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Improvement of knowledge management, including traditional knowledge, best practices and success stories:
Scientific Knowledge Brokering Portal

Improving knowledge management in the UNCCD

Note by the secretariat

Summary

Outcome 3.5 under operational objective 3 (science, technology and knowledge) of the 10-year strategic plan and framework to enhance the implementation of the Convention (The Strategy) is defined as: "Effective knowledge-sharing systems, including traditional knowledge, are in place at the global, regional, subregional and national levels to support policymakers and end users, including through the identification and sharing of best practices and success stories."

The Strategy states that the Committee on Science and Technology (CST) should, in cooperation with relevant institutions, create and steer knowledge management systems aiming to improve the brokering of scientific and technical information from and to institutions, Parties and end users.

As regards its role in knowledge management, the secretariat of the United Nations Convention to Combat Desertification (UNCCD) has been requested to perform information and knowledge brokering functions for various types of information, including, inter alia, data provided by countries on implementation, scientific and technical information, databases and rosters of various focal points and experts, public information and communication materials.

The Strategy also requests the secretariat to develop its capacity to service the CST effectively by, inter alia, supporting the knowledge management systems established by the CST and performing information and knowledge brokering functions.

By decision 4/COP.9 and decision 21/COP.10, the Conference of the Parties guided the secretariat in improving its knowledge management functions and capabilities. This document reports on progress made in this regard.

Contents

I. Introduction

1.   Article 6 of the United Nations Convention to Combat Desertification (UNCCD) states that developed country Parties undertake, inter alia, to promote and facilitate access by affected country Parties, particularly affected developing country Parties, to appropriate technology, knowledge and know-how.

2.   The Convention further stresses the importance of knowledge for its successful implementation: article 17 refers to knowledge of the processes leading to desertification and drought as well as traditional knowledge; article 18 calls for the protection, promotion and use of traditional and local technology, and article 19 promotes capacity-building by fostering the use and dissemination of knowledge.

3.   Outcome 3.5 under operational objective 3 of the 10-year strategic plan and framework to enhance the implementation of the Convention (The Strategy) is defined as: "Effective knowledge-sharing systems, including traditional knowledge, [1] are in place at the global, regional, subregional and national levels to support policymakers and end users, including through the identification and sharing of best practices and success stories."

4.   The Strategy states that the Committee on Science and Technology (CST) should, in cooperation with relevant institutions, create and steer knowledge management systems aiming to improve the brokering of scientific and technical information from and to institutions, Parties and end users.[2] This is in line with its terms of reference (decision 15/COP.1), which states that the CST shall, inter alia, provide scientific and technological information needed to implement the Convention; collect information, analyse, assess and report on the impact of developments in science and technology and give advice on the possible utilization of such developments for the implementation of the Convention; advise the Conference of the Parties (COP) on the possible implications of the evolution of scientific and technological knowledge for programmes and activities under the Convention, particularly in connection with the review of implementation pursuant to paragraph 22 (2) (a) of the Convention; and make recommendations regarding the collection, analysis and exchange of data and information to ensure systematic observation of land degradation in affected areas and assess the processes and effects of drought and desertification.

5.   At the same time, The Strategy assigns the Committee for the Review of Implementation of the Convention (CRIC) a central role in reviewing the implementation of The Strategy through an effective reporting process and by documenting and disseminating best practices from experience in implementing the Convention, thereby making a cross-cutting contribution to all operational objectives. The terms of reference of the CRIC (decision 11/COP.9, annex) further sets out functions related to knowledge management, including recommending methods that (a) improve the communication of information, as well as the quality and format of reports to be submitted to the COP; (b) promote know-how and technology transfer for combating desertification and/or mitigating the effects of drought; and/or (c) promote experience sharing and information exchange among Parties and all other interested institutions and organizations.

6.   As regards its role in knowledge management, the UNCCD secretariat has been requested to perform information and knowledge brokering functions for various types of information, including, inter alia, data provided by countries on implementation, scientific and technical information, databases and rosters of various focal points and experts, public

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[1] Excluding traditional knowledge on genetic resources.
[2] Decision 3/COP.8, annex, paragraph 14 (b) (iii) f.

information and communication materials. The Strategy also requests the secretariat to develop its capacity to service the CST effectively by, inter alia, supporting the knowledge management systems established by the CST and performing information and knowledge brokering functions.[3]

7.   The online Performance Review and Assessment of Implementation System (PRAIS) reporting portal was established by the secretariat to collect and disseminate information submitted by Parties, as part of the UNCCD reporting process. At its tenth session, the COP guided the secretariat in further developing this tool.

8.   By decision 21/COP.10, the COP further guided the secretariat in improving knowledge management in the UNCCD, including the development of an information platform on matters related to desertification/land degradation and drought (DLDD), implementing a taxonomy for internal content classification, and establishing synergetic partnerships with existing initiatives/networks.

9.   This document represents a progress report on the improvements made to UNCCD knowledge management with a focus on the Scientific Knowledge Brokering Portal (SKBP) that is to be steered by the CST.

II.   Improving knowledge management in the UNCCD: an overview

10.   The purpose of improving knowledge management in the UNCCD is to address various needs for knowledge dissemination and re-use through a coherent, value-driven and practical knowledge management architecture and system. Such architecture will provide an organized pathway to information on the Convention and the implementation of The Strategy, with a view to enabling new synergies, disseminating knowledge from a variety of sources and promoting the scale-up of results. Improved knowledge management should respond to the needs and demands identified. At the same time, it should comply with the capacities and resources of the participating stakeholders, including the secretariat, to carry out the tasks needed for its implementation and maintenance.

11.   Improvements to UNCCD knowledge management will address both internal and external functions. Internally, content management and content governance strategies will be developed to encourage knowledge reuse. For external users, the secretariat is introducing new and improved knowledge services. The internal and external aspects are intrinsically interlinked in terms of governance structure and content management approach. With regard to the technical environment, the secretariat has adopted one application to host its website, intranet and extranet, which helps make the information hosted in each environment compatible, easily transferrable and interoperable. Adopting just one application also minimizes the need for advanced expertise and resources, staff training and information management standards, resulting in a more uniform approach to accessing and aggregating information across systems.

12.   During the biennium 2012–2013, the secretariat has made advancements in the following knowledge management areas:

        (a)   The UNCCD website was re-launched in 2012. The structure of the website was developed on the basis of user feedback and seeks to improve the overall design and findability of relevant information and knowledge. It allows for the reusing of data and information across different parts and on different topics of the website, which will reduce manual content maintenance at the secretariat. The maintenance of individual pages is now

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[3]   Decision 3/COP.8, annex, paragraph 20 (b) (ii) b.

delegated to the respective substantive units of the secretariat, which helps ensure content is updated in a timely fashion. Initial user analyses indicate that the relaunched website has been successful: the number of monthly average visits has more than doubled from approximately 20,000 visits in 2009 to over 50,000 visits in both 2012 and 2013;

(b) The PRAIS portal was updated in accordance with the guidance received from the COP at its tenth session (COP 10) and the feedback received through the 2012–2013 reporting and review process. The updates include methodological improvements in the collection of information on various performance indicators, the integration of impact indicators for strategic objectives, technical improvements that minimize false uploading and enhance data integrity, and an infographic section that presents major findings from the reporting and review process, including trend analyses;

(c) The Capacity Building Marketplace was launched in April 2013. This marketplace links existing and emerging supply and demand on capacity for implementing the Convention. Users can share their experiences and new ideas, increase their knowledge and skills through various sources, and directly influence the future development of the facility. The services in the marketplace include information resources and training opportunities for capacity-building, e-learning modules and opportunities, a calendar of activities and events related to capacity-building within the UNCCD context, a library with a search index for documents, reports and other material, and online forums and discussions;

(d) The SKBP is being developed. It will be a search portal that aggregates scientific knowledge documented by various partner institutions. Its design and preliminary requirements have been finalized and the process for deploying the search engine and automating text extraction from different sources of content has started. Several partner institutions made a commitment to participate in the development of the prototype and agreed to share their content as well as validate the prototype during the development stages. A functional prototype is to be available by the end of 2013;

The Capacity Building Marketplace and the Scientific Knowledge Brokering Portal as key components in UNCCD knowledge management

The Capacity Building Marketplace and the Scientific Knowledge Brokering Portal will be key components in the emerging UNCCD knowledge base. The content to be provided through these components is based primarily on information from specialized organizations and institutions. The technical functions of each component will be based on interoperable solutions, and the same content can be featured and accessed in all components, if needed. Consequently, the components have a high potential for generating added value, and their maintenance and further development will be cost-efficient.

(e) Best practices on sustainable land management (SLM) technologies, including adaptation, have featured in the exchanges of the CST and the CRIC, and the approach to their systematic collection and dissemination is on the agenda of the upcoming sessions of both subsidiary bodies. Building on the outcomes of these deliberations, the secretariat seeks to facilitate access to best practices, which could be linked with other UNCCD knowledge management tools;

(f) The secretariat has begun developing an extranet that will enable the electronic sharing of various types of information between the secretariat and external stakeholders (e.g. Parties or civil society organizations (CSOs)), making it easier and faster for external stakeholders to share information and for the secretariat to record and manage information. At the beginning, such information will include updates to contact information and other routine inputs, while later on, more advanced features, such as workspaces for the

Bureaux, are to be added. The aim is to have only one user interface for various purposes so that the external stakeholders can effectively use different services without needing to learn several applications;

(g)   The secretariat has sought to build partnerships by involving institutions and organizations that can provide relevant expertise in improving knowledge management for the UNCCD. In addition to these content-related partnerships, the secretariat has also actively cooperated with knowledge management specialists in other organizations, particularly the Bonn-based United Nations organizations, with the aim of sharing and benefiting from their information and experiences. Such partnerships have proven very fruitful and have the potential to grow beyond information-sharing;

(h)   A particularly representative example of cooperation in knowledge management is the Multilateral Environment Agreement (MEA) Information and Knowledge Management (IKM) initiative led by the United Nations Environment Programme, in which the secretariat continues to participate. This initiative brings together 43 international and regional legally binding instruments with the aim of developing knowledge tools to pool the information of the various MEAs. The initiative's first achievement was the InforMEA Portal (www.informea.org), which seeks to provide an easy access to Conference of the Parties/Meeting of the Parties (COP/MOP) decisions and resolutions, national focal points and other related information from all participating MEAs. The initiative is valuable also in bringing together knowledge management experts from the participating MEAs to exchange expertise and practices and to cooperate where deemed useful. The information and support gained through this networking has already been very useful for the secretariat's work in developing knowledge management for the UNCCD;

(i)   The secretariat has introduced or further developed the following improvements to its internal content management:

(i)   An initial taxonomy was prepared in 2012 and it has been included in the relaunched UNCCD website. The taxonomy provides an agreed framework for categorizing content within the secretariat;

(ii)   The taxonomy will also be used for categorizing content in the secretariat's new intranet, which has been designed and created. The secretariat will start using the intranet after COP 11 following intensive staff training, and it is expected to facilitate the storing and retrieving of various types of content considerably, ranging from meeting timetables to correspondence and official documents;

(iii)   The secretariat is in the process of upgrading its internal database of contacts. This database contains information on national focal points and other governmental contacts, the roster of experts, the list of scientific and technology correspondents and institutional partners. It will form the basis for registering participants to the UNCCD sessions in the future. The upgrade enables various contact lists to be interlinked across different search themes (e.g. country, expertise, function, etc.). The upgrade also enables this information to be connected to the intranet and the website, thus making it accessible to multiple users with different needs (within certain limits); and

(iv)   A knowledge management task force involving representatives from all units meets regularly to exchange information on related tasks in each unit and to identify opportunities for collaborating and sharing resources. This task force helps achieve cost-efficiency and consistency in carrying out various knowledge management tasks. In order to implement organization-wide knowledge management standards, the secretariat also started preparing internal policies and procedures concerning overall content governance (allocation of responsibilities), website management and

style, and the application of knowledge management processes in human resource management.

13.   The planned activities for improving access to DLDD knowledge resources and the overall implementation of knowledge management practices are presented in this paragraph, while the proposed next steps in developing the SKBP are presented in chapter III below.

(a)   Make continued improvements to the website to provide updated information, enable access to information in languages other than English, and improve site navigation and search functions;

(b)   Maintain the taxonomy to ensure that it remains relevant to the content produced and that it is made available by the secretariat;

(c)   Consider linking the PRAIS portal with other UNCCD knowledge management tools. The secretariat will examine possible options for migrating PRAIS to the same technical environment as the website, intranet and extranet. This would provide new opportunities for using the information in PRAIS and facilitate technical maintenance and upgrades;

(d)   Establish procedures for the dissemination of scientific and technical best practices, including the migration of best practices reported through PRAIS to the primary recommended database host(s) identified by Parties at COP 11;

(e) Facilitate access to best practice repositories, taking into account the results of the joint consultation between the Bureaux of the CRIC and the CST held in Bonn on 30 May 2013 (see document ICCD/CRIC(12)/4-ICCD/COP(11)/CST/7);

