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UPDATED WEB STRATEGY FOR THE CONVENTION AND ITS PROTOCOLS

Note by the Executive Secretary

Contents

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[*] CBD/SBI/2/1.

EXECUTIVE SUMMARY

The main goal of the web strategy requested in paragraph 19 of decision XII/2 B is to ensure that all information common or relevant to all clearing-houses, as well as other platforms developed under the Convention on Biological Diversity can be accessed centrally to avoid the duplication of efforts. The web strategy is structured as follows:

(a)   The strategic vision;
(b)   The current situation;
(c)   The way forward.

The strategic vision is based on several guiding principles related to user experience, effectiveness, efficiency, sustainability, information exchange, and knowledge sharing. It takes into account the overall context of the Convention and its Protocols, the communications strategy, and the expected role of the Secretariat covering these three treaties and their clearing-houses. It also considers the global network of partners and national clearing-house mechanisms linked to the central clearing-house mechanism through interoperability, as envisaged by the Strategic Plan for Biodiversity 2011-2020.

This vision considers that the CBD website (www.cbd.int) is the main entry point to the CBD and its Protocols, for all stakeholders and audiences. The website's role is not to manage these audiences but instead to act as a discovery mechanism routing them to relevant sources without replicating their content.

A number of website features and content sections have been identified to meet the expectations of various target audiences and user groups. A key component of the proposed information architecture is the top-level navigation providing quick access to each treaty and its thematic programmes, to national information through country profiles, to partnership initiatives through various portals, and to an information centre offering a range of relevant online services including national reporting and decision tracking.

An analysis of the current situation reveals a series of issues, including fragmentation, lack of coherence, slow delivery, and inadequate maintenance. The recommended way forward to address these issues is to take some measures to improve web governance, coherence, integration, productivity, sustainability, and content management.

The resulting implementation approach is to build upon the new web infrastructure developed for the Access and Benefit-sharing Clearing-House (ABSCH) and the online reporting system. It also envisages the use of a content management system to improve content management for a redesigned version of the site www.cbd.int. The approach also seeks to align the website with the communications priorities of the Secretariat as outlined in recent decisions, and to mark the twenty-fifth anniversary of the Convention.

The plan is to implement this strategy through a set of deliverables according to a two-phased road map. It is hoped that the implementation of this strategy will meet the expectations of Parties while providing strong foundations for future web developments.

INTRODUCTION

General information

1.   In paragraph 19 of decision XII/2 B, the Conference of the Parties requested the Executive Secretary to develop a web strategy to ensure that all information common or relevant to the clearing-house mechanism (CHM), the Access and Benefit-sharing Clearing-House (ABSCH) and the Biosafety Clearing-House (BCH), as well as other platforms developed under the Convention, such as the NBSAP Forum, the website for ecologically or biologically significant marine areas (EBSAs) and any future similar developments, can be accessed centrally to avoid duplication of efforts, and to provide this strategy to the Subsidiary Body on Implementation (SBI), for its consideration at its first meeting, in preparation for the thirteenth meeting of the Conference of the Parties.[2]

2.   Further to this request, the Informal Advisory Committee to the Clearing-House Mechanism (CHM-IAC) established a Web Strategy Working Group to provide advice to the Executive Secretary on the preparation of the web strategy. Consultations with this working group as well as with relevant staff of the Secretariat of the Convention on Biological Diversity resulted in the preparation of the web strategy which was submitted for consideration by the Subsidiary Body on Implementation at its first meeting (UNEP/CBD/SBI/1/6/Add.2).[3] In paragraph 4 of its recommendation 1/5, the Subsidiary Body on Implementation took note of this web strategy and requested the Executive Secretary to align it with the communications strategy that was being prepared for consideration by the Conference of the Parties at its thirteenth meeting. The communications strategy was issued as UNEP/CBD/COP/13/14 and the aligned web strategy for the Convention and its Protocols as document UNEP/CBD/COP/13/14/Add.1.

3.   At its thirteenth meeting, the Conference of the Parties adopted the communications strategy in decision XIII/22, and in decision XIII/23 requested the Executive Secretary:

        (a)   To implement the web strategy for the Convention and its Protocols, in line with the Framework for a Communications Strategy;

        (b)   To update the web strategy with priority actions to be taken before 2018 based on decisions emanating from the thirteenth meeting of the Conference of the Parties, the second meeting of the Parties to the Nagoya Protocol on Access and Benefit-sharing and the eighth meeting of the Parties to the Cartagena Protocol on Biosafety, in particular with actions mentioned in the short-term action plan for capacity-building.

4.   The present document is a draft updated strategy based on the above request. An annex has been added to the present document to summarize the changes made compared to the web strategy document prepared for the thirteenth meeting of the Conference of the Parties.

Purpose and scope of the present document

5.   The scope of the requested web strategy covers the websites owned by the Executive Secretary. National clearing-house mechanism websites and partners' websites are outside this scope because they are owned by Parties and partners respectively, and they are therefore beyond the control of the Executive Secretary. Nevertheless, a website built in partnership with the Executive Secretary will be influenced by this web strategy through his views and recommendations on the evolution of this joint website.

6.   In the rest of the present document, the term "website" is used in a broad sense to encompass all these websites, clearing-houses, web portals, or other web-based systems owned by the Executive Secretary.

7.   Given the importance of the various clearing-houses for the Convention and its Protocols, the present strategy takes into account the distinction between mere website functions for read-only visitors and clearing-house functions allowing authorized users to submit content for sharing with a wide audience.

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[2] See https://www.cbd.int/decisions/?m=cop-12&n=2.

[3] See https://www.cbd.int/doc/meetings/sbi/sbi-01/official/sbi-01-06-add2-en.pdf.

8.   As some details are beyond the scope of the present document, whenever relevant, references are made to sections of the information document, entitled "Additional information on the web strategy for the Convention and its Protocols" (UNEP/CBD/COP/13/INF/14)[4] which was made available to the Conference of the Parties for consideration at its thirteenth meeting.

Approach

9.   This document follows a three-step approach:

(a)   The strategic vision – Where we want to be;

(b)   The current situation – Where we are;

(c)   The way forward – How to get there.

PART I. STRATEGIC VISION

1. GUIDING PRINCIPLES

Effectiveness and user experience

10.   The web strategy should ensure effectiveness and good user experience through:

(a)   *Alignment with organizational objectives* – The Secretariat has a specific core mandate and its activities are guided by decisions of the Conference of the Parties. One of the main objectives of the web strategy is to make the CBD website and its web-based services as effective as possible in contributing to the objectives of the Secretariat;

(b)   *Compliance with decisions* from the Conference of the Parties– The web strategy should be prepared with a view to complying with web-related decisions, particularly decision X/15[5] which requested the availability of a high-quality CBD website in all United Nations languages (Objective 1.2) and specified that the overall mission of the clearing-house mechanism for the period 2011-2020 is to promote and facilitate scientific and technical cooperation, knowledge sharing, and information exchange, and establish a fully operational network of Parties and partners;

(c)   *Alignment to communications strategy* – The web strategy should remain aligned with the broader communications strategy recently prepared by the Secretariat, particularly in terms of branding, messaging, and social media aspects (UNEP/CBD/COP/13/14);[6]

(d)   *User-centric approach* – Web users should be at the core of the web strategy, and importance should therefore be attached to web usability and user experience (UX);

(e)   *Consistency and coherence* – Consistency and coherence should be maintained across all websites managed by the Secretariat, at both visual and functional levels;

(f)   *Complementarity* – The web strategy should take into account the role of external websites by seeking complementarity and avoiding duplication;

(g)   *Web analytics and user feedback* – To monitor website usage and gather data for indicators.

Efficiency and sustainability

11.   The web strategy should lead to increased efficiency and sustainability in the following ways:

(a)   *Adherence to United Nations guidelines* – The web strategy should be in line with the recommendations made by the United Nations Joint Inspection Unit (JIU) for the management of United Nations websites (available in annex II to document UNEP/CBD/COP/13/INF/14);[7]

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[4] See https://www.cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-14-en.pdf.

[5] See https://www.cbd.int/decisions/?m=cop-10&n=15.

[6] See https://www.cbd.int/doc/meetings/cop/cop-13/official/cop-13-14-en.pdf.

[7] See https://www.unjiu.org/en/reports-notes/archive/JIU_REP_2008_6_English.pdf.

