Bioversity International

SADC CROP WILD RELATIVES

Information system and data management

Regional training workshop

'*In situ* conservation of CWR including diversity assessment techniques'

Le Meridien Ile Maurice, Mauritius, 10th –13th November 2014

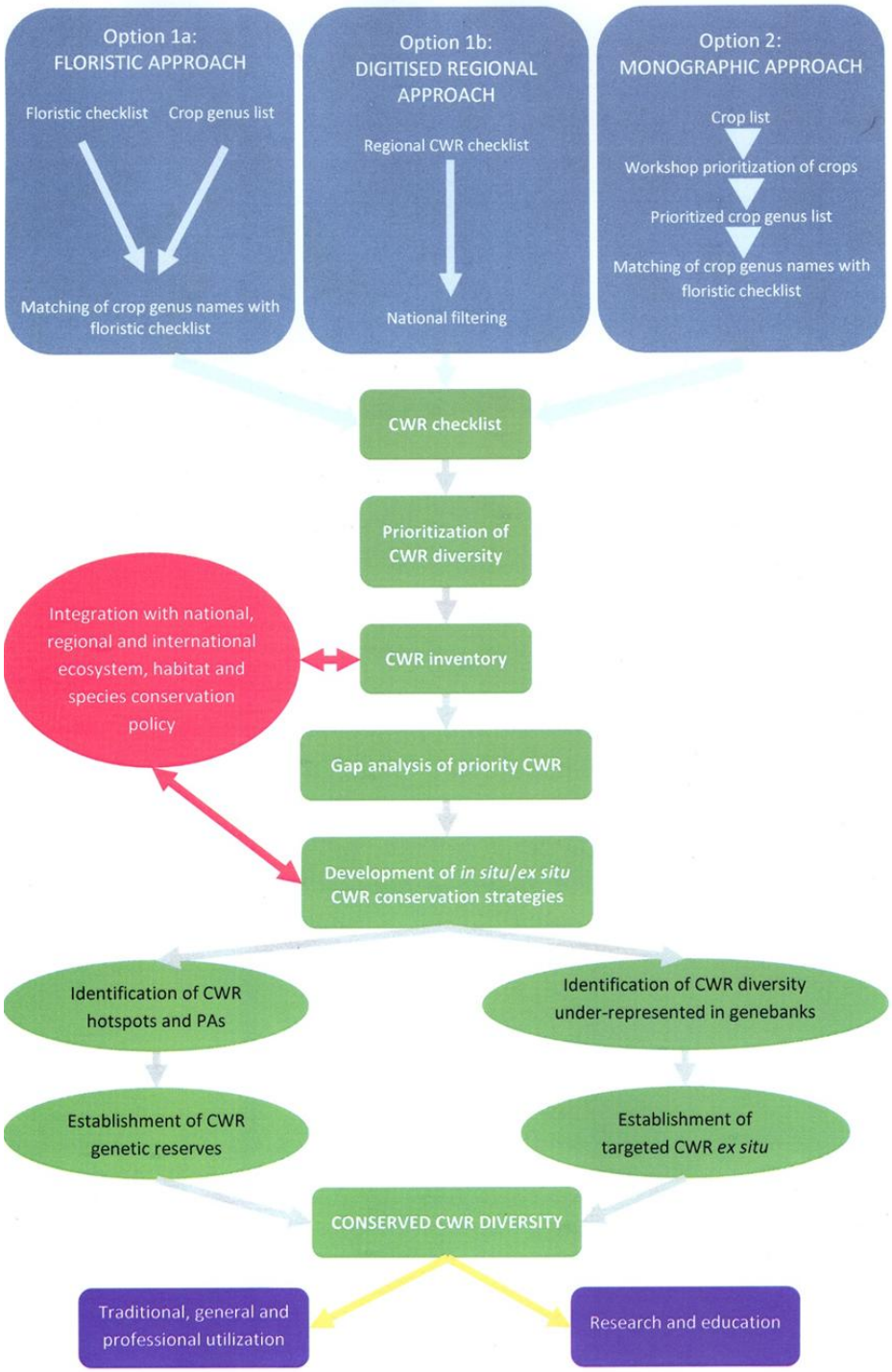
ACP S&T PROGRAMME

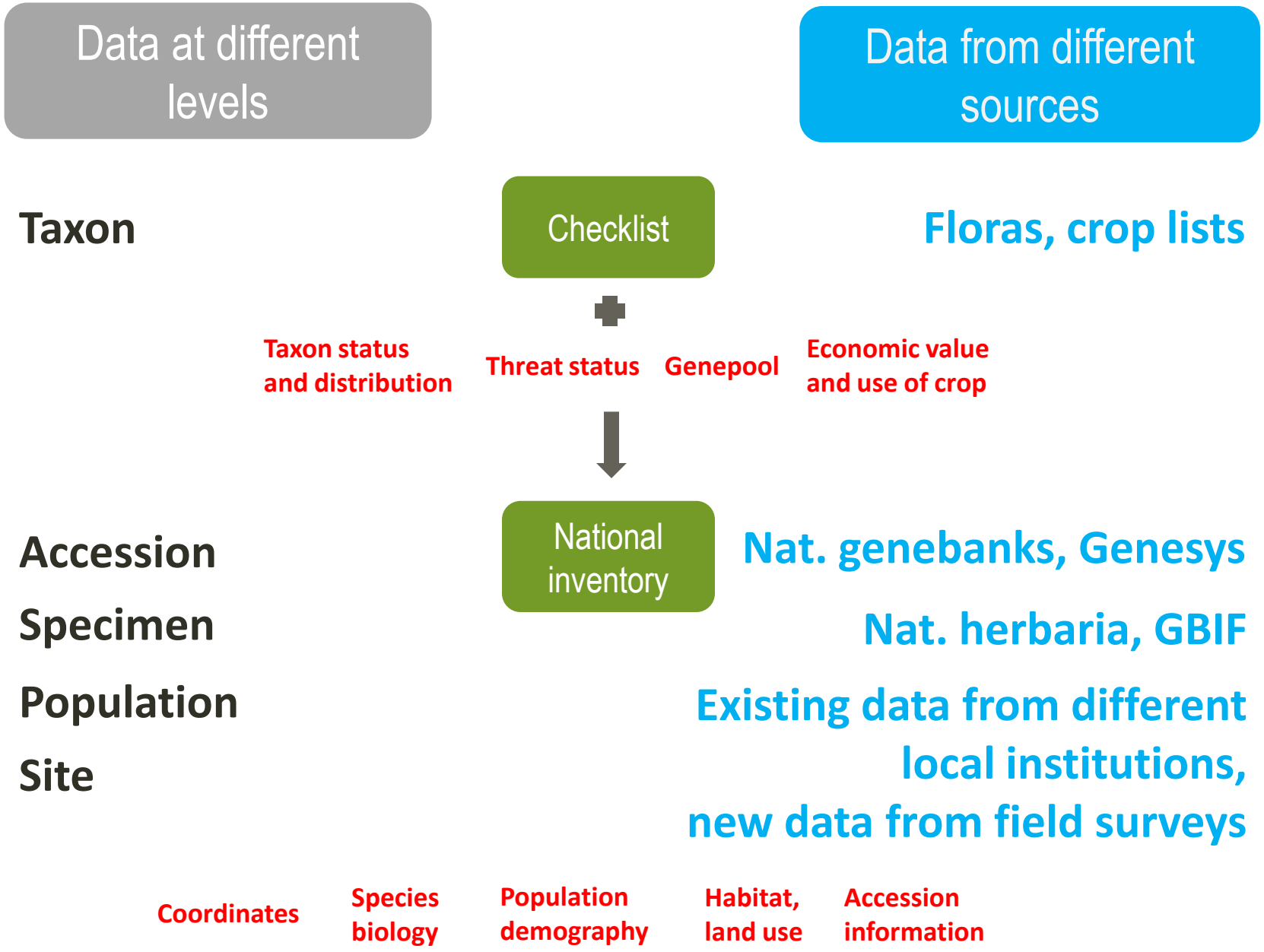
UNIVERSITY OF BIRMINGHAM

ZARI Zambia Agriculture Research Institute
Researching Soils, Crops and Water in Zambia

University of Mauritius
www.uom.ac.mu | Reduit, Mauritius

agriculture, forestry & fisheries
Department: Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA


Option 1a:
FLORISTIC APPROACH
Floristic checklist
Crop genus list
Matching of crop genus names with floristic checklist
Option 1b:
DIGITISED REGIONAL APPROACH
Regional CWR checklist
National filtering
Option 2:
MONOGRAPHIC APPROACH
Crop list
Workshop prioritization of crops
Prioritized crop genus list
Matching of crop genus names with floristic checklist
CWR checklist
Prioritization of CWR diversity
Integration with national, regional and international ecosystem, habitat and species conservation policy
CWR inventory
Gap analysis of priority CWR
Development of *in situ*/*ex situ* CWR conservation strategies
Identification of CWR hotspots and PAs
Identification of CWR diversity under-represented in genebanks
Establishment of CWR genetic reserves
Establishment of targeted CWR *ex situ*
CONSERVED CWR DIVERSITY
Traditional, general and professional utilization
Research and education


Data at different levels
Data from different sources
Taxon
Checklist
Floras, crop lists
Taxon status and distribution
Threat status
Genepool
Economic value and use of crop
Accession
Specimen
Population
Site
National inventory
Nat. genebanks, Genesys
Nat. herbaria, GBIF
Existing data from different local institutions, new data from field surveys
Coordinates
Species biology
Population demography
Habitat, land use
Accession information

Issues

Duplication among data sources

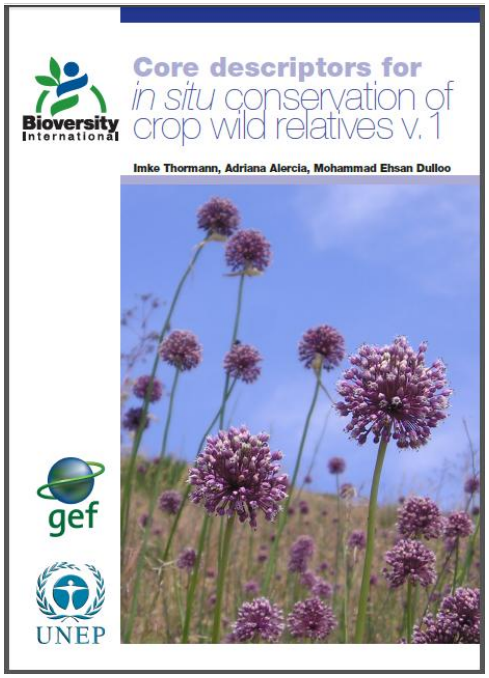
Differences in **data quality**

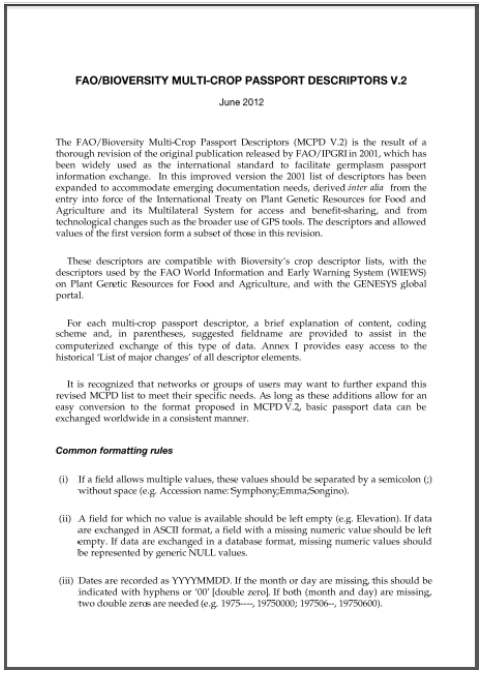
Different formats for the same data

Different categories to describe same data

One solution

International standards and descriptors





FAO/BIOVERSITY MULTI-CROP PASSPORT DESCRIPTORS V.2

June 2012

The FAO/Bioversity Multi-Crop Passport Descriptors (MCPD V.2) is the result of a thorough revision of the original publication released by FAO/IPGRI in 2001, which has been widely used as the international standard to facilitate germplasm passport information exchange. In this improved version the 2001 list of descriptors has been expanded to accommodate emerging documentation needs, derived *inter alia* from the entry into force of the International Treaty on Plant Genetic Resources for Food and Agriculture and its Multilateral System for access and benefit-sharing, and from technological changes such as the broader use of GPS tools. The descriptors and allowed values of the first version form a subset of those in this revision.

These descriptors are compatible with Bioversity's crop descriptor lists, with the descriptors used by the FAO World Information and Early Warning System (WIEWS) on Plant Genetic Resources for Food and Agriculture, and with the GENESYS global portal.

For each multi-crop passport descriptor, a brief explanation of content, coding scheme and, in parentheses, suggested fieldname are provided to assist in the computerized exchange of this type of data. Annex I provides easy access to the historical 'List of major changes' of all descriptor elements.

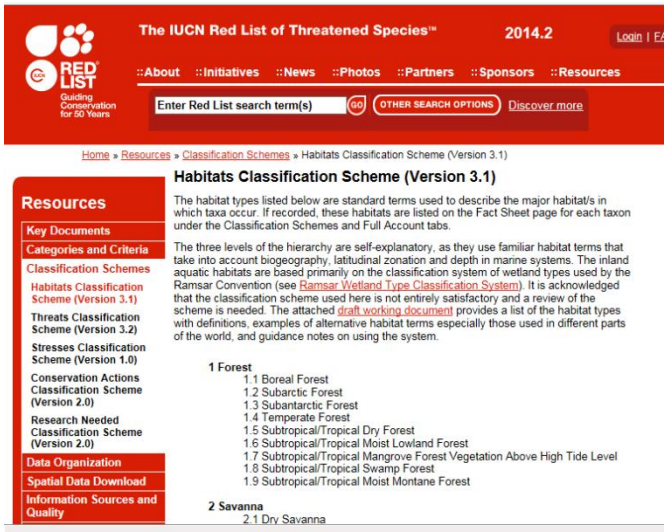
It is recognized that networks or groups of users may want to further expand this revised MCPD list to meet their specific needs. As long as these additions allow for an easy conversion to the format proposed in MCPD V.2, basic passport data can be exchanged worldwide in a consistent manner.

Common formatting rules

(i) If a field allows multiple values, these values should be separated by a semicolon (;) without space (e.g. Accession name:Symphony;Emma;Songino).

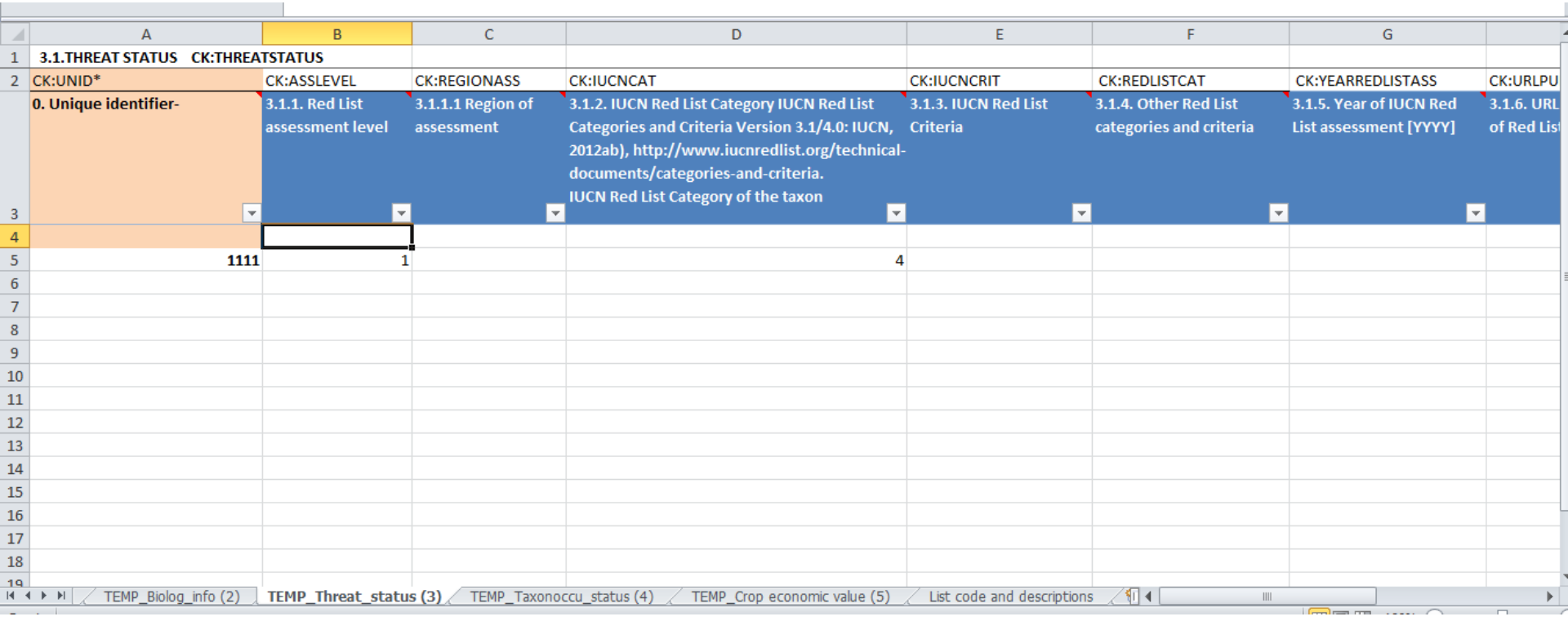
(ii) A field for which no value is available should be left empty (e.g. Elevation). If data are exchanged in ASCII format, a field with a missing numeric value should be left empty. If data are exchanged in a database format, missing numeric values should be represented by generic NULL values.

(iii) Dates are recorded as YYYYMMDD. If the month or day are missing, this should be indicated with hyphens or '00' [double zero]. If both (month and day) are missing, two double zeros are needed (e.g. 1975----, 19750000; 197506--, 19750600).



PGR Secure project: CWR descriptor developed in previous projects (PGR-forum, UNEP/GEF CWR *in situ* conservation project) and international standards have been used to develop Excel templates for

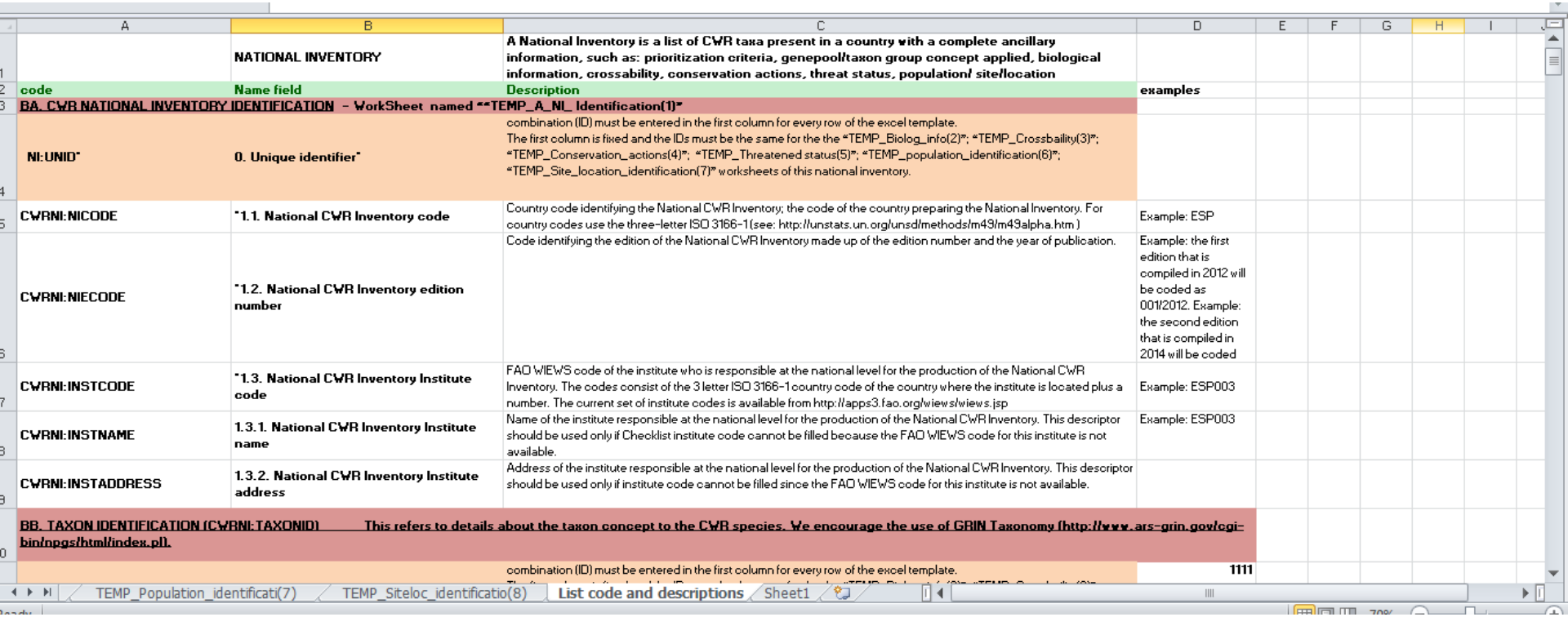
- Checklist data
- National inventory data
- Conservation strategies



	A	B	C	D	E	F	G
1	**3.1.THREAT STATUS CK:THREATSTATUS**						
2	CK:UNID*	CK:ASSLEVEL	CK:REGIONASS	CK:IUCNCAT	CK:IUCNCRIT	CK:REDLISTCAT	CK:YEARREDLISTASS
3	**0. Unique identifier-**	**3.1.1. Red List assessment level**	**3.1.1.1 Region of assessment**	**3.1.2. IUCN Red List Category IUCN Red List Categories and Criteria Version 3.1/4.0: IUCN, 2012ab), http://www.iucnredlist.org/technical-documents/categories-and-criteria. IUCN Red List Category of the taxon**	**3.1.3. IUCN Red List Criteria**	**3.1.4. Other Red List categories and criteria**	**3.1.5. Year of IUCN Red List assessment [YYYY]**
4							
5	**1111**	1		4			
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							

TEMP_Biolog_info (2) | **TEMP_Threat_status (3)** | TEMP_Taxonoccu_status (4) | TEMP_Crop economic value (5) | List code and descriptions

National inventory template

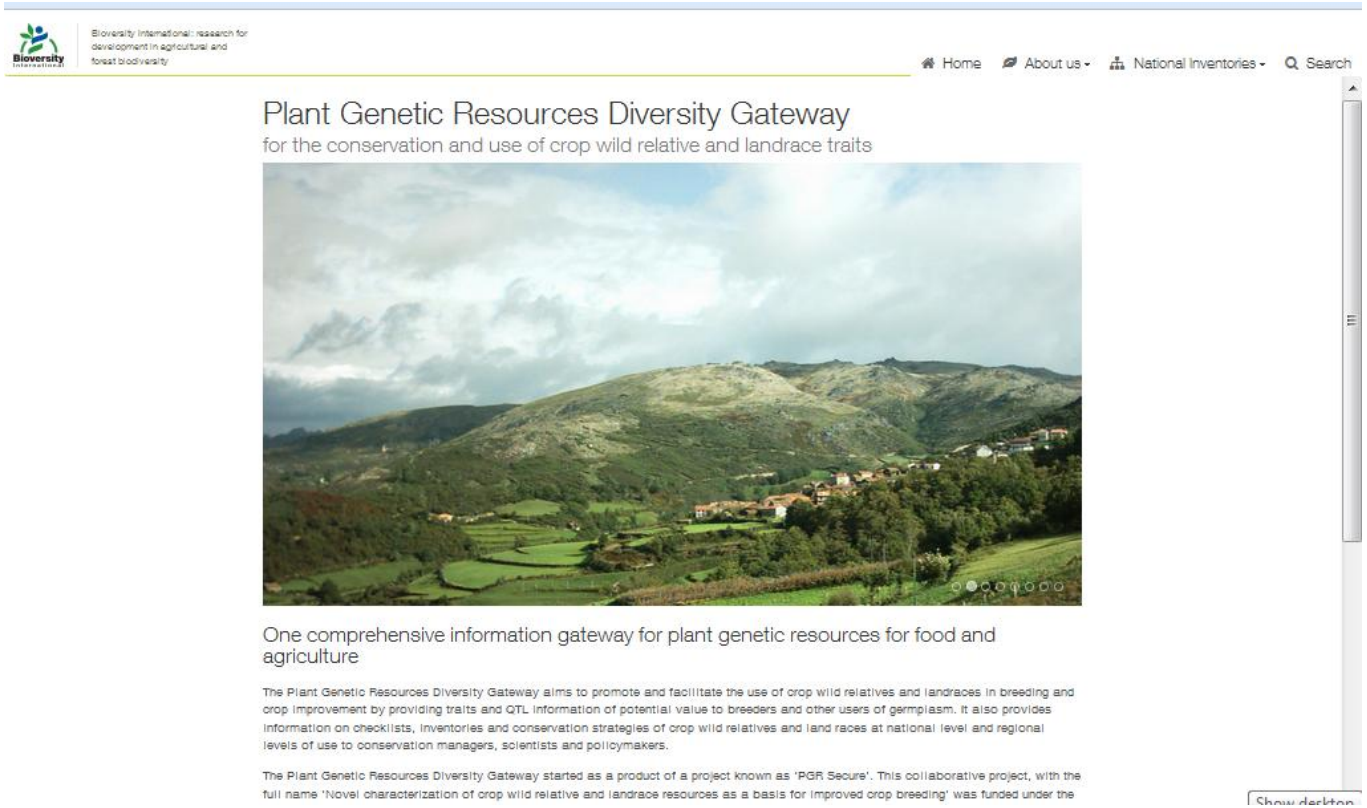


	A	B	C	D
1		NATIONAL INVENTORY	A National Inventory is a list of CWR taxa present in a country with a complete ancillary information, such as: prioritization criteria, genepool/taxon group concept applied, biological information, crossability, conservation actions, threat status, population/ site/location	
2	code	Name field	Description	examples
3	BA. CWR NATIONAL INVENTORY IDENTIFICATION - WorkSheet named "TEMP_A_NI_ Identification(1)"			
4	NI:UNID"	0. Unique identifier"	combination (ID) must be entered in the first column for every row of the excel template. The first column is fixed and the IDs must be the same for the the "TEMP_Biolog_info(2)"; "TEMP_Crossbaility(3)"; "TEMP_Conservation_actions(4)"; "TEMP_Threatened status(5)"; "TEMP_population_identification(6)"; "TEMP_Site_location_identification(7)" worksheets of this national inventory.	
5	CWRNI:NICODE	"1.1. National CWR Inventory code	Country code identifying the National CWR Inventory; the code of the country preparing the National Inventory. For country codes use the three-letter ISO 3166-1 (see: http://unstats.un.org/unsd/methods/m49/m49alpha.htm)	Example: ESP
6	CWRNI:NIECODE	"1.2. National CWR Inventory edition number	Code identifying the edition of the National CWR Inventory made up of the edition number and the year of publication.	Example: the first edition that is compiled in 2012 will be coded as 001/2012. Example: the second edition that is compiled in 2014 will be coded
7	CWRNI:INSTCODE	"1.3. National CWR Inventory Institute code	FAO WIEWS code of the institute who is responsible at the national level for the production of the National CWR Inventory. The codes consist of the 3 letter ISO 3166-1 country code of the country where the institute is located plus a number. The current set of institute codes is available from http://apps3.fao.org/wiews/wiews.jsp	Example: ESP003
8	CWRNI:INSTNAME	1.3.1. National CWR Inventory Institute name	Name of the institute responsible at the national level for the production of the National CWR Inventory. This descriptor should be used only if Checklist institute code cannot be filled because the FAO WIEWS code for this institute is not available.	Example: ESP003
9	CWRNI:INSTADDRESS	1.3.2. National CWR Inventory Institute address	Address of the institute responsible at the national level for the production of the National CWR Inventory. This descriptor should be used only if institute code cannot be filled since the FAO WIEWS code for this institute is not available.	
10	BB. TAXON IDENTIFICATION (CWRNI:TAXONID) This refers to details about the taxon concept to the CWR species. We encourage the use of GRIN Taxonomy (http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl).			
			combination (ID) must be entered in the first column for every row of the excel template.	1111

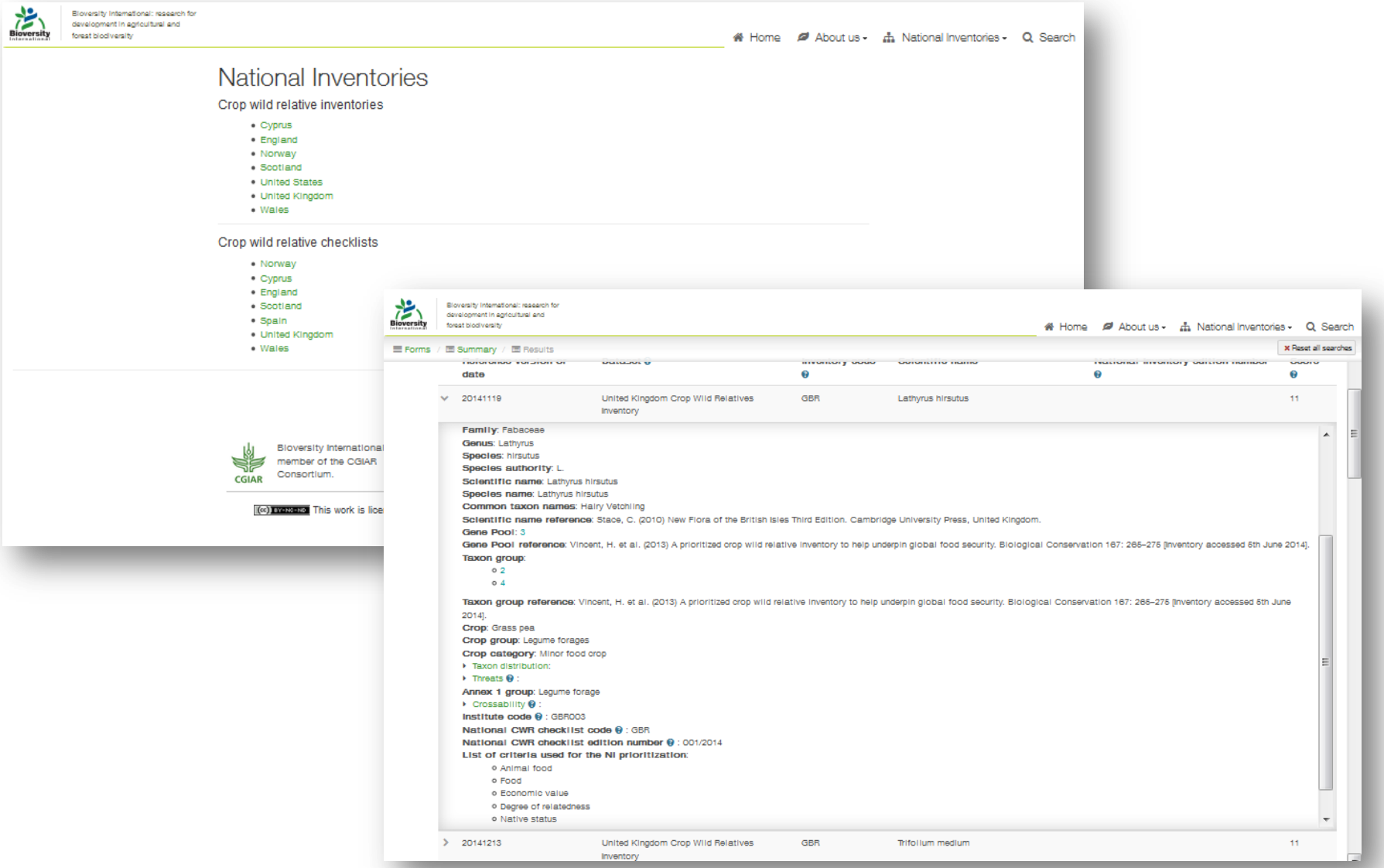
TEMP_Population_identificati(7) | TEMP_Siteloc_identificatio(8) | List code and descriptions | Sheet1

Plant Genetic Resources Diversity Gateway for the conservation and use of crop wild relative and landrace traits'

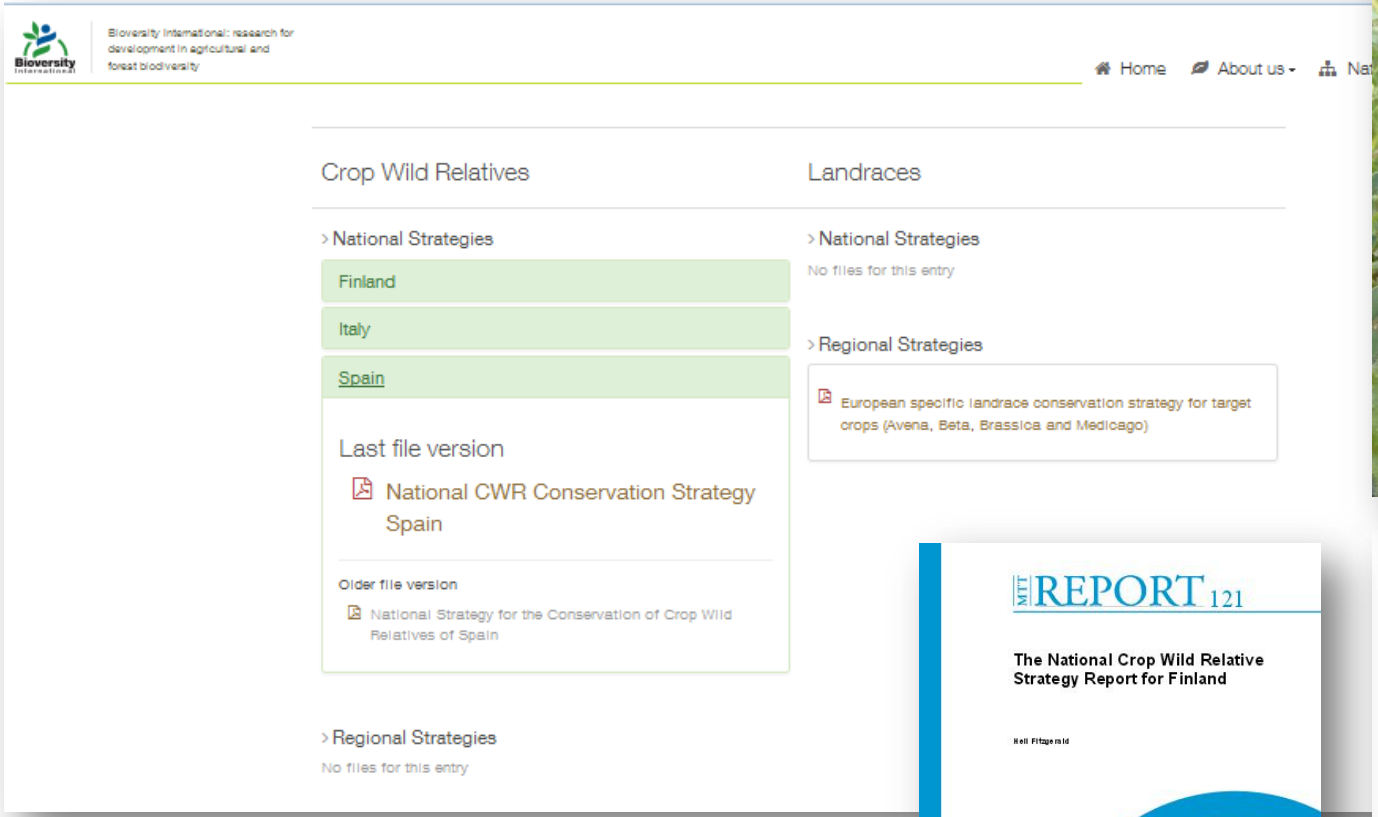
The vision ***Facilitate access to in situ and on farm crop wild relatives (CWR) and landraces (LR) information***

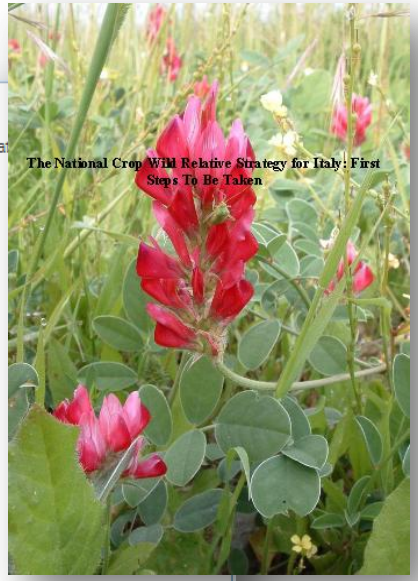


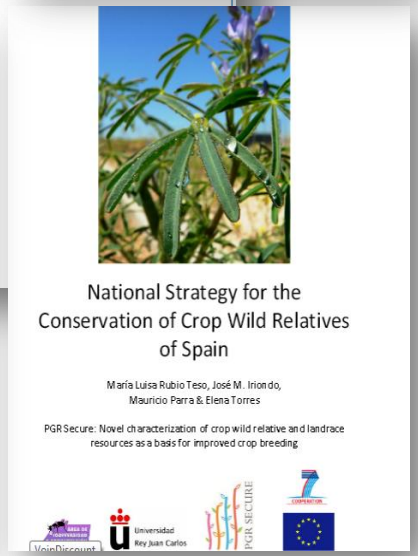
National Inventories and checklists



Conservation strategies



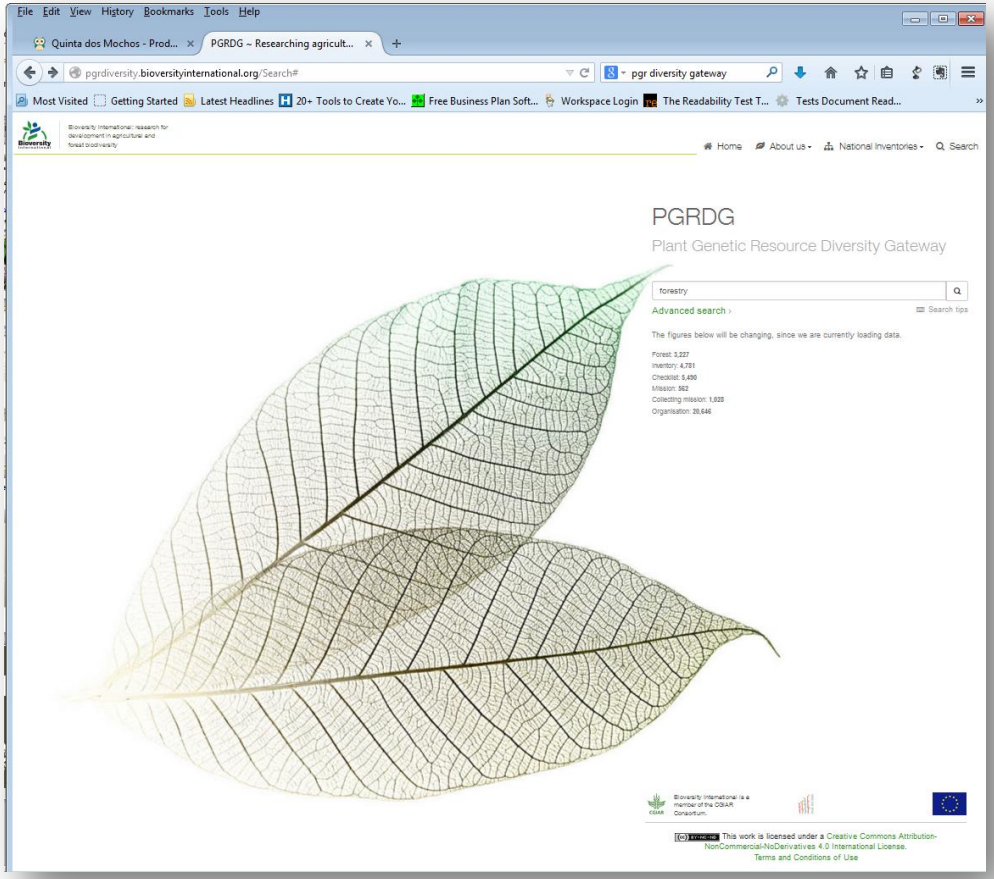




Bioversity International

The Plant Genetic Resources Diversity Gateway

It paves the way for maintaining data and information gathered from research results, which otherwise often become lost within a few years of an article's publication.



In one place different domains and data types:

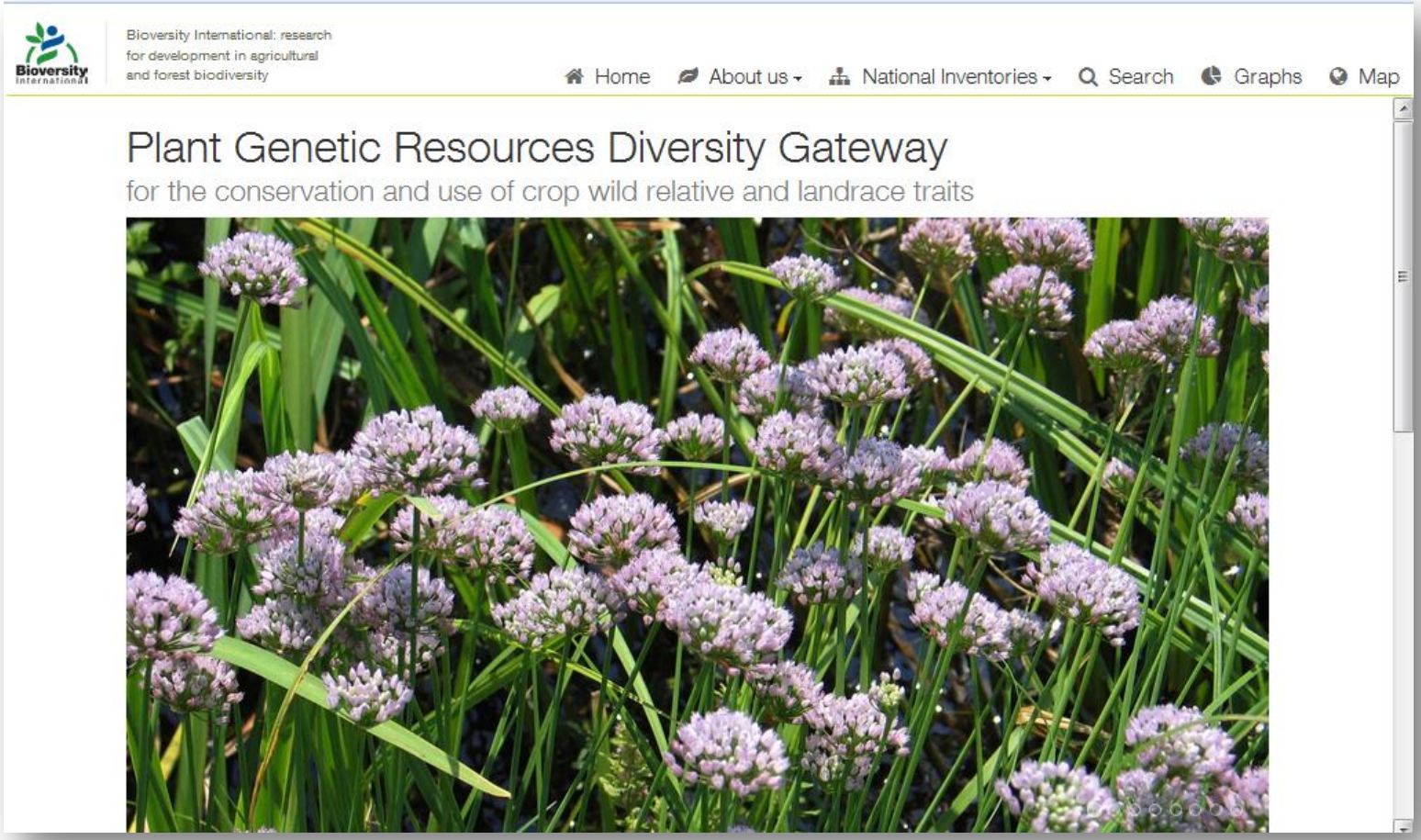
In situ
On-farm
Ex situ
Forestry
Distribution
Collecting missions

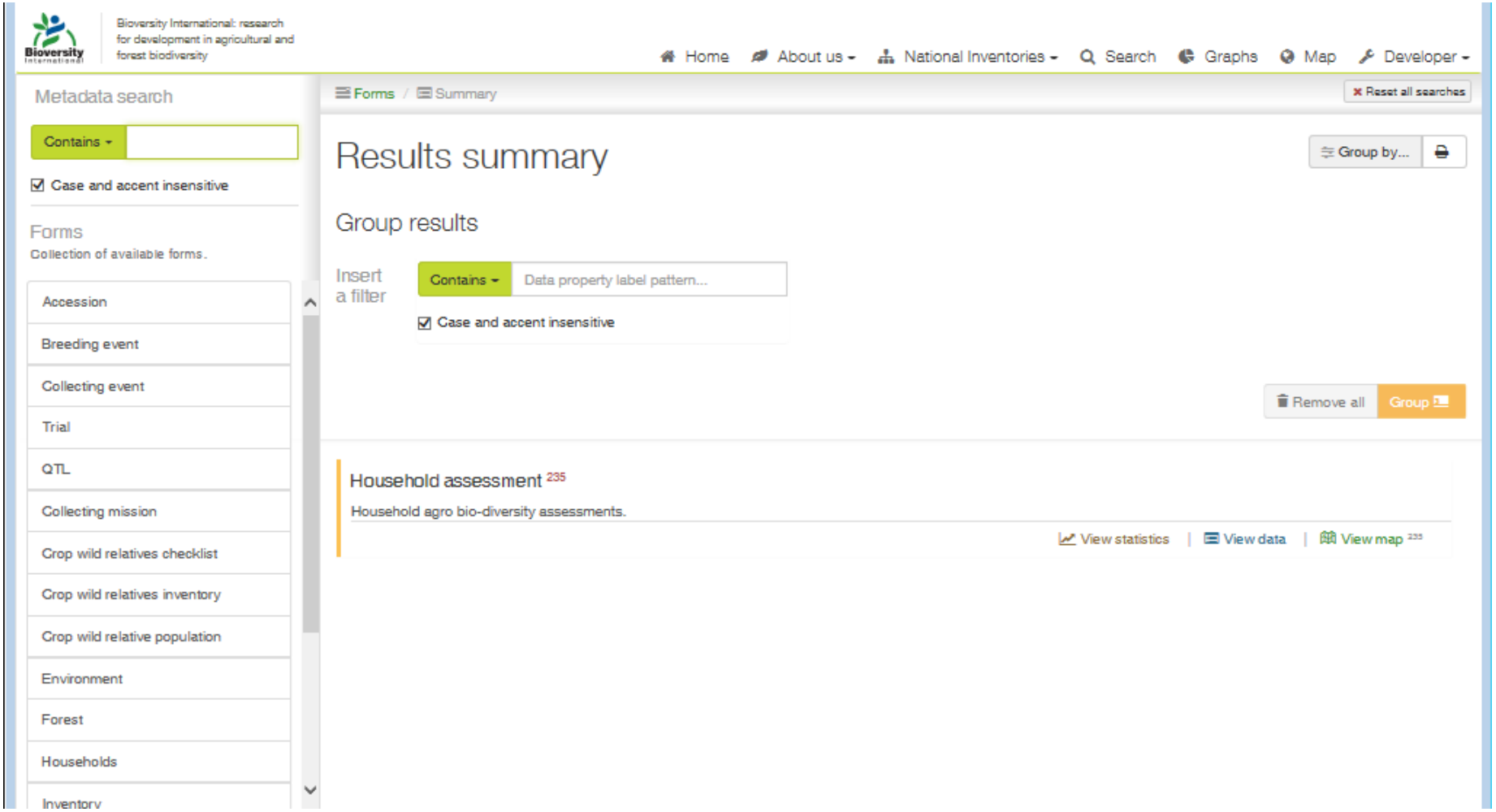
- taxonomy,
- location,
- maps
- crop wild relatives,
- landraces,
- vernacular names,
- useful traits,
- checklists,
- inventories and conservation strategies.

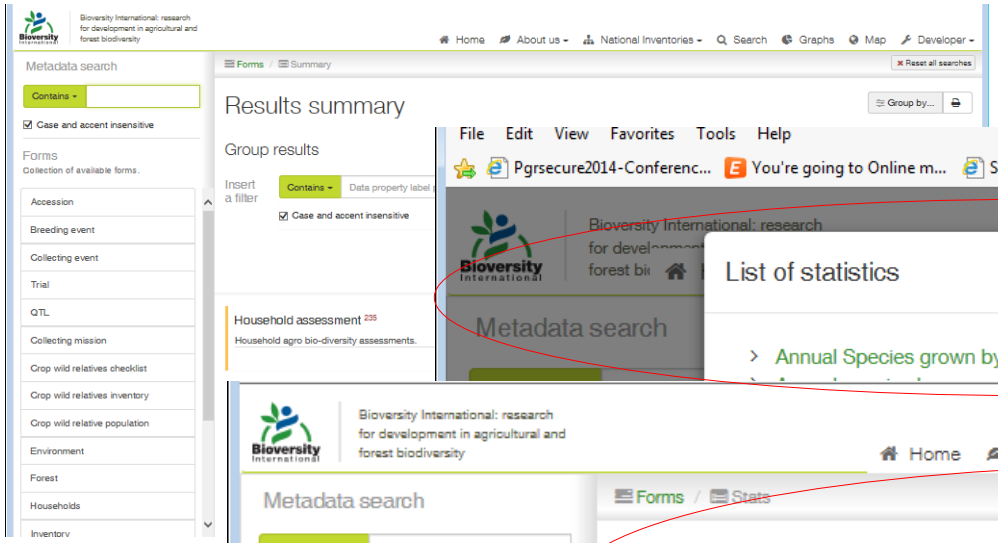
Plant Genetic Resources Diversity Gateway for the conservation and use of crop wild relative and landrace traits

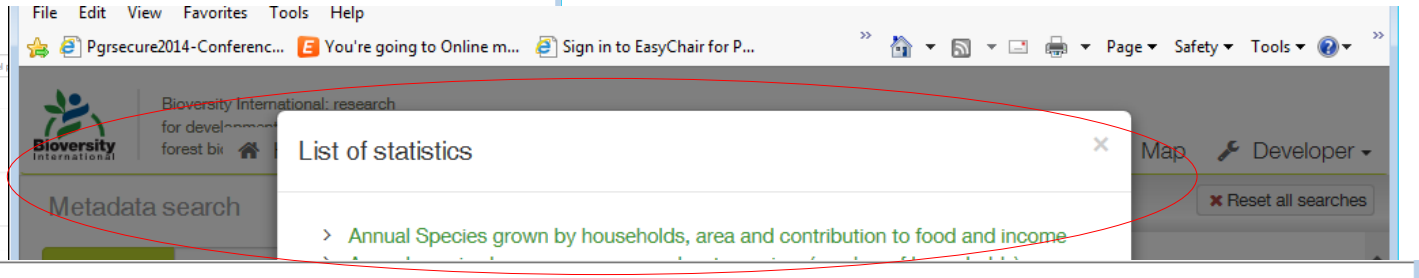
The partner page

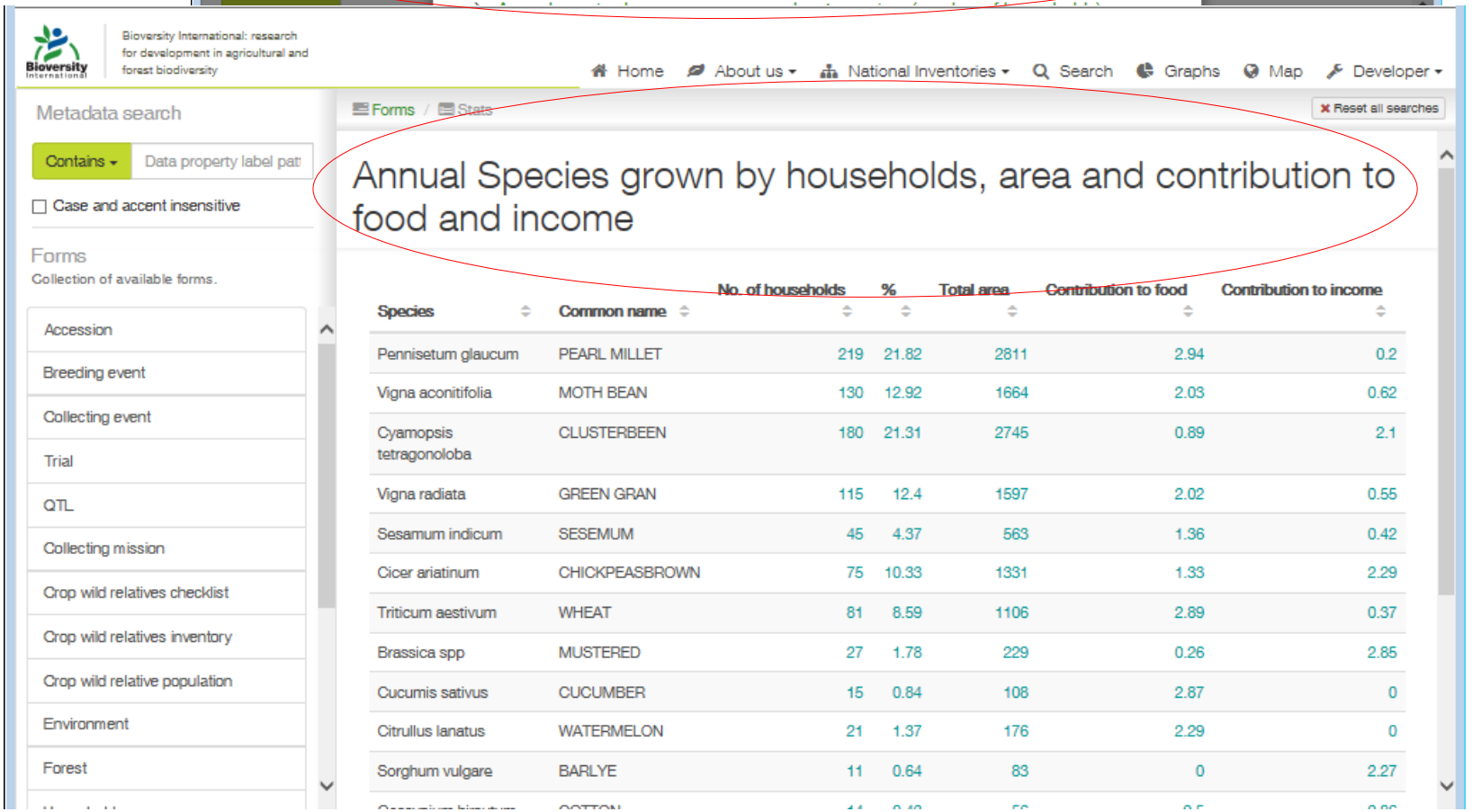
data upload, data quality and partner management website



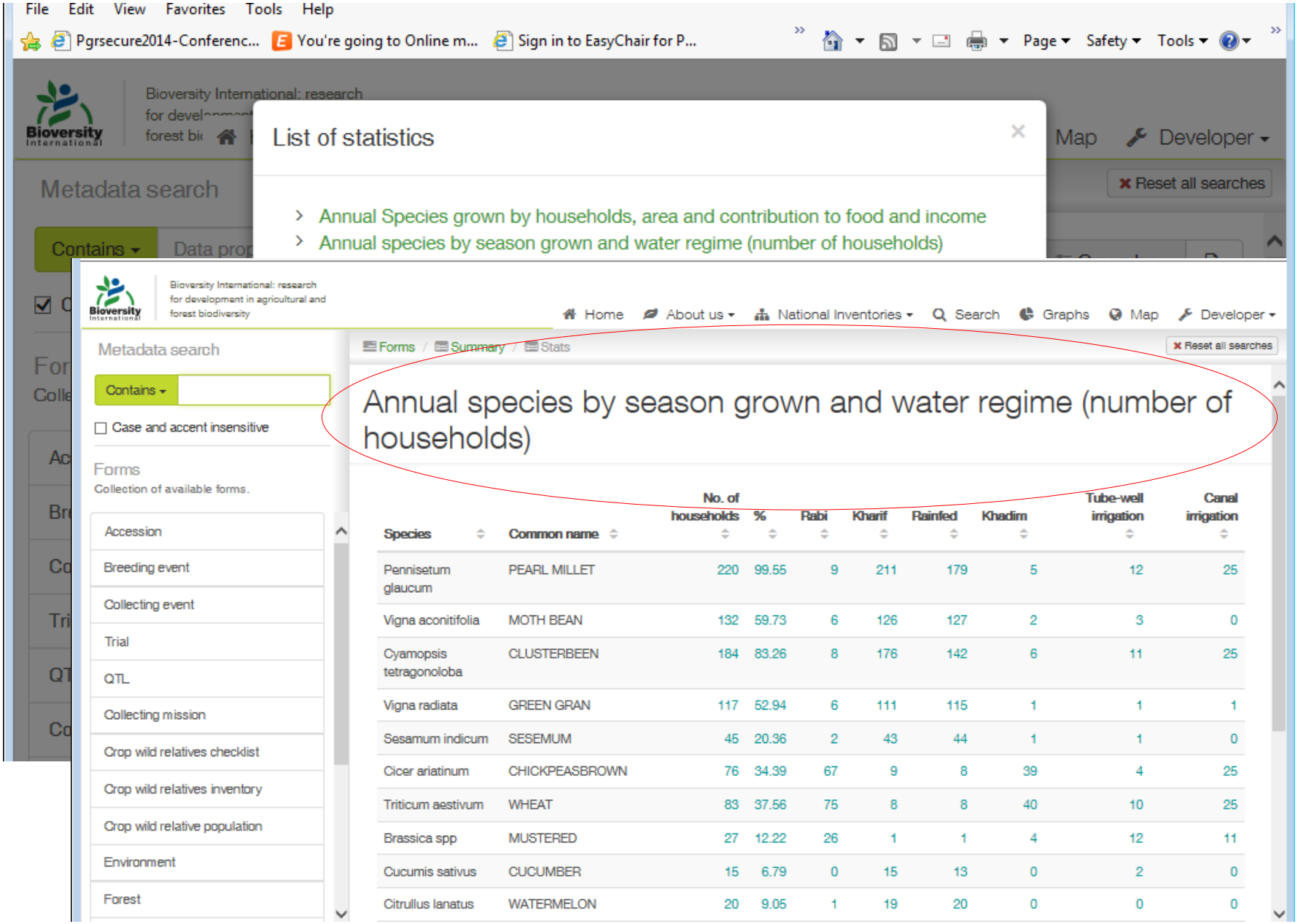

Bioversity International: research for development in agricultural and forest biodiversity
Home
About us
National Inventories
Search
Graphs
Map
Developer
Metadata search
Contains
Case and accent insensitive
Forms
Collection of available forms.
Accession
Breeding event
Collecting event
Trial
QTL
Collecting mission
Crop wild relatives checklist
Crop wild relatives inventory
Crop wild relative population
Environment
Forest
Households
Inventory
Forms / Summary
Reset all searches
Results summary
Group by...
Group results
Insert a filter
Contains
Data property label pattern...
Case and accent insensitive
Remove all
Group
Household assessment 235
Household agro bio-diversity assessments.
View statistics | View data | View map 235



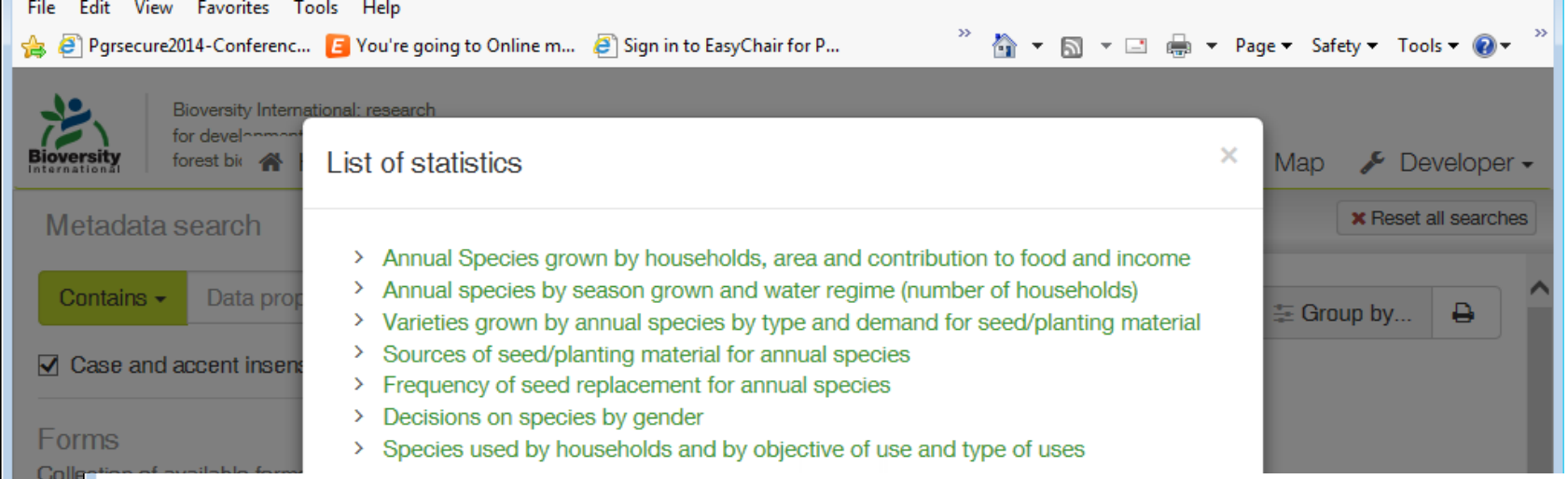




Species	Common name	No. of households	%	Total area	Contribution to food	Contribution to income
Pennisetum glaucum	PEARL MILLET	219	21.82	2811	2.94	0.2
Vigna aconitifolia	MOTH BEAN	130	12.92	1664	2.03	0.62
Cyamopsis tetragonoloba	CLUSTERBEEN	180	21.31	2745	0.89	2.1
Vigna radiata	GREEN GRAN	115	12.4	1597	2.02	0.55
Sesamum indicum	SESEMUM	45	4.37	563	1.36	0.42
Cicer ariatinum	CHICKPEASBROWN	75	10.33	1331	1.33	2.29
Triticum aestivum	WHEAT	81	8.59	1106	2.89	0.37
Brassica spp	MUSTERED	27	1.78	229	0.26	2.85
Cucumis sativus	CUCUMBER	15	0.84	108	2.87	0
Citrullus lanatus	WATERMELON	21	1.37	176	2.29	0
Sorghum vulgare	BARLYE	11	0.64	83	0	2.27



Species	Common name	No. of households	%	Rabi	Kharif	Rainfed	Khadim	Tube-well irrigation	Canal irrigation
Pennisetum glaucum	PEARL MILLET	220	99.55	9	211	179	5	12	25
Vigna aconitifolia	MOTH BEAN	132	59.73	6	126	127	2	3	0
Cyamopsis tetragonoloba	CLUSTERBEEN	184	83.26	8	176	142	6	11	25
Vigna radiata	GREEN GRAN	117	52.94	6	111	115	1	1	1
Sesamum indicum	SESEMUM	45	20.36	2	43	44	1	1	0
Cicer ariatinum	CHICKPEASBROWN	76	34.39	67	9	8	39	4	25
Triticum aestivum	WHEAT	83	37.56	75	8	8	40	10	25
Brassica spp	MUSTERED	27	12.22	26	1	1	4	12	11
Cucumis sativus	CUCUMBER	15	6.79	0	15	13	0	2	0
Citrullus lanatus	WATERMELON	20	9.05	1	19	20	0	0	0



Bioversity International: research for development in agricultural and forest biodiversity

Home | About us | National Inventories | Search | Graphs | Map | Developer

Forms / Summary / Stats

Reset all searches

Metadata search

Contains | Data property label pat

Case and accent insensitive

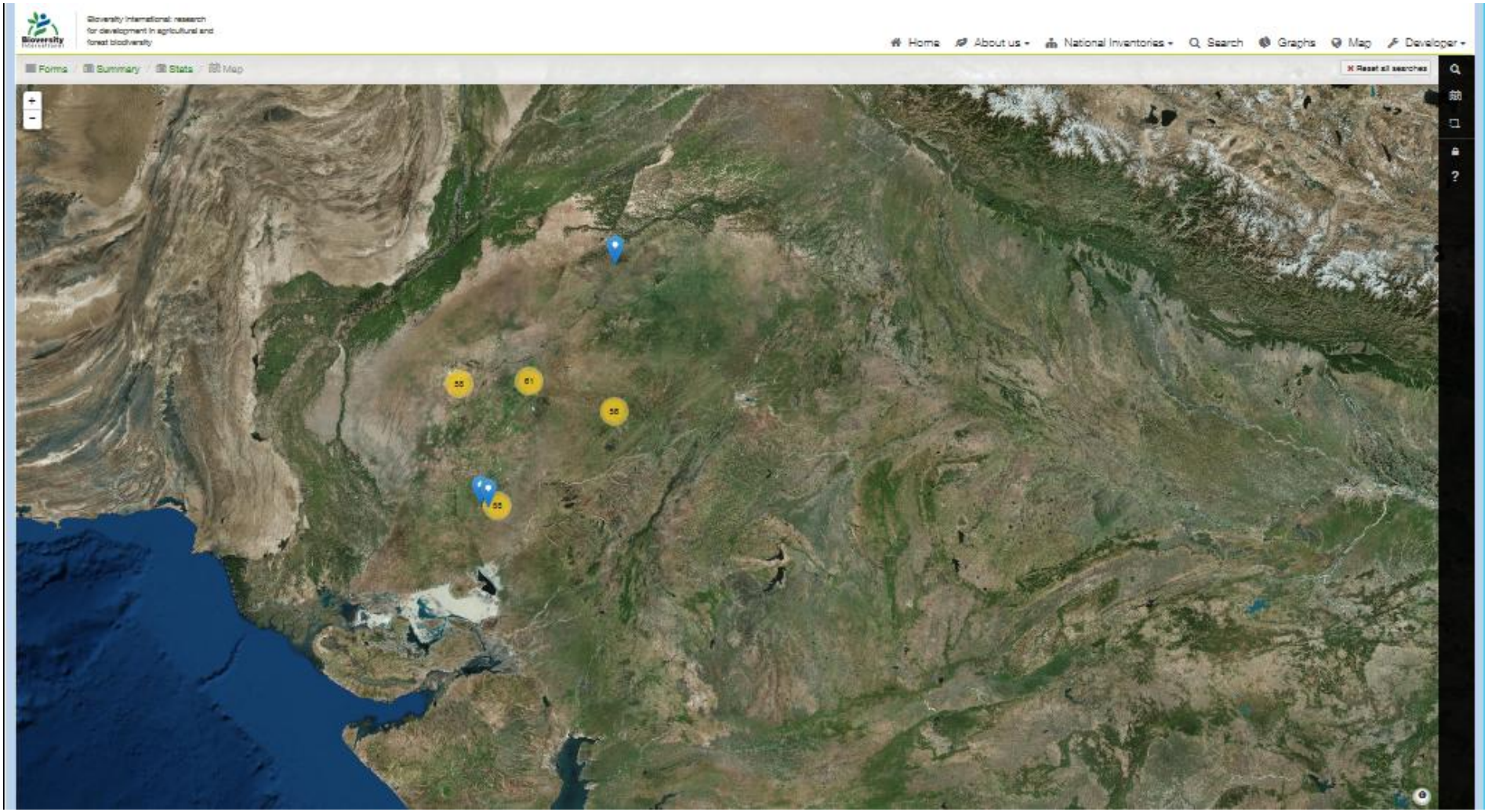
Forms

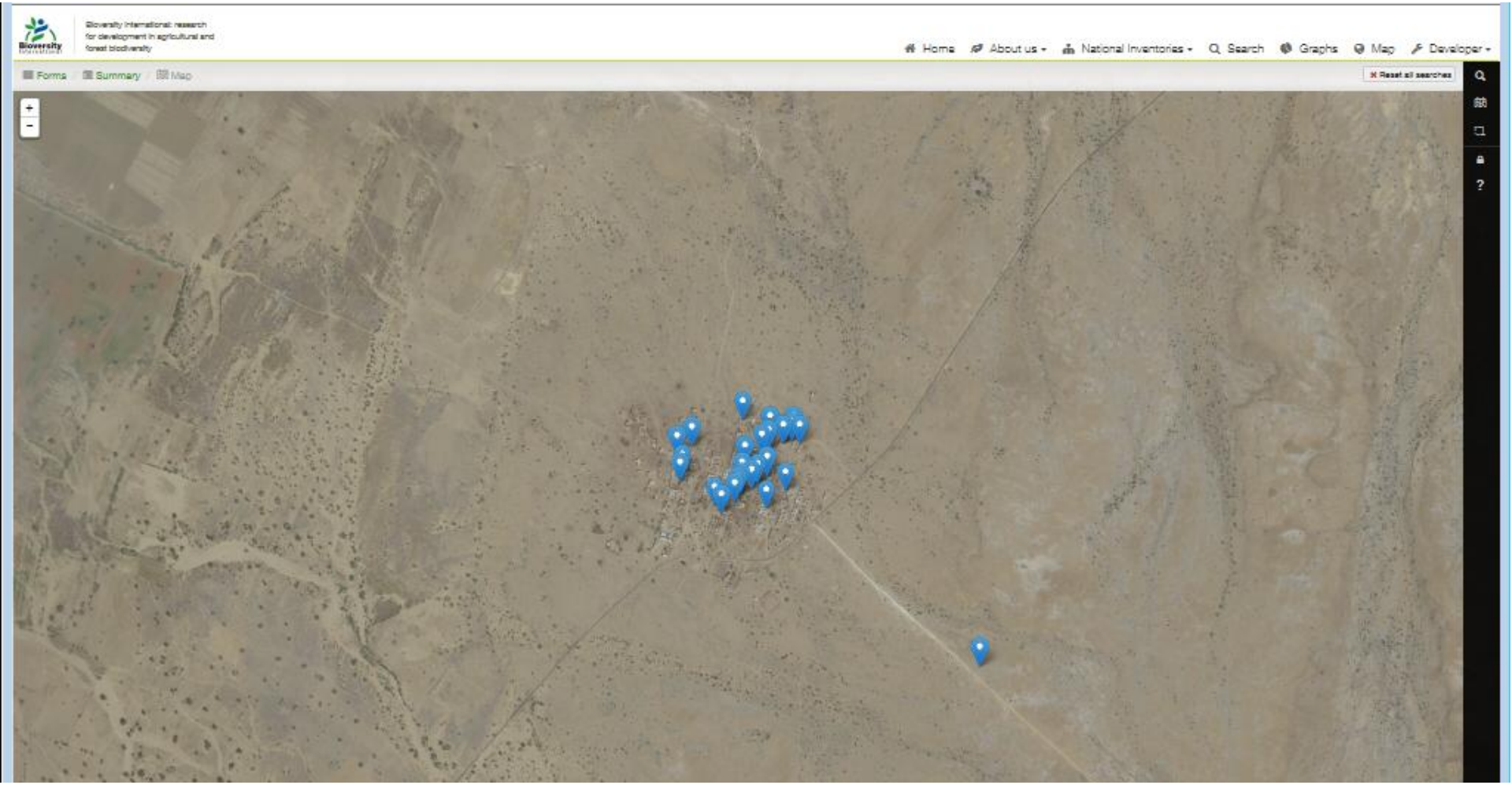
Collection of available forms.

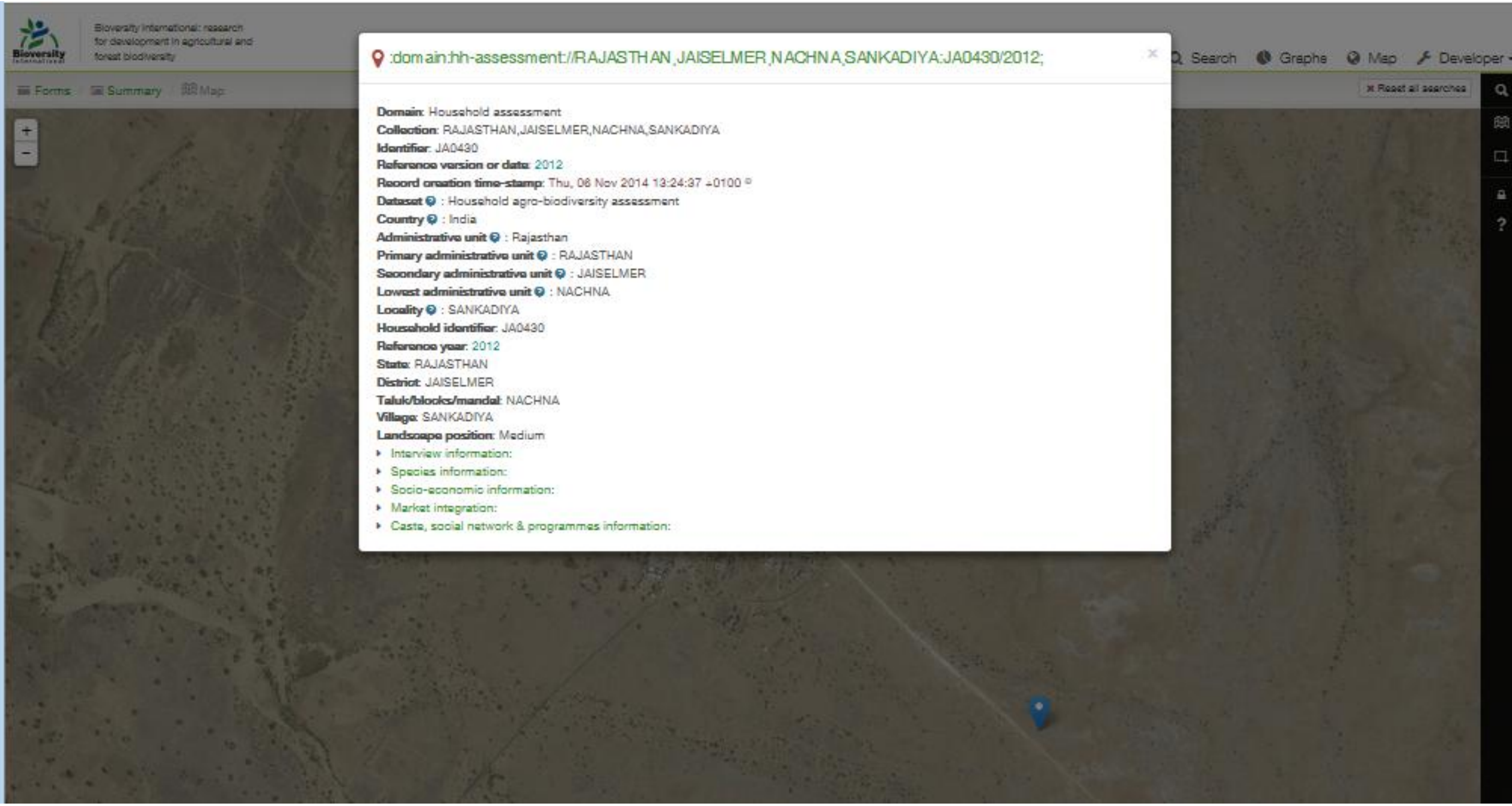
- Accession
- Breeding event
- Collecting event
- Trial
- QTL
- Collecting mission
- Crop wild relatives checklist
- Crop wild relatives inventory
- Crop wild relative population
- Environment
- Forest
- Households
- Inventory

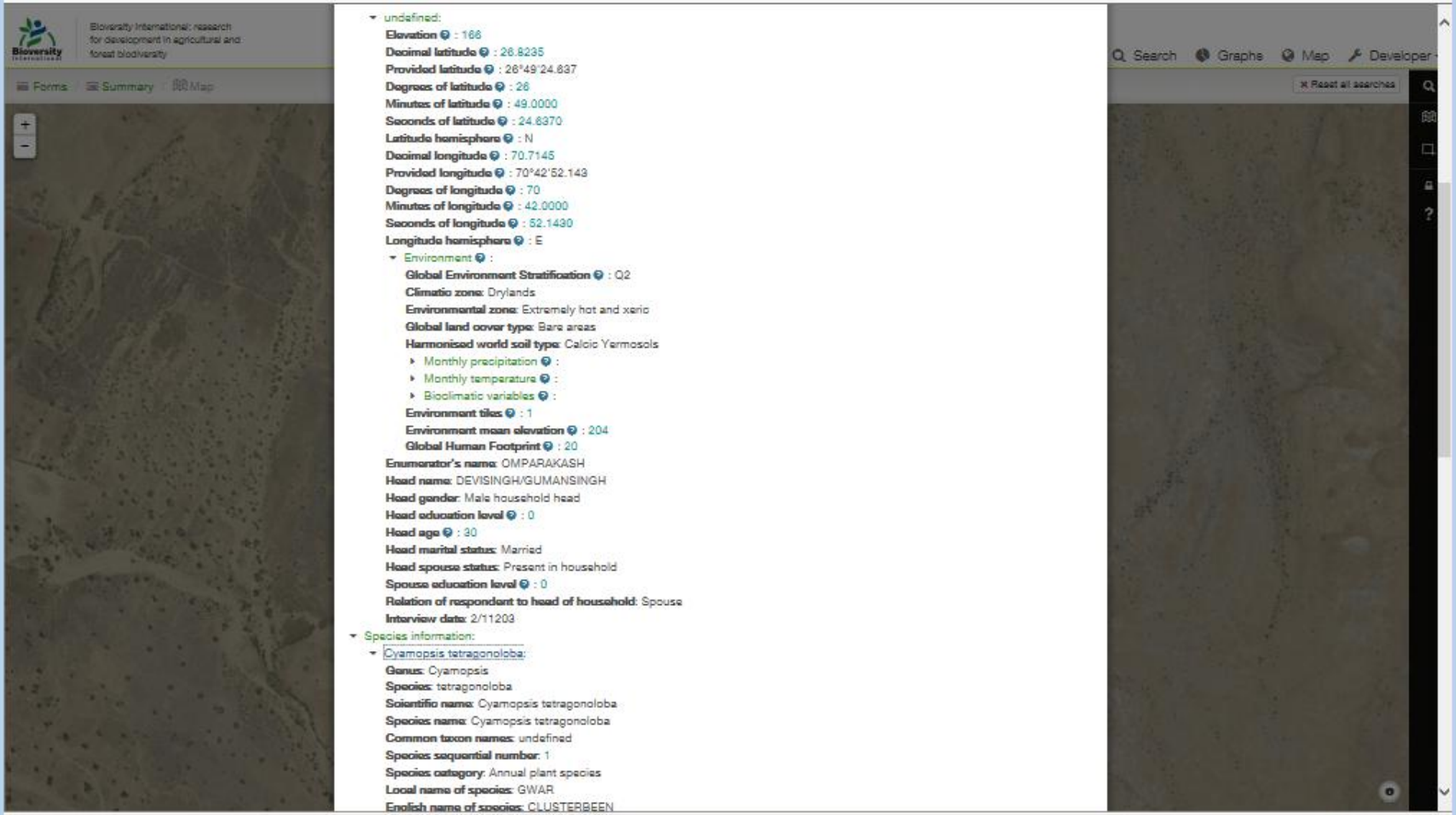
Species used by households and by objective of use and type of uses

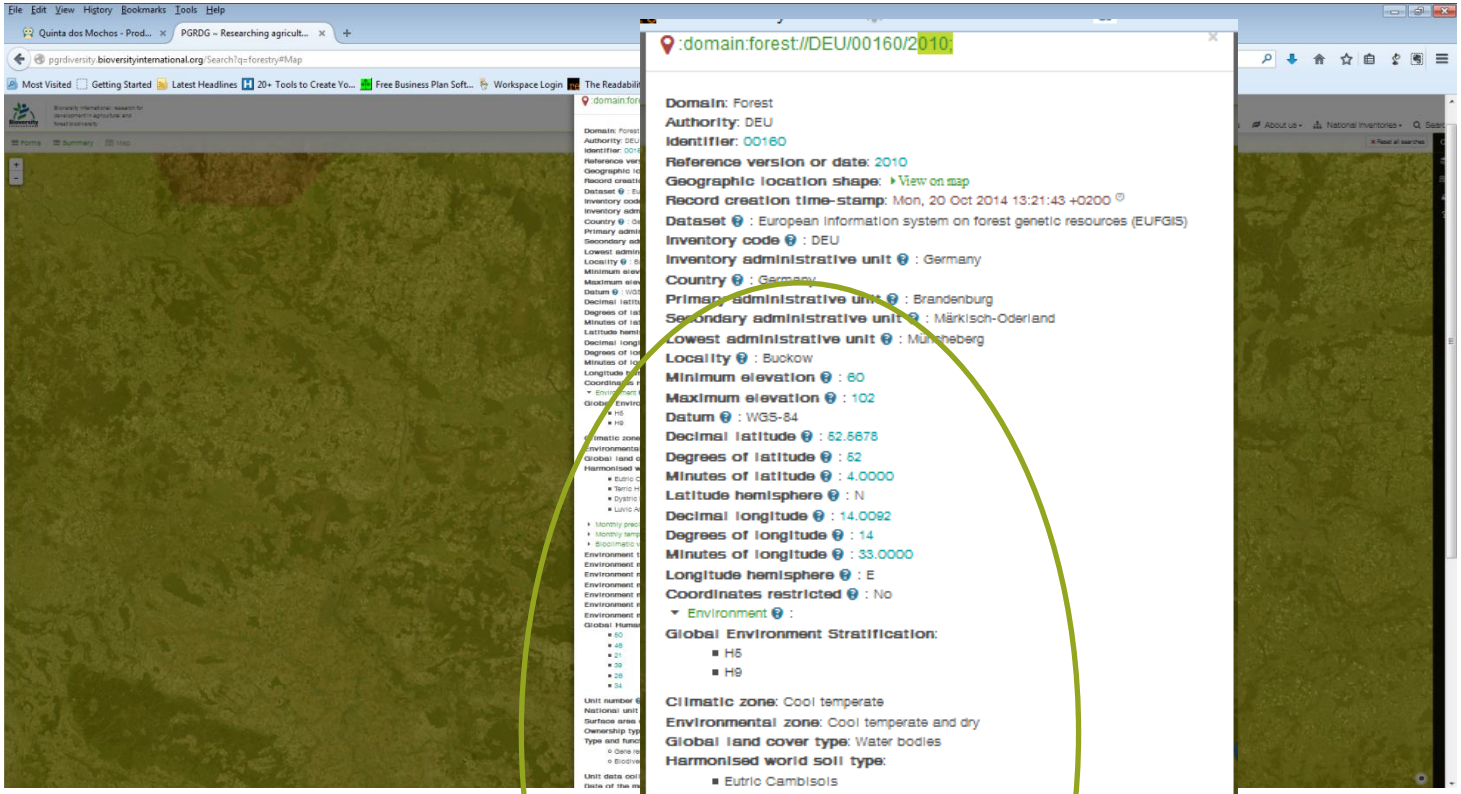
Species	Common name	Species type	No. of households	%	Self consumption exclusively	Selling exclusively	Both self consumption and selling	Food	Fodder/animal feed	Medecine	Fuel	Construction material	Ot
Pennisetum glaucum	PEARL MILLET	Annual plant species	217	92.74	0	0	0	215	217	7	4	147	
Vigna aconitifolia	MOTH BEAN	Annual plant species	131	55.98	0	0	0	130	131	0	5	0	
Cyamopsis tetragonoloba	CLUSTERBEEN	Annual plant species	181	77.35	0	0	0	123	176	6	7	0	
Vigna radiata	GREEN GRAN	Annual plant species	114	48.72	0	0	0	113	114	1	5	2	
Prosopis cineraria		Perennial plant species	221	94.44	0	0	0	215	214	4	198	53	
Azadirachta indica		Perennial plant species	102	43.59	0	0	0	82	86	7	61	30	
Capra hircus	GOAT	Domesticated animal species	207	88.46	0	0	0	0	0	0	0	0	
Sesamum indicum	SESEMUM	Annual plant species	42	17.95	0	0	0	39	16	4	26	0	
Tecomella		Perennial	61	26.07	0	0	0	2	21	2	58	53	


Bioversity International: research for development in agricultural and forest biodiversity
Home
About us
National Inventories
Search
Graphs
Map
Developer
Forms
Summary
Stats
Map
Reset all searches
55
61
56
55

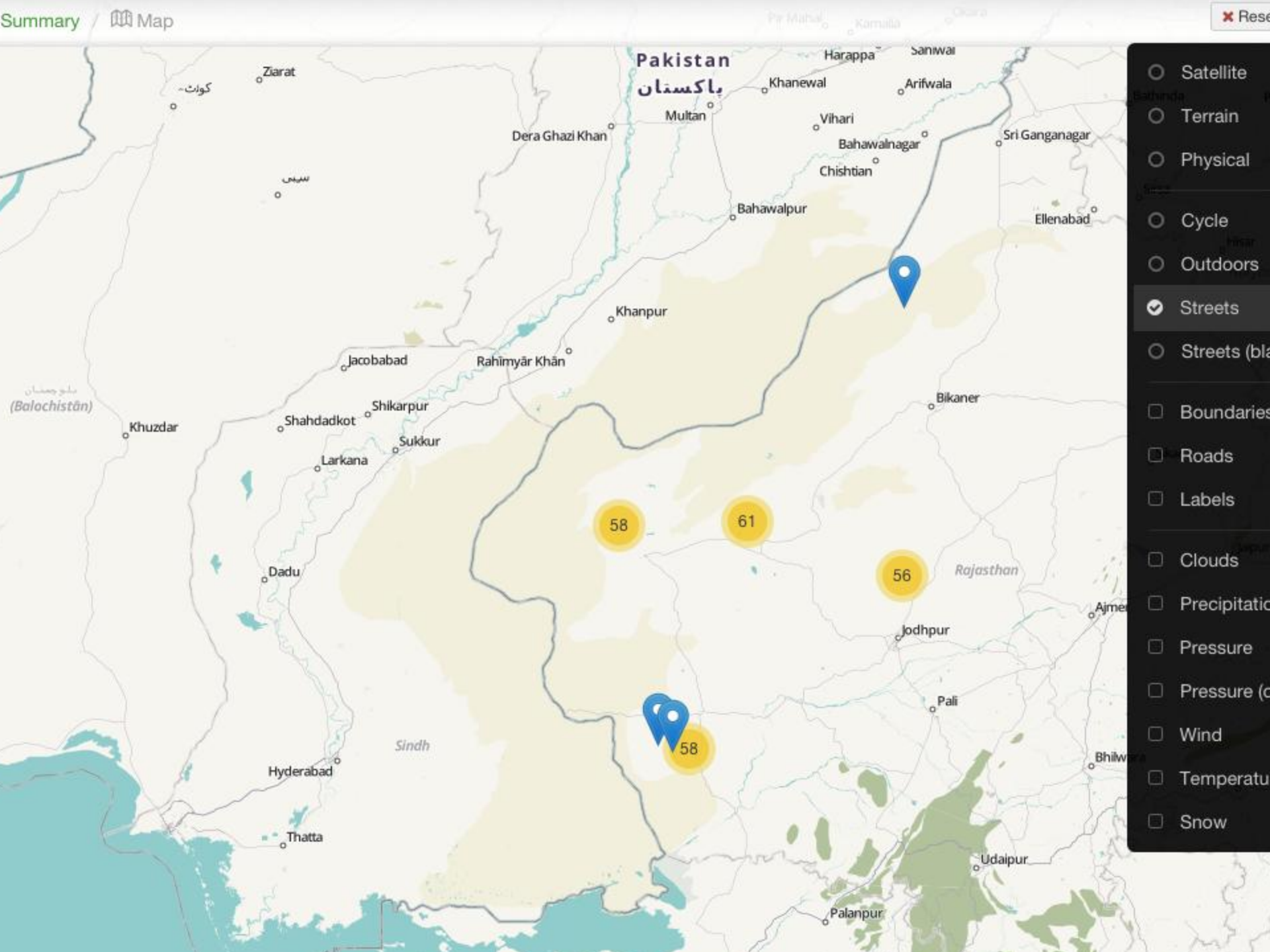

Bioversity International: research for development in agricultural and forest biodiversity
Home
About us
National Inventories
Search
Graphs
Map
Developer
Forms
Summary
Map
Reset all searches

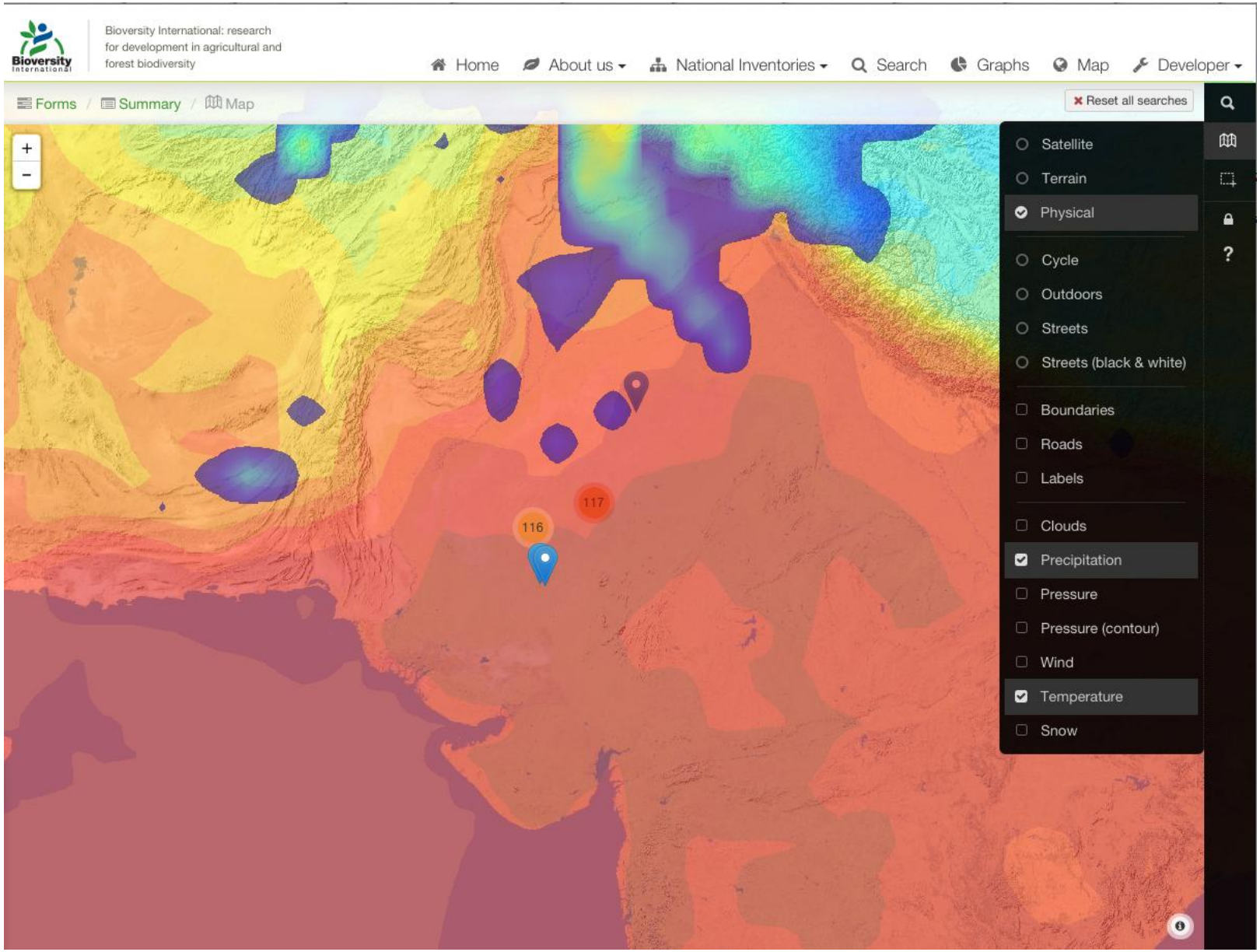

Bioversity International: research for development in agricultural and forest biodiversity
Forms
Summary
Map
Search
Graphs
Map
Developer
Reset all searches
:domain:hh-assessment://RAJASTHAN,JAISELMER,NACHNA,SANKADIYA:JA0430/2012;
Domain: Household assessment
Collection: RAJASTHAN,JAISELMER,NACHNA,SANKADIYA
Identifier: JA0430
Reference version or date: 2012
Record creation time-stamp: Thu, 06 Nov 2014 13:24:37 +0100
Dataset: Household agro-biodiversity assessment
Country: India
Administrative unit: Rajasthan
Primary administrative unit: RAJASTHAN
Secondary administrative unit: JAISELMER
Lowest administrative unit: NACHNA
Locality: SANKADIYA
Household identifier: JA0430
Reference year: 2012
State: RAJASTHAN
District: JAISELMER
Taluk/blocks/mandal: NACHNA
Village: SANKADIYA
Landscape position: Medium
Interview information:
Species information:
Socio-economic information:
Market integration:
Caste, social network & programmes information:

