Bioversity International

Meeting the information challenge for crop wild relatives (CWR) *in situ* conservation: A global portal hosting national and international data on CWR

13th World Congress of the International Association of Agricultural Information Specialists (IAALD)
26 – 29 April 2010, Montpellier, France

Overview of presentation

- CWR – definition and importance
- The global CWR project
- Challenges at beginning of project
- Addressing the challenges
- Results: national information systems and global portal
- Some conclusions and lessons learned
- Future needs / local – global linkage

CWR – definition and importance

- Wild species more or less closely related to crops, but unlike them, have not been domesticated.
- Threatened by global change. An estimated 16-22% of CWR species studied might go extinct by 2055.
- Seriously under-conserved *ex situ* and *in situ*
- But many CWRs harbor genetic traits that could hold the key for many crops to adapt to climate change

The global CWR project

- Title: ***In situ* conservation of crop wild relatives through enhanced information management and field application**
- Supported by UNEP/GEF
- Implemented by Bioversity International
- April 2004 – February 2010
- Partner countries
  - Armenia, Bolivia, Madagascar, Sri Lanka, Uzbekistan
- Partner organizations
  - BGCI, BLE, FAO, IUCN, UNEP-WCMC
- Co-financing: BMZ, Germany

Challenges at beginning of project

Develop CWR information management systems and capacity when:

In general

- very little information activities on CWR exist as examples
- information is very scattered and difficult to access
- no global web site exist dedicated to CWR

In partner countries

- only one targeted information activity exists (CWR atlas in BOL)
- data are dispersed, in format not readily usable
- little data are digitized, in particular location data
- data structures are different in institutes within one country
- Very different national settings regarding in-country collaboration, IT infrastructure and capacities

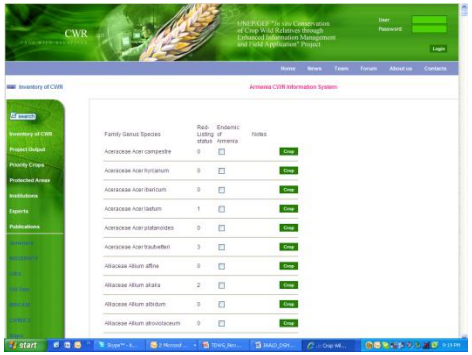
Addressing the challenges

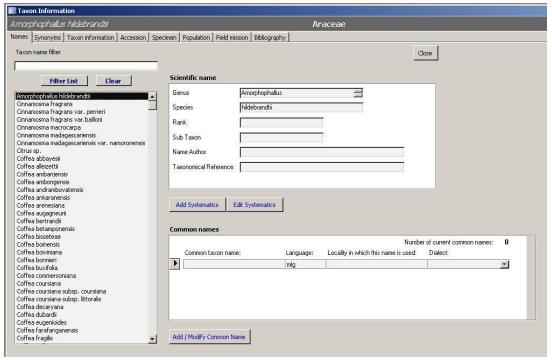
- Development of CWR descriptors for data types and fields necessary to capture all relevant information about CWR
- Digitization and aggregation of existing but dispersed information in national or institutional databases based on descriptors
- Collection of new occurrence data from numerous field surveys
- Use of and integration into existing IT structure
- New collaborations between different institutions within a country
- Training on GIS and national CWR information systems within the countries

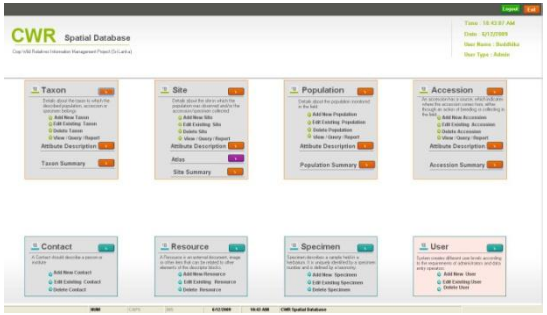
Results

CWR information systems in the countries

- National information systems to manage CWR data, integrated in national settings, making best use of existing infrastructure:
  - The establishment varied from building up a web based system from scratch, to adapting existing Access databases through providing CWR to an already existing national data portal
- National web sites providing access to CWR information and data
- Systems now hosted in national organizations with relevant capacity, committed to maintenance, updating and long-term sustainability



