *Land Degradation & Development* 22, no. 2: 198–213.

The authors show the way to a Global Drylands Observing System after identifying a lack of integration, coordination and synthesis of available information and specific gaps in quantitative data on dryland changes and their effects on the people living there. Based on the shortcomings of established systems they suggest an approach with a mixture of bottom-up and top-down design principles, and multiple ownership, to promote sustainable development in drylands.

- **Winslow, M. D., J. V. Vogt, R. J. Thomas, S. Sommer, C. Martius, and M. Akhtar-Schuster (2011)** Science for improving the monitoring and assessment of dryland degradation. *Land Degradation & Development* 22, no. 2: 145–149.

The papers included in this issue of *Land Degradation & Development* argue for a more holistic, harmonised and integrated approach to dryland monitoring and assessment of the UNCCD, and describe scientific and institutional approaches for achieving this goal. A global monitoring and assessment regime should be established to gather and analyse relevant data and an independent scientific advisory mechanism should be created to advise the UNCCD about the results emerging from the monitoring and assessment regime in order to improve decision making.

6.1 Other literature cited

- **Akhtar-Schuster, M., Bigas, H., and Thomas, R.** (2010). Final White Paper from DSD Consortium's Working Group 3, Monitoring and assessment of desertification and land degradation in the context of knowledge management, institutions and economics. Association of DNI, UNU-INWEH, Dryland Science for Development Consortium.
- **Baartman, J., Godert, W., van Lynden, W.J., Reed, M., Coen, J., and Hessel, R.** (2007). Desertification and land degradation: origins, processes and solutions: A literature review. DESIRE REPORT series number 4.
- **Balmford, A., Crane, P., Dobson, A., Green, R. and Mace, G.** (2005). The 2010 challenge: data availability, information needs and extraterrestrial insights. *Philosophical Transactions of the Royal Society B: Biological Sciences* 360: 221–228.
- **Binnendijk, A.** (2000). Results based management in the development cooperation agencies: a review of experience (Background Report). DAC Working Party on Aid Evaluation, Paris, France.
- **CoE** (2005). Press Release, 2670th Council Meeting Environment, Luxembourg: Council of the European Union.
- **Dean, W.R.J., Hoffman, M.T., Meadows, M.E. and Milton, S.J.** (1995). Desertification in the semiarid Karoo, South Africa - review and reassessment. *Journal of Arid Environments* 30, 247–264.
- **DNI** (2011). DesertNet International (DNI) reports on science-policy developments at UNCCD COP10 (Changwon, Republic of Korea, October 2011) and on its own science-policy work in 2011. DesertNet International, Hamburg, Germany.
- **Holling, C.S.** (1986). The resilience of terrestrial ecosystems, local surprise and global change. In: Clark, W.C., Mtmn, R.E. (eds.), *Sustainable development of the biosphere*. Cambridge University Press, Cambridge UK: 292–317.
- **Holling, C.S.** (2001). Understanding the Complexity of Economic, Ecological, and Social Systems. *Ecosystems* 4: 390–405.
- **IPCC** (2007a). Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change 446, 104.
- **IPCC** (2007b). Future of the IPCC (No. IPCC-XXVII/INF 3.). Johnson, P.-M., Mayrand, K., Paquin, M., Agency, C.I.D., Centre, U.I., 2006. Governing global desertification: linking environmental degradation, poverty and participation. Ashgate Publishing, Ltd.
- **IPCC** (2001). Climate Change 2001: The Scientific Basis. Houghton, J.T., Ding, Y., Griggs, D.J., Noguer, M., van der Linden, P.J., Dai, X., Maskell, K. and Johnson, C.A. (eds), Cambridge University Press, Cambridge UK.
- **Kasperson, J., Kasperson, R. and Turner, B.** (1995). *Regions at Risk*. United Nations University Press. Available online from: <http://www.unu.edu/unupress/unupbooks/uui4re/uui4reoo.htm>.
- **MA** (2005a). Millennium Ecosystem Assessment. Analytical Approaches for Assessing Ecosystem Condition and Human Well-being. World Resources Institute, Washington, DC.
- **MA** (2005b). Millennium Ecosystem Assessment. Ecosystems and human well-being: general synthesis. World Resources Institute, Washington, DC.
- **Nachtergaele, F., Biancalani, R., Bunning, S., and George, H.** (2010). Land Degradation Assessment: The LADA Approach. 19th World Congress of Soil Science, Brisbane, Australia.
- **Nkonya, E., Winslow, M., Reed, M.S., Mortimore, M. and Mirzabaev, A.** (2011). Monitoring and assessing the influence of social, economic and policy factors on sustainable land management in drylands. *Land Degradation & Development* 22, 240–247.
- **Oldeland, J.** (2010). On the evaluation of the Global e.consultation on a Panel for land issues. In Hamburg: Desertnet International/UNU-INWEH/ES. Available at: http://www.european-desertnet.org/docs/Final_Report_e-forum_16Feb2011.pdf.
- **Orr, B.J.** (2011). Scientific review of the UNCCD provisionally accepted set of impact indicators to measure the implementation of strategic objectives 1, 2 and 3. Available online from: http://www.unccd.int/en/programmes/Science/Monitoring-Assessment/Documents/White%20paper_Scientific%20review%20set%20of%20indicators_Ver1.pdf
- **Ostrom, E., M.A. Janssen, and J.M. Anderies** (2007). Going beyond panaceas. *Proceedings of the National Academy of Sciences* 104: p.15176–15178.

- **Reynolds, J., Stafford-Smith, M., Lambin, E. et al.** (2007). Global Desertification: Building a science for dryland development. *Science* Vol. 316 No. 5826: 847–851.
- **Smith, J., and Walpole, M.** (2012). The 10th meeting of Conference of the Parties to the UN Convention to Combat Desertification—recent green shoots. *Oryx, Conservation News*. January 2012. Available at: <http://www.oryxthejournal.org/index.php/news/conservation-news.html>.
- **Spencer, L., Ritchie, J., Lewis, J. and Dillon, L.** (2003). Quality in qualitative evaluation: A framework for assessing research evidence. *National Centre for Social Research* 170.
- **Schulte-Herbruggen, B., Jacques, M., Herkenrath, P. and Smith, J.** (2011). Implications for data management of introducing indicators into UNCCD reporting: A review of good practice in data management and access for consideration of the PRAIS Project Steering Committee. UNEP World Conservation Monitoring Centre: Cambridge UK.
- **Stringer, L.C., J.C. Dyer, M.S. Reed, A.J. Dougill, C. Twyman, and D. Mkwambisi** (2009). Adaptations to climate change, drought and desertification: local insights to enhance policy in southern Africa. *Environmental Science & Policy* 12: p.748–765.
- **UNCCD** (2011a). ICCD/COP(10)/CST/2 Report on the refinement of the set of impact indicators on strategic objectives 1, 2 and 3, United Nations Convention to Combat Desertification.
- **UNCCD** (2011b). ICCD/CRIC(10)/L.3/Rev.1. Improving the procedures for communication of information as well as the quality and formats of reports to be submitted to the Conference of the Parties: The iterative process relating to the assessment of implementation, including performance and impact indicators, methodology and the reporting procedures, United Nations Framework Convention to Combat Desertification.
- **UNCCD** (2011c). ICCD/CRIC(9)/INF.9 Options to increase synergies in monitoring the Rio Conventions, United Nations Convention to Combat Desertification. Available at: [http://www.unccd.int/en/about-the-convention/official-documents/Pages/SymbolDetail.aspx?k=ICCD/CRIC\(9\)/INF.9&ctx=CRIC](http://www.unccd.int/en/about-the-convention/official-documents/Pages/SymbolDetail.aspx?k=ICCD/CRIC(9)/INF.9&ctx=CRIC)
- **UNCCD** (2011d). United Nations Convention to Combat Desertification. About the Convention. Available at: : <http://www.unccd.int/en/about-the-convention/Pages/Text-overview.aspx>
- **UNCCD** (2011e). United Nations Convention to Combat Desertification. Fourth UNCCD reporting and review process. Available at: <http://www.unccd.int/prais/> [Accessed December 15, 2011].
- **UNCED** (1992). A/CONF.151/26 Report of the United Nations Conference on Environment and Development. Chapter 12: Managing fragile Ecosystems: Combating Desertification and Drought. Rio de Janeiro 2.
- **UNEP** (1999). Synthesis of the reports of the scientific, environmental effects, and technology and Economic Assessment Panels of the Montreal Protocol: a decade of assessments for decision makers regarding the protection of the ozone layer: 1988–1999. United Nations Environment Programme.
- **UNGA** (2010). General Assembly's resolution A/RES/64/201. In UN General Assembly. Available at: <http://daccess-ods.un.org/TMP/1701290.html>.
- **Washington-Allen, R. and Ravi, S.** (2011). Dryland Analysis and Monitoring. Range and Animal Sciences and Resources Management. Vol II. UNESCO and Encyclopedia of Life Support Systems. Available online from: <http://www.eolss.net/Sample-Chapters/C10/E5-35-24-00.pdf>.
- **Watson, R.T.** (2005). Turning science into policy: challenges and experiences from the science – policy interface. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences* 360, 471–7.
- **Watson, R.T., Prather, M.J., Kurylo, M.J.** (1988). Present state of knowledge of the upper atmosphere 1988: an assessment report.

Improving measurement and reporting of progress for the United Nations Convention to Combat Desertification



UNEP-WCMC BIODIVERSITY SERIES no. 34

ISBN: 978-92-807-3329-7

Job Number: DEW/1656/UK

UNEP World Conservation Monitoring Centre
219 Huntington Road, Cambridge
CB3 0DL, United Kingdom
Tel: +44 (0) 1223 277314
Fax: +44 (0) 1223 277136
Email: info@unep-wcmc.org
Website: www.unep-wcmc.org

www.unep.org

United Nations Environment Programme
P.O. Box 30552 Nairobi, 00100 Kenya
Tel: (254 20) 7621234
Fax: (254 20) 7623927
E-mail: unep@unep.org
web: www.unep.org



UNEP



WCMC