



# Convention on Biological Diversity

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MEETING OF THE INFORMAL ADVISORY COMMITTEE TO THE CLEARING-HOUSE MECHANISM OF THE CONVENTION ON BIOLOGICAL DIVERSITY Nagoya, Japan, 17 October 2010

# INFORMATION SERVICES OF THE CENTRAL CLEARING-HOUSE MECHANISM

### I. INTRODUCTION

1. This document describes the information services envisaged by the central clearing-house mechanism (CHM) in accordance with the draft decision on CHM and the recommendations contained in document UNEP/CBD/COP/10/15. For ease of reference, this draft decision and the corresponding list of activities are available in document UNEP/CBD/CHM/IAC/2010/1/2.

2. The main purpose is to allow the reader to have a detailed understanding of the expected central CHM information services in order to better assess their relevance and usefulness, independently of any resource constraint. Feedback on these services is welcome in order to make them as effective as possible.

- 3. The document is structured as follows:
  - (a) Section I is this introduction;
  - (b) Section II is a general overview;
  - (c) Section III describes the knowledge base for finding information;
- (d) Section IV describes the user workspace for facilitating collaboration and submitting information;
- (e) Section V describes the mechanism for exchanging information with national CHM and partners;
  - (f) Section VI describes a possible application for smart phones;
  - (g) Annex I contains graphical information sheets for some knowledge base items.

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### II. OVERVIEW

### A. Strategic framework

4. Several strategic aspects have to be considered when planning the development of central CHM information services. Above all, these services should facilitate the implementation of the Strategic Plan of the Convention, as described in document UNEP/CBD/COP/10/15 and stated in the draft decision on CHM. At the same time, they should take into account the audiences targeted by the communication, education and public awareness (CEPA) programme, starting with the Parties and the general public. The central CHM services are also expected to provide support to key activities of the Secretariat of the Convention on Biological Diversity, particularly:

(a) Preserving the institutional memory of the Convention, such as the core information consisting of Parties, national focal points, decisions, recommendations, and all official documents;

(b) Servicing meetings, including Conferences the Parties, meetings of subsidiary bodies, and capacity-building workshops;

(c) Responding to requests from the Conference of the Parties addressed to the Executive Secretary;

(d) Collaborating with Parties, partners and various stakeholders to facilitate the implementation of the Convention.

5. Given that the CBD website remains the main communication platform acting as the central node of CHM, it plays an essential role and should:

- (a) Be a high-quality website available in all United Nations languages;
- (b) Be kept up-to-date and highlight the recent and most relevant CBD information;
- (c) Provide easy access to relevant information related to CBD and its implementation;

(d) Raise awareness on biodiversity and CBD in accordance with the communication, education and public awareness programme;

(e) Provide web-based information services in line with the CHM mission to facilitate scientific and technical cooperation, knowledge sharing, and information exchange.

6. Communication platforms beyond the CBD website can also be effective in contributing to the implementation of the Convention. Recent social and technological trends show that:

(a) Web 2.0 technologies facilitate the exchange of information across the internet from one website to another;

(b) Applications for smart phones and similar handheld devices are becoming increasingly popular and widely used.

### B. Categories of users and services

7. The level of user involvement has an important influence on the development of information services. A general distinction can be made between:

- (a) Read-only users interested in finding and accessing information;
- (b) Potential contributors willing to submit information or collaborate with each others.

8. Most users fall in the first category. On the CBD website and its knowledge base, they should be able to:

- (a) Discover and learn about CBD, its role, mandate, parties, decisions, etc.;
- (b) View the latest CBD information, including initiatives, meeting, publications;

(c) Find and access any information they need, in a very intuitive and user-friendly way;

(d) See content that is well structured, nicely presented, up-to-date, and properly written in their preferred United Nations language;

- (e) Have quick access to related information whenever they view a particular item;
- (f) Immediately find their way wherever they are on the website;
- (g) Save the information for further reference;
- (h) Share the information with a person of their choice.

9. Potential contributors are very important, especially from a knowledge sharing and human networking perspective. Every effort should be made to engage them and facilitate their work. Therefore, they should be able to:

(a) Easily create their CBD user account in a streamlined way with little burden;

(b) Quickly sign in, with the option of using an Internet-scale identity system enabling them to reuse an existing account (e.g. GMail account);

- (c) Access an attractive and effective user workspace tailored to their needs;
- (d) View any submission or contribution they have made and update it if needed;
- (e) Submit any relevant information, including comments;

(f) Collaborate within particular groups (meeting participants, expert groups, informal groups);

(g) Review their profile and enhance it while deciding what they want to share publicly or within a group;

(h) Make requests for corrections/amendments for any information related to them but controlled by the CBD Secretariat (e.g. NFP details).

10. The distinction by level of user involvement can be applied to other communication platforms, and table 1 below summarizes the information services envisaged for national or partner websites, and for smart phones.

Communication platform	Read-only Users	Contributors
CBD Website	Knowledge Base	User Workspace
National or Partner Websites	Web 2.0 Plugin querying the Central CHM	Information Exchange Mechanism for updating the Central CHM
Smart Phone	Smart Phone Application providing access to key CBD information (Version 1)	Smart Phone Application for uploading information (Possible Version 2)

Table 1: Information services b	v communication n	Notform and loval	of user involvement
Table 1. Information services b	y communication p	nation in and level	

### III. KNOWLEDGE BASE

#### A. Rationale

11. The objective of the knowledge base is to address the following issues:

(a) Users frequently experience difficulties in finding what they are looking for. There is a need for a good global search engine that searches across the CBD website and its underlying databases;

(b) Information is often scattered and dots are not well-connected. It would be helpful to have a general mechanism to manage interconnections between related resources;

(c) There is no logical global inventory of all existing information resources available through the CBD website and its databases, which makes it difficult to organize the content.

#### B. Design goals

12. The following design goals have been identified for the CHM knowledge base:

(a) To provide key information and knowledge about the convention and its implementation, mostly in the form of interconnected information sheets on relevant resources (guidelines, case-studies, initiatives, organizations, people, etc), with cross-references between programmes and countries;

(b) To feature a powerful smart search engine able to present results in a user-friendly and structured way;

(c) To be multi-relational in the sense that any information item could be related to any other item if needed;

(d) To support popular multimedia formats such as pictures, videos and maps;

(e) To be centrally maintained by the CBD Secretariat with the possibility of accepting external contributions through integration with an online submission system. User account creation and profile maintenance should be as streamlined and intuitive as possible;

(f) To build upon existing CBD data, including country profiles, documents, contacts, calendars and other key existing information.

### C. Entry page

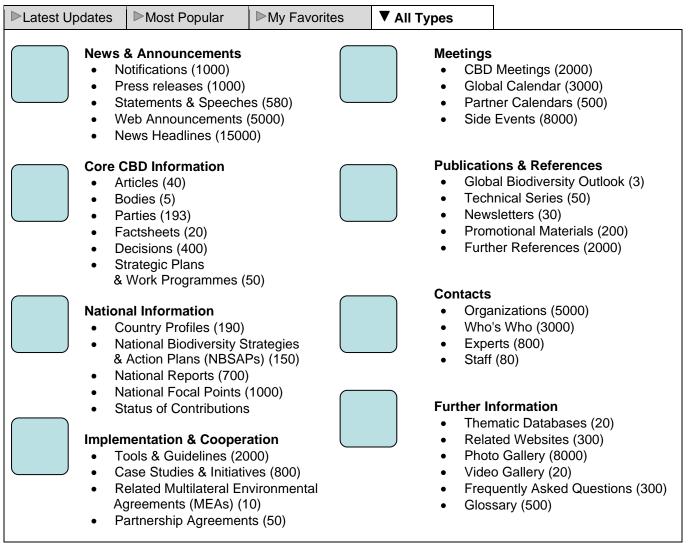
13. The landing page of the knowledge base is shown in figure 1 below. The page is structured to enable search and navigation without having to switch pages. This approach is commonly used on many websites, including Google. The left part contains a dynamic search section maintaining the current user filtering criteria, followed by a quick search section that allows the user to save his/her frequent searches to later re-use. The main body has four tab sections to access the content in several ways:

- (a) By latest updates, which is the default option;
- (b) By popularity, based on a simple five-star rating scale accessible by any user;
- (c) By favorites, which are controlled by the user who can tag favorite items;
- (d) By types, through a high-level menu of information types, as presented in figure 2.

### Figure 1: Entry page

СНМ КВ	Knowledge Base
Search Criteria	Welcome to the Knowledge Base of the Clearing-House Mechanism. [Introductory information]
Search My Quick Searches	[Latest Updates] [Most Popular] ] [My Favorites] [All Types] Latest Updates, Most Popular and My Favorites are presented like standard search results. All types is a menu of all information types available in the KB

### Figure 2: Entry page - All types



### D. Search mechanism

14. The most frequent search criteria are:

(a) The type of information, presented first because it determines the applicability of other criteria (e.g. country is not applicable for a decision search);

- (b) The subject, including the CBD programme areas;
- (c) The country, representing either a government or a location;
- (d) The period, defining a year range or a more precise time range.

15. These criteria are presented on the search panel, as shown in figure 3. A click on a + in the **Search Criteria** area opens a dynamic AJAX dialog window displaying values for which there is at least one match. The criteria selector is typically a simple list of check boxes. After confirmation by the user, the selected values are shown below the criteria heading. A click on a - removes the selected value (without any Yes/No confirmation).

16. A user can decide to add the latest search to **My Quick Searches** by clicking the **+** at **My Latest Search**. An AJAX dialog textbox with OK/Cancel should request a name. The new quick search should then appear below with a **-** to remove it. Removing a quick search requires a Yes/No confirmation.

### Figure 2: Search criteria

СНМ КВ	$KB \rightarrow Search Criteria$	
Search Criteria		
Types 🛉	Information Type Selector	
Subjects 🛶	Core CBD Information National Informa	ation
Countries 🛶	Articles (40) INBSAPs (15)	0)
Period 🔶	Bodies (10) National Rep	orts (700)
Search Text	Parties (193) National Foc	al Points (1000)
Search	<ul><li>☑ Decisions (25)</li><li>…</li></ul>	
My Quick Searches		
My Latest Search 🛛 🛶	(OK) (Cancel)	
ABS Decisions -		
African NR4 📃		
Case Studies on – Forest Biodiversity		

17. The matching results are then presented as shown in figure 3. A user-friendly paging system should be available to navigate through the list of results. Whenever appropriate, the user should be able to change how the results are viewed (e.g. grouping order).

### Figure 3: Result page

СНМ КВ	$KB \rightarrow Search Results$
Search Criteria	
Types - Decisions	<b>50 Results found, showing 1 - 20</b> View by: [View dropdown] ▼ [triangle for ascending/descending]
MEAs - CBD	[Pager]
Body - COP	List of search results
Meetings - COP 9	<b>Group 1</b> (based on the view mode) List of search results
Subjects + Search Text Search	Group 2 List of search results
My Quick Searches	
My Latest Search	
ABS Decisions -	
African NR4 📃	
Case Studies on - Forest Biodiversity	[Pager]

18. The list of results should be displayed consistently and attractively whatever their type. A general three-column layout is proposed in figure 4 and examples for specific information types are shown in figure 5. The layout characteristics are indicated below:

- (a) A country should always be preceded by its flag icon;
- (b) The title should always be clickable to view the corresponding KB item;
- (c) For consistency, the thumbnail link should always match the title link;
- (d) Each information type should have its default thumbnail;
- (e) The visible link can be a link to an external resource;
- (f) A small icon should indicate the type of link (website, email, document);
- (g) Elements that do not apply should not be displayed.

# Figure 4: General layout for results

Clickable       [Type]       [Ref]         Thumbnail       #[ID]       [Title] ([Acronym])	ormation]
--	-----------

# Figure 5: Layouts for results of specific types

	MEA	Convention on Biological Diversity (CBD)
	#1234	The Convention on Biological Diversity is an international treaty to sustain the rich biodiversity of life on earth
CBD		1 www.cbd.int
Article	CBD	Article 17
lcon	Article	Exchange of Information
	#1235	The Contracting Parties shall facilitate the exchange of information relevant to the conservation and sustainable use of biological diversity,
		www.cbd.int/convention/articles.shtml?a=cbd-17
. 🚄	CBD	Conference of the Parties (COP)
	Body	The Conference of the Parties is the governing body of the
CRD	#1236	Convention
000		2 www.cbd.int/convention/cops.shtml
Decision	CBD	Decision IX/8
lcon	Decision	Review of implementation of goals 2 and 3 of the
	#1237	Strategic Plan
		Summary Text or Basic Information
		Www.cbd.int/decisions/?dec=IX/8
	CBD	Tenth Meeting of the Conference of the Parties (COP 10)
	Meeting	18 - 29 October 2010, Nagoya, Japan
	#1238	E www.cbd.int/cop10
Life in harmony, into the future いのちの共生を、未来へ COP 10 / MOP 5		
	Meeting	Fifteen Meeting of the Conference of the Parties (COP 15)
	Meeting #1239	Fifteen Meeting of the Conference of the Parties (COP 15) 7 - 18 December 2009, Copenhagen, Denmark
$\bigcirc$	Ū	
	Ū	7 - 18 December 2009, Copenhagen, Denmark

Agenda Icon	Meeting Document #1240	UNEP/CBD/COP/10/1         Provisional Agenda         Image: English Spanish French         Image: English Spanish French         Image: English Spanish French
Notif Icon	Notification #1241 2010-03-23 Action by 2010-04-30	SCBD/OES/AD/71283 (2010-055) To: CBD NFP, SBSTTA NFP Invitation to participate in TEEB Survey to identify policy options to reduce the rate of biodiversity loss A series of global studies on "The Economics of Ecosystems and Biodiversity" (TEEB) is currently being prepared under the aegis of the Green Economy Initiative of UNEP English
	Case Study #1242 Benin	Atlantic See Turtle Conservation In Benin, sea turtles are victims of daily and diverse threats on all of the beaches of the 125 km Benin's coastline www.cbd.int/database/record.shtml?documentid=4688
<b>g</b> ef	Organization #1243	<b>Global Environment Facility (GEF)</b> The Global Environment Facility (GEF) is a global partnership to address global environmental issues
	National Focal Point #1244 <b>••</b> Canada	Ms. Krista Blackborow CHM NFP, CHM IAC, CEPA IAC Krista.Blackborow@ec.gc.ca
Canadria 4th National Report In Building Ath National Report In Building Ath National Report	National Report #1245 <b>*</b> Canada	Fourth National Report         Summary Text or Basic Information         www.cbd.int/doc/world/ca/ca-nr-04-en.pdf         Image: English French         Image: English French         Image: English French

### E. Item details

19. The details of each knowledge base item should be presented in a Wikipedia-like information sheet. The exact sheet format depends on the information type but the following common elements should always be present:

- (a) Title;
- (b) Brief summary/abstract;
- (c) Table of content;
- (d) Overview;
- (e) [Specific sections];
- (f) Related information.

20. A general layout is proposed in figure 6, and annex I contains specific layouts for various information types. The summary information should be prominently visible. When many details are available, a two-tab presentation (Overview and Details) is recommended for not directly overloading the reader. Additional tabs can be added whenever appropriate. The related information section is important and should be easily accessible. It could be a "See also" box in the top-right part of the page.

21. It is recommended to visually illustrate each sheet with a small picture located at the top, similarly to the way most newspapers introduce their articles. The picture choice can be guided by the following considerations:

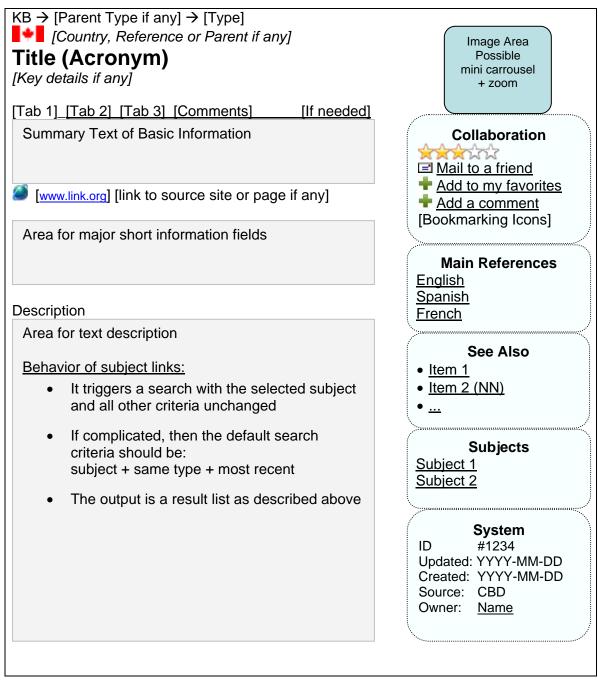
- (a) The cover page for a document;
- (b) A photo for a CBD programme representing an ecosystem;
- (c) The logo for an organization;
- (d) The ID picture for a person;

(e) A home page icon for an on-line information service (e.g. similar to icons displayed by the Google Chrome browser);

- (f) The flag for a country;
- (g) Default icons to represent common information types (Decisions, Notifications, ...)

22. Overall, the use of multimedia is encouraged. There can be references to videos uploaded to a public video gallery (e.g. YouTube). Maps can also be made available by storing geo-location information and using an online Web 2.0 mapping services (e.g. Google Map).

### **Figure 5: General information sheet**



### IV. USER WORKSPACE

### A. Rationale

23. As mentioned previously, potential contributors are very important, especially from a knowledge sharing and human networking perspective. The objective of the user workspace is to address the following issues:

(a) Users tend to be discouraged when an account creation process requires too many steps and disrupts them. The procedure should be simple and fast;

(b) Users have no incentive to sign in if it brings no added value. As soon as a user has signed in, the menu should show personalized services;

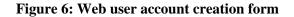
(c) Several existing services already enable collaboration and information submission, but they are scattered and users tend to forget the various links to access each service. A more centralized and unified approach is needed.