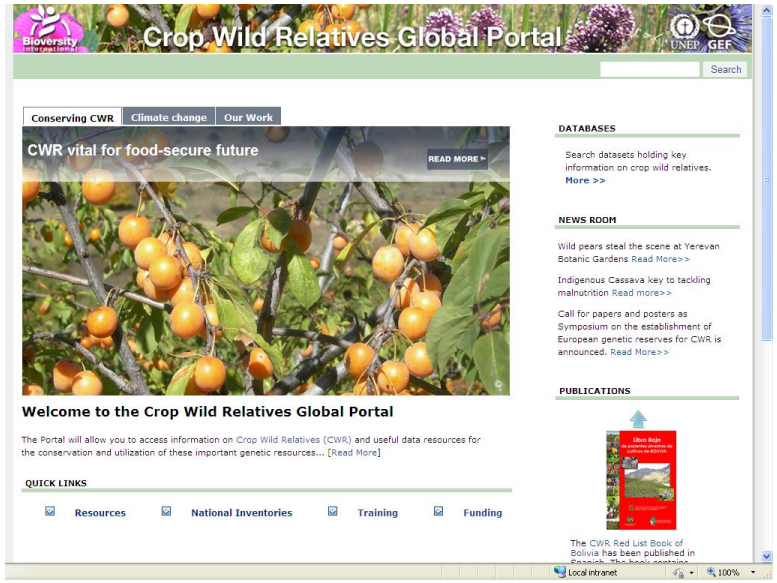




Results

CWR global portal

www.cropwildrelatives.org



- All five national inventories searchable through a unique search function
- links to international resources that provide additional information about the CWR taxa
- Content management system: easy management; sustainability
- Other features: News, events, publications, experts, institutes, projects
- Straightforward user contributions

Some conclusions and lessons learned

- Establishment of effective partnership in the countries among institutions that formerly had not worked together has been crucial to the successful development of the national inventories
- all major players in the area of content as potential contributors and users need to be involved, in order to make the content provided as comprehensive as possible
- Taking care of local context and embedding the national information systems well into the national context, building on existing capacity, infrastructure and ways of collaboration has shown to be a solution that best addresses issues of sustainability in the future

Future needs / local – global linkage

Future needs

- Identification of further national and international information sources and additional national inventories
- Consideration on how characterization and evaluation data can be integrated or linked.
- Provide training and capacity building materials to assist in increasing practical experience in CWR in situ conservation

Local – global linkage

- National data from 5 countries can be searched through one search interface
- Data exchange has been formalized through data sharing agreements and is based on a commonly used data standard, i.e. Darwin Core.

National information systems

Armenia

- Web-based system (MySQL and PHP) for data entry and management
- Input mask deployed to 6 institutes that provide data to a central database
- Quality check at central database

National information systems

Armenia

- Contains *ex situ* records, occurrence data from field surveys, plant images, maps, red listing data
- detailed information for 104 species; about 2000 species in the national inventory
- Web site where that data can be browsed
- www.cwr.am

CWR.am
CROP WILD RELATIVES

UNEP/GEF "*In situ* Conservation of Crop Wild Relatives through Enhanced Information Management and Field Application" Project

User:
Password:
Login

Home | News | Team | Forum | About us | Contacts

Inventory of CWR

Armenia CWR Information System

search

- Inventory of CWR
- Project Output
- Priority Crops
- Protected Areas
- Institutions
- Experts
- Publications

- Seminars
- BIOVERSITY
- GRIS
- GIS Data
- BIOCASE
- CWRDCS
- Maps

Family Genus Species	Red-Listing status	Endemic of Armenia	Notes	
Aceraceae Acer campestre	0	☐		Crop
Aceraceae Acer hyrcanum	0	☐		Crop
Aceraceae Acer ibericum	0	☐		Crop
Aceraceae Acer laetum	1	☐		Crop
Aceraceae Acer platanoides	0	☐		Crop
Aceraceae Acer trautvetteri	3	☐		Crop
Alliaceae Allium affine	0	☐		Crop
Alliaceae Allium akaka	2	☐		Crop
Alliaceae Allium albidum	0	☐		Crop
Alliaceae Allium atroviolaceum	0	☐		Crop

start | Skype™ - it... | 2 Microsof... | TDWG_Nov... | IAALD_DGH... | .:: Crop Wil... | 9:19 PM

Locality Elements

Add Delete

StateProvince: Aragatsotn	County: Aparan	Locality : APARAN	Elevation:1935	Latitude:44,34	Longitude:40,59
StateProvince: Aragatsotn	County: Aparan	Locality : APARAN	Elevation:1984	Latitude:44,35	Longitude:40,58
StateProvince: Aragatsotn	County: Ashtarak	Locality : State	Elevation:1964	Latitude:44,26	Longitude:40,37
StateProvince: Ararat	County: Masis	Locality : Sayat Nova	Elevation:834	Latitude:44,40	Longitude:40,07
StateProvince: Ararat	County: Artashat	Locality : Berqanush	Elevation:836	Latitude:44,51	Longitude:39,97
StateProvince: Ararat	County: Ararat	Locality : Ararat	Elevation:825	Latitude:44,70	Longitude:39,83

* Higher Geography : Transcaucasia,Caucasus, former USSR

Biological Elements

* Fill Sex: hermaphrodite ?

* Fill LifeStage: flowering ?

* Fill Attributes: ?

Collecting Event Elements

* Collecting Method: collecting, drying for making herbariums ?

* Year: ?

* Month: Choose month

* Day: Choose day

* Collector: ..... ?

Record Level Elements

* Catalog Number : ?

* Information Withheld: ?

* Remarks: ..... ?

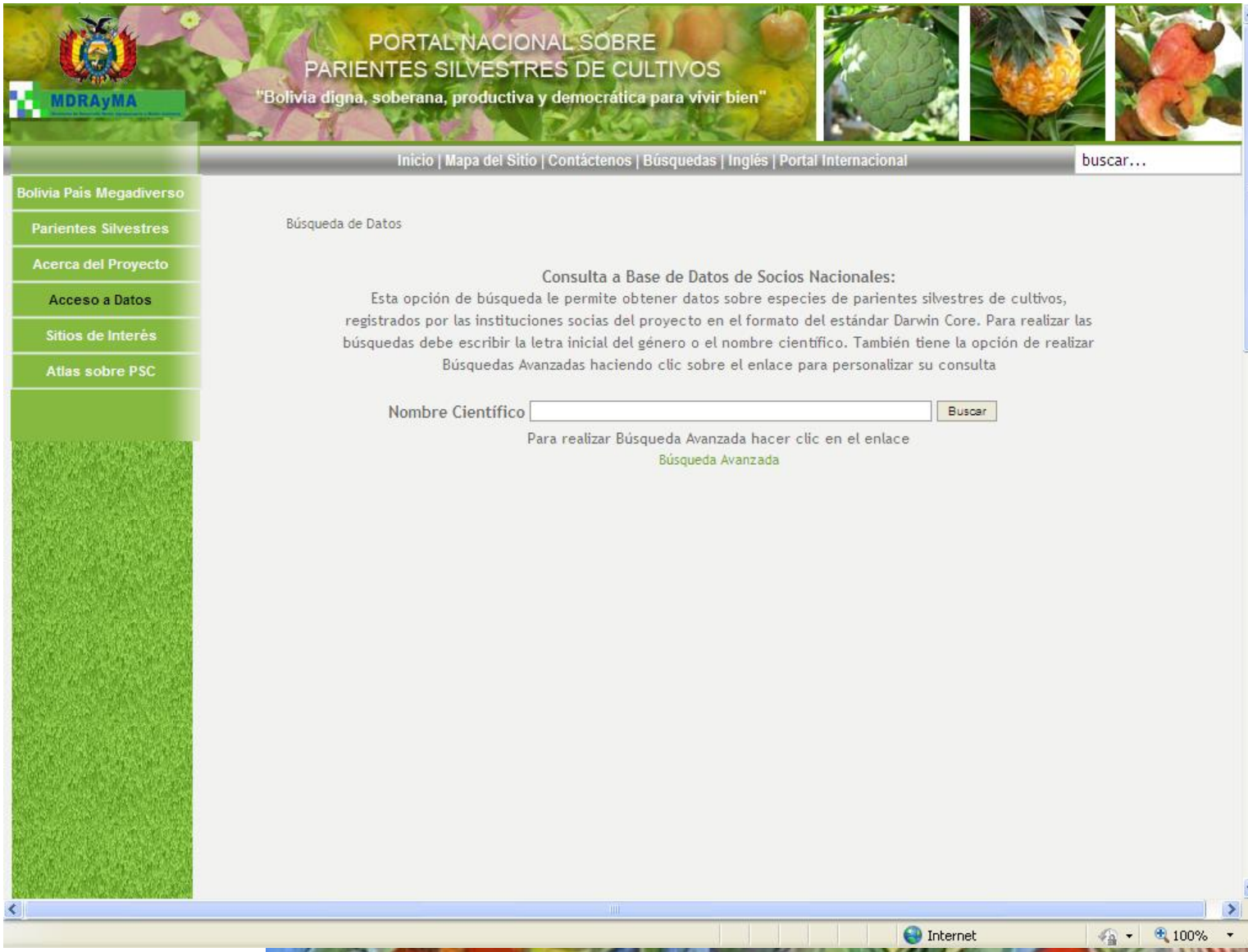
ENV

Back

National information systems

Bolivia

- 9 institutes set up institutional CWR databases with very detailed data
- 3010 records for 162 species
- Institutes send data for agreed descriptors via web services to national portal available at http://www.cwrbolivia.gov.bo/inicio.php
- CWR atlas http://www.cwrbolivia.gov.bo/atlaspsc/


PORTAL NACIONAL SOBRE
PARIENTES SILVESTRES DE CULTIVOS
"Bolivia digna, soberana, productiva y democrática para vivir bien"
MDRAyMA
Inicio | Mapa del Sitio | Contáctenos | Búsquedas | Inglés | Portal Internacional
buscar...
Bolivia País Megadiverso
Parientes Silvestres
Acerca del Proyecto
Acceso a Datos
Sitios de Interés
Atlas sobre PSC
Búsqueda de Datos
Consulta a Base de Datos de Socios Nacionales:
Esta opción de búsqueda le permite obtener datos sobre especies de parientes silvestres de cultivos, registrados por las instituciones socias del proyecto en el formato del estándar Darwin Core. Para realizar las búsquedas debe escribir la letra inicial del género o el nombre científico. También tiene la opción de realizar Búsquedas Avanzadas haciendo clic sobre el enlace para personalizar su consulta
Nombre Científico
Buscar
Para realizar Búsqueda Avanzada hacer clic en el enlace
Búsqueda Avanzada
Internet
100%

Los PARIENTES SILVESTRES de PLANTAS CULTIVADAS

Su distribución, diversidad y estado de conservación en Bolivia

Desarrollado por:

MDRAyMA

Bioversity International

USDA

© VBRFMA - Bioversity. 2008

National information systems

Madagascar

- Central Access database based on CWR descriptors
- Data for 154 CWR species
- Customization of existing national data portal on biodiversity data, REBIOMA, for the publishing of CWR data at national level rather than developing a dedicated CWR portal

Taxon Information

Amorphophallus hildebrandtii — Araceae

Names | Synonyms | Taxon information | Accession | Specimen | Population | Field mission | Bibliography

Taxon name filter

Close

Filter List | Clear

- Amorphophallus hildebrandtii
- Cinnamosma fragrans
- Cinnamosma fragrans var. perrieri
- Cinnamosma fragrans var.bailloni
- Cinnamosma macrocarpa
- Cinnamosma madagascariensis
- Cinnamosma madagascariensis var. namoronensis
- Citrus sp.
- Coffea abbayesii
- Coffea alleizettii
- Coffea ambanjensis
- Coffea ambongensis
- Coffea andrambovatensis
- Coffea ankaranensis
- Coffea arenesiana
- Coffea augagneurii
- Coffea bertrandii
- Coffea betamponensis
- Coffea bisseteae
- Coffea boinensis
- Coffea boiviniana
- Coffea bonnieri
- Coffea buxifolia
- Coffea commersoniana
- Coffea coursiana
- Coffea coursiana subsp. coursiana
- Coffea coursiana subsp. littoralis
- Coffea decaryana
- Coffea dubardii
- Coffea eugenioides
- Coffea farafanganensis
- Coffea fragilis

Scientific name

Genus	Amorphophallus
Species	hildebrandtii
Rank	
Sub Taxon	
Name Author	
Taxonomical Reference	

Add Systematics | Edit Systematics

Common names

Number of current common names: **0**

Common taxon name:	Language:	Locality in which this name is used:	Dialect:
	mlg		

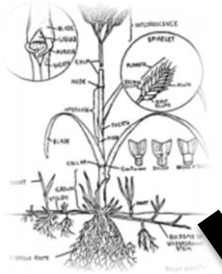
Add / Modify Common Name

National information systems

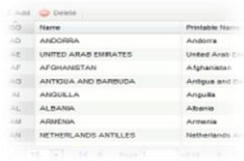
Sri Lanka

- Multi-user database
- CWR data integrated with display and generation of distribution maps

Spatial database components



Diagrams



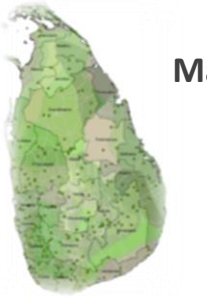
Tabular Data

Vector GIS map Layer

Site photo , Forms and Documents

Metadata

CWR Spatial Database .



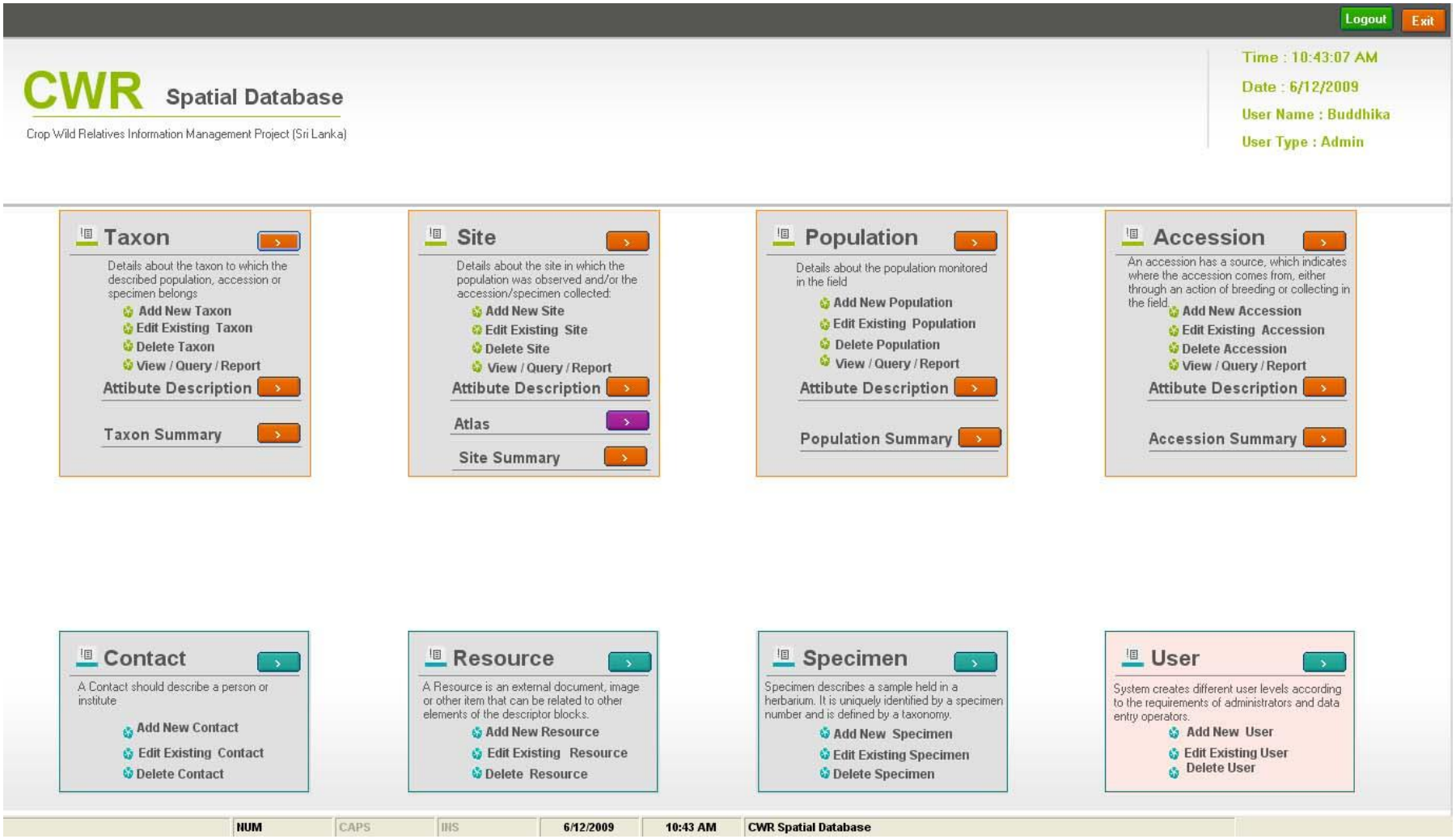
Maps

Charts

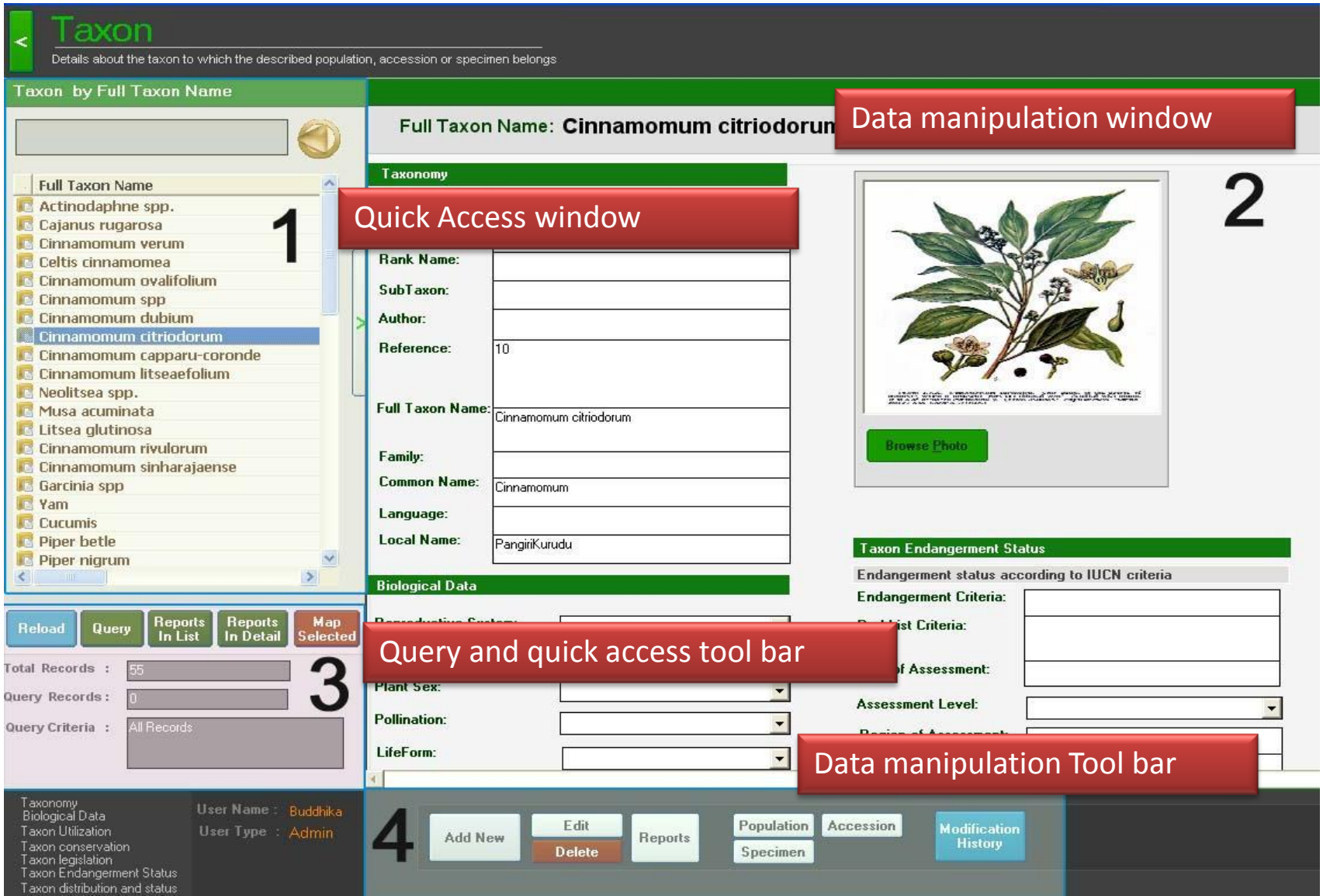
Reports

Internet

CWR Spatial Database Control Panel



Taxon Module main window

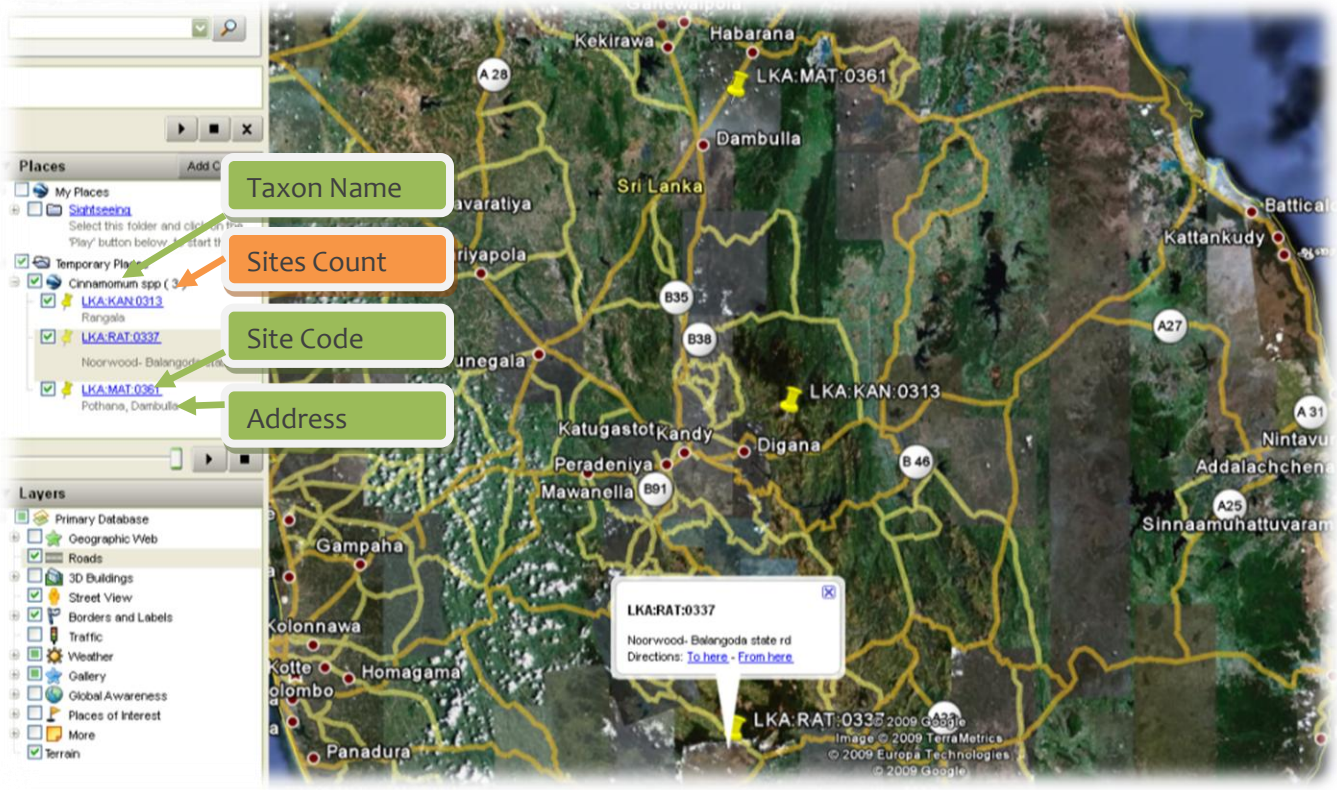


Using Google Earth to Map CWR Site Locations and Save Them to a File

Google Earth in CWR Spatial Database

When you click the button on 

CWR atlas, all queried sites will be displayed on the Google earth .



National information systems

Uzbekistan

- Access databases created
  - *in situ* based on field survey form used in the project
  - *ex situ* data from 6 research institutions
- Distribution maps
- All this is available from national website at www.cwr.uz

http://www.cwr.uz/db/
Google
Favorites
Import citations into your di...
Französische Verben Online ...
Get More Add-ons
UNEP-GEF Global Project "In situ Conservation of Cro...
Page
Safety
Tools

UNEP-GEF Global Project "In situ Conservation of Crop Wild Relatives through Enhanced Information Management and Field Application"

Crop Wild Relatives of Uzbekistan - National Information System

"In-situ conservation of crop wild relatives through enhanced information management and field application" is a UNEP/GEF co financed project that addresses national and global needs to improve global food security through effective conservation and use crop wild relatives. These wild relatives include the ancestors of modern crops and varieties and species related to them.

This project brings together five countries: Armenia, Bolivia, Madagascar, Sri Lanka and Uzbekis-tan, IPGRI and five other internationa conservation agencies: the Food and Agriculture Organization of the United Nations (FAO), Botanic Gardens Conservation Internationa (BGCI), the United Nations Environment Program's World Conservation Monitoring Centre (UNEP-WCMC), the World Conservatio Union (IUCN) and Federal Agency for Agriculture and Food, BLE (before the German Centre for Documentation and Information i Agriculture (ZADI). Each of the countries has signifi-cant numbers of important and threatened crop wild relatives.

CWR.UZ © 2007-2009