(b)   *Sustainability* – Developing and maintaining websites with their applications and content requires significant resources. The web strategy should be geared towards medium- and long-term sustainability;

(c)   *Reliability, security and business continuity* – All aspects related to reliability, security, and business continuity are critical for the smooth ongoing operation of any website;

(d)   *Integration and standardization* – Whenever possible, the web strategy should lead towards further integration and the establishment of standard operating procedures (SOPs);

(e)   *Preference for publicly available software tools* – The web strategy should favour the use of publicly available software tools as indicated in activity 1.1.5 of the CHM work programme[8] (see UNEP/CBD/COP/13/INF/14, annex I), particularly for managing and translating web content.

Information exchange and knowledge sharing

12.   The web strategy should be geared towards further information exchange and knowledge sharing:

(a)   *Professional information and knowledge management* – Information and knowledge should be professionally managed in order to fulfil the CHM mandate to facilitate information exchange and knowledge sharing;

(b)   *Multilingualism* – The website should eventually be made available in all United Nations languages, including Arabic which is a right-to-left language;

(c)   *Open data and interoperability* – As a matter of principle, all public information hosted by the CBD Secretariat should be as openly accessible as possible. This includes interoperability through an application programming interface (API);

(d)   *Search engine optimization (SEO)* – To increase the discovery of online information;

(e)   *Responsive web design (RWD)* – To adapt web pages to various screen sizes, particularly mobile devices;

(f)   *Web accessibility*[9] – To allow people with disabilities to access web content.

2.   CONTEXT AND VISION

The Convention and its Protocols

13.   The Secretariat of the Convention covers three multilateral environmental agreements (MEAs) and their clearing-houses:

(a)   The Convention on Biological Diversity, with its clearing-house mechanism (CHM) – The CHM was established pursuant to Article 18.3 of the Convention to promote and facilitate technical and scientific cooperation among Parties. The CHM is also expected to support other articles of the Convention, including Article 17 on the exchange of information;

(b)   The Cartagena Protocol on Biosafety, with its Biosafety Clearing-House (BCH) – Article 20.1 of the Cartagena Protocol established the BCH as part of the CHM under Article 18.3 of the Convention in order to facilitate the exchange of information on living modified organisms (LMOs) and assist Parties to implement this Protocol. The modalities of operation of the BCH are defined in decision BS-1/3;[10]

(c)   The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS), with its ABS Clearing-House (ABSCH) – Article 14.1 of the Nagoya Protocol established the ABSCH as part of the CHM under Article 18.3 of the Convention in order to serve as a means for sharing information related to access and benefit-sharing, particularly to

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[8] See https://www.cbd.int/doc/meetings/cop/cop-11/official/cop-11-31-en.pdf.

[9] See https://en.wikipedia.org/wiki/Web_accessibility and https://www.w3.org/WAI/intro/wcag.

[10] See https://www.cbd.int/decisions/?m=mop-01&n=3.

provide access to information made available by each Party relevant to the implementation of this Protocol. The modalities of operation of the ABSCH are defined in decision NP-1/2.[11]

14.   As an MEA secretariat, the Secretariat is expected to:

        (a)   Be the guardian of the institutional memory, particularly the core information consisting of decisions, recommendations, Parties, and national reports;

        (b)   Service meetings, such as meetings of the Conference of the Parties, Conference of the Parties serving as the meeting of the Parties to the Protocols and subsidiary bodies;

        (c)   Respond to requests from the Conference of the Parties and the Conference of the Parties serving as the meeting of the Parties to the Protocols addressed to the Executive Secretary;

        (d)   Follow up on implementation at all levels, particularly by Parties through the NBSAPs and national reporting processes.

15.   It should be noted that functions of the Secretariat related to reporting and decision tracking have been further defined by the Conference of the Parties in a way that impacts the expected evolution of the website.

16.   More specifically, in decision XII/28,[12] the Conference of the Parties requested the Executive Secretary to develop and maintain an online decision tracking tool in the clearing-house mechanism. The annex to that decision provides an outline of the information to be managed by this tool. Given the cross-cutting nature of decisions under the Convention and its Protocols, this tool should be implemented as a core information service that can enhance the content of relevant web pages under various thematic portals.

17.   Regarding reporting, in a number of recent decisions, including paragraph 18 (a) of decision XII/2 B and paragraph 4 of decision XII/29,[13] the Conference of the Parties requested the Executive Secretary to establish an online reporting tool. Furthermore, similar requests have been made for the Nagoya and Biosafety Protocols. These online reporting services are therefore expected to be implemented in a synergistic manner.

18.   In decision X/2,[14] the Conference of the Parties adopted the Strategic Plan for Biodiversity 2011-2020 and its Aichi Biodiversity Targets. These targets are of critical importance for the implementation of the Convention. Therefore, the online reporting tool is designed to capture progress towards them. The reported information can then be reused across the website as needed, including on web pages dedicated to providing information on these targets.

19.   Moreover, there are a number of other web-related initiatives undertaken by the Secretariat to support its mandate and operations. Examples include the development and maintenance of on-line services for conference services, such as participants' registration for meetings, side-events management, and the PrintSmart system to reduce paper consumption during major meetings. In the future, the Secretariat will continue to pursue these types of initiatives, whenever feasible and appropriate, with a view to improving its efficiency while fulfilling its mandate.

The biodiversity community and the clearing-house mechanism network

20.   The biodiversity community is broad and many institutions have established websites providing information and online services about specific biodiversity topics. Moreover, the Secretariat has been engaged in a series of partnership initiatives that have resulted in the creation of joint websites on issues of common interest. Given the existence and overall added value of these websites, the strategic approach of the Secretariat is to avoid duplication and seek complementarity. In terms of practical implications, it means that the CBD website should, whenever appropriate, refer to these external sources instead of attempting to become the primary provider of such information and online services. Collaboration with

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[11] See https://www.cbd.int/decisions/?m=np-mop-01&n=2.

[12] See https://www.cbd.int/decisions/?m=cop-12&n=28.

[13] See https://www.cbd.int/decisions/?m=cop-12&n=29.

[14] See https://www.cbd.int/decisions/?m=cop-10&n=2.

relevant partners remains essential in order to respond well to the needs of the biodiversity community in a complementary way.

21.   Examples of such complementarity are:

        (a)   *The NBSAP Forum* (http://nbsapforum.net) – The NBSAP Forum is a networking platform facilitating the exchange of experiences on NBSAP implementation between experts through communities of practice. A pragmatic way to interconnect this platform with the CBD website is to establish links between the two sites in sections that are on the same theme (e.g. invasive alien species);

        (b)   *UNEP Live* (http://uneplive.unep.org) – UNEP Live is a web portal visualizing the status of the environment from data collected at country level. Each CBD country profile provides a link to the corresponding country profile on UNEP Live;

        (c)   *InforMEA* (http://www.informea.org) – InforMEA is the United Nations web portal on multilateral environmental agreements (MEAs). It harvests relevant information from various MEAs in order to present it in an integrated way. Each CBD country profile provides a link to the corresponding country profile on InforMEA;

        (d)   *Global Biodiversity Information Facility* **(**GBIF**)** (http://www.gbif.org) – GBIF provides free and open access to biodiversity data (e.g. species occurrences), which can be very valuable to scientists and researchers.

22.   As far as the clearing-house mechanism (CHM) is concerned, its vision as a biodiversity knowledge network is described in paragraph 22 of the Strategic Plan for Biodiversity 2011-2020, which is reproduced in the box below.

> Collectively those involved in implementing the Convention have a wealth of experience and have developed many useful good practice cases, tools and guidance. There is additional useful information beyond this community.
>
> A biodiversity knowledge network will be developed, including a database and network of practitioners, to bring together this knowledge and experience and to make it available through the clearing-house mechanism to facilitate and support enhanced implementation of the Convention, including its various programmes and all national biodiversity strategies and action plans.
>
> National clearing-house mechanism nodes comprising networks of experts with effective websites should be developed and sustained so that in each Party, all have access to the information, expertise and experience required to implement the Convention.
>
> National clearing-house mechanism nodes should also be linked to the central clearing-house mechanism managed by the Convention Secretariat, and information exchange between these should be facilitated.

23.   Also, decision X/15 adopted the mission, goals, and objectives of the CHM for the period 2011-2020 in line with the above vision. The CHM mission is to contribute significantly to the implementation of the Convention on Biological Diversity and its Strategic Plan for Biodiversity 2011-2020, through effective information services and other appropriate means in order to promote and facilitate scientific and technical cooperation, knowledge sharing, and information exchange, and to establish a fully operational network of Parties and partners. This mission is further articulated around the following goals, one for each level of the CHM network:

        (a)   *Goal 1 at central level* – The central clearing-house mechanism provides effective global information services to facilitate the implementation of the Strategic Plan for Biodiversity 2011-2020;

(b)   *Goal 2 at national level* – National clearing-house mechanisms provide effective information services to facilitate the implementation of the national biodiversity strategies and action plans (NBSAPs);

(c)   *Goal 3 at partner level* – Partners significantly expand the clearing-house mechanism network and services.