(f)   Continue partnership-building activities with organizations and institutions that maintain content repositories relevant to the UNCCD and that have knowledge management processes and specialists supporting the work carried out under the UNCCD. Particular attention will be placed on implementing the InforMEA interface in order to include relevant UNCCD information resources in the portal;

(g)   Develop and enhance community engagement practices and tools to support partnership-building and knowledge-sharing in the context of the UNCCD among organizations, institutions, focal points, Capacity Building Marketplace users and CSOs. An effective tool for this purpose would be a webinar series seeking to help identify the potential for synergies across these partners, and to support external partners in learning from each other's experiences in DLDD-related projects and initiatives;

(h)   Make further internal knowledge management improvements, such as the further development of the intranet, the implementation of knowledge management policies and procedures, and the training of staff to adjust to the new technical environment and applications; and

(i)   Document knowledge management reform, the anticipated results and main tools into a comprehensive knowledge management strategy for the UNCCD.

III.   Scientific Knowledge Brokering Portal

14.   One of the objectives of the UNCCD is to become a global authority on scientific and technical knowledge pertaining to DLDD. The CST is leading work towards achieving this objective and seeks to, among other tasks, promote and/or create effective knowledge-sharing systems to support policymakers and end users by, inter alia, identifying and sharing best practices and success stories.

15.   With guidance from the CST, the secretariat has started developing a framework for brokering scientific and technical information under the UNCCD. At its tenth session in 2011, the COP requested the secretariat to continue to improve knowledge management by carrying out, for example, the following actions, which are particularly relevant in brokering scientific knowledge:

(a)   Elaborate an information platform related to DLDD, building on existing relevant information and categories where appropriate and useful;

(b)   Define criteria and priorities applicable to knowledge management under the Convention, taking into account the results of the knowledge needs assessment;[4] and

(c)   Establish synergetic partnerships with existing initiatives/networks.

16.   Parties, international organizations and agencies, scientific institutions and networks, and other relevant stakeholders were invited to support and cooperate with the secretariat in improving knowledge management for the Convention.

17.   Decision 4/COP.9 and decision 21/COP.10 guided further planning for brokering scientific knowledge. These brokering functions under the UNCCD were to become a dynamic system, but not a new platform that Parties would use to directly publish and update content online. Content and connections would be tapped where they already exist, and scientific knowledge brokering would therefore materialize as the Scientific Knowledge Brokering Portal (SKBP), or a "portal to portals", facilitating the access of UNCCD stakeholders to various types of existing information focusing on DLDD.

18.   The primary principles for the development of the UNCCD SKBP were defined to include the following:

(a)   **Avoid reinventing the wheel.** There are already major initiatives offering information intermediary functions, knowledge translation and knowledge brokerage. The UNCCD SKBP would not become another similar initiative, but would instead generate added value for the existing initiatives by attracting more users to available DLDD-related knowledge products under a consolidated portal, with the potential to make an impact that is "greater than the sum of the parts";

(b)   **Maximize and leverage the strengths of partners and regional networks.** The portal would support knowledge sharing within a large community of stakeholders working on DLDD issues. It would leverage existing knowledge and consolidate it under one interface to allow users to discover lesser-known resources and the relationships between DLDD knowledge resources and providers. Partners could support the up-scaling of good practices and collaboration, and co-identify DLDD knowledge needs by collectively reviewing search logs and user requests for information. This could lead to improved, targeted dissemination strategies. Participation in the portal could also promote interoperability and the development of a shared controlled vocabulary on DLDD. In this regard, scientific knowledge brokering under the UNCCD would have two main aims: (1) the delivery of DLDD-related information and knowledge from multiple sources; and (2) a cooperation mechanism on DLDD knowledge for different stakeholders;

(c)   **Maximize cost-efficiency.** The functioning of the portal would be based on a search engine that could access information directly from partnering organizations and institutions through an interoperable search facility. Information updates in each partners' repository would be simultaneously available for search through the UNCCD portal. The costs for building and maintaining the portal would be concentrated mainly on the search

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[4] This assessment was commissioned by the UNCCD secretariat in 2010–2011. Its results were presented to the CST at its tenth session in 2011.

engine, which would be a minor investment compared to the costs of the content-related initiatives of the partners;

(d) **Targeted to specific users.** While the portal would be open to all interested stakeholders, its content would be targeted particularly to the needs of policymakers (as the main constituencies of the Convention); and practitioners (farmers, non-governmental organizations, implementing agencies, etc.)

19. In 2013, the process to establish the portal took major steps forward through the establishment of first partnerships and the analysis of the technical options. A kick-off meeting among six partners and the secretariat was held in mid-April in which the partners confirmed their participation and support of the deployment approach of the portal. The design and preparation of the pilot portal will begin in August 2013.

20. Proposed next steps in developing the portal include the following:

(a) **Develop the prototype.** The secretariat will develop the prototype for the portal in close consultation with the partners in order to pilot the search functionalities and collect initial feedback from potential users. The prototype will be accessed through the UNCCD website. It will allow users to search for information across the participating DLDD knowledge repositories with just one search request, and to then filter search results by format, source, topic, date of creation and other search refiners. The prototype will seek to meet two main aims:

(i) To simplify the DLDD knowledge discovery process by allowing users to filter search results using search refiners that are not available across original knowledge repositories; and

(ii) To enable DLDD knowledge resources to be searched by cross-cutting themes, allowing the users to mine information on a given topic from many knowledge providers at once.

A closed group of users will be requested to provide feedback on whether and how the research topics and content of the portal contribute to the DLDD knowledge discovery process and whether they perceive thematic relationships between different knowledge providers (i.e. 'the big picture') through this single interface. Following initial feedback, enhancements will be made to the portal as available resources allow;

(b) **Establish a governance structure.** An important aspect in proceeding with the development of the portal is the involvement of partners in the future enhancement and monitoring of site content. A light governance/coordination structure will be established to involve the partners and possibly also other stakeholders in monitoring portal use and in collectively improving it over time. The joint identification of common search terms and/or failed search results will help partners to determine the highest demand or gaps in their DLDD knowledge resources. The collective analysis of search behaviour in the portal may help to steer the creation of new or improved knowledge resources. This will improve the responsiveness of DLDD knowledge products created by the partner institutions to the needs of users;

(c) **Promote the portal.** Communication activities will be carried out to promote the portal once the prototype is fully integrated in the UNCCD website. Partners will be invited to participate in planning and implementing an outreach process for communicating the portal to specific audiences. This process will primarily take advantage of online tools (newsletters, social media, etc.) in each individual partner's user and stakeholder networks. In addition to promoting the portal, communication activities are expected to also raise the overall profile and visibility of DLDD issues among the constituencies of the partners;

(d) **Increase the scope for partnership.** As the portal matures into a cohesive and collaborative initiative and usable product, other interested partners will be involved in an effort to increase the scope of content that is searchable within the portal, and to

continue broadening partnerships that leverage the reuse of DLDD knowledge between knowledge providers and creators. Ideally, new partners will offer access to additional resources, thus providing users with increased access to relevant knowledge resources, which may include journal articles, interactive maps and multimedia; and

(e)   **Reach growing audiences**. The pilot will be launched primarily in English. Depending on the availability of resources for the next steps, access to information through the portal will be improved by allowing users to enter search terms in other languages, and by giving related results in multiple languages.

IV.   Conclusions and recommendations

21.   **The CST at its eleventh session may wish to recommend that the COP:**

(a)   **Take note of the progress made by the secretariat in improving UNCCD knowledge management;**

(b)   **Request the secretariat to:**

(i)   **Make further improvements to the website by updating information regularly, improving access to information in languages other than English, and enhancing site navigation and search functionalities;**

(ii)   **Maintain and update the taxonomy to ensure that it remains relevant to the content produced and that it is made available by the secretariat;**

(iii)   **Continue active partnership-building activities with organizations and institutions that maintain content repositories relevant to the UNCCD and that have knowledge management processes and specialists that support the work carried out under the UNCCD;**

(iv)   **Make further internal knowledge management improvements, such as the further development of the intranet, implementation of knowledge management policies and procedures, and the training of staff to adjust to the new technical environment and applications;**

(v)   **Explore and pilot cost-effective knowledge management and community engagement practices, such as webinars, to better facilitate the capture and transmission of local and traditional knowledge on DLDD matters from and between various UNCCD stakeholders; and**

(vi)   **Continue developing the SKBP in cooperation with partners to expand the collection of information aggregated to the SKBP and to plan future enhancements to the portal that may include: multilingual search capabilities, improvements to the accuracy of search results, personalized search profiles, usability enhancements and potential connections to social networks; and**

(vii)   **Draft a knowledge management strategy for the UNCCD and to present this strategy for consideration at COP 12 through the CST at its twelfth session in 2015.**