

Subregional capacity-building workshop for South Asia on the Clearing-House Mechanism

12 - 16 December 2011 Dehradun, India

Best practices and tools for national clearing-house mechanism websites

*Alexandre Rafalovitch (alexandre.rafalovitch@cbd.int)
CHM Information Systems Officer, CBD Secretariat*



**Clearing-House Mechanism (CHM)
Convention on Biological Diversity (CBD)**

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments

Introduction

The mandate

Building the high-impact website

Getting attention for the site

Closing the feedback loop

Tools, tips, tricks

Final comments



What is CHM?



CC by *The Ancient Brit.*



Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments

Stages of CHM (website) development

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Level	Situation	Action
0	No CHM NFP	Convince Party to nominate CHM NFP
1	CHM NFP not equipped	Find solutions to provide basic infrastructure & communication facilities
2	No CHM web site	Provide tools & support to establish web presence
3	National CHM web presence	Enhance web content to better support the NBSAP process
4	Fully-developed National CHM web site	Encourage sharing of expertise to support other national CHM
5	Advanced CHM	Establish interoperability mechanisms with biodiversity networks

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



2. National CHMs provide effective information services to facilitate the implementation of the NBSAPs

2.1. All Parties have the capacity to sustain effective national CHMs

2.2. High-quality national CHM websites are available

2.3. National information is exchanged through the CHM network

2.4. Parties collaborate and share knowledge through the CHM network

2.5. Partners and The CBD Secretariat have contributed to the development of national CHMs

2.2. *High-quality national CHM websites are available*

Concepts in creation of a high-quality website

- ❖ Site objectives
- ❖ User needs
- ❖ Functional specifications
- ❖ Content requirements
- ❖ Information architecture
- ❖ Interaction design
- ❖ Visual design
- ❖ Analytics

Roles in the website maintenance

- ❖ A project manager
- ❖ A web content editor
- ❖ A web designer
- ❖ IT/System Administration



It is a long path to a high-quality website

Content

Introduction

▶ The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



CC by [*symmetry_mind*](#)

Clearing House Mechanism

Let's concentrate on a high-impact site instead



CC by [iamagenious](#)

Content

Introduction

▶ The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Clearing House Mechanism

Content

Introduction

The mandate

▶ Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Website name/domain

- **What is a website name/domain**
 - www.google.com
 - www.cbd.int
 - CC.chm-cbd.net
- **Viable options**
 - Subdomain/sub-site of existing site
 - chm.biodiv.in
 - www.biodiv.in/chm
 - Easy to start (with help of existing IT)
 - Probably use existing infrastructure (good? bad?)
 - Commercial
 - www.chm-biodiv-in.org (general)
 - www.chm-biodiv.in
 - Cheap, but sometimes hard to buy (credit cards issue)
 - SCBD offer
 - CC.chm-cbd.net (where CC is 2-letter country code)
 - More than 30 members signed-up already
 - No cost

Clearing House Mechanism

Hosting (Servers, software, bandwidth)

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



- **Existing IT infrastructure**
 - Somebody else insures the site is running
 - Dependent on their choices/availability
- **Cheap commercial hosting (e.g www.bluehost.com)**
 - Cheap
 - Often has (nearly) everything to run a website
 - Restricts choices of software/features
- **Cloud (and expensive commercial) hosting**
 - Need an IT team to manage
- **Specialized website hosting (usually CMS)**
 - wordpress.com
 - www.drupalgardens.com
 - www.squarespace.com
 - [Sharepoint online](#)
 - Basics taken care of, but watch out for costs of extras
- **Belgian CHM (PTK) offer**
 - Good starting option (separate presentation)

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



- **Content Management System - just have one**
- **Plenty of free and expensive options**
 - WordPress, Drupal, Joomla, TYPO3, Nyadda, Kentico, Sharepoint
- **Advantages of a (good) CMS**
 - User-friendly content-creation interface
 - Large number of features
 - Extensible with 3rd party plugins
 - Automatically ensures consistent website structure
 - Supports content reuse within and outside of the website
 - Supports web protocols and standards
 - Often supports interactive features (e.g. comments, forums)
- **Disadvantages of a CMS**
 - Needs to be supported by the hosting
 - Has to be configured well to avoid SPAM, hack attacks
- **Solution but not panacea**

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



CMS Example - Wordpress news item

- **Visible appearance of a news item (blog article)**
 - Full news item on its own page
 - Excerpt on a home page
 - Excerpt on a category page (possibly multiple)
 - Excerpt on a date page (possibly yearly, monthly and even daily)
 - Excerpt under a tag (possibly multiple)
 - Headline on a side-bar
- **Invisible appearance**
 - As a teaser or full for syndication via RSS
 - As a 'previous' and 'next' article for advanced browsers
 - As a 'ping' to aggregation services when added
- **Additional navigation for 'Movie' custom type**
 - By actor
 - By director
 - By release year
 - By rating

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



- **Navigational and organizational structure of the content**
- **Your site will have one, even if you do not**
- **Most essential choices**
 - URL structure
 - www.example.com/content.aspx?id=12345
 - www.example.com/2011/12/07/news-article
 - www.example.com/news/2011/news-article
 - www.example.com/fr/about-us
 - Content categories
 - Basic information
 - News/update types
 - Home page content
 - Some evergreen/static content (short intro)
 - Some dynamic content
 - News headlines
 - Site/Database updates
 - Titles - different and relevant for each page standalone
 - Metadata - description is used by Google

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Language-related options

- **Often CMS will only offers one way**
- **Parallel content**
 - Same content in different languages
 - Use subdomain or url prefix to indicate language, not cookie
 - fr.cbd.int/index
 - www.cbd.int/fr/index
 - What to show when the language is missing content?
 - Show default language (e.g. English)
 - Show an error
- **Separate content**
 - Site structure for different languages can differ
 - Allows targeting different audiences with different languages
- **Issue: navigation within, between languages**
- **Issue: aggregation (e.g. RSS) - separately or together**

Content

Introduction

The mandate

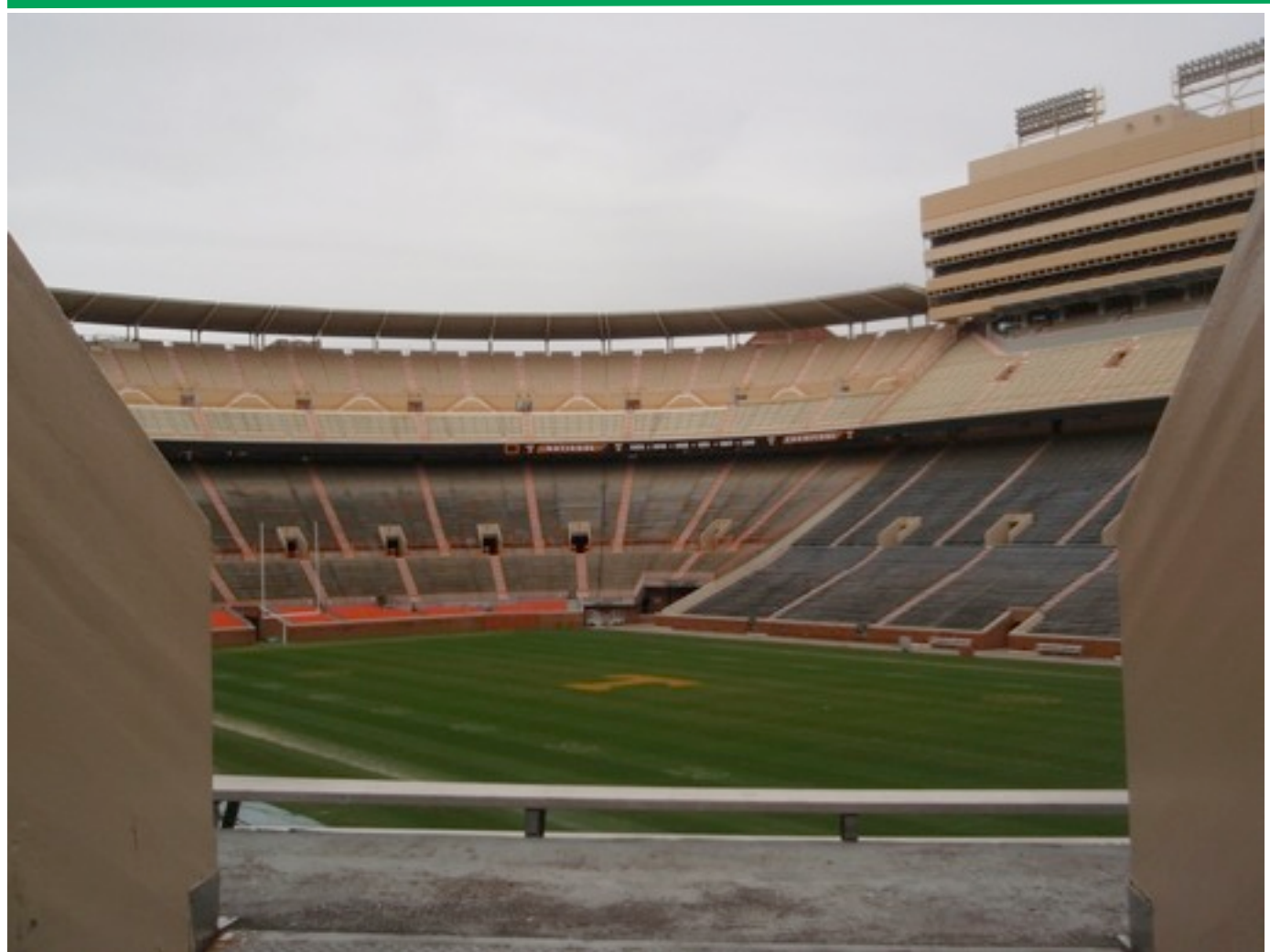
Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



CC by [Joelk75](#)

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Sources of attention - implicit

- **Search engine (SEO)**
 - optimize for Google
 - think about regional options (like Baidu, Yandex)
- **Referrals (links from other sites)**
- **Feed Subscriptions to news and events**
 - RSS/ATOM - handled by CMS
 - Used by advanced users to get notified of new content
- **Topic-based aggregator websites (e.g. invasive species)**
 - Information architecture that supports categories helps here
 - Some are automatic, some are curated
- **Embedded content discovery**
 - Example: YouTube relevance algorithms
 - Example: Google Calendar
- **Social media sharing**
 - Google+
 - Facebook likes
 - Tweet links

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Sources of attention - explicit

- **Mailing list**
 - Some people prefer emails over newer subscription methods
- **Hard copy material**
 - Books
 - Cards (postcards, bookmarks, etc)
 - PDF documents (often printed out)
 - Consider URL length
- **Social media announcements**
 - Twitter
 - Facebook
 - LinkedIn
 - Google+
 - Beware of ongoing engagement level required
- **Word of mouth**
 - Can you pronounce your website address?
 - <http://www.b4itis2l8.org>

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



More about embedded content

- **Embedded content offers more visibility and functionality**
- **Embedded YouTube videos**
 - Save on bandwidth
 - Advanced viewing interface (full screen, small, etc)
 - Discoverable by navigation from similar videos
 - Comments (good? bad?)
 - Advanced tool support
 - Analytics
- **Embedded Google calendar**
 - Easier event creation interface than many CMSs
 - Event details can be imported into other calendaring system
 - Automatic propagation of changed dates/details
 - Possibility of subscribing to the whole feed of events
- **Embedded documents (e.g. Scribd)**
 - Documents are visible straight away (instead of PDF download)
 - Comments, search, navigation, subscription
 - Analytics

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



CC by [calsidyrose](#)



Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Feedback loop - listening

- Do you have a feedback/contact link on each page?
- How easy is it to find?
- Where does it go to (P.O box, submission form, email)?
- Who monitors the feedback?
- How often?
- Can they actually deal with the feedback?
- How fast?
- Can they get back to the submitter (to thank, to reply, etc)?
- Can you do an aggregate statistics on the feedback
 - Which pages cause feedback?
 - What category of feedback?
 - Is there suddenly more feedback (e.g. recent IT change)?

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Feedback loop - analytics

- **For web pages (Google Analytics)**
 - Visits and page hits, popular and ignored pages
 - Where do visitors come from
 - Has anyone linked to us (Referrals)
 - Periodic reports (standard or custom)
- **For links in social media (e.g. Bit.ly)**
 - Basic analytics
 - Virality analysis (e.g. Twitter reshares)
- **For embedded content**
 - YouTube, Scribd, others provide various analytics values
- **For server-hosted PDFs and other media**
 - access.log analysis - ask your IT
- **For email newsletters (e.g. MailChimp)**
 - open rates
 - links clicked
- **NOTE: Numbers are indicators, not absolutes**

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Feedback loop - troubleshooting

- **Google Web Master portal**
 - Search keywords
 - Dead pages
 - Pages with same titles
 - Malware detection
- **Google Analytics - alerts**
 - Send an email when a parameter goes out of expected range
 - Example: too many hits on 404 (not found) page
- **Search Engine Optimization tools**
 - Designed to improve search engine rankings
 - Can also be used to check for content/structure issues
- **Performance test - manual**
 - Google Analytics now shows page speed
 - WebPageTest can check page speed and tell you why
- **Performance test - availability**
 - 3rd party services that check your site is still there

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

▶ Feedback loop

Tools, tips, tricks

Final comments



Clearing House Mechanism

- February 21, 2011 - Icelandic newspaper writes a story discussing invasive species

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Feedback loop - Detective Story

- February 21, 2011 - Icelandic newspaper writes a story discussing invasive species
- They use CBD's report as a reference and link to it (referral)

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Feedback loop - Detective Story

- February 21, 2011 - Icelandic newspaper writes a story discussing invasive species
- They use CBD's report as a reference and link to it (referral)
- Unfortunately, the target report was (no longer?) there

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Feedback loop - Detective Story

- February 21, 2011 - Icelandic newspaper writes a story discussing invasive species
- They use CBD's report as a reference and link to it (referral)
- Unfortunately, the target report was (no longer?) there
- More than a hundred visitors came, saw nothing and left

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Feedback loop - Detective Story

- February 21, 2011 - Icelandic newspaper writes a story discussing invasive species
- They use CBD's report as a reference and link to it (referral)
- Unfortunately, the target report was (no longer?) there
- More than a hundred visitors came, saw nothing and left
- Two days later, the newspaper removed the link to the article

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Feedback loop - Detective Story

- February 21, 2011 - Icelandic newspaper writes a story discussing invasive species
- They use CBD's report as a reference and link to it (referral)
- Unfortunately, the target report was (no longer?) there
- More than a hundred visitors came, saw nothing and left
- Two days later, the newspaper removed the link to the article
- Wasted opportunity - to an area sorely needing attention

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Feedback loop - Detective Story

- February 21, 2011 - Icelandic newspaper writes a story discussing invasive species
- They use CBD's report as a reference and link to it (referral)
- Unfortunately, the target report was (no longer?) there
- More than a hundred visitors came, saw nothing and left
- Two days later, the newspaper removed the link to the article
- Wasted opportunity - to an area sorely needing attention
- The catch: How do I know all this without reading Icelandic?

Clearing House Mechanism

Google Analytics - Custom Alerts

Profiles Tracking Code Web Property Settings

Profile:

Assets Goals Users Filters Profile Settings

Asset > Custom Alerts >
Edit an Alert

Alert name:

Apply to: and

Period:

☒ Send me an email when this alert triggers. Also include

☐ Setup your mobile phone to receive a text message about Intelligence Alerts

Alert Conditions

This applies to	Condition	Value
<input type="text" value="Page Title"/>	<input type="text" value="Matches exactly"/>	<input type="text" value="Page Not Found"/>
Alert me when	Condition	Value
<input type="text" value="Pageviews"/>	<input type="text" value="% increases by more than"/>	<input type="text" value="10 %"/>
		Compared to <input type="text" value="Previous day"/>

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

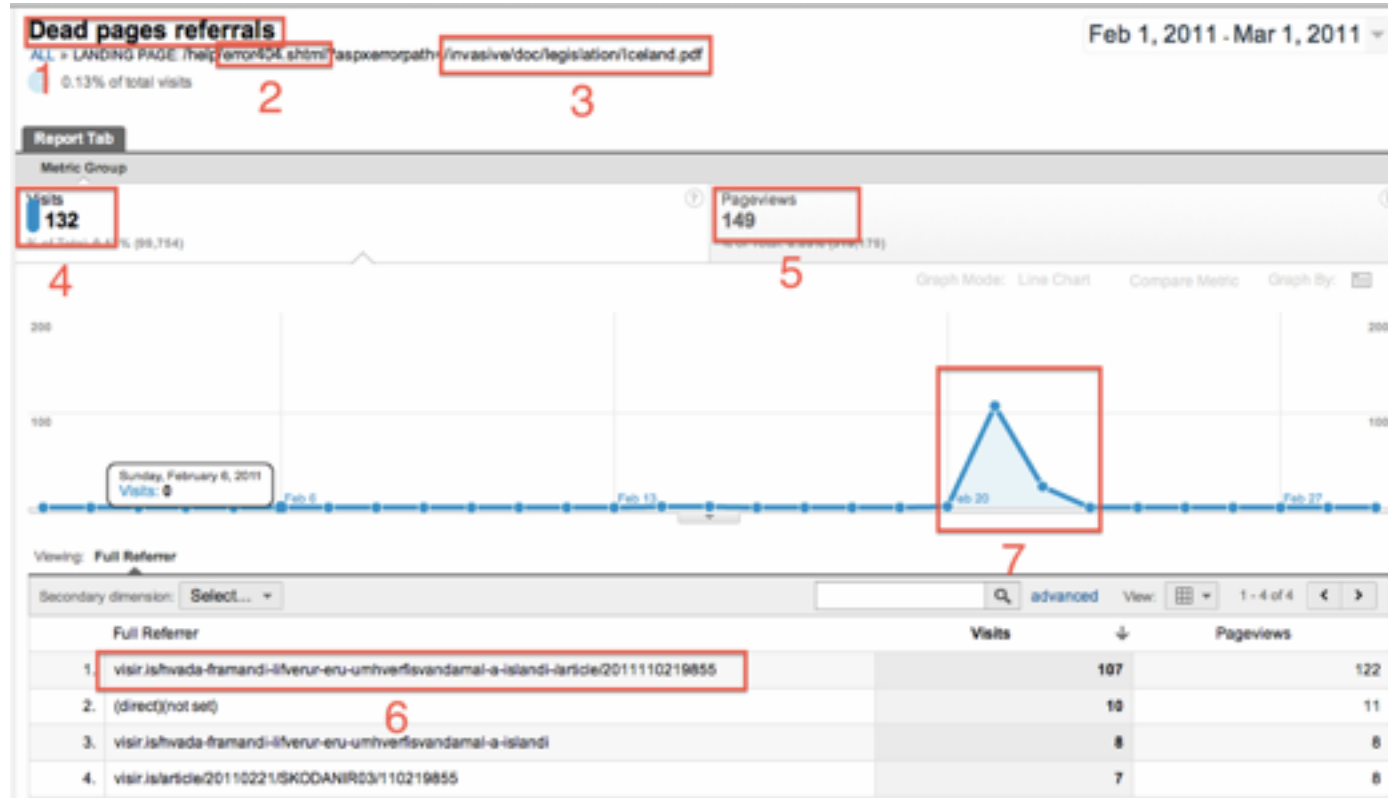
Feedback loop

Tools, tips, tricks

Final comments



Google Analytics - Custom report for 'dead' pages



Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



CC by [designsquid](#)

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Tips on performance

- **Causes of performance problems**
 - Uploading full-sized images - very common
 - Use Photoshop's export for the web - commercial
 - Use Microsoft Office Picture Manager - comes with MS Office
 - Use IrfanView's resize - free
 - Use SmushIt
 - Too many images on the page
 - Too many dynamic components on the page
- **Technical tools to analyse/troubleshoot**
 - WebPageTest
 - Yahoo YSlow
- **Technical solutions**
 - Enable/setup caching of content
 - Use CDN (Content Distribution Network)

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



- Don't let the latest news to be from 6 months ago
- Do not have empty pages
- Do not have under constructions signs
- Don't copy content - point to it
- Don't ignore dead links
 - They come from somewhere, right?

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



- **HTML5 is now an acceptable choice**
 - Brings in geolocation, client storage, canvas drawing surface
 - Not all features are here for all browsers
 - Use modernizer to check/polyfill functionality
- **WebFonts typography is now a possibility**
 - Google web fonts
 - Typekit
- **Don't use JavaScript without library**
 - jQuery is very popular and well supported
- **Try to avoid Flash (from Adobe)**
 - Never run on iPhone
 - Adobe just announced termination of portable Flash product
 - Adobe is putting a lot of focus on HTML5 tools
- **Try to avoid Silverlight (from Microsoft)**
 - Silverlight 5 just came out
 - No word on Silverlight 6 - possibly end of product line
 - Microsoft is putting a lot of focus on HTML5 tools

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Clearing House Mechanism

- **National agency has a static web page with list of projects**

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments

- National agency has a static web page with list of projects
- National CHM Website scrapes content and creates a set of «Project» entries, with tags/meta:
 - Project title/Description
 - CHM category (e.g. Invasive Species)
 - Start date/End Date
 - Involved Agencies/Countries
 - Contact details



Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



- National agency has a static web page with list of projects
- National CHM Website scrapes content and creates a set of «Project» entries, with tags/meta:
 - Project title/Description
 - CHM category (e.g. Invasive Species)
 - Start date/End Date
 - Involved Agencies/Countries
 - Contact details
- **Central CHM**
 - Aggregates project information from multiple CHM sites
 - Provides a feed that shows all the new/changed projects across all national CHMs

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



- **National agency has a static web page with list of projects**
- **National CHM Website scrapes content and creates a set of «Project» entries, with tags/meta:**
 - Project title/Description
 - CHM category (e.g. Invasive Species)
 - Start date/End Date
 - Involved Agencies/Countries
 - Contact details
- **Central CHM**
 - Aggregates project information from multiple CHM sites
 - Provides a feed that shows all the new/changed projects across all national CHMs
- **Thematic partner (e.g. Invasive Species catalogue)**
 - Monitors Central CHM projects feed (automatically)
 - Extracts/Displays all projects under relevant CHM category

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments



- **National agency has a static web page with list of projects**
- **National CHM Website scrapes content and creates a set of «Project» entries, with tags/meta:**
 - Project title/Description
 - CHM category (e.g. Invasive Species)
 - Start date/End Date
 - Involved Agencies/Countries
 - Contact details
- **Central CHM**
 - Aggregates project information from multiple CHM sites
 - Provides a feed that shows all the new/changed projects across all national CHMs
- **Thematic partner (e.g. Invasive Species catalogue)**
 - Monitors Central CHM projects feed (automatically)
 - Extracts/Displays all projects under relevant CHM category
- **Researcher**
 - Discovers a new Invasive Species project
 - Contacts relevant agency for more details on the project

Clearing House Mechanism

Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments

- Start easy
- Get basics right
- Build feedback loop
- Enable network effects
- Iterate



Content

Introduction

The mandate

Building the site

Getting attention

Feedback loop

Tools, tips, tricks

Final comments

- Start easy
- Get basics right
- Build feedback loop
- Enable network effects
- Iterate

Make an IMPACT



Clearing House Mechanism

Subregional capacity-building workshop for South Asia on the Clearing-House Mechanism

12 - 16 December 2011 Dehradun, India

Best practices and tools for national clearing-house mechanism websites

*Alexandre Rafalovitch (alexandre.rafalovitch@cbd.int)
CHM Information Systems Officer, CBD Secretariat*



**Clearing-House Mechanism (CHM)
Convention on Biological Diversity (CBD)**