24.   Further details on the corresponding objectives and recommended activities for the CHM are available in document UNEP/CBD/COP/11/31.[15]

25.   Regarding the links between the various nodes of the CHM network, paragraph 18 of decision XII/2 B explicitly requests:

(a)   Interoperability with national clearing-house mechanisms, among which is the existing portal toolkit used by many national and regional clearing-house mechanisms, where applicable;

(b)   Interoperability with InforMEA to allow relevant information on the Convention on Biological Diversity to be globally searchable on the InforMEA website.

26.   In the case of interoperability with national clearing-house mechanisms, each country can decide on the direction of such interoperability, which could be either from the central node to the national node or vice-versa. The implementation of interoperability at the Secretariat should therefore be planned to support both options, with the objective of widely disseminating relevant information without increasing duplication. Further information on interoperability is available in section 6 of document UNEP/CBD/COP/13/INF/14.

The central clearing-house mechanism

27.   At the central level, the CBD website (www.cbd.int) is the main entry point to the Convention and its Protocols, for all stakeholders and audiences. The role of this website is not to manage all these audiences, but instead to act as a discovery mechanism routing them to relevant sources without replicating their content. It is therefore an integrated multi-audience entry point, as illustrated schematically in figure 1 below.
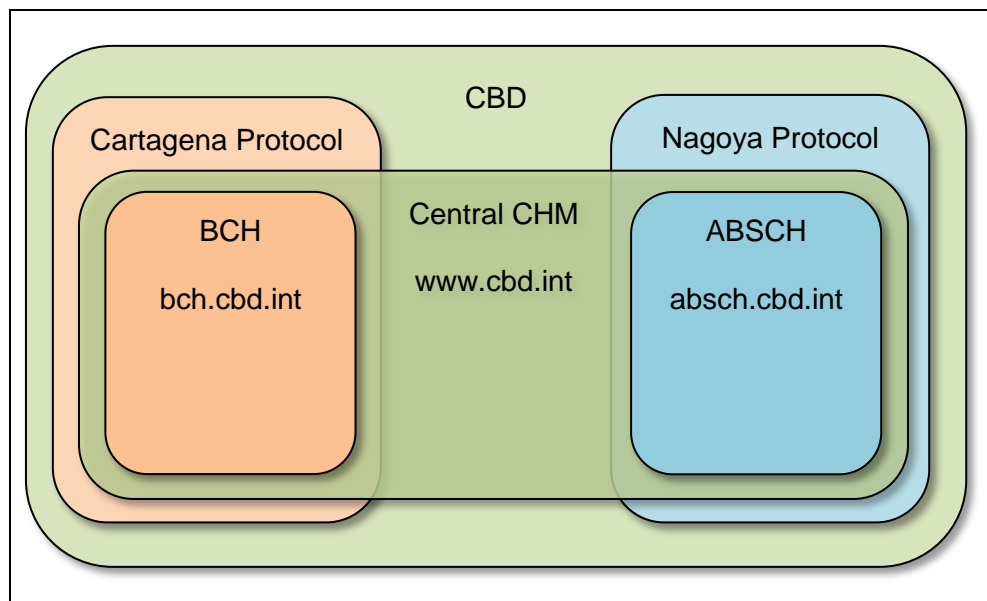

Figure 1. **Relationship between the Convention, its Protocols, and its clearing-houses**

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[15] See https://www.cbd.int/doc/meetings/cop/cop-11/official/cop-11-31-en.pdf.

28.   From a strategic perspective, the key point about the above relationship is that each Protocol's clearing-house extends the CBD website, which acts as the central hub of the CHM network. Each Protocol's clearing-house, in accordance with its mandate, provides access to information relevant to the implementation of its Protocol, and allows each Party to submit any information that is required to be made available under this Protocol.

29.   At the same time, as requested by paragraph 19 of decision XII/2 B, all information common or relevant to all clearing-houses and other platforms developed under the Convention should be centrally accessible to avoid duplication of efforts. This means that this information should be organized and managed to be centrally accessible through relevant sections of the CBD website, such as country profiles or a global search engine.

The communications strategy

30.   According to the communications strategy (UNEP/CBD/COP/13/14, section III, B, Goals), communications efforts need to support the implementation of the Convention on Biological Diversity, its Strategic Plan for Biodiversity 2011-2020 and its 2050 vision in a sustained manner. These efforts should be designed to have an impact not only on the remaining years of the United Nations Decade on Biodiversity 2011-2020, but also on the subsequent decades leading up to 2050. Within this context, the following are the main goals:

        (a)   Communicate the status of implementation of the Strategic Plan for Biodiversity 2011-2020 and its 2050 vision;

        (b)   Urge additional actions where they are needed;

        (c)   Demonstrate, for multiple audiences, the relevance of biodiversity and the work of the Convention for sustainable development and other global priorities;

        (d)   Provide tools for capacity-development.

31.   This strategy provides a framework for global communications by covering core messaging and branding, major audiences, information resources, communication channels, and the role of key partners and multipliers. In particular, it expects the CBD website to be a platform that supports the implementation of this strategy by facilitating communications with the various audiences and actors. It also emphasizes the significant contribution of modern social media platforms in information sharing, and the need for integration between social media and the website. In practice, such integration usually occurs as follows:

        (a)   Links to social media are embedded in the web page template, for instance in the page header or footer, so that a website user can immediately access them on any page of the website;

        (b)   Information shared through social networks typically includes links to the website in order to provide full details or a particular information resource (e.g. publication, press-release, reference document, web content, etc.).

3.   TARGET AUDIENCES AND USER GROUPS

32.   The Convention and its Protocols have a wide variety of stakeholders, starting with their Parties and official national focal points. The stakeholders also include partners, practitioners, experts, and scientists, as well as the general public, which has been increasingly aware of biodiversity-related issues. In terms of web-based communication, these stakeholders translate into a number of audiences with distinct goals, needs, and roles, to which the Secretariat needs to respond. The following audiences have been identified in the communications strategy (UNEP/CBD/COP/13/14), and section III.D of that document provides further details on each of them:

        (a)   *Parties to the Convention and its Protocols* – The Convention on Biological Biodiversity is implemented at the national level by national governments, and therefore a primary key audience for communications by the Secretariat and other international level actors are the Parties;

(b) *Stakeholders and other members of the CBD core audience and constituency* – While Parties are the primary focus of the Convention on Biological Diversity, there are a number of other actors and stakeholders who provide supportive roles to Parties, or also have a discrete role to play in implementation of the Convention on Biological Diversity (e.g. some United Nations organizations, regional organizations, conservation NGOs, etc.);

(c) *Indigenous peoples and local communities (IPLCs)* – It is important to increase work with Indigenous Peoples and Local Communities to communicate their role in the conservation and sustainable use of biodiversity, and to show how their activities contribute to the implementation of the Convention on Biological Diversity and other biodiversity-related conventions;

(d) *Public and important stakeholder groups* – It is frequently said that the work of the Convention needs to be communicated in a way that makes it relevant to the "public." Nevertheless, the so-called "public" is in face, a number of different audience segments divided by country, gender, socio-economic level and languages. Therefore, any attempt to reach out to the public should take into consideration that the main segmentation for the public remains at national levels, that a powerful way to reach the public is through the media, and that both business and youth represent key audiences;

(e) *Resource persons and institutions* – This audience segment is the variety of communities of experts and institutions in different scientific and technical domains who generate and disseminate knowledge that supports the implementation of the Convention. Reaching out to these is important to ensure that the best available scientific knowledge is being generated and used in support of the Convention on Biological Diversity.

33. In parallel to the above, it is important to make a distinction between:

(a) Read-only visitors;

(b) Content contributors.

34. *Read-only visitors* represent the vast majority of web users. They do not create content, but rather view it. They typically visit the website to obtain information. Their core needs can be summarized as follows:

(a) Intuitive menu navigation;

(b) Intuitive, yet powerful, search engine;

(c) Quick results through popular search engines (e.g. Google, Bing, Yahoo). This requires the application of search engine optimization (SEO) techniques at the Secretariat to ensure that all relevant web content pages are adequately detected by these external search engines;

(d) Good overall user experience (UX);

(e) Immediate way to provide feedback on any page;

(f) Option to subscribe to a mailing list to be notified when potentially relevant content is made available online.

35. *Content contributors*, while representing a small fraction of web users, have a major impact on the quantity and quality of information made available online. For the Secretariat, a further distinction is made between various kinds of contributors:

(a) Internal contributors, managing web content under the Executive Secretary's responsibility;

(b) National contributors, managing national web content published and owned by Parties under a clearing-house, who are further divided into:

   (i) National authorized users (NAU) who can draft national content but cannot make it publicly available;

   (ii) National publishing authorities (NPA) who have the authority to make national content publicly available;

(c)   Other external contributors, typically partner organizations or individuals willing to contribute web content, subject to review and validation by internal contributors.

36.   The two roles of read-only visitor and content contributor are not mutually exclusive. At any time, an individual who is a content contributor on a particular topic may need to obtain some information on a related topic. Therefore, what applies to a read-only visitor also applies to a content contributor. Nonetheless, content contributors have additional needs, including:

(a)   Easy way to securely create a user account or, if possible, reuse an existing account (e.g. a Google or Yahoo user account);

(b)   Mechanism to sign in, and secure procedure to regain access after having forgotten a password;

(c)   User profile to update their personal information and preferences;

(d)   Access to a menu tailored to their needs and privileges;

(e)   Information on the modalities and workflows for submitting and publishing information;

(f)   Intuitive and consistent user interface for managing their information;

(g)   Confirmation messages after important operations (e.g. create/update/delete);

(h)   Notification mechanism to inform them when items require their attention (e.g. for validation);

(i)   Way to keep track of their submissions, including through indicators;

(j)   Links to locations where their information is used, to allow them to check that such information appears as expected and within a proper context.

37.   It should be noted that fulfilling the above content contributors' needs may have implications in terms of support to legacy web browsers. Indeed, recent web browsers are designed to provide excellent user experience with modern web technologies not supported by legacy web browsers. It is therefore recommended that content contributors use recent web browsers in order to avoid common compatibility issues associated with legacy browsers. More information on web browser support is available in section 7 below on the new web infrastructure.

38.   Web users may also fall into different groups depending on:

(a)   Their language – As a United Nations organization, the Secretariat should make its best efforts to provide its website and other online systems in the six official United Nations languages;

(b)   Their device – Today, websites are being increasingly accessed through a variety of devices including personal computers, tablets and mobile phones. The common industry practice in response to this trend is to apply responsive web design (RWD) techniques;

(c)   Their Internet speed – Many users do not have a fast Internet connection, and efforts should be made to minimize the size of frequently accessed web pages.

39.   In addition to the above, most web users with specific needs fall into the following main categories:

(a)   National users – This audience covers all national users, including national focal points and practitioners. They are primarily interested in the status of implementation of the Convention in their respective countries and will frequently refer to country profiles and related information;

(b)   Meeting delegates – This audience covers all meeting delegates, also including national focal points. They are typically international negotiators involved in Convention processes, and they attend major meetings to negotiate decisions and recommendations. As such, they often visit meeting portals to view decisions and recommendations. They also expect adequate online services for meeting registration, side-events, and in-session documents;

(c)   Thematic users – A specific audience can be identified for each thematic area (e.g. forest biodiversity, access and benefit-sharing, etc.). Each audience is typically a mix of national practitioners, experts, and scientists who share common interests on a particular thematic area. These users are best served through dedicated web portals providing a synthesis of relevant information with links to more specialized resources. While each audience is substantively very different, there are commonalities in their

information needs (e.g. background information, latest updates, thematic resources, capacity-building materials, workshops, or expert meetings);

(d)   Specific groups – These groups typically represent well-known stakeholder groups (e.g. business, indigenous and local communities, women, youth, etc.). To some extent, their information needs are similar to those of thematic users. However, the nature of each group should be taken into account to determine the most appropriate communication channel(s) and content. This explain why, in some cases, a specific initiative may emerge resulting in an independent website (e.g. The Green Wave) possibly managed by a partner;

(e)   Secretariat-related users – This audience covers the personnel of the Secretariat (e.g. staff members, consultants, interns, etc.). These users can be read-only visitors, internal contributors, content managers, or translation coordinators. While this audience represents very few users compared to other audiences, it makes intensive use of the website. As a result, the quality of the website has a direct impact on their productivity, and hence on the efficiency of the Secretariat.

40.   As far as the general public is concerned, it is difficult to define it homogeneously because it consists of a variety of groups depending on age, gender, level of education, geographic distribution, or language, among other factors. The variation is so great that any assertion of general communications goals would obscure important specific activities. Nonetheless, it could perhaps be said that all these groups should see the website as a source of reliable, credible, and useful information on such topics as the following:

(a)   Objectives and activities of the Convention and its Protocols, including an overview of the status of implementation at the national level;

(b)   Scientific information agreed by Governments, through which the public can increase its awareness of biodiversity and ecosystem services and their contributions to human well-being and to the achievement of the Sustainable Development Goals;

(c)   How people can, in their daily lives, contribute to the achievement of the objectives of the Strategic Plan for Biodiversity 2011-2020 and its Aichi Biodiversity Targets. Whenever possible, this information should be specific, with links to relevant external sources.

41.   While users from the general public are primarily viewers, they may be interested in participating in biodiversity debates and discussions. Therefore, the website should encourage the general public to become engaged with the United Nations Decade on Biodiversity, or at least be informed on the state of implementation of the Convention in their countries.

42.   Given the above, it is clear that each audience or group expects a number of website features to meet their needs. Section 2 of document UNEP/CBD/COP/13/INF/14 provides details on these features.

4. OUTLINE OF INFORMATION ARCHITECTURE

43.   In a web environment, information architecture (IA) can be defined as the combination of navigation, search and labelling elements within a website. The effectiveness of a website largely depends on its information architecture (menus, navigation, search). The purpose of this section is to identify the main entry points that a typical web user would expect on the CBD website to navigate to relevant content and information services.

44.   When a user reaches the CBD website, he/she is at a particular location, which may be the home page or another page within a specific context (e.g. thematic portal, country profile, etc.). At this location, the user may feel the need to find and access information available somewhere else. Intuitive entry points should be available on the page to respond the user's needs. These immediate entry points can be:

(a)   The global search box, enabling a quick search while linking to an advanced search;

(b)   The main global menu navigation, promoting key entry points to access information;

(c)   The local menu navigation, providing a specific menu within a website section;

(d)   The footer navigation, providing quick links, including social media links, on every page;

(e)   Specific items available on the current web page, such as some links (to "more" or "see also"), buttons, or special visual components (carousel, sliders, interactive maps, etc.).

45.   Given that the CBD website is the main entry point to the Convention and its Protocols, it should allow web users to directly go to a particular treaty (Convention on Biological Diversity, Cartagena Protocol, or Nagoya Protocol). This top-level navigation can be as follows:

(a)   *Home* (the CBD logo) – Home page of the CBD website providing highlights and latest information;

(b)   *The Convention* – Information on the Convention on Biological Diversity, including its Strategic Plan for Biodiversity 2011-2020 and its Aichi Biodiversity Targets, and various related online information services of the clearing-house mechanism (online reporting, decision tracking, etc.);

(c)   *The Cartagena Protocol* – Information on the Cartagena Protocol on Biosafety, including its Biosafety Clearing-House;

(d)   *The Nagoya Protocol* – Information on the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization, including its Access and Benefit-sharing Clearing-House;

(e)   *Countries* – National information through country profiles covering the three treaties;

(f)   *Initiatives* – Cooperation and partnership initiatives accessed directly or through partner profiles;

(g)   *Information* – Information centre providing quick access to information by types (e.g. decisions) or services (e.g. online reporting tool);

(h)   *Secretariat* – Information on the Secretariat.

46.   From the perspective of the communications strategy, the above information architecture should provide intuitive access to the major resources highlighted in section III.E of this strategy, including:

(a)   Official national documents, namely national biodiversity strategies and action plans (NBSAPs) and national reports;

(b)   Official documents of the Secretariat of the Convention, including, decisions, recommendations, meeting documents, as well as all official communications from the Secretariat;

(c)   Publications and other resources, particularly those providing scientific and technical advices related to the implementation of the Convention and its Protocols.

47.   Further details on this information architecture are available in section 3 of document UNEP/CBD/COP/13/INF/14 and an overview of the main content sections of the website is available in section 4 of that same document.

PART II. CURRENT SITUATION

5. OVERVIEW

48.   Web-based initiatives at the Secretariat have been typically managed according to an implicit strategy that could be characterized as priority setting based on the latest decisions of the Conference of the Parties, with decentralized authority for decision-making on creation of web pages and related features. As a result, a number of independent websites and web portals have emerged and evolved with a lack of coherence and integration between them.

49.   Some of the main web-based initiatives of the Secretariat include:

(a)   *CBD website/central CHM* (http://www.cbd.int) – Official CBD website and central clearing-house mechanism (CHM);

(b)   *BCH* (http://bch.cbd.int) – Biosafety Clearing-House (BCH);

(c)   *ABS-CH* (http://absch.cbd.int) – Access and Benefit-sharing Clearing-House (ABSCH);

(d)   *UNDB* (http://www.cbd.int/2011-2020) – Partnership site on the United Nations Decade on Biodiversity (UNDB);

(e)   *Online reporting tool* ([http://chm.cbd.int)](http://chm.cbd.int) – Tool to report progress towards achieving Aichi Biodiversity Targets;

(f)   *Financial reporting framework* ([http://chm.cbd.int)](http://chm.cbd.int) – Tool for Parties to provide baseline information and reporting on their contribution to reach the global financial targets under Aichi Biodiversity Target 20;

(g)   *NBSAP Forum* ([http://nbsapforum.net)](http://nbsapforum.net) – Partnership site providing support for action and implementation on NBSAPs;

(h)   *EBSA* ([http://www.cbd.int/ebsa)](http://www.cbd.int/ebsa) – Partnership site showing information on ecologically or biologically significant marine areas (EBSAs).

50.   Section 5 of document UNEP/CBD/COP/13/INF/14 provides more details on how the various web-based initiatives could be made more centrally accessible or integrated.

6. KEY ISSUES TO ADDRESS

51.   There are a series of issues associated with the current situation, including:

(a)   *Fragmentation* – Various websites and online systems exist and the user sometimes becomes lost;

(b)   *Lack of coherence* – When going from one web-based system to another, the user may find a completely different environment, even though those systems are all from the Secretariat;

(c)   *Slow delivery* – Many web-based projects are behind schedule and many others are on the waiting list;

(d)   *Maintenance issues* – Existing systems, particularly the CBD website, have not been maintained as they should.

(e)   *Outdated legacy website* – The legacy content management system cannot deliver efficiently on new state-of-the-art communication tools;

(f)   *Lack of cohesive and engaging narratives* – The website lacks clear consistent narratives highlighting linkages between the objectives of the Convention and its Protocols and the various programmes of work, initiatives and activities;

(g)   *Technical content* – The website content generally consists of a lot of technical jargon which may only be suitable for specific user groups;

(h)   *Content largely static* – Many landing pages do not change frequently;

(i)   *Little multimedia and interactive content* – The current CBD web platforms do not offer many opportunities for interaction and use of multimedia content;

(j)   *Content not well indexed* – The content from all web platforms managed by the Secretariat is not well indexed;

(k)   *Users not finding what they need and not engaging with the current website* – Many users leave the site after less than 30 seconds.

Fragmentation

52.   The websites shown in the list above do not all share the same central repository. Some of them (CBD website, UNDB website) hold their content in the CBD database (an MS-SQL Server database). The BCH was implemented with its own database (also an MS-SQL Server database). Recent initiatives (ABS-CH, EBSA, Online Reporting) have been implemented on a new infrastructure (a MongoDB database). Other, older initiatives (The Green Wave, Rio Pavilion) use separate systems and databases. Duplication and inconsistencies have emerged from this fragmentation.

53.   Such fragmentation is not uncommon in organizations similar to the Secretariat. It is typically caused by a mix of reasons including technological evolution, independent project management, decisions to implement distinct systems, limited resources, staff turnover, and absence of an overall corporate strategy. One of the objectives of this web strategy is therefore to clarify the technological direction for the

coming years in order to reduce this fragmentation and gradually converge towards a more unified platform.

Lack of coherence

54.   A quick tour of the websites mentioned above reveals a diversity of looks and feels. While the CBD logo is present on all websites, its appearance varies from one the other. This lack of coherence increases when one further navigates through the menus of each website.

55.   To some extent, the reasons mentioned in the previous subsection also explain why overall coherence could not be maintained. Other reasons include deliberate decisions to brand certain initiatives differently. As the Secretariat is in the process of developing a communications strategy with a branding policy, that policy will provide the framework for improving visual coherence.

Slow delivery

56.   Prioritization among the large number of web-related requests has resulted in timely delivery of some high-priority requests, but at the expense of other important requests that were also considered as a priority by some Parties.

57.   While such slow delivery has been a natural consequence of limited resources, other factors may have contributed to these delays. One of them was that the existing web platform established many years ago has become obsolete. A stronger foundation is needed in order to have the capacity to deliver modern web-based solutions in line with current technological trends. This result of this effort is the new web infrastructure presented in section 7 below.

Maintenance issues

58.   The CBD website has been suffering from a lack of maintenance at technical and content management levels. At technical level, a series of bugs and usability issues have yet to be addressed. At content management level, some old content has to be reviewed to determine whether it is still accurate and relevant.

59.   Maintenance of legacy systems is needed as long as these systems are in production. Given that a new web infrastructure has been introduced, the right balance has to be found between time spent to further develop this new environment and time to maintain systems that will eventually be phased out. Strategically, it makes sense to prioritize investment in the future even if this could have some negative side effects on old systems during the transition period.

Outdated legacy website

60.   The legacy content management system introduced more than a decade ago cannot deliver efficiently on new state-of-the-art communication tools. Further developments on top of the legacy system require too much efforts compared to what newer systems and architecture can offer.

Lack of cohesive and engaging narratives

61.   The website lacks clear consistent narratives that highlight the linkages between the objectives of the Convention and its Protocols and the various programmes of work, initiatives and activities. The overall narrative of the implementation of the Strategic Plan for Biodiversity 2011-2020 and the achievement of its Aichi Biodiversity Targets is also relatively obscured. As well, the website does not sufficiently highlight the linkages between the work of the Convention and the sustainable development issues and other global priorities (such as poverty alleviation, water and food security, disaster risk reduction, climate change mitigation and adaptation).

Technical content

62.   The website content generally consists of a lot of technical jargon which may only be suitable for specific user groups. Instead, the language and content of some of the web pages should be easily comprehensible for the general users and new audiences.

Content largely static

63.   The content on most webpages and portals is largely static. Landing pages, such as the home page, or those of programme areas do not change on a regular basis. There is little use of highlights and updates.

Little multimedia and interactive content

64.   The current CBD web platforms do not offer many opportunities for interaction and the use of multimedia content is limited. Visual branding is not dynamic and somewhat out of date, which makes it less engaging. There are limited imagery, videos and real-time live-streaming of content.

Content not well indexed

65.   The content from all web platforms managed by the Secretariat is not well indexed in order to be retrievable through the main CBD search engine.

Users not finding what they need and not engaging with the current website

66.   The "bounce rate" for the current website is around 35 per cent. This is based on the analysis of users who leave the site after less than 30 seconds. Downloads of documents in PDF and Word formats are actively tracked but this data is not aggregated by Google Analytics. While this bounce rate is not exceedingly high, it does suggest that more work can be done to increase stickiness of the site.

7.   NEW WEB INFRASTRUCTURE

Overview

67.   Figure 2 below gives a schematic overview of the new web infrastructure developed for the ABS-CH and the CBD online reporting tool, and intended to be used also for the BCH. This modern infrastructure consists of the following major components:

        (a)   *Back-end repository* – The back-end repository is a new-generation database able to hold any structured content type and associated metadata. It focuses on storing and delivering the content, regardless of how and where this content is displayed;

        (b)   *Front-end web pages* – These pages are the graphical user interface (GUI). Web page templates can be designed with full flexibility based on recent client-side web technology. These templates form the framework within which structured content is displayed. It should be noted that the user interface may not necessarily consist of web pages. It could for instance be an application for mobile phones;

        (c)   *Application Programming Interface (API)* – This API enables two-way communication between the front-end and back-end components in order to exchange information.
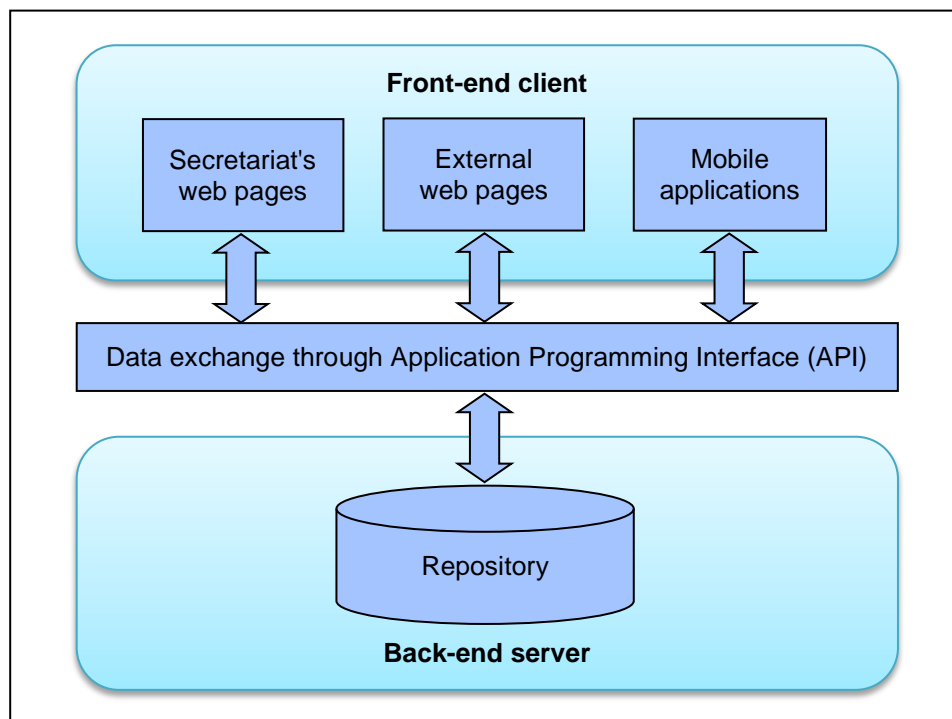
Figure 2. **Overview of the new web infrastructure**

Web technologies

68.   The chosen technologies are AngularJS [16] (from Google) for the client-side web pages and NodeJS[17] (from Linux Foundation) for the web server. AngularJS and NodeJS are open-source software and widely adopted by both the web developers' community and industry leaders (e.g. Google, Amazon and Microsoft). The layout of the web pages is based on the Bootstrap framework which enables smooth viewing on all kinds of browsers, screen sizes and mobile technologies. Bootstrap[18] (from Twitter) is the most popular HTML/CSS framework for developing responsive web pages. MongoDB[19] has been selected as database software for its high performance, availability and scalability, particularly its scalability across distributed geographic regions. Web and database servers are hosted on the cloud with Amazon Web Services[20] to offer a fast response worldwide through low latency thanks to servers located in five data centres across the globe.

69.   In terms of web browser requirements, the chosen technologies are supported by the latest versions of all popular browsers, including Chrome, Edge, Firefox, Internet Explorer, Opera, and Safari. Although supporting multiple browsers is a challenging task, the Secretariat will continue, to the extent possible, to support all versions of the above-mentioned major browsers until the end of their life cycle (e.g. end of support by their respective suppliers).

70.   This new path for web development, started a couple of years ago for projects like the ABSCH, is considered the best option to serve the Parties now and in the near future. The selected technologies are supported by an extensive community of developers and backed by large IT companies. The Secretariat, based on the positive experiences of its IT team with these tools, has now the capacity to produce higher quality web applications with greater efficiency than before.

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[16] See https://en.wikipedia.org/wiki/AngularJS and https://angularjs.org.

[17] See https://en.wikipedia.org/wiki/Node.js and https://nodejs.org.

[18] See https://en.wikipedia.org/wiki/Bootstrap_(front-end_framework) and http://getbootstrap.com.

[19] See https://en.wikipedia.org/wiki/MongoDB and https://www.mongodb.org.

[20] See https://en.wikipedia.org/wiki/Amazon_Web_Services and https://aws.amazon.com.

Contribution to the open-source community

71.   The Secretariat's recent web development projects have been released under the MIT open-source licence.[21] This licence is simple, approved by the Open Source Initiative (OSI),[22] "copyleft" compatible,[23] and thus places almost no restrictions for reusing software developed by the Secretariat.

72.   By contributing to the open-source community, the Secretariat aims at strengthening its infrastructure to meet Parties' needs and expectations in a way that encourages its stakeholders (e.g. Parties, through their national CHMs; other MEAs; and other United Nations entities and partners) to participate in and share ownership of its web development projects.

PART III. THE WAY FORWARD

8. IMPLEMENTATION APPROACH

Web governance

73.   The following approach should be considered in the context of web governance:

        (a)   *Strengthen internal coordination* – Managing the CBD website, clearing-houses, and other web-based systems developed under the Convention and its Protocols is a challenging task in terms of internal coordination, because it involves a variety of people across the Secretariat with different expertise, roles, and interests. Such a situation is typical of mid-size organizations with various departments. Fortunately, good practices exist to cope with this challenge while maintaining the right balance between collegiality and accountability, as described in annex III to document UNEP/CBD/COP/13/INF/14. In August 2017, the Executive Secretary established an "Intra-Secretariat Task Force on the Web Strategy" to coordinate and facilitate the implementation of the web strategy in line with the communications strategy, with the view to streamlining efforts and optimizing the resources available;

        (b)   *Establish standard operating procedures (SOPs)* – This means clarifying the policies and procedures governing websites hosted by the Secretariat, including branding, content management, translation, social media interaction, business continuity, and monitoring;

        (c)   *Strategic integration* – This implies the review of major web-related requests, and their possible adjustments to ensure that they fit well within the overall strategic vision, and that they will be implemented in an integrated and coherent way;

        (d)   *Strengthen project management* – After each meeting of the Conference of the Parties, a work plan for web-related activities is prepared to ensure that all requests can be dealt with within the timelines set by decisions. While this good practice should continue, other aspects of project management should be introduced and mainstreamed through the Secretariat, preferably though the use of shared online tools.

Coherence and integration

74.   As far as existing websites and other web-based projects are concerned, the following actions should be undertaken to increase coherence and integration:

        (a)   *Gradually unify the web infrastructure* – The recommended approach is to build upon the new infrastructure developed for the ABSCH and the CBD online reporting tool, and expand it to the CBD website and other web-based systems of the Secretariat;

        (b)   *Apply consistent branding* – When needed, the web page templates of existing systems should be updated to adhere to the CBD branding policy;

        (c)   *Integrate through intuitive navigation* – When needed, menu links should be adjusted to ensure intuitive navigation throughout the various web-based systems and relevant areas of the CBD website;

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[21] See https://opensource.org/licenses/MIT and https://en.wikipedia.org/wiki/MIT_License.

[22] See https://opensource.org/licenses.

[23] See https://en.wikipedia.org/wiki/Copyleft.

(d)   *Provide central access through the main CBD search engine* – The content from all web platforms managed by the Secretariat should be indexed in order to be retrievable through the main CBD search engine;

(e)   *Automatically display relevant information* – When an information item is entered in one of the clearing-houses, it should be automatically visible on pages where such information is relevant;

(f)   *Increase discoverability through cross-references* – Web users at a certain location on the website may be interested in related information. Therefore, global content managers should be able to connect the dots between related items to increase discoverability (e.g. through a "See also" box);

(g)   *Integrate through upgrades* – If, at some point, a new version of a particular information system is being planned, this version should be developed in a way that ensures further integration.

Productivity and sustainability

75.   Whenever possible, making use of existing well-known software should be preferred over new software development in order to:

(a)   *Reduce development time* – By using existing software, development does not start from scratch. Instead, it typically consists of customization or extension of an existing module;

(b)   *Reduce and facilitate maintenance* – Less maintenance is needed and such maintenance can be done by any expert familiar with the selected software.

76.   Such an approach is particularly important when consultants are involved because they can be selected to have expertise in the software being used by the Secretariat. This way, they can be productive more quickly than if they had to learn a new environment.

Content management

77.   The following approach is recommended to improve web content management:

(a)   *Streamline content* – Part of the existing web content may no longer be relevant and should be phased out. This streamlining process will take place gradually while relevant content will be further structured and tagged as recommended below;

(b)   *Structure content* – Relevant content should be structured in content types, also called common formats. The goal is to eliminate unstructured web content to facilitate content management;

(c)   *Enhance metadata* – Metadata, in the form of controlled vocabularies or references, should be used whenever possible. This will allow selective retrieval of content per metadata term (e.g. all records related to a particular country, thematic area or meeting);

(d)   *Use a content management system (CMS)* – Content management systems are tools that facilitate the management of web content. A wide variety of such tools exist today, many of which are open source. After a comparison of various options, the use of version 8 of the Drupal CMS has been designated as the best candidate. This CMS is a United Nations standard, and it is being used by various United Nations websites, including www.un.org, www.unenvironment.org, www.informea.org, www.cms.int, and www.cites.org.

9.   DELIVERABLES

Overview

78.   In addition to the expected website features listed in section 2 of document UNEP/CBD/COP/13/INF/14, several deliverables can be identified based on the previous sections of the present document. These deliverables are listed below and described in the next subsections, independently of their prioritization which is discussed in section 10 below (Implementation road map):

(a)   Consistent web pages with common branding;

(b)   Consistent high-level navigation;

(c)   Global search engine;

(d)   Search engine optimization (SEO) tool;

(e)   Terminology management system;

(f)   Enhanced translation management system;

(g)   Enhanced document management system;

(h)   Integrated data and common formats;

(i)   Quality assurance (QA) tools;

(j)   Integrated web indicators and statistics;

(k)   Integrated country profiles;

(l)   Upgraded thematic portals;

(m)   Upgraded meeting portals;

(n)   Upgraded and migrated CBD website.

79.   For each deliverable described below, an attempt has been made to provide time estimates for the work required by the Secretariat's Information Technology (IT) team in the implementation of the corresponding deliverable. It is important to keep in mind that these estimates cover only the IT part of each project whose total duration may be longer. Also, they are based on limited available information. Therefore, they are very rough and indicative, and they do not represent any commitment by the Secretariat.

Consistent web pages with common branding

80.   This deliverable consists of a set of consistent branding and styling elements which, once available and approved, should be applied to web pages in order to increase visual consistency across all web platforms managed by the Secretariat.

81.   The IT implementation of this deliverable is estimated to require one month.

Consistent high-level navigation

82.   This deliverable is a consistent high-level navigation, in all languages of the United Nations, across the Convention and its Protocols, based on the proposal made in section 4 above (Outline of information architecture).

83.   The IT implementation of this deliverable is estimated to require one month.

Global search engine

84.   This deliverable is the new version of the official search engine currently available through the search box at the top right of each CBD web page. This new version should be designed to ensure central access to all information common or relevant to the clearing-house mechanism (CHM), the Access and Benefit-sharing Clearing-House (ABSCH) and the Biosafety Clearing-House (BCH), as well as other platforms developed under the Convention, in line with paragraph 19 of decision XII/2.

85.   To keep things as intuitive as possible for both users and implementers, "all common and relevant information" should be interpreted as all information types that are relevant to the Convention and its Protocols (e.g. Parties, national focal points, meetings, decisions, documents, organizations, activities, experts, etc.). Information types outside this scope are those that are specific to a Protocol, such as LMO information (BCH only) or an ABS certificate of compliance (ABSCH only).

86.   Nonetheless, as some users may be interested in searching globally for such specialized information, the global search engine should have an option to include these additional results upon request. This can be done by providing a two-component search box similar to the one used on large online shopping websites, such as Amazon (e.g. www.amazon.com), where the user can select the desired search scope (e.g. Books, Computers, etc., or All).

87.   The global search engine should also be faceted [24] by core metadata, including countries, Aichi Biodiversity Targets, thematic areas, dates, etc. These facets are expected to intuitively adapt to each information type. For instance, a search for national focal points should trigger the visibility of a facet listing the various types of national focal points. More information on the core controlled vocabularies needed for such a global search engine is available in section 7 of document UNEP/CBD/COP/13/INF/14.

88.   The IT implementation of this deliverable is estimated to require three to four months.

Search engine optimization tool

89.   This deliverable consists of a tool to automate or facilitate the application of search engine optimization (SEO) techniques in order to increase information discovery by major search engines. The expected features of this tool are:

        (a)   Making database records accessible to search engine robots by generating permanent links to each record;

        (b)   Systematically inserting of basic web page metadata tags (e.g. title, description, keywords);

        (c)   Using popular metadata tagging standards in web pages (e.g. Dublin Core [25]);

        (d)   Setting up friendly URLs, including synonyms to facilitate the discovery of a web page (e.g. /nagoyaprotocol, /nagoya-protocol or /nagoya-protocol-on-abs);

        (e)   Using the title of an item in its URL (e.g. /statement-on-the-international-day-for-biological-diversity-2015);

        (f)   Automatically generating URLs based on predefined patterns for certain information types (e.g. /notification/2015-068 or /decision/cbd/cop/12/1);

        (g)   Automatically including the language code in the URL, and even translating the URL text (e.g. /fr/decision/cbd/12/1 or /es/taller-regional-de-fortalecimiento-de-capacidades).

90.   The IT implementation of this deliverable is estimated to require three to four months.

Terminology management system

91.   This deliverable is a tool allowing authorized staff to manage the terminology for the Convention and its Protocols. This terminology includes a thesaurus and a set of controlled vocabularies used to assign metadata to records and web pages. The development of this tool should take into account the existence of the following tools in order to have a solution that avoids duplication in terminology management:

        (a)   UNTERM (http://untermportal.un.org) – UNTERM is the official multilingual United Nations Terminology database;

        (b)   VocBench (http://vocbench.uniroma2.it) – VocBench is a web-based, multilingual, editing and workflow tool that manages thesauri, authority lists and glossaries using SKOS-XL. This tool is being used by MEA secretariats collaborating through the MEA Information and Knowledge Management (MEA IKM) initiative.

92.   The IT implementation of this deliverable is estimated to require one month.

Enhanced translation management system

93.   This deliverable is an enhanced system that facilitates the translation of web pages and their content into all United Nations languages by interfacing with computer-aided translation (CAT) software. The design of this system should take into account that the current CAT software would benefit from an upgrade, and that the following extra features would be very helpful:

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[24] See https://en.wikipedia.org/wiki/Faceted_search.

[25] See https://en.wikipedia.org/wiki/Dublin_Core and http://dublincore.org.

(a)   Interfacing with the terminology management tool, VocBench, and/or UNTERM to benefit from existing official translations and to avoid duplication;

(b)   Ability to create a daily package that includes all untranslated items of the home page;

(c)   Ability to create a package that includes all untranslated menus;

(d)   Ability to create a package that includes all untranslated metadata;

(e)   Ability to translate online versions of decisions/recommendations in a cost-effective way by reusing existing translated official documents;

(f)   Automatic warning at the top of a translated web page when it is out of sync with its master content;

(g)   Automatic slightly different display of outdated translated content (e.g. light emphasis) when an out-of-sync page is viewed;

(h)   Automatic statistics on translated/untranslated pages, menus, metadata and records, with historical data allowing the real-time generation of progress charts to donors.

94.   The IT implementation of this deliverable is estimated to require two to three months.

Enhanced document management system

95.   This deliverable is an enhanced system for managing documents in an integrated manner. It should be designed to respond to document needs for meetings as well as for other purposes.

96.   The IT implementation of this deliverable cannot be estimated at this time, among other things due UNEP's recent initiative to discuss the feasibility of a UNEP-wide document management system.

Integrated data and common formats

97.   This deliverable is the integration of database records, currently spread across the various databases of the Secretariat, in order to reduce fragmentation. While proceeding in this direction, information services based on these records are expected to evolve in the following ways:

(a)   Integrated common formats will be defined;

(b)   Data records will be migrated and integrated to reduce fragmentation;

(c)   Online forms will be developed to maintain the records using the new formats;

(d)   New interoperability endpoints will be implemented;

(e)   Web pages will be updated to display the records;

(f)   Reference pages will be created to provide online documentation on these common formats.

98.   The IT implementation of this deliverable is estimated to require an average of one month per common format.

Quality assurance tools

99.   This deliverable is a set of monitoring and quality control tools to facilitate the challenging task of maintaining a high-quality corporate website. These tools and mechanisms include:

(a)   Feedback forms triggering notifications to web content managers;

(b)   Tool to detect broken links, including links in database records and external links;

(c)   Mechanisms to detect errors or failures, with alerts to relevant staff;

(d)   Tool to check data integrity and log inconsistencies;

(e)   Page status tracker indicating which pages require updates after a certain date (e.g. to change the text from future to past after a meeting was held), and to associate pending tasks or suggestions for improvements to a page.

100.   The IT implementation of this deliverable is estimated to require two to three months.

Integrated web indicators and statistics

101.   This deliverable consists of the provision of key performance indicators (KPIs) and statistics to see to what extent the website meets the organization's needs and objectives. Such indicators should be embedded in the infrastructure in order to automatically produce real-time statistics. These indicators and statistics include:

(a)   Performance indicators requested by the Conference of the Parties in annex II to decision X/45 (e.g. number of participants to workshops, number of publications distributed, number of meetings attended, percentage of meeting documents translated within deadlines);

(b)   Gender statistics whenever applicable (staff, national focal points, meeting participants, experts);

(c)   Evolution of translated content, and page views by language;

(d)   Evolution of database content by information type, metadata, and source, including Parties;

(e)   Evolution of national focal points, NBSAPs, national reports, national targets, and national clearing-house mechanisms;

(f)   Most-downloaded publications;

(g)   Frequently used search terms and metadata;

(h)   Frequently retrieved records.

102.   The IT implementation of this deliverable cannot be estimated at this time due to the broad scope of this initiative, which is likely to proceed step by step based on available resources.

Integrated country profiles

103.   This deliverable consists of new country profile web pages presenting relevant national information from the Convention on Biological Diversity and its Protocols in one consolidated profile based on the corresponding navigation presented in section 4 above. This initiative should take into account the specific needs of each Protocol. The idea is to provide a customized country profile entry page for each Protocol while maintaining consistency and avoiding duplication. This initiative should also consider converging towards a single technology to display online maps.

104.   The IT implementation of this deliverable is estimated to require two to three months.

Upgraded thematic portals

105.   This deliverable consists of a set of new web pages for thematic portals.

106.   The IT implementation of this deliverable is estimated to require two to three months.

Upgraded meeting portals

107.   Like for thematic portals, this deliverable consists of a set of new web pages for meeting portals.

108.   The implementation of this deliverable is estimated to require two to three months.

Upgraded and migrated CBD website

109.   This deliverable is the future version of the CBD website to be gradually developed on the new infrastructure. At the beginning of this process, the current (old) website will remain the primary CBD website. Both the new and old websites will run concurrently. Users will be redirected to web pages of the new website as they are developed.

110.   The IT implementation of this deliverable cannot be estimated at this time due to the broad scope of this initiative which is likely to proceed step by step based on available time and resources.

10. IMPLEMENTATION ROAD MAP

Approach

111.   The implementation of some of the above deliverables has been ongoing since the twelfth meeting of the Conference of the Parties (COP 12), together with the enhancement of the new web infrastructure

described in section 7, including its interoperability features, and several major online systems requested by Parties, in particular, the online reporting tool, the reporting tool for the financial reporting framework and the decision tracking system. After the thirteenth meeting of the Conference of the Parties (COP 13), work has continued to implement priority actions.

112.   On 31 August 2017, the Executive Secretary established an "Intra-Secretariat Web Strategy Task Force" to coordinate and facilitate the implementation of this web strategy in line with the communications strategy. This task force has proposed a two-phased approach with a first phase running until the fourteenth meeting of the Conference of the Parties (COP 14) in November 2018, and the second one until the fifteenth meeting of the Conference of the Parties (COP 15).

113.   Based on the above, deliverables can therefore be grouped as follows:

(a)   *Implemented deliverables* – Priority actions to be taken before 2018, based on recent decisions;

(b)   *Phase I deliverables* – Deliverables that are expected to be implemented by COP 14;

(c)   *Phase II deliverables* – Deliverables that are expected to be implemented by COP 15.

114.   Thanks to the generous support of the European Union, some voluntary funding is available for the implementation of the web strategy. This will be used to support the implementation of Phase I activities. Part of the implementation tasks will be carried out in-house, particularly those related to maintenance and to the integration with the Secretariat's information technology infrastructure. By the end of Phase I, the Secretariat should be in a position to determine further voluntary funding needed to support the implementation of Phase II.

115.   After a lengthy procurement process, the Secretariat has finally engaged an external company to design the new CBD website. The selected company will work with the Secretariat to develop the new website in line with the Web Strategy and the communication strategy. A preview of the new website will be available by COP 14. Migration of the relevant content to the new website is expected to be complete by COP 15 (Phase II), depending on available resources.

116.   This section provides an overview of the implementation road map. In the paragraphs below, the section numbers indicated in parentheses refer to the main sections of the present document.

Deliverables before 2018

117.   The following deliverables were completed before 2018:

(a)   An updated version of the online reporting tool (section 2) aligned with the reporting format of the sixth national report, and available in the six languages of the United Nations;

(b)   An analyser for the financial reporting framework;

(c)   An enhanced website for the United Nations Decade on Biodiversity 2011-2020;

(d)   A web platform for the Bio-Bridge Initiative;

(e)   An e-learning web portal based on the Moodle software;

(f)   A new web section on the Executive Secretary, with social media integration

(g)   A national report analyser for the Nagoya Protocol;

Phase I deliverables

118.   The deliverables of the first phase include, on one hand implementation of urgent activities requested by COP and COP-MOPs, and on the other hand, development of the new CBD website. A preview of the new CBD website is expected to provide many features identified as deliverables, but it will only cover a subset all web pages.

119.   The following deliverables are expected by COP 14 (November 2018):

(a)   An enhanced version of the decision-tracking tool;

(b)   A web portal on corals;

    (c)   An online guide on communication, education and public awareness;

    (d)   Migration of the Biosafety Clearing House to the new infrastructure;

    (e)   A preview of the new CBD website running on the Drupal 8 CMS with the following features, among others:[26]

       (i)   A new version of the home page and some few entry pages to the main website sections
      (ii)   Responsive web pages templates providing support for mobile devices;
    (iii)   Consistent web pages with common branding;
    (iv)   Consistent high-level navigation;
     (v)   An enhanced information centre entry page (section 4 above);
    (vi)   An enhanced user's feedback form;

    (f)   The migration of key relevant content from the old CBD website to the new one;

    (g)   A mechanism to automatically route web users to the old CBD website;

    (h)   Web pages for COP 14;

    (i)   Web pages on the 25th anniversary of the entry into force of the CBD;

    (j)   A preview of the Capacity Development Portal;

    (k)   A global search engine.

Phase II deliverables – Post COP 14 / By COP 15 (2020)

120.   The remaining deliverables identified in this web strategy will be implemented during this second phase. These deliverables are expected to be the following but some adjustments may be needed based on what was achieved during Phase I:

    (a)   An enhanced web translation management system;

    (b)   A fully integrated web platform for the Convention and its Protocols;

    (c)   Integrated data and common formats, facilitating increased data compatibility, information exchange, and harmonization of search tools;

    (d)   Integrated web indicators and statistics;

    (e)   Quality assurance tools;

    (f)   Integrated country profiles;

    (g)   Upgraded meeting portals;

    (h)   Upgraded thematic portals;

    (i)   An enhanced document management system;

    (j)   Integration with the NBSAP Forum (section 2).

CONCLUSION

121.   In response to the request by the Conference of the Parties, the Executive Secretary prepared the present updated forward-looking web strategy to ensure that all information common or relevant to all clearing-houses, as well as other platforms developed under the Convention, could be accessed centrally to avoid duplication of efforts. The web strategy is based on a broad vision and an analysis of the current situation and builds upon the implementation of a new web infrastructure for the Access and Benefit-sharing Clearing-House and the online reporting tool. It also envisages the use of a content management system to improve content management.

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[26] Some of the features listed in section 2 of document UNEP/CBD/COP/13/INF/14 come out-of-the box from the CMS. For example, the search engine optimization (SEO) tool, the terminology management system and web indicators and statistics will be provided by the CMS (Drupal 8).

Annex

SUMMARY OF CHANGES

This annex summarizes the changes made compared to the previous version of this document submitted to the thirteenth meeting of the Conference of the Parties (UNEP/CBD/COP/13/14/Add.1).

Old number	New number	Action	Description
-	-	Update	Updates to the last two paragraphs to reflect the use of a content management system and the implementation through a two-phased road map.
2	2	Update	Background streamlined. Additional sentence referring to the web strategy.
-	3	New	Additional paragraph summarizing relevant elements from decision XIII/23.
-	4	New	Additional paragraph introducing the present document.
6	8	Update	Update to the reference to the additional information on the web strategy.
49	51	Update	Additional key issues to address.
-	60-66	New	Description of additional key issues to address.
64 (a)	73 (a)	Update	Additional sentence introducing the Web Strategy Task Force.
68	77 (d)	New	Additional sub-paragraph under "Content management" to introduce the use of a content management system.
101-102	-	Delete	Paragraphs removed to avoid providing details on matters still requiring technical discussion.
104	111	Update	Update to incorporate work since COP 13.
-	112	New	Additional paragraph introducing the Web Strategy Task Force and the two-phased approach for implementation.
105	113	Update	New grouping of the deliverables by phases.
106	114	Update	Update to reflect that some voluntary budget is available.
107-112	116-119	Update	Update of the implementation road map based on the two-phased approach.
113	-	Delete	Paragraph deleted to streamline conclusion
114	120	Update	Rephrased text. Additional sentence to introduce the use of a content management system.
115	-	Delete	Paragraph deleted to avoid confusing technical details.
116	121	Update	Update to reflect the two-phased road map.
117	-	Delete	Paragraph deleted because no longer applicable.

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