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MEETING OF THE INFORMAL ADVISORY COMMITTEE TO THE CLEARING-HOUSE MECHANISM OF THE CONVENTION ON BIOLOGICAL DIVERSITY

Montreal, Canada, 30-31 October 2015

Item 5.3 of the provisional agenda^{*}

PRELIMINARY DRAFT WEB STRATEGY

Introductory remarks

1. In paragraph 19 of decision XII/2 B, the Conference of the Parties (COP) 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 (ABS-CH) and the Biosafety Clearing-House (BCH), as well as other platforms developed under the Convention, such as the NBSAP Forum, the website for ecologically and 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. Further to this request, the Informal Advisory Committee to the Clearing-House Mechanism (CHM-IAC) established a Web Strategy Working Group with a view to providing advice to the Executive Secretary on the preparation of this web strategy. The present document represents the latest outcomes of consultations with this working group as well as with relevant staff of the CBD Secretariat.
3. This preliminary draft is a working document for further discussions on the elaboration of the strategy, and the proposed deliverables are subject to review and approval by the Executive Secretary. It is therefore subject to further changes before becoming the web strategy submitted by the Executive Secretary to the Subsidiary Body on Implementation, at its first meeting.

^{*} UNEP/CBD/CHM/IAC/2015/1/1.

Preliminary Draft Web Strategy

(2015-10-16 - Working Document)

The present document provides a preliminary draft of the web strategy requested by paragraph 19 of decision XII/2 B. It is a working document for further discussions on the elaboration of this strategy. It is therefore expected to evolve based on the outcomes of these discussions.

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Executive summary

This section is a summary of the key points of the web strategy.

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, can be accessed centrally to avoid 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 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 all stakeholders and audiences for the CBD and its Protocols. Its 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 successfully developed for the Access and Benefit-sharing Clearing-House (ABSCH) and the online reporting system. This modern infrastructure consists of a back-end repository holding structured content, front-end web pages to display such content with full flexibility, and an application programming interface (API) allowing two-way communication between the front-end and back-end components. This flexible architecture has the benefit of allowing mobile devices, external partners, and national clearing-house mechanisms to access the information contained in the central repository through this API.

The plan is to implement this strategy through a set of deliverables according to a roadmap which takes into account urgent needs, low-hanging fruits, and existing commitments to Parties. It is hoped that the implementation of this strategy will meet the expectations of Parties while providing strong foundations for future web developments in an effective, efficient, and sustainable manner.

Introduction

The present introduction provides some background, clarifies the purpose and scope of the web strategy, and presents the approach followed throughout the rest of this document.

Background

1. In paragraph 19 of decision XII/2 B, the Conference of the Parties (COP) 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 and 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. Further to this request, the Informal Advisory Committee to the Clearing-House Mechanism (CHM-IAC) established a Web Strategy Working Group with a view to providing advice to the Executive Secretary on the preparation of this web strategy. The present document, which represents the latest outcomes of consultations with this working group as well as with relevant staff of the CBD Secretariat, is subject to further changes before becoming the web strategy submitted by the Executive Secretary to the Subsidiary Body on Implementation at its first meeting.

Purpose and scope of this document

3. 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.
4. 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.
5. Given the importance of the various clearing-houses for the Convention and its Protocols, this strategy will take into account the distinction between mere website functions for read-only visitors and clearing-house functions allowing authorized users to submit content for sharing it with a wide audience.

Approach

6. 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

This part describes where we want to be.

1. Guiding principles

This section lists some key guiding principles that should be kept in mind for the web strategy.

7. The web strategy should take into account the following key guiding principles:

Effectiveness and user experience

(a) **Alignment to business objectives** – The CBD Secretariat has a specific core mandate and its activities are guided by decisions. 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 CBD Secretariat;

(b) **Compliance with COP decisions** – The web strategy should be prepared with a view to complying with web-related COP decisions, particularly Goal 2 of decision X/15 requesting the availability of a high-quality CBD website in all United Nations languages;

(c) **Alignment to communication strategy** – The CBD Secretariat is in the process of preparing a communication strategy. The web strategy should remain aligned to the broader communication strategy, particularly in terms of branding and messaging;

(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 CBD Secretariat, both at visual and functional levels;

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

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

Efficiency and sustainability

(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 I);

(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 favor the use of publicly-available software tools as indicated in activity 1.1.5 of the CHM work programme (see annex III), particularly for managing and translating web content.

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 access 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**¹ – To allow people with disabilities to access web content.

2. Context and vision

This section describes the strategic context of the CBD and its Protocols.

The CBD and its Protocols

8. The CBD Secretariat is an MEA Secretariat covering three treaties and their clearing-houses:

- (a) **The Convention on Biological Diversity (CBD) 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. The CHM is also expected to support other articles of the Convention, including Article 17 on the exchange of information;
- (b) **The Cartagena Protocol (CP) on Biosafety and 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;
- (c) **The Nagoya Protocol (NP) on Access and Benefit-sharing (ABS) and 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 provide access to information made available by each Party relevant to the implementation of this Protocol.

9. Like any secretariat of a multilateral environment agreement (MEA), the CBD 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 COP, COP-MOP and subsidiary body meetings;
- (c) Respond to COP and COP-MOP requests addressed to the Executive Secretary;
- (d) Follow up implementation at all levels, particularly by Parties through the NBSAPs and national reporting processes.

10. It should be noted that the core functions of the CBD Secretariat related to managing decisions and reporting have been further defined by the Conference of the Parties in a way that impacts the expected evolution of the CBD website.

¹ See https://en.wikipedia.org/wiki/Web_accessibility and <http://www.w3.org/WAI/intro/wcag>.

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

12. Regarding reporting, in a number of recent decisions, including paragraph 18(a) of decision XII/2 B and paragraph 4 of decision XII/29, the Conference of the Parties has 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.

13. In decision X/2, 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. This reporting information can then be reused across the website as needed, including on web pages dedicated to providing information on these targets.

The biodiversity community and the clearing-house mechanism network

14. The biodiversity community is broad and many institutions have established websites providing information and online services about specific biodiversity topics. Moreover, the CBD Secretariat has been engaged in a series of partnership initiatives which have resulted in the creation of joint websites on issues of common interests. Given the existence and overall added value of these websites, the strategic approach of the CBD 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 relevant partners remains essential in order to respond well to the needs of the biodiversity community in a complementary way.

15. 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 practices. 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.informe.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) **GBIF** (<http://www.gbif.org>) – The Global Biodiversity Information Facility provides free and open access to biodiversity data (e.g. species occurrences) which are can be very valuable to the scientists and researchers.

16. As far as the clearing-house mechanism (CHM) is concerted, its vision as a biodiversity knowledge network is described in paragraph 22 of the Strategic Plan for Biodiversity 2011-2020 reproduced in the box below and illustrated in figure 1.

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 Secretariat of the Convention, and information exchange between these should be facilitated.

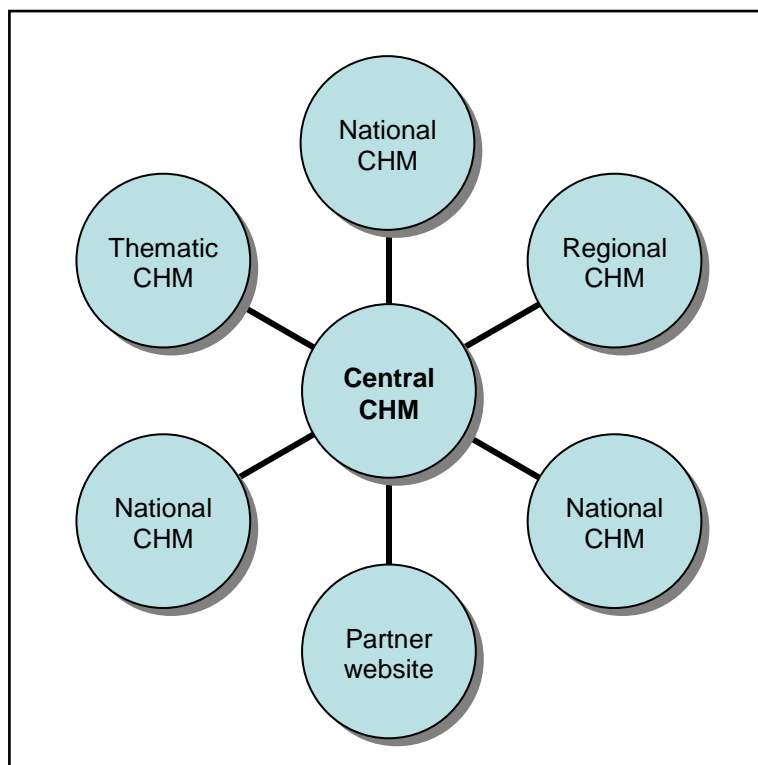


Figure 1: The CHM Network

17. 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.