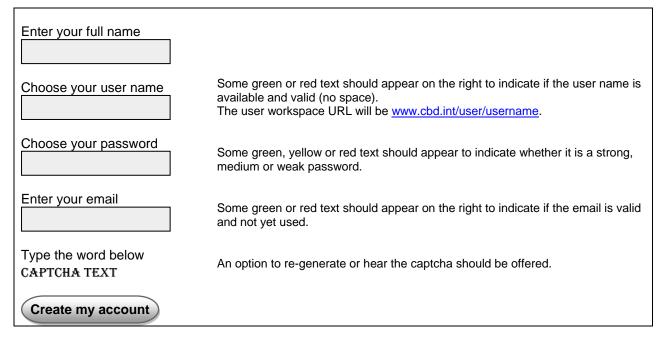
### B. Web user account creation process

24. The current account creation process requires an email check which may block some web users. A simpler process is needed whereby the user enters an email/password combination and directly proceeds to the intended action. The workflow can be summarized as follows:

- (a) A simple interactive sign up form is displayed as shown in figure 6;
- (b) The user is invited to enter some basic information and submit it;
- (c) The system directly informs the user of any potential problem requiring adjustments;
- (d) The account is created immediately, with a email sent for validation;

(e) The user sees a confirmation and proceeds directly to the service requiring an account, or to his/her new control panel page.





25. This account creation form is similar to the one implemented by Twitter as shown in figure 7.

Figure 7: Twitter user account creation form

E Twitter / Create an Acco × +						X
← → C ☆ https://twitter.co	<b>m</b> /signup			8	0.	p -
twitter						
Join the Converse Already use Twitter on your p			Already or	n Twitter?	Sign in.	22
Full name	Olivier de Munck	🖌 ok				
Username	<b>Olivier</b> Your URL: http://twitter.com/ <b>olivie</b> r	username has	already been taken			
Password		✓ Strong				
Email	↓ ▼I want the inside scoop—pleas		forget something			
Type the words above	CRAWFORD T	ncieg	Can't read this? G Get two new words dil Hear a set of words Rowered by reCAPTCHA. Help			
By clicking	Create my account	nfirm that you accept the T	erms of Service.			

26. The web user authentication process should also accept users with OpenID accounts. OpenID is an open decentralized standard for authenticating users. Supporting this standard would allow a high number of users (from Google, Yahoo, etc) to use their existing account on the CBD website. The benefits are described at: <u>http://openid.net/add-openid</u>. In practice, users simply see an OpenID sign-in option (shown in figure 8) below the one specific to the CBD website. Software is available for implementation.

### Figure 8: OpenID Sign In

Sign in with OpenID What is OpenID?	
4	Sign in

### C. User workspace menu

27. This section describes the proposed control panel for an authenticated web user. The purpose is to give each web user direct access to information closely related to him/her, as well as to some restricted information that cannot be made publicly available. Such information has been classified as follows with further details in table 2:

- (a) My Account.
- (b) My Profile.
- (c) My Organization.
- (d) My Favorites.
- (e) My Submissions.
- (f) My Meeting Participations.
- (g) My Data Checks.

#### Table 2: User workspace menu

Menu Section	Available Features
My Account	<ul> <li>View/update account details.</li> <li>Validate email.</li> <li>Change password.</li> <li>View/update subscriptions.</li> </ul>
My Profile	<ul> <li>View/update personal details (name, personal email).</li> <li>Upload/select ID pictures &amp; select public thumbnail.</li> <li>View/update social networking information (Skype, Facebook, LinkedIn, Twitter).</li> <li>View/update professional details (Job title, Organization, Bio).</li> <li>Select which information is publicly available (photo, contact details, etc) through check boxes.</li> </ul>
My Organization	<ul> <li>Find/Select my organization(s) in CBD organizations.</li> <li>View the status of my request to link me to my organization.</li> <li>View list of members (with photos).</li> <li>View public submissions by my organization(s) and/or my government.</li> </ul>
My Favorites	<ul> <li>My favorite pages.</li> <li>My favorite partners.</li> <li>My favorite reference documents.</li> <li>My notes.</li> </ul>
My Submissions	<ul> <li>Submit new information (records, documents, photos for CBD gallery).</li> <li>View/update existing submissions.</li> <li>View/update my blog and forum posts or comments.</li> <li>Geo-locate my pictures/records.</li> </ul>

Menu Section	Available Features
My Meeting Participations	<ul> <li>For meetings I attended:</li> <li>List of participants with photos.</li> <li>View/edit my notes.</li> <li>View final report &amp; other documents.</li> <li>For meetings I wish to attend:</li> <li>Accept/reject meeting invitations.</li> <li>Submit pre-registration request.</li> <li>View registration status.</li> <li>View agenda &amp; other documents.</li> <li>View tentative list of participants with photos.</li> </ul>
My Data Checks	<ul> <li>Review information about me (including NFP, mail log or participant information).</li> <li>Review information about my organization.</li> <li>Send request for corrections (about me or my organization).</li> <li>View SCBD responses.</li> </ul>

### D. Submission System

28. Information submitted online by users should be managed through a workflow. Typically, the information is first drafted with frequent save operations, and then submitted for approval to a user having the authority to publish the information or return it back to its creator. Sometimes, published information needs to be updated. In that case, the same workflow takes place with a new version of the content that eventually replaces the old version. Several information statuses are possible:

- (a) "Draft" under control of the creator who can edit the content until it is ready;
- (b) "Submitted" by the creator for approval by a content manager;
- (c) "Published" by the content manager;
- (d) "Deleted" if the content manager decides to remove the content.

29. This workflow requires a notification mechanism to inform whoever has to take action, particularly to approve the publication of a submission. This can be done by an email and by a prominent message on the user workspace indicating that some items require attention. This process can be bypassed when the content creator is also a content manager.

30. In terms of user interface, there should be a menu entry to submit new information, and one to manage existing submissions. Figure 9 shows the layout for submitting new information. Figure 10 shows the layout for managing the list of existing submissions, with a filtering option and tabs to distinguish between the various statuses.

31. An authenticated user viewing an existing submission should be able to edit it if s/he has the right to do so. This could be implemented through an Edit button on each knowledge base item.

# Figure 9: Submitting new information

Submit New Information				
Please choose the type of information that you want to create. [Automatic list based on user's role]				
Action	Information Type			
New	Case-study [Short description]			
New	Side event [Short description]			
New	[Title] [Short description]			
New				

# Figure 10: Managing submissions

Managin	Managing Submissions					
<ul> <li>2 submissions below require your approval to be published.</li> <li>For each of them, your decision is expected: <ul> <li>If you approve a submission, it becomes publicly available on the CBD website.</li> <li>If you reject a submission, it is not published and it returns back to the person who created it.</li> </ul> </li> </ul>						
Filter by [Record Type / Date /] Show [NN] results per page [x] Show only submissions that I own or need to approve [Tab 1: To Approve] [Tab 2: Drafts] [Tab 3: Published]						
Action		Description		Status	User / Date	
Manage	Type 1 Title 1			Submitted to me for approval	By User 1 on Date 1	
Manage	Type 2 Title 2			Submitted to me for approval	By User 2 on Date 2	

### V INFORMATION EXCHANGE MECHANISM

### A. Rationale

32. An important objective of CHM is to facilitate the exchange of relevant information between Parties, partners, and the CBD Secretariat. Today, Web 2.0 technologies make it feasible to display on the central CHM website information from various external sources. Similarly, national CHM websites also have the potential to directly display information from the central CHM. Open standards have matured and corresponding software tools are becoming available. Hence, it is now possible to establish a standard information exchange mechanism for CHM.

### B. Design goals

33. The following design goals have been identified for the CHM information exchange mechanism:

(a) To expose the information available at the central CHM in a structured format to facilitate interoperability and reuse by Parties and partners;

- (b) To facilitate data transfer from relevant sources to the Central CHM;
- (c) To be platform-independent by making use of open standards;
- (d) To support multilingual information;
- (e) To support a uniform resource identifier (URI) scheme for accessing and querying data;
- (f) To enable the selection of the output format (XML, Atom or JSON);
- (g) To facilitate the development of plug-ins for national CHM websites;
- (h) To be stable and reliable;
- (i) To be flexible and extensible.

### C. Technical aspects

34. Establishing an information exchange mechanism is a complex task that requires senior ICT expertise and careful design. Therefore, the recommended approach is to rely on existing standards rather than reinvent the wheel. After some investigation, it appears that the Open Data Protocol (www.odata.org) would be a good choice for the following reasons:

- (a) It meets the above design goals;
- (b) It is a general-purpose protocol independent from any particular online service;
- (c) It is quite comprehensive and covers many technical aspects;
- (d) It includes a software development toolkit;
- (e) No other general-purpose protocol was found.

35. The proposed URI root path is <u>http://chm.cbd.int/data</u> to indicate that it is a CHM data exchange service. Table 3 is a list of information types that are expected to be exchanged through this protocol with their corresponding URI. Table 4 is a list of frequent parameters for querying and filtering. These lists are not exhaustive and can be expanded as needed. Also, for simplicity, all parameters and their respective values should be case-insensitive. Table 5 contains some query examples using this mechanism. More technical details about the URI query syntax defined by the Open Data Protocol are available at: <u>www.odata.org/developers/protocols/uri-conventions</u>.

## Table 3: Main information types and their uniform resources identifiers (URI)

Information Type	Uniform Resources Identifier (URI)
Any data record (any type)	http://chm.cbd.int/data/records
Parties	http://chm.cbd.int/data/parties
Decisions	http://chm.cbd.int/data/decisions
National Focal Points	http://chm.cbd.int/data/nfp
Announcements: - Notifications - Press Releases - Statements & Speeches - Web Announcements	http://chm.cbd.int/data/announcements
News Headlines	http://chm.cbd.int/data/news
Organizations	http://chm.cbd.int/data/organizations
Who's Who: - VIP - Focal Contacts - Experts - Authors - Staff	http://chm.cbd.int/data/persons
Events: - CBD Meetings - Partner Meetings - Side Events	http://chm.cbd.int/data/events
Case Studies: - Success Stories - Projects - Initiatives	http://chm.cbd.int/data/casestudies
Knowledge References: - Factsheets - Guidelines & Best practices - Frequently Asked Questions	http://chm.cbd.int/data/references
Documents: - Meeting Documents - NBSAPs - National Reports - Publications - Newsletters - Reference Documents - Promotional Materials	http://chm.cbd.int/data/documents
Videos	http://chm.cbd.int/data/videos
Photos	http://chm.cbd.int/data/photos

Query Parameter	Syntax & Example	Values
Language	Lang=[code] Lang=es (for Spanish)	ISO 639-1 alpha-2 (2-letter code) http://en.wikipedia.org/wiki/ISO_639-1 UN Languages: en, es, fr, ar, ru, zh
Country	Country=[code] Country=ca (for Canada)	ISO 3166-1 alpha-2 (2-letter code) http://en.wikipedia.org/wiki/ISO_3166-1
City	City=[code] City=JP-NGO (for Nagoya)	UN/LOCODE preceded by the country code in the ISO3166-1 format http://en.wikipedia.org/wiki/UN/LOCODE
CBD subject, including programmes	Subject=[term] Subject=forest	From controlled vocabulary (forest, marine, climate,)
Information Type	InfoType=[type] InfoType=decision	From controlled vocabulary (decision, notification, organization,)
Unique identifier	Id=[value] Id=123456	Unique identifier across the whole knowledge base
Text search	Text=[value]	Text value to search in text fields
Name search	Name=[value]	Name of person or organization
Date (exact or partial)	Date=[yyyy-mm-dd] Date=2010-09-22 Date=2010-09	A Year-Month-Day value (YYYY-MM-DD) which can be partial to indicate only a year or a year & month
Date Range	Since=[yyyy-mm-dd]& Until=[yyyy-mm-dd] Since=2010-01&Until=2010-03	Inclusive on both sides, using the same rules as for dates
MEA	Mea=[code] Mea=CBD	From controlled vocabulary (CBD, UNFCCC, UNCCD, CITES,)
Body	MeaBody=[code] MeaBody=CBD-SBSTTA	From controlled vocabulary, prefixed with the MEA whenever applicable
Meeting	Meeting=[code] Decision=CBD-COP-09	Code available for major MEA meetings, otherwise, ID is used
Decision	Decision=[code] Decision=CBD-COP-09-30	Code combining meeting code and decision number
NFP Type	NfpType=[code] NfpType=CBD-FP1	From controlled vocabulary (CBD-FP1, CBD-FP2, CBD-CHM,)
Document Type	DocType=[code] DocType=CBD-NR-04	From controlled vocabulary (CBD-NR, CBD-NBSAP,)

# Table 4: Frequent query parameters

### **Table 5: Examples of URI queries**

Query Examples	Query URI
Notifications published during the second quarter of 2010	http://chm.cbd.int/data/announcements ?infotype=notification&since=2010-04&until=2010-06
Press Releases on forest in 2010	http://chm.cbd.int/data/announcements ?infotype=pressrelease&date=2010&subject=Forest
COP 9 Documents in Spanish	http://chm.cbd.int/data/documents?meeting=CBD-COP-09⟨=es
CBD COP 9 Decisions	http://chm.cbd.int/data/decisions?meeting=CBD-COP-09
National Focal Points from Canada	http://chm.cbd.int/data/nfp?country=ca
CHM National Focal Points	http://chm.cbd.int/data/nfp?nfptype=CBD-CHM
Fourth National Reports	http://chm.cbd.int/data/documents?doctype=NR-04
CBD Meetings in 2010 in Nagoya	http://chm.cbd.int/data/events?eventtype=CBD &date=2010&city=JP-NGO
IYB Events in Canada	http://chm.cbd.int/data/events?country=ca&subject=IYB
Case Studies on Marine & Coastal	http://chm.cbd.int/data/activities ?infotype=casestudy&subject=Marine
Experts in Climate Change	http://chm.cbd.int/data/persons?infotype=expert&subject=climate

36. The query results are in the Atom feed format (<u>http://en.wikipedia.org/wiki/Atom\_(standard)</u>) or in more compact format called JavaScript Object Notation (JSON - <u>http://en.wikipedia.org/wiki/JSON</u>). These formats are widely used and a systematic conversion between each of them is described at <u>www.ibm.com/developerworks/library/x-atom2json.html</u>. Information feeds (Atom and RSS) were designed to support various languages, but not in a multilingual way. Therefore the following logic is recommended to enable the exchange of multilingual information:

(a) When a query contains a request for a particular language (e.g. Spanish), the result feed should behave normally by returning a single version of each content item with priority on the requested language (Spanish). If the content item is not available in the requested language, it should be provided in the default language (English) or whichever available language.

(b) When no language is specified in the request, the result feed should be multilingual and include all language versions of the content. Since some text items in Atom are not repeatable (Title, Summary and Content), the trick is to provide the content in XHTML format and split it into various divisions with their own language attribute as shown in figure 11. This approach is compatible with the Atom feed specification.

### Figure 11: Proposed multilingual text handling in Atom

### D. Making central information available to external websites

37. Once the information exchange mechanism is operational, central CHM data can be made available on any external website. This can be done by inserting on the external website a plug-in that connects to the central CHM to get data from it. Figure 12 describes the basic logic for a typical Javascript plug-in:

(a) The first <script> tag contains a reference to access the CHM script providing the data exchange service;

- (b) The second <script> contains the Javascript code specific to the web page;
- (c) A query is defined by its URI with parameters and filtering criteria;
- (d) A function call executes the query and stores the results in a variable;
- (e) A function processes the results to display them locally.

```
Figure 12: Javascript sample to access CBD data from an external website
```

```
type='text/javascript'
(a)
    <script
                src='http://chm.cbd.int/scripts/chm.js'></script>
    <script type="text/javascript">
(b)
          // This is the query URI to specify the data source
          var query = "http://chm.cbd.int/data/nationalreports?country=ca";
(C)
          // This is the GET operation that gets the results
(d)
          var results = chm.get(query);
          // Something can be done with the results
(e)
          DisplayReportList(results);
           . .
    </script>
```

### VI SMART PHONE APPLICATION

#### A. Rationale

38. Communication platforms beyond the CBD website should also be considered if they can contribute to the implementation of the Convention. Recent social and technological trends show that applications running on smart phones and similar handheld devices are becoming increasingly popular and widely used. It is easy to imagine that even a simple CBD smart phone application could be very useful as a quick reference tool for travelling National Focal Points and other CBD stakeholders. This service has a lower priority than the main ones presented in this document, but its implementation is still recommended if it can be carried out without affecting the implementation of the main services.

### B. Design goals

39. The following design goals have been identified for the development of smart phone application:

- (a) To support the most popular smart phone platforms;
- (b) To be very simple and intuitive to use;
- (c) To provide easy access to latest and frequently requested information;
- (d) To have its information architecture by types, subjects, countries, and dates;
- (e) To support all United Nations languages;
- (f) To be attractive and include some multimedia elements whenever applicable.

### C. User interface and menu organization

40. Some initial suggestions can be made about the user interface and menu organization:

(a) The top part could be a general horizontal menu by categories (CBD, CPB, Countries, Programmes, Secretariat, Settings), as shown in figure 13;

(b) The bottom part could be an horizontal menu of the information types that are applicable to each category, starting with the most frequently used items, as listed in table 6;

(c) The first screen should highlight the latest items, consistently with the information presented on the home page (announcements, media headlines, meetings, ...);

(d) The "Countries" would show the Party status of the country followed by the main National Focal Points, as shown in figure 14;

(e) The "Settings" would allow the user to set default values for the agreement (CBD, CPB), country, programmes, and meetings;

(f) A search should be available;

(g) Icons or other compact visual elements are recommended whenever appropriate.

CBD CPB Countries Programmes					►
Icon 2	<b>Title</b> Subtit	-			>
Icon 2	Icon 2 Title 2 Subtitle 2				
Icon 3 Title 3 Subtitle 3				>	
Icon 4 Title 4 Subtitle 4				>	
Next results				>	
Latest	News	Meetings	Doc	Notifications	

# **Figure 13: Smart phone application – Latest announcements**

**Figure 14: Smart phone application – National Focal Points** 

CBD CPB Countries Programmes				►
	<b>nada</b> <b>D</b> : 1992-12-04	4 CPB: Non	Party	
and the second	<b>. Nancy Ham</b> D NFP	zawi		>
Dr. Brenda McAfee CPB NFP			>	
Dr. Ole Hendrickson SBSTTA NFP				>
Ms. Krista Blackborrow CHM NFP			>	
Next results				>
Focal Points	Strategies	Reports	Web	

# Table 6: Smart phone application menu

Top Menu	Available Features
CBD	<ul> <li>Latest: Latest announcements (selected by default)</li> <li>News: News headlines from the media</li> <li>Meetings: Upcoming Meetings with further access to the list of documents</li> <li>Documents: Newsletters or publications</li> <li>Decisions: by COP meetings</li> <li>Recommendations: by SBSTTA/WGRI meetings</li> <li>Text: Convention text by articles</li> </ul>
СРВ	<ul> <li>Latest: Latest announcements (selected by default)</li> <li>News: News headlines from the media</li> <li>Meetings: Upcoming Meetings with further access to the list of documents</li> <li>Documents: Newsletters or publications</li> <li>Decisions: by COP-MOP meetings</li> <li>Text: Convention text by articles</li> </ul>
Countries	<ul> <li>An alphabetical list of countries appears with flags. There can be a tab switch between an alphabetical list and a regional list (A-Z and Regions).</li> <li>If a default country has been set, the selection step is skipped.</li> <li>Focal Points: National Focal Points (selected by default)</li> <li>Strategies: National Biodiversity Strategies &amp; Actions Plans</li> <li>Reports: National Reports</li> <li>Web: National Websites</li> </ul>
Programmes	<ul> <li>An alphabetical list of programmes appears.</li> <li>If a default programme has been set, the selection step is skipped.</li> <li>Latest: Latest announcements (selected by default)</li> <li>News: News headlines from the media</li> <li>Meetings: Meetings with further access to the list of documents</li> <li>Documents: Newsletters, publications, guidelines or outreach materials</li> </ul>
Secretariat	<ul> <li>Location: The address of the CBD secretariat and its location on a Google Map.</li> <li>Staff: a staff list (with a tab switch between an alphabetical list a list by units (A-Z or Units)</li> <li>ES: A brief biography of the Executive secretary, with selected videos and statements.</li> <li>Jobs: list of employment opportunities</li> <li>Reports: the list of SCBD reports (Year in Review &amp; Quarterly reports)</li> <li>Museum: A list of pictures of the museum items with their description</li> </ul>
Settings	<ul> <li>Default Agreement: CBD or CPB</li> <li>Default Country</li> <li>Default Programme</li> <li>Default Meeting</li> </ul>

### ANNEX I KNOWLEDGE BASE INFORMATION SHEETS

This section complements the description of the knowledge base by presenting information sheets for various types of information, based on the general layout in figure A1.1. The content of this section is not meant to be exhaustive and additional sheets can be designed as needed.

### Figure A1.1: General layout

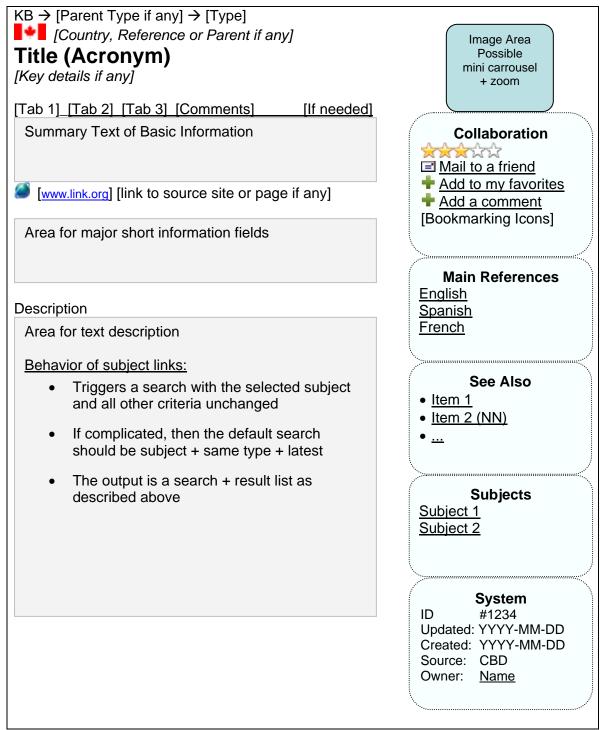
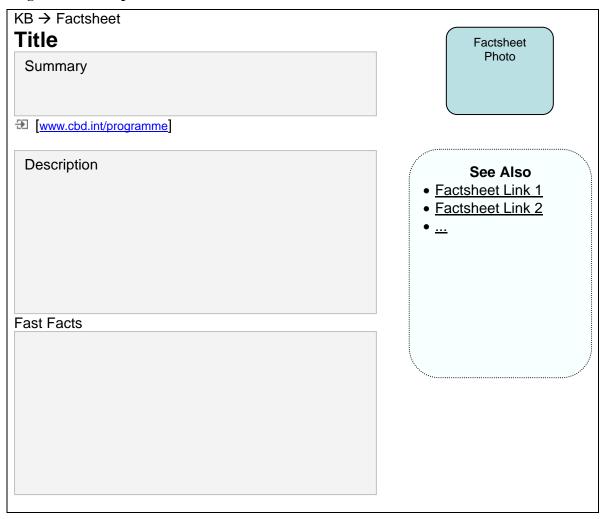


Figure A1.2: Simple factsheet



# Figure A1.3: National document

KB → National De Government Document Title Information	nt	Document Cover
Summary		
Adopted on: Completed on: Publication: Pages ISBN:	df] [YYYY-MM-DD] [YYYY-MM-DD] [YYYY] [NNN] [NNNNNN]	Files English Spanish French 
Description		See Also • <u>National Site</u> • <u>Related Documents</u>

# Figure A1.4: Meeting

KB → Meeting <b>Meeting Title (Acronym)</b> From - To Month YYYY, City, Province, Country Status if abnormal Organized by <u>Organizer [if not CBD.]</u> Summary	Meeting logo
<ul> <li>[www.link.org]</li> <li>Contact</li> <li>Title First Last Name</li> <li>first.last@org.com</li> <li>+1 514 288 2220</li> </ul>	Documents Agenda Report All Documents
<ul> <li>F1 514 200 2220</li> <li>+1 514 288 6588</li> <li>Location [if coordinates available]</li> <li>Google Map</li> </ul>	See Also • <u>Side Events</u> • <u>Related Meeting</u> • <u>Photos</u>
Description	Subjects Subject 1 Subject 2

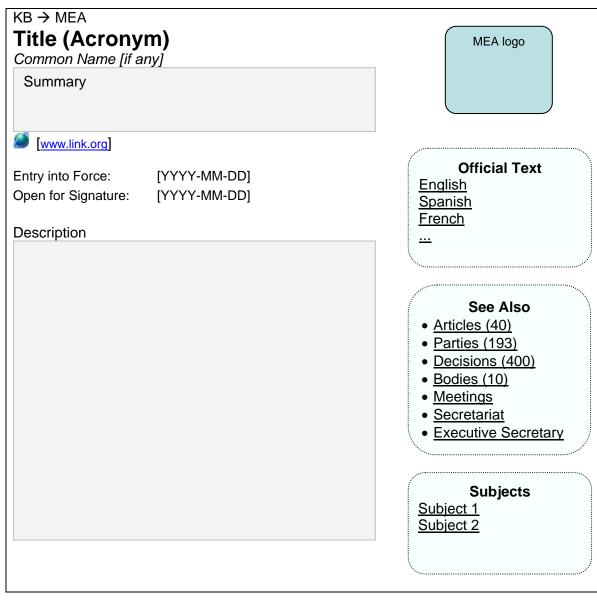


Figure A1.5: Multilateral Environment Agreement (MEA)

# Figure A1.6: MEA Body

KB → MEA → Body MEA Title Body Title (Acronym)	MEA logo
Summary	
[www.link.org]	Body Meetings
Body Type: []	Meeting N Meeting N-1
Description	Meeting N-2 
	See Also • <u>MEA</u> • <u>Decisions (500)</u> • <u>Related Documents</u>
	Subjects Subject 1 Subject 2

# Figure A1.7: Organization

KB → Organization Government [if Any] Organization Name (Acronym)	Organization logo
[Overview] [Members] [Meetings] [Initiatives] [Doc] Summary See notes below on tab content	
[www.link.org] Type: [Organization Type.] Address	Highlights Feed from organization (if available) 
Street Address Postal Code City Province/ZIP Country	
Location [if Available] Google Map	See Also • <u>Wikipedia page</u> • <u>Related items</u> • <u></u>
Description	
<ul> <li>Notes on tab content</li> <li>Tabs are shown only if needed</li> <li>Members: Publicly known members, starting with the Head, and followed by NFP or meeting organizers</li> </ul>	Subjects Subject 1 Subject 2
<ul> <li>Meetings: Meetings from the global calendar, filtered for current if needed.</li> <li>Initiatives: Case-studies, projects or side events if available</li> <li>Documents: Available publications</li> </ul>	

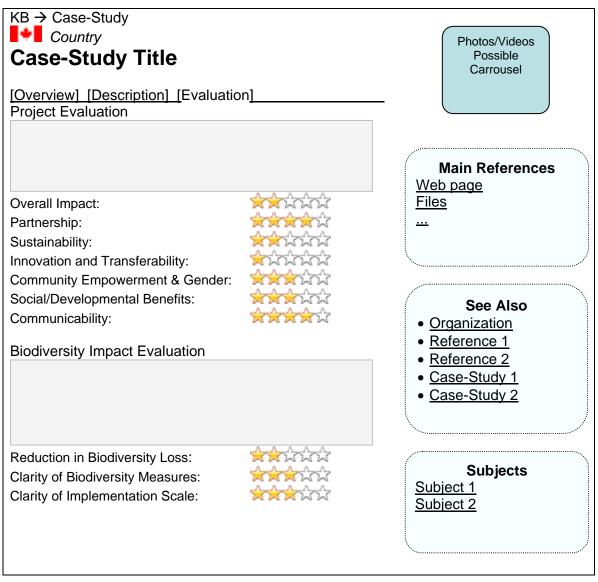
Country		Photos/Videos Possible Carrousel
<ul> <li>[www.link.or</li> <li>[www.mainli</li> <li>Organization:</li> <li>Contact:</li> </ul>	nk.pdf] [Organization] [Title Name ] ⊑] <u>first.last@org.com</u>	Main References Web page Files 
Status: Period: Scale: Location: Google Map	<ul> <li>+1 514 288 2220</li> <li>[Status]</li> <li>[Start Date] - [End Date]</li> <li>[Scale]</li> <li>[Locality], [Country]</li> </ul>	See Also • <u>Organization</u> • <u>Reference 1</u> • <u>Reference 2</u> • <u>Case-Study 1</u> • <u>Case-Study 2</u>
		Subjects Subject 1 Subject 2

# Figure A1.8: Case-study tab 1 - Overview

$KB \rightarrow Case-Studies$		
Country	Photos/Videos	
Case-Study Title	Possible Carrousel	
	(Evelve Cevel	
[Overview] [Description] Group: [Group]	[Evaluation]	( )
Context: [Context]		
Relevance to CBD and o	ther Aspects	Main References
CBD Objectives	- Objective 1	Web page
,	- Objective 2	Files
Biome-related Subjects	- Subject 1	<u></u>
	- Subject 2	
Other CBD Subjects	- Subject 1	
	- Subject 2	
2010 Target	- Focal Area 1	See Also
	- Focal Area 2	• Organization
Strategic Plan Goals	- Goal 1	Reference 1
	- Goal 2	Reference 2
Ecosystem Services	- Service 1	• Case-Study 1
	- Service 2	• <u>Case-Study 2</u>
MDG	- MDG 1	
	- MDG 2	
Economic Sectors	- Sector 1	
	- Sector 2	Subjects
Background		Subject 1
Dackground		Subject 2
Methodology & Implemen	ntation	
		-
Results & Impacts		
Lessons Learned		

Figure A1.9: Case-study tab 2 - Description

#### Figure A1.10: Case-study tab 3 – Evaluation (for internal use)



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