18. Further details on the corresponding objectives and recommended activities for the CHM are available in annex III.

19. 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.

20. 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 CBD Secretariat should therefore be planned to support both options, with the objective of widely disseminating relevant information without increasing duplication.

The central clearing-house mechanism

21. At the central level, the CBD website (www.cbd.int) is the main entry point to all stakeholders and audiences for the CBD and its Protocols. Its role 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 2 below.

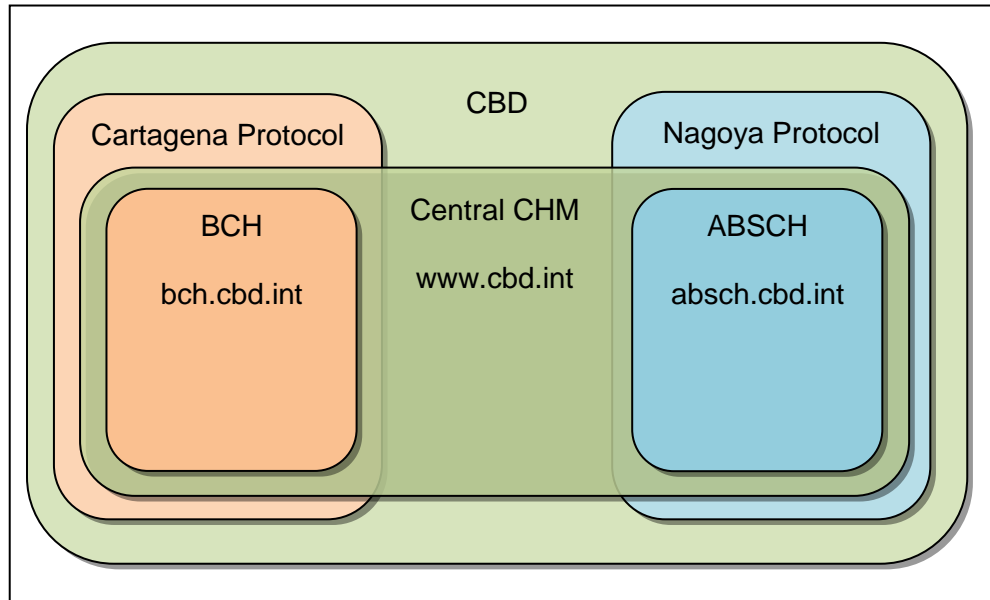


Figure 2: Relationship between the CBD, its Protocols, and its clearing-houses

22. From a strategic perspective, the key point about the above relationship is that each Protocol's clearing-house extends the CBD website acting 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 required to be made available under this Protocol.

23. At the same time, as requested by paragraph 19 of decision XII/2, 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.

3. Target audiences and user groups

This section provides an overview of the target audiences of the CBD and its Protocols.

24. The CBD and its Protocols have a wide variety of stakeholders, starting with their Parties and official national focal points. These stakeholders also include partners, practitioners, experts, and scientists, as well as the general public who 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 CBD Secretariat needs to respond.

25. First of all, it is important to emphasize the distinction between:

- (a) **Read-only visitors;**
- (b) **Content contributors.**

26. **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 get some information. Therefore, 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 CBD 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.

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

28. 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 get 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. 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.

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

- (a) **Their language** – As a United Nations organization, the CBD 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 or a mobile phones. The common industry practice to respond 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;

30. 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, 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, 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 explains 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 CBD 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 an 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 CBD Secretariat.

31. As far as the **general public** is concerned, it is difficult to define it homogeneously because it consists of a variety of sub-groups depending on age, gender, level of education, geographic distribution, or language, among others. 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 the following topics:

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

(b) Scientific information agreed by Governments, upon which the public can increase their awareness on biodiversity and ecosystem services, and the contribution of these to human well-being, particularly to the Sustainable Development Goals (SDGs);

(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.

32. 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 CBD in their countries.

33. Given the above, it is clear that each audience or group expects a number of website features to meet their needs. Annex IV provides details on these features.

4. Outline of information architecture (IA)

This section presents an outline of the information architecture.

Introduction

34. Information architecture is typically defined as follows in a web environment:

- (a) The combination of organization, labelling, search, and navigation systems within the website;
- (b) The art and science of shaping the website content and services to support usability and findability;
- (c) Information architecture is neither software development nor graphic design. It sits upstream at the conceptual level to make sure that further design and development do not start on the wrong foot.

35. The effectiveness of a website largely depends on its information architecture (menus, navigation, search). The purpose of this sub-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.

36. 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;
- (b) The main global menu navigation;
- (c) The local menu navigation;
- (d) The footer navigation;
- (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.).

37. Given that the CBD website is the main entry point for the CBD and its Protocols, it makes sense to consider a high-level navigation option to select a particular treaty (CBD, CP or NP).

38. An overview of the main content sections of the website is available in annex V. The rest of this section describes how this content can be made logically accessible through navigation.

Top-level navigation

39. The top-level navigation can be as follows:

- (a) **Home** (the spine CBD leaf icon) – Home page of the CBD website providing highlights and latest information.
- (b) **The Convention** – Information on the Convention on Biological Diversity.
- (c) **Cartagena Protocol** – Information on the Cartagena Protocol on Biosafety.
- (d) **Nagoya Protocol** – Information on the Nagoya Protocol on Access and Benefit-sharing.
- (e) **Countries** – National information through country profiles covering the three treaties.
- (f) **Partners** – Cooperation and partnership activities accessed 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.

Treaty navigation

40. Ideally, there should be some consistency in the second-level navigation under each treaty. A starting point can be as follows:

- (a) **Entry page** – Overview page with highlights and latest information: Key items presented in an attractive way with links to more detailed information, including a prominent link to the clearing-house to submit information.
- (b) **Treaty** – Introductory information about what it is: Historical background, convention text, institutional structure, bodies, mandate, operating procedures, Parties.
- (c) **Strategic Plan** – Information on the Strategic Plan of the treaty. For the CBD, this is the Strategic Plan for Biodiversity 2011-2020 and its Aichi Biodiversity Targets. In this particular case, direct links are expected to web pages dedicated to each of these targets.
- (d) **Decisions** – Official international information arising from the treaty, and connected to the decision-tracking system (DTS).
- (e) **Meetings** – High-level negotiations meetings (COP, COP-MOP, subsidiary bodies) and related information.
- (f) **Programmes** – Overview of the various thematic areas and cross-cutting issues under the treaty, with links to corresponding programme sections and information services (e.g. EBSA under marine).
- (g) **Implementation** – Overview of overall implementation, with links to further details at various levels (thematic, national, regional). For the CBD, there will be an overview of global progress towards Aichi Biodiversity Targets with links to NBSAPs and reporting information.
- (h) **Additional information** – Additional references or related information.

Country profile navigation

41. The navigation under country profiles is typically done through an interactive map allowing easy selection of a country. An alternative to the map is also provided (e.g. alphabetical selection list) for not over-emphasizing large countries. Once a country is selected, navigation at the country level can be as follows:

(a) **Entry page** – Attractive visual overview of the country with its map. Links should be available to the latest NBSAP, national report, and national targets, as well to the national CHM or other major relevant national websites;

(b) **Treaty tab** – Specific overview tab for each treaty highlighting the key elements of the country for this treaty. For each Protocol, this tab should match the country profile entry page of the corresponding clearing-house. This way, a user primarily interested in Protocol-related information will not be distracted by other country information, but will have a direct way to access this information. This tab-based logic can be maintained while navigating to other pages of the country profile;

(c) **National Focal Points** – List of national focal points from this country;

(d) **Profile details** – Treaty-specific page providing descriptive information, with links to additional information. This information should be presented under the corresponding treaty tab;

(e) **Other country profiles** – Some partners have been maintaining country profiles providing relevant information (e.g. UNEP Live, InforMEA, GBIF, etc.). Whenever feasible, an immediate link to the profile page of the selected country should be provided.

Partner profile navigation

42. The navigation on partners can start with an overview page highlighting major partnership initiatives and providing a user-friendly way to list relevant partners by treaty, thematic area, Aichi Biodiversity Target, expertise, or regional scope. Once a partner is selected, navigation within the corresponding profile page can be as follows:

(a) **Entry page** – Overview of the partner and its relation with the CBD and its Protocols;

(b) **Agreement** – Information on any existing collaboration agreement with the partner (e.g. MoU or joint programme);

(c) **Activities** – List of collaboration activities with the partner with links to pages describing each of them (location, objective, outcomes, contact);

(d) **Expertise** – Specific expertise of the partner with links to experts, including their NBSAP Forum profile when available (e.g. <http://nbsapforum.net/#view-member/857/profile>);

(e) **Contacts** – Key contact points from the organization and the CBD Secretariat;

(f) **Events** – List of relevant events organized by this partner, with links to more details;

(g) **Publications** – List of relevant publications from this partner, with links to more details;

(h) **Decisions** – List of decisions where this partner is mentioned, with links to more details;

(i) **Additional information** – List of additional information on collaboration with this partner.

Information centre navigation

43. The purpose of the information centre is to provide users with a quick way to access any available information service (e.g. online reporting tool, ABS-CH, EBSA repository, etc.) or any information type (e.g. decisions, meetings, etc.). Its navigation can be as follows:

(a) **Entry page** – Attractive overview of the major information systems and information types. The presentation can be structured by tabs or columns (e.g. "Information services" and "Information types");

(b) **Information service navigation** – Once a user selects an information service (e.g. decision-tracking system, or EBSA repository), the navigation of the selected service takes over;

(c) **Information type navigation** – Once the user selects an information type, a faceted navigation adapted to this information type should appear. For instance, if the “Meetings” information type is selected, the faceted navigation should include filtering by time period, location, type of meeting, subjects, and organizers. If the “National Focal Points” information type is selected, the faceted navigation should include filtering by countries and type of national focal points.

Secretariat navigation

44. The navigation on Secretariat information can be as follows:

- (a) **Entry page** – Overview page with links to latest information and key pages;
- (b) **Contact information** – Information on how to locate the CBD Secretariat;
- (c) **Role and structure** – Information on the role and structure of the CBD Secretariat;
- (d) **Executive Secretary** – Profile page of the current Executive Secretary with its picture. Related information could include the list of previous Executive Secretaries with their profile pages;
- (e) **Staff list** – Up-to-date list of staff with a simple filtering facility to find staff by name, division, job title, or email. Email addresses should ideally be protected from spam;
- (f) **Documents** – Major documents issued by the CBD Secretariat such as reports of activities;
- (g) **Employment and business opportunities** – Information on how to do business with the CBD Secretariat, either as an individual or as an organization.

Thematic portal navigation

45. Relevant thematic portals should be directly accessible from the programme page of each treaty. Navigation within a thematic portal may vary depending on the thematic area, but it would typically include the following:

- (a) **Entry page** – Overview page highlighting key elements of the portal, such as recent outcomes, ongoing meetings, guidance, major publications, or partnership initiatives. A visually attractive component, such as a carousel, is recommended. Latest news and updates should also be available with a link to more details;
- (b) **Background** – Background information on the thematic area;
- (c) **Decisions** – Major decisions related to the thematic area, with links to the decision-tracking system;
- (d) **Programme** – Information on the programme of work;
- (e) **Activities** – Information on relevant activities by the Secretariat, Parties and partners, with links to further information;
- (f) **References** – Information on various key references related to the thematic area, such as capacity-building materials, tools, guidance, publications, case studies, preferably listed in an attractive way;
- (g) **Additional information** – List of additional relevant information related this thematic area (e.g. notifications, related links, historical information, etc.).

Meeting portal navigation

46. Meeting navigation typically starts with a user friendly way to select a meeting in the calendar of event. In parallel, it should be possible to list relevant meetings in various sections of the website, including the home page (for the main ongoing or forthcoming meetings), thematic sections (for meetings on a particular topic), partner profiles (for meeting organized by partners), and country profiles (for meetings held in a particular country). Once a meeting is selected, the navigation could be as follows, but with appropriate adjustments before, during, and after the meeting:

(a) **Entry page** – Attractive overview page on the meeting, preferably with a picture of the venue, a link to the host government website when available, and prominent links to key information (e.g. agenda, venue, information for participants, and pre-session documents before the meeting; news, events, and in-session documents during the meeting; and reports, decisions, and other outcomes after the meeting);

(b) **Venue** – Date and location of the meeting with information for participants, as well as links to interesting information on the venue (e.g. touristic information);

(c) **Outcomes** – Information made available after the meeting, such as decisions, recommendations, and final report, with links to related sections (e.g. decision-tracking system);

(d) **Agenda** – Agenda documents, with an online version whenever possible;

(e) **Documents** – List of relevant meeting documents (pre-session, in-session, reports);

(f) **Schedule** – List of main activities, side events, and other parallel events taking place during the meeting;

(g) **Related meetings** – Links to concurrent or back-to-back meetings;

(h) **Additional information** – Links to additional related information.

Part II – Current situation

This part gives an overview of the current situation and highlights key issues to address.

5. Overview

This section presents an overview of the current situation.

47. Currently, web-based initiatives at the CBD Secretariat are typically managed according to an implicit strategy that could be characterized as priority setting based on latest decisions and urgent deliverables, and decentralized authority for decisions on creation of pages and features. As a result, a number of independent websites and web portals have emerged and evolved without coherence and integration between them. A list of the main web-based initiatives is available in Table 1 below.

Initiative & website	Description
CBD website / Central CHM http://www.cbd.int	Official CBD website and central clearing-house mechanism (CHM).
BCH http://bch.cbd.int	Biosafety Clearing-House (BCH).
ABSCH http://absch.cbd.int	Access and Benefit-sharing Clearing-House (ABSCH).
UNDB http://www.cbd.int/2011-2020	Partnership site on the United Nations Decade on Biodiversity (UNDB).
Online reporting tool http://chm.cbd.int	Tool to report progress towards achieving Aichi Biodiversity Targets.
Financial reporting framework 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.
NBSAP Forum http://nbsapforum.net	Partnership site providing support for action and implementation on NBSAPs.
EBSA http://www.cbd.int/ebsa	Partnership site showing information on Ecologically or Biologically Significant Marine Areas (EBSAs).
LifeWeb http://lifeweb.cbd.int	Partnership site to facilitate financing for biodiversity.
The Green Wave http://greenwave.cbd.int	Global biodiversity campaign to educate children and youth about biodiversity.
Global Platform on Business and Biodiversity http://www.cbd.int/business	Web portal to support the business engagement activities of the CBD Secretariat including the Global Partnership for Business and Biodiversity.
Linking Biological and Cultural Diversity http://www.cbd.int/lbcd	Web portal of the joint UNESCO-CBD programme to link biological and cultural diversity, aimed at being a global knowledge platform linking local, regional, national and international practices and experiences

Initiative & website	Description
The GIASIPartnership Gateway http://giasipartnership.myspecies.info	Website of the Global Invasive Alien Species Information Partnership in support of Aichi Biodiversity Target 9.
Cities and Biodiversity Outlook http://cbobook.org/	Website of the Cities and Biodiversity Outlook project (CBO) providing an assessment of the links and opportunities between urbanization and biodiversity.
Rio Convention Pavilion http://www.riopavilion.org	Website running during COP meetings to promote the links between the Rio Conventions.

Table 1: Main web-related initiatives

6. Key issues to address

This section highlights key issues to address.

48. There are a series of issues associated to the current situation, including:
- (a) **Fragmentation** – Various websites and online systems exist and the user is sometimes 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 CBD Secretariat;
 - (c) **Slow delivery** – Many web-based projects are beyond 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.

Fragmentation

49. The websites shown in Table 1 do not share the same central repository. Some of them (CBD website, UNDB website, Business Platform) 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 (ABSCH, 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.

50. Such fragmentation is not uncommon in organizations similar to the CBD Secretariat. It is typically caused by a mix of reasons including independent project management, decisions to implement distinct systems, limited resources, staff turnover, technological evolution, 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

51. A quick tour of the websites mentioned in Table 1 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.

52. 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 CBD Secretariat is in the process of developing a communication strategy with a branding policy, that policy will provide the framework for improving visual coherence.

Slow delivery

53. The high prioritization of web-related requests has resulted in timely delivery of high-priority requests, but at the expense of other important requests that were also considered as a priority by some Parties.

54. 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 implemented many years ago had become obsolete. A stronger foundation was needed 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

55. The websites managed by the CBD Secretariat have 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.

56. All websites and web-based system require a certain level of maintenance. 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.

7. New web infrastructure

Overview

57. Figure 3 below gives a schematic overview of the new web infrastructure developed for the ABSCH and the CBD online reporting tool. 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 without caring 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 a two-way communication between the front-end and back-end components in order to exchange information.

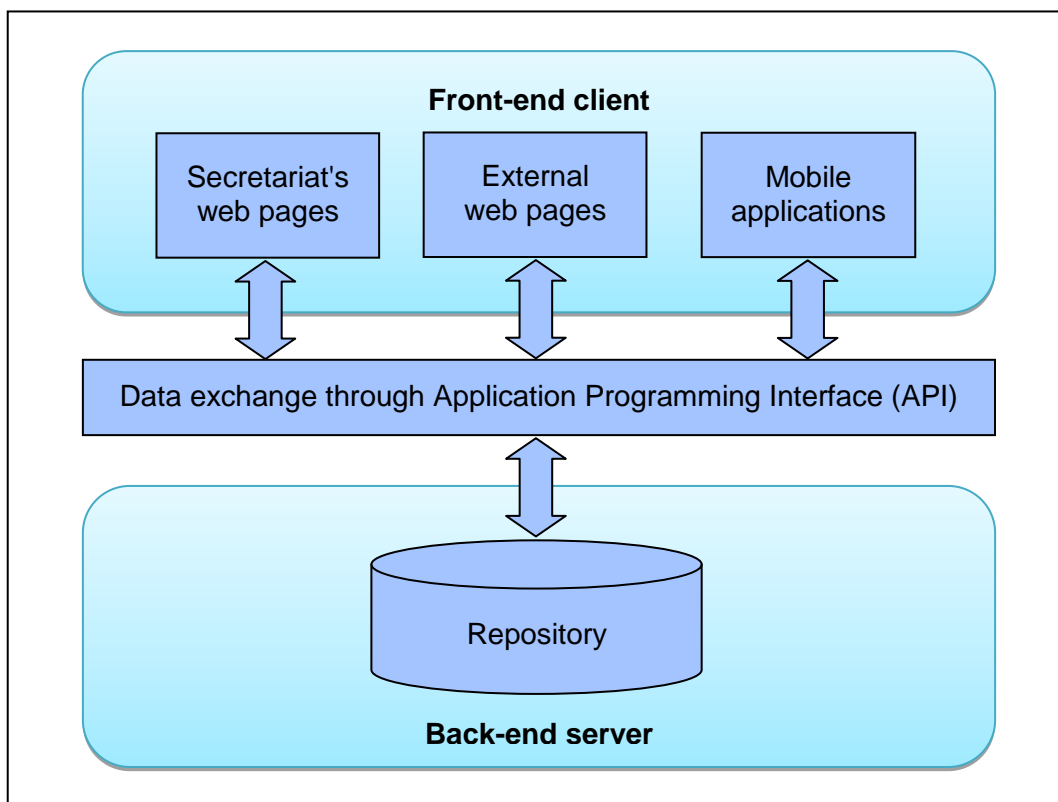


Figure 3: Overview of the new web infrastructure

Web technologies

58. The chosen technologies are AngularJS² (from Google) for the client-side web pages and NodeJS³ (from Linux Foundation) for the web server. AngularJS and NodeJS are open-source software and widely adopted by both the 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. Bootstrap⁴ (from Twitter) is the most popular HTML/CSS framework for developing responsive web pages. MongoDB⁵ has been selected as database software for its high performance, availability and scalability. Web and database servers are hosted on the cloud with Amazon Web Services⁶ to offer a fast response worldwide.

59. This new path for web development, started a couple of years ago for projects like the ABS-CH, 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 CBD 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.

² See <https://en.wikipedia.org/wiki/AngularJS> and <https://angularjs.org>.

³ See <https://en.wikipedia.org/wiki/Node.js> and <https://nodejs.org>.

⁴ See [https://en.wikipedia.org/wiki/Bootstrap_\(front-end_framework\)](https://en.wikipedia.org/wiki/Bootstrap_(front-end_framework)) and <http://getbootstrap.com>.

⁵ See <https://en.wikipedia.org/wiki/MongoDB> and <https://www.mongodb.org>.

⁶ See https://en.wikipedia.org/wiki/Amazon_Web_Services and <https://aws.amazon.com>.

Part III – Way forward

This part describes what needs to be done to achieve the website objectives.

8. Recommendations

This section presents the recommendations to follow to address identified issues.

Web governance

60. The following actions 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 tasks 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 II;

(b) **Establish standard operating procedures (SOPs)** – This means clarifying the policies and procedures governing websites hosted by the CBD 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 COP, a work plan for web-related activities is prepared to ensure that all requests can be dealt with within the timelines set by COP decisions. While this good practice should continue, other aspects of project management should be introduced and mainstreamed through the CBD Secretariat, preferably through the use of shared online tools.

Coherence and integration

61. 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 to its to the CBD website and other web-based systems of the CBD 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;

(d) **Provide central access through the main CBD search engine** – The content from all web platforms managed by the CBD 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

62. 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 in 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.

63. 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 CBD Secretariat. This way, they can be productive more quickly than if they had to learn a new environment.

Content management

64. 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).

9. Deliverables

This section describes a set of deliverables in line with the strategy. The implementation and prioritization of these deliverables is subject to review and approval by the Executive Secretary.

Overview

65. In addition to the expected website features listed in annex IV, several deliverables can be identified based on the previous sections. These deliverables are listed below and described in the next subsections, independently of their prioritization which is discussed in Section 10 (Implementation roadmap):

- (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 tools;
- (j) Integrated indicators and statistics;
- (k) Integrated country profiles;
- (l) Generic thematic portals;
- (m) Generic meeting portals;
- (n) Upgraded and migrated CBD website.

Consistent web pages with common branding

66. 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 CBD Secretariat.

Consistent high-level navigation

67. This deliverable is a consistent high-level navigation across the CBD and its Protocols based on the proposal made in Section 4 (Outline of information architecture), together with their translation in all United Nations languages.

Global search engine

68. 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.

69. 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 CBD 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).

70. 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 a high-level search scope (e.g. Books, Computers, etc., or All).

71. The global search engine should also be faceted 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.

Search engine optimization tool

72. 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 ⁷);
- (d) Setting up friendly URLs, including synonyms to facilitate the discovery of a web page (e.g. /npabs, /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).

Terminology management system

73. This deliverable is a tool allowing authorized staff to manage the terminology for the CBD 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 duplications 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.

Enhanced translation management system

74. 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:

- (a) Interfacing with the terminology management tool, VocBench, and/or UNTerms 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 of translated/untranslated pages, menus, metadata and records, with historical data allowing the real-time generation of progress charts to donors.

Enhanced document management system

75. 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.

⁷ See https://en.wikipedia.org/wiki/Dublin_Core and <http://dublincore.org>.

Integrated data and common formats

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

- (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.

Quality assurance (QA) tools

77. 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 check 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) Validators to check conformance to web standards (HTML, CSS, accessibility);
- (f) Spell checker to detect content errors;
- (g) 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.

Integrated web indicators and statistics

78. This deliverable consists in the provision of business-oriented key performance indicators (KPIs) and statistics to see to which 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 COP 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, NFPs, meeting participants, experts);
- (c) Evolution of translated content, and page views by languages;
- (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 popular publications downloaded;
- (g) Frequently-used search terms and metadata;
- (h) Most popular records retrieved.

Integrated country profiles

79. This deliverable consists of new country profile web pages presenting relevant national information from the CBD and its Protocols in one consolidated profile based on the corresponding navigation presented in Section 4. 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.

Generic thematic portals

80. This deliverable consists of a set of generic web pages for thematic portals based on the corresponding navigation presented in Section 4.

Generic meeting portals

81. Like for thematic portals, this deliverable consists of a set of generic web pages for meeting portals, based on the corresponding navigation presented in Section 4.

Upgraded and migrated CBD website

82. 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.

83. Initially, these new web pages should be developed with a layout similar to the old website to make switching between old and new pages as seamless as possible from a user's perspective. This will allow the content to be gradually moved to the new infrastructure over time.

84. Once the new website grows, it will become the dominant CBD website. The old website will be maintained as needed until it can eventually be phased out.

10. Implementation roadmap

This section proposes an indicative roadmap for implementing the web strategy, subject to review and approval by the Executive Secretary.

Approach

85. The approach followed to determine the implementation roadmap is to group deliverables according to the following categories:

- (a) **Urgent needs** – Deliverables that are urgently needed to address existing issues;
- (b) **Low-hanging fruits** – Deliverables that can bring immediate benefits while being relatively easy to implement;
- (c) **Implementation by SBI 1** – Deliverables that are expected by Parties at SBI-1;
- (d) **Implementation by COP 13** – Deliverables that are expected by Parties at COP-13;
- (e) **Post-COP 13 implementation** – Deliverables that cannot be realistically delivered by COP-13;
- (f) **Flexible implementation** – Deliverables that can be implemented with a certain level of flexibility depending on available resources and other priorities.

86. As no specific budget is allocated for the implementation of the web strategy, it is assumed that this implementation will be carried out in-house, subject available time and resources.

Urgent needs

87. The following deliverables are urgently needed to address existing issues:
- (a) Global search engine;
 - (b) Consistent high-level navigation;
 - (c) Enhanced translation management system.

Low-hanging fruits

88. The following deliverables can bring immediate benefits while being relatively easy to implement:
- (a) Enhanced user's feedback form;
 - (b) Information centre entry page (Section 4) ;
 - (c) Responsive web page template for CBD website;
 - (d) Cross-linking with the NBSAP Forum (Section 2).

Implementation by SBI-1

89. The following deliverables are expected by Parties at SBI-1:
- (a) The Executive Secretary's proposed web strategy;
 - (b) The Executive Secretary's proposed communication strategy including branding;
 - (c) Fully operational online reporting tool (Section 2);
 - (d) Fully operational reporting tool for the financial reporting framework;
 - (e) First version of the decision tracking system (Section 2);
 - (f) Interoperability with national clearing-house mechanisms (Section 2);
 - (g) Interoperability with InforMEA (Section 2).

Implementation by COP-13

90. The following deliverables are expected by Parties at COP-13:
- (a) The Executive Secretary's web strategy submitted to COP-13.
 - (b) Enhanced version of the decision-tracking system.

Post-COP-13 implementation

91. The following deliverables cannot be realistically completed by COP-13 due to the time needed for their implementation:
- (a) Upgraded and migrated CBD website;
 - (b) Enhanced document management system.

Flexible implementation

92. Some deliverables are neither linked to a deadline established by the Conference of the Parties nor urgently needed to address a critical issue. Therefore, they can be gradually implemented with a certain level of flexibility, depending on available resources and other priorities. These deliverables include:
- (a) Consistent web pages with common branding;
 - (b) Search engine optimization (SEO) tool;
 - (c) Terminology management system;
 - (d) Integrated data and common formats;
 - (e) Integrated web indicators and statistics;

- (f) Quality assurance tools;
- (g) Integrated country profiles;
- (h) Generic meeting portals;
- (i) Generic thematic portals;
- (j) Standard operating procedures;
- (k) Most expected website features listed in annex IV.

Conclusion

This section provides an overall conclusion for the web strategy.

93. The Conference of the Parties had good reasons to request the Executive Secretary to develop a web strategy to ensure that all information common or relevant to all clearing-houses, as well as other platforms developed under the Convention, can be accessed centrally to avoid duplication of efforts.

94. In response to this request, the Executive Secretary has prepared the present forward-looking web strategy based on a broad vision and an analysis of the current situation. This proposed strategy includes sound recommendations, and builds upon the recent successful implementation of a new web infrastructure for the Access and Benefit-sharing Clearing-House and the online reporting tool.

95. The generalization of this modern approach to all web platforms managed by the CBD Secretariat will allow a centralized repository to hold all common or relevant information to the three clearing-houses and facilitate its access through a number of web portals or applications communicating with this central repository through an application programming interface (API).

96. The plan is to implement this strategy according to a roadmap which takes into account urgent needs, low-hanging fruits, and existing commitments to Parties. It is hoped that the implementation of this strategy will meet Parties' expectations, while providing strong foundations for future developments in an effective, efficient and sustainable manner.

Annex I. United Nations recommendations for website management

This annex presents the UN JIU recommendations for website management. Further details are available at https://www.unjuu.org/en/reports-notes/archive/JIU_REP_2008_6_English.pdf

As part of its programme of work for 2008, the United Nations Joint Inspection Unit (JIU) conducted a review entitled “Management of Internet websites in the United Nations system organizations” from February to September 2008 based on a proposal from the Office of Internal Oversight Services (OIOS), United Nations. This annex presents the recommendations made by the JIU and the executive summary of the report available online at https://www.unjuu.org/en/reports-notes/archive/JIU_REP_2008_6_English.pdf.

Recommendations

1. The executive head of each United Nations system organization should ensure that clear policies and corresponding mechanisms are adopted for the good governance and management of the organization’s website.
2. The executive heads of each United Nations system organization should ensure that the website strategy be regularly updated and linked with and taking account of the other business strategies of the organization and report on the measures taken to the governing body on a regular basis.
3. The executive head of each United Nations system organization should ensure that policies and guidelines are in place that, among other things, specify requirements and standards relating to (a) web layout and design; (b) editorial control and review of web content and (c) web accessibility.
4. For relevant, timely and high quality website content, the executive head of each United Nations system organization should ensure the implementation of a CMS which offers full support to Latin, non-Latin and bi-directional scripts and, as far as practicable, be compatible with CMS used by other organizations. When selecting an appropriate CMS, they should give serious consideration to adopting common information exchange standards and also consider the benefits of a common CMS across the United Nations system.
5. The executive head of each United Nations system organization should ensure that sufficient and sustained funding for staffing and training are allocated to website management. If such funding could not be provided through redeployment or other means, it should be reported to the governing body for its consideration in order to implement those recommendations contained in this report, which have financial implications, inter alia, CMS, staffing, training, language parity, adoption of common information exchange standards, etc.
6. The governing bodies of the United Nations system organizations should establish an ad hoc committee dealing with the implementation of multilingualism on their corporate websites. The governing bodies shall review the report submitted by the ad hoc committee on the measures and financial implications to achieve language parity on their websites and take appropriate action.
7. The executive heads of the United Nations system organizations should establish a mechanism reporting to the High-Level Committee on Management with the participation of all stakeholders, for coordination purposes and to establish common policies, standards and guidelines on websites.
8. The governing bodies of United Nations system organizations should request the executive heads to report to their next session on the implementation of the recommendations contained in this report addressed to the executive heads, in particular those aimed at reforming website governance, updating website strategy and policy, and implementing multilingualism.

EXECUTIVE SUMMARY

Review of management of Internet websites in the United Nations system organizations

JIU/REP/2008/6

The objective of the review is to provide the governing bodies and executive heads of the United Nations system organizations with an assessment on the effectiveness and efficiency of the use of Internet websites as a communication tool for information dissemination. It stresses the importance of related issues such as Content Management System (CMS), accessibilities and multilingualism. The report also discusses the main challenges faced by these organizations in managing their websites.

Websites have been established by United Nations system organizations for two main purposes: firstly, for information dissemination and secondly, as a platform for e-business applications.

A prerequisite for an excellent website is effective web governance with a functioning decision-making mechanism enabling efficient interaction between key stakeholders. Under web governance, website strategy must be well formulated, aligned and integrated with other business strategies, e.g., communication, human resources and funding. The implementation of the website strategy must be through clear, coherent, comprehensive and timely policies and guidelines.

The implementation of CMS centralizes all website-related activities. The most important characteristics of a good CMS are ease of use, customizable workflow, high security and multilingual support.

The current level of staffing and related training funds for website management are insufficient, considering the importance and impact the websites have on the organizations' mandate. Without commensurate funding and qualified staffing, a website would soon lose its effectiveness and value.

The United Nations system organizations are facing various challenges in unifying their web presence through streamlined content and the application of a consistent online virtual branding. Awareness should be raised by the organizations at large to Member States that the web must continue to develop, and that this requires substantial and sustained investment in human resources and training.

All these challenges stem from the decentralized structure of the United Nations system organizations' websites in terms of content generation and management, due to the absence of an overall web governance structure, organizational web strategy integrated with business communication strategy (branding), standardized guidelines, policies and technology.

Listed below are the recommendations addressed to the governing bodies of the United Nations system organizations. Other recommendations proposed for the consideration of the executive heads of these organizations can be found in the body of the report. The implementation of these recommendations would increase the effectiveness and efficiency of the management of Internet websites, in particular through good website governance and updated website strategy and policy.

Recommendations for consideration by the governing bodies of United Nations system organizations

Recommendation 6

The governing bodies of the United Nations system organizations should establish an ad hoc committee dealing with the implementation of multilingualism on their corporate websites. The governing bodies shall review the report submitted by the ad hoc committee on the measures and financial implications to achieve language parity on their websites and take appropriate action.

Recommendation 8

The governing bodies of the United Nations system organizations should request the executive heads to report to the next session on the implementation of the recommendations contained in this report and addressed to the executive heads, in particular those aimed at reforming website governance, updating website strategy and policy, and implementing multilingualism.

Annex II. Roles and responsibilities for web governance

This annex presents an outline of some key roles and responsibilities for web governance. Further details are available online at <http://www.diffily.com/articles/webteamroles.htm>.

This annex is based on a web governance research article entitled "Roles and Responsibilities on a Web Team" available online at <http://www.diffily.com/articles/webteamroles.htm>. While the article describes all the roles depicted in the diagram below, the present annex focuses only the following high-level roles:

- Senior Management Team
- Web Steering Group
- Senior Executive
- Web Manager

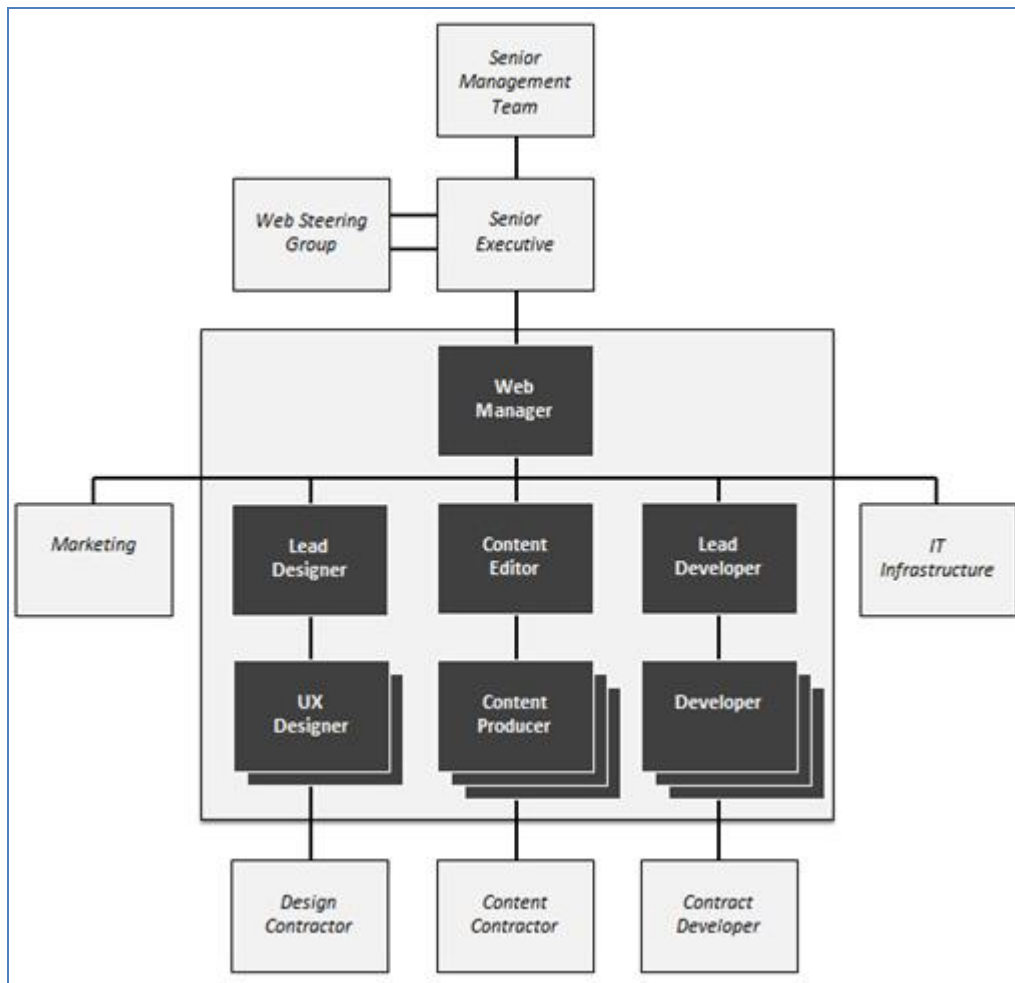


Figure 2.1: Web roles and responsibilities

The key Leadership roles are those of the **Senior Management Team (SMT)** and the **Web Steering Group (WSG)**, whose purpose is to provide direction and support for getting things done online.

Senior Management Team

- The Senior Management Team approves the online strategy, monitors high-level adherence to business goals and provides resource.

Web Steering Group

- The Web Steering Group expedites the online strategy by coordinating development priorities among all departments with a stake in the web and reports progress to the Senior Management Team.
- The Web Steering Group sets internal web standards (e.g. coding, online branding, etc.), monitors development on a cyclical basis and acts as a 'Court of Last Resort' for inter-departmental web conflict.

Senior Executive (or Web Executive)

- The Senior Executive chairs the WSG.
- Although this person is ultimately accountable to the SMT for steering the implementation of strategy, responsibility is shared with the other members of the WSG.

This emphasis on collegiality is important to the success of a WSG. Where responsibility for online systems is focused entirely within one department, there may be a temptation for a Web Executive to prioritize his/her own needs. In contrast, a principle of shared ownership acts against this tendency and provides a forum wherein competing demands can be thrashed out.

Web Manager (or Webmaster)

- The Web Manager co-ordinates day-to-day maintenance required to ensure the site operates to a minimum acceptable standard.
- The Web Manager drives design, content, development & more from the high end, in pursuit of online goals (whether revenue, reputation or cost savings).
- The Web Manager monitors performance based on approved key performance indexes (KPIs) and ensures all activity conforms with required standards.
- The Web Manager plans the activities of the Content Producer, Designer and Developer with them.

Annex III. Elements of goal 1 of the CHM work programme

This annex presents elements of the CHM work programme that are related to Goal 1 on the Central CHM.

This annex contains elements of goal 1 of the CHM work programme which are related to the Central CHM. Further details are available in document UNEP/CBD/COP/11/31.

Goal 1: The central clearing-house mechanism provides effective global information services to facilitate the implementation of the Strategic Plan for Biodiversity 2011-2020.

1.1. The Secretariat of the Convention on Biological Diversity has the capacity to sustain an effective central clearing-house mechanism.

- 1.1.1. Maintain a list of priority activities to be undertaken on the central clearing-house mechanism, taking into account progress made, available capacity, and evolving needs to enable, inter alia, the Conference of Parties, at each of its meetings, to review progress and, as necessary, adjust the activities.
- 1.1.2. Establish processes to monitor the development and effectiveness of the central clearing-house mechanism.
- 1.1.3. Ensure that the Secretariat has the capacity to further develop and maintain the CBD website and other modern information services of the central clearing-house mechanism.
- 1.1.4. Ensure that the Secretariat has capacity to manage knowledge and information, including terminology and documentation management.
- 1.1.5. Identify, assess, and adopt appropriate publicly-available tools or services that increase the capacity and sustainability of the central clearing-house mechanism in a cost-effective manner.
- 1.1.6. Optimize the process of maintaining the CBD website in all United Nations languages by making sound use of modern translation technology.

1.2. A high-quality CBD website is available in all United Nations languages.

- 1.2.1. Prepare a web content strategy for the CBD website in support of the Strategic Plan for Biodiversity 2011-2020 and keep it in line with decisions adopted by the Conference of the Parties.
- 1.2.2. Maintain and improve the CBD website and its related portals in terms of content, services, appearance, user-friendliness, usability and accessibility taking into account user feedback.
- 1.2.3. Make the CBD website available in all United Nations languages.
- 1.2.4. Ensures that the CBD website evolves in accordance with its web content strategy.

1.3. Effective information exchange services are fully operational.

- 1.3.1. Expand the knowledge base in a way that allows easy access and cross-references by continuously incorporating Convention-related information such as decisions, work programmes, targets, indicators, implementation activities, online sources, reference documents, case-studies, best practices, training materials, organizations, experts, contacts, events, maps, multimedia resources, and other relevant items.
- 1.3.2. Integrate collaboration tools in a user workspace encouraging Parties, experts, practitioners, and other stakeholders to maintain contact, share ideas, and work together, while providing quick access to information directly related to each user's role and activities.
- 1.3.3. Implement the online submission system as the update mechanism of the knowledge base and the collaboration tools in order to enable Parties and all stakeholders to make contributions related to the Convention and its implementation.
- 1.3.4. Implement specialized information services in accordance with decisions adopted by the Conference of the Parties.
- 1.3.5. Expose data held by the central clearing-house mechanism through modern interfaces based on open standards as a way to facilitate access to information about the Convention on Biological Diversity.
- 1.3.6. Provide tools enabling national clearing-house mechanisms to automatically access and display relevant information from the central clearing-house mechanism.
- 1.3.7. Continue to develop and use information exchange services to make Convention-related information easily and widely accessible, in line with technological and social trends.

1.4. The Secretariat of the Convention on Biological Diversity facilitates the development of a network of experts and practitioners among Parties and partners.

- 1.4.1. Establish a user-friendly online networking platform for national focal points, experts, practitioners, and other relevant contacts to encourage participation.
- 1.4.2. Promote networking of Parties and partners by linking the central and national clearing-house mechanisms.
- 1.4.3. Explore opportunities to facilitate scientific and technical cooperation for the implementation of the Convention.

1.5. Guidance is available for Parties and partners to exchange information through the clearing-house mechanism network.

- 1.5.1. Establish and publish specifications to exchange information through the clearing-house mechanism network, including interoperability protocols, common formats, controlled vocabularies, application programming interfaces, and other technical guidelines.
- 1.5.2. Provide guidance to Parties and partners on how to exchange information through the clearing-house mechanism network, including on the data submission and validation processes.

Annex IV. Expected website features

This annex describes users' expectations depending on their group or audience.

Based on the above, web users have certain expectations that have implications on website features or objectives. These features are grouped as follows in Table 4.1 below:

- (a) For all users, independently of their audience or group.
- (b) For all authenticated users (e.g. with a user account).
- (c) For all non English-speaking users.
- (d) For mobile users.
- (e) For users with disabilities.
- (f) For users with low Internet speed.
- (g) For first-time visitors.
- (h) For returning visitors.
- (i) For thematic users.
- (j) For national users.
- (k) For delegates attending meetings (e.g. CBD NFPs).
- (l) For users' administrators.
- (m) For group members collaborating online (.e.g. Informal Advisory Committee).
- (n) For content contributors (e.g. National Authorized Users).
- (o) For Secretariat's content updaters and managers.
- (p) For Secretariat's translation coordinators.
- (q) For external systems using interoperability.
- (r) For search engine robots.

	<i>Website features</i>	<i>Reasons</i>
A.	For all users	
1.	User-friendly web pages.	These general features are expected from a high-quality website.
2.	Intuitive high-level navigation on all pages allowing easy selection of specific web portal or information services.	
3.	Intuitive indication of current location (e.g. breadcrumbs).	
4.	Consistent core branding on all pages.	
5.	Consistent footer on all pages.	
6.	Clean printer-friendly version of all pages.	
7.	Feedback form & contact us accessible consistently from all pages.	
8.	Consistent prominent access to unified global search engine.	

	<i>Website features</i>	<i>Reasons</i>
9.	Intuitive faceted search to easily find information by treaty, information type, country, Aichi Biodiversity Target, subject, date or other relevant criteria.	
10.	Consistent search engine result pages (SERP) with typical features (navigation, sorting, access to details).	
11.	Consistent detailed results.	
12.	Quick access to related information when viewing a particular item.	
13.	Option to quickly share/save a web page through social media tools.	
14.	No bugs or errors.	
15.	Consistent clean warning or error messages.	
B.	For all authenticated users	
1.	Consistent access to a user menu at the top of every page to sign-in, create an user account, or display the user name.	Users need an easy way to authenticate themselves and to maintain their profiles.
2.	Easy and secure way to create their CBD user account without problem or delay.	
3.	Option to use an Internet-scale identity system enabling them to reuse an existing account (e.g. Gmail account) without having to create a new one for CBD.	
4.	Easy and secure way to review their profile and enhance it.	
5.	Access to an attractive and effective user workspace tailored to their needs.	
6.	Email notifications as needed.	
C.	For all non English-speaking users	
1.	Prominent UN languages switch at the top of each page.	Non-English-speaking users need a prominent way to select their preferred language. Once this language is selected, users' expectations should be met by providing up-to-date translated content, or at least by informing these users that such content is outdated or pending.
2.	Availability of home page in all UN languages.	
3.	Availability of menus in all UN languages.	
4.	Availability of controlled vocabularies and metadata in all UN languages.	
5.	Availability of web page content in all UN languages.	
6.	Availability of database content in all UN languages.	
7.	Message displayed when translated content is outdated.	
D.	For mobile users	
1.	Responsive web pages automatically adapting to 3 screen widths (PC, tablets, and smart phones) on all web pages.	A good user experience can be provided to mobile users through

	<i>Website features</i>	<i>Reasons</i>
2.	Responsive content and graphic items automatically adapting to 3 screen widths.	the application of responsive web design (RWD) techniques.
E.	For users with disabilities	
1.	Compliance with web content accessibility guidelines. (see www.w3.org/WAI and www.w3.org/WAI/WCAG20/quickref)	Users with disabilities should not be neglected. Guidelines and techniques exist to provide them with an acceptable user experience.
F.	For users with low Internet speed	
1.	Home page loading fast.	Frequently-visited web pages should be quickly available to all users, even those with a low Internet speed.
2.	Other pages loading within a reasonable time.	
G.	For first-time visitors	
1.	Option to discover and learn about CBD and its Protocols (e.g. about page).	First-time visitors may not be familiar with the CBD and its Protocols. The background information they need should be easily accessible.
2.	Access to basic references to learn more.	
H.	For returning visitors	
1.	Major latest announcements on home page.	Returning visitors expect that the home page will let them know about latest news or updates.
2.	Quick access to latest information, including initiatives, meetings, notifications, publications, etc.	
I.	For thematic users	
1.	Intuitive top-level navigation to reach the desired web portal, clearing-house or other online service.	Thematic users should be made aware that some web sections or portals may respond to their specific needs.
2.	Consistent access to similar information across all portals.	
3.	Easy way to search by Aichi Biodiversity Target or other relevant subjects.	
4.	Easy access to decisions on the selected topic.	
J.	For national users	
1.	Easy access to integrated country profiles providing information on the CBD and its Protocols.	National users are typically interested in national information and in requests addressed to them.
2.	Easy way to filter by country when searching information.	
3.	Easy access to decisions addressed to Parties.	
4.	Option to compare a country with a neighboring country, or one with a similar biodiversity status.	

	<i>Website features</i>	<i>Reasons</i>
K.	For delegates	
1.	Easy access to a calendar of meetings.	Meeting delegates are primarily interested in information related to the meeting(s) they attended, are attending, or will attend. Such information is essentially a combination of logistical and substantive information.
2.	Easy access to a specific meeting and its related information, such as documents, notifications and logistical information.	
3.	Easy access to decisions and recommendations related to meeting agenda items.	
4.	Easy access to online registration system.	
5.	Easy access to side event registration system.	
6.	Option to network and collaborate with other participants, especially before and after the event.	
L.	For users' administrators	
1.	Easy to manage users roles and privileges.	Users accounts, roles, and privileges should be managed professionally and rigorously. Reliable and user-friendly tools should be available to do so.
2.	Ability to create national administrators who can manage national users.	
3.	Ability to create moderators who can manage forums or other collaboration tools.	
4.	Ability to create content managers who can manage content within a certain scope.	
5.	Easy way to collect users' statistics.	
M.	For content contributors	
1.	Easy and secure way to create new records (based on common formats).	Clearing-houses imply a two-way exchange, meaning that some users will be content contributors. Such contributors should have an intuitive user-friendly way to enter, publish, and maintain their content.
2.	Easy way to update existing records.	
3.	Minimized mandatory information to encourage content creation.	
4.	Easy access to any submission or contribution previously made in order to easily update it.	
5.	Option to edit a record whenever viewing it if signed in and allowed to do so.	
6.	Options to provide comments whenever allowed.	
N.	For group members collaborating online	
1.	Easy access to forum or similar collaboration tools.	Group collaboration is more effective if it is well-supported by good online collaboration tools.
2.	Easy access to a group workspace with references.	
O.	For Secretariat's content updaters	
1.	Easy way to keep web page metadata up-to-date.	Content updaters within the

	<i>Website features</i>	<i>Reasons</i>
2.	Access to a dashboard to search/filter content updates.	Secretariat should be able to easily associate metadata to the web pages that they edit. They should also have a way to find back recent content updates.
P.	For Secretariat's content managers	
1.	Easy access to control menu navigation.	Content managers within the Secretariat should be able to easily manage the overall content environment, including menus, controlled vocabularies, terminology, URL names for search engine optimization (SEO). They should also have tools to manage and monitor page status, usage statistics, and broken links.
2.	Easy access to controlled vocabularies and terminology.	
3.	Easy way to update web page URLs in a reliable way.	
4.	Easy way to manage search engine optimization (SEO).	
5.	Easy access to web page status.	
6.	Easy access to website statistics.	
7.	Tool to check broken links, including those in database content.	
Q.	For Secretariat's translation coordinators	
1.	Access to a dashboard of pending translations.	Translation coordinators need to manage requests for translations based on pending translations, recent updates, and current priorities. They should also make use of CAT tools to optimize translation with available budget.
2.	Warning message on top of pages with pending translations.	
3.	Connection to a computer-aided translation (CAT) tool for cost-effective web translation.	
4.	Ability to prepare and monitor translation packages, and carry out related tasks.	
R.	For external systems using interoperability	
1.	RSS and Atom feeds available by information types or subjects.	As a matter of principle, public information should be made as open and accessible as possible. This includes feeds and interoperability services.
2.	Application Programming Interface (API) publicly available, with technical documentation and examples.	
3.	Interoperability with InforMEA fully operational.	
S.	For search engine robots	
1.	Robots.txt informing web crawlers of what to include or ignore.	Widely accepted good practices should be used to appropriately inform search engine robots about which content, including database content, should or should not be discovered by them.
2.	Sitemap available to major search engines.	
3.	Title and description available on all pages in all UN languages.	
4.	Metadata available on all pages.	
5.	Database content made accessible to major search engines.	

Table 4.1: Expected website features

Annex V. Main website content sections

This annex identifies the main content section of the website.

This annex identifies the main content sections of the website (in Table 5.1 below). Section 4 on the Information Architecture outlines how this content could be made logically accessible through navigation.

<i>Sections</i>	<i>Purpose</i>	<i>Expected content</i>	<i>Links</i>
Home page	Main entry point telling the user what the site is about	<ul style="list-style-type: none"> – Typical home page items – Promoted content – Latest news & communications 	<ul style="list-style-type: none"> – Detailed content – More information
Core treaty information	To provide basic background on each treaty	<ul style="list-style-type: none"> – Treaty purpose – Treaty text & articles – Historical information – Operations and main bodies 	<ul style="list-style-type: none"> – Parties – NFPs – Strategic Plan – Decisions – Meetings – Other relevant items
Parties	MEA responsibility	<ul style="list-style-type: none"> – List of Parties 	<ul style="list-style-type: none"> – Treaties – Country profiles
Decisions & recommendations	MEA responsibility	<ul style="list-style-type: none"> – Decisions & Recommendations by treaty/bodies – Decision-tracking system 	<ul style="list-style-type: none"> – Treaties – Meetings – Documents – Notifications
Country profiles	To gather relevant national information by country	<ul style="list-style-type: none"> – Party status – NFPs – National reports – NBSAPs & National targets – National information 	<ul style="list-style-type: none"> – Online reporting tool – National CHM and other websites – Other country profiles
Meetings	For meeting participants and interested users	<ul style="list-style-type: none"> – Calendar of meetings – Meeting titles and venue – Agenda – Documents – Parallel events – Logistical information 	<ul style="list-style-type: none"> – External meeting site – Related information
Strategic Plan & its implementation	Key international reference	<ul style="list-style-type: none"> – Overview – List of Aichi Biodiversity Targets – GBO 4 	<ul style="list-style-type: none"> – Aichi Biodiversity Target pages – GBO 4 pages – NBSAPs – National reports – Related information

<i>Sections</i>	<i>Purpose</i>	<i>Expected content</i>	<i>Links</i>
Aichi Biodiversity Targets	To provide detailed information by target	<ul style="list-style-type: none"> – Overview – Progress by country – Background documents – Capacity-building & guidance (good practices, lessons learned) 	<ul style="list-style-type: none"> – National targets – Online reporting tool – National assessments – Related information
National implementation	To provide guidelines on and access to NBSAPs, national targets and national reports	<ul style="list-style-type: none"> – Guidelines – List of NBSAPs & national reports – National targets – Assessments of progress 	<ul style="list-style-type: none"> – Strategic plan – Country profiles – National targets – National projects
Programmes	To provide information related to a thematic area or cross-cutting issue under a treaty	<ul style="list-style-type: none"> – About the programme – Background – Work Programme – Capacity-building & guidance (good practices, lessons learned) – Implementation activities – Partners – References 	<ul style="list-style-type: none"> – Relevant decisions – Relevant documents – Relevant partners – Relevant initiatives
Cooperation & partnerships	To provide access to information by cooperation initiative or partner organization	<ul style="list-style-type: none"> – Initiatives – Joint work programmes – Partner organizations – Meetings 	<ul style="list-style-type: none"> – Partner organizations – Partnership websites – Relevant initiatives
Information	To provide central access to information by types or services	<ul style="list-style-type: none"> – Secretariat-generated information types: news, notifications, press releases, speeches, agreements, documents, newsletters, publications, related websites, partner organizations, capacity-building, guidance, ... – Meeting-related information: documents, reports, decisions, recommendations, side-events, ... – Country-generated information: NBSAPs, national reports, ... – Information services: online reporting, library, ABSCH, BCH, EBSA, LifeWeb, Bio-Bridge, online databases (case-studies, thematic databases, ...) 	<ul style="list-style-type: none"> – Main search engine – Various services and clearing-houses – Country profiles – Meetings

<i>Sections</i>	<i>Purpose</i>	<i>Expected content</i>	<i>Links</i>
Secretariat	To provide information about the Secretariat	<ul style="list-style-type: none">– Structure– Secretariat's reports– Staff list– Vacancies– Miscellaneous	<ul style="list-style-type: none">– UN Vacancies– Montreal

Table 5.1: Expected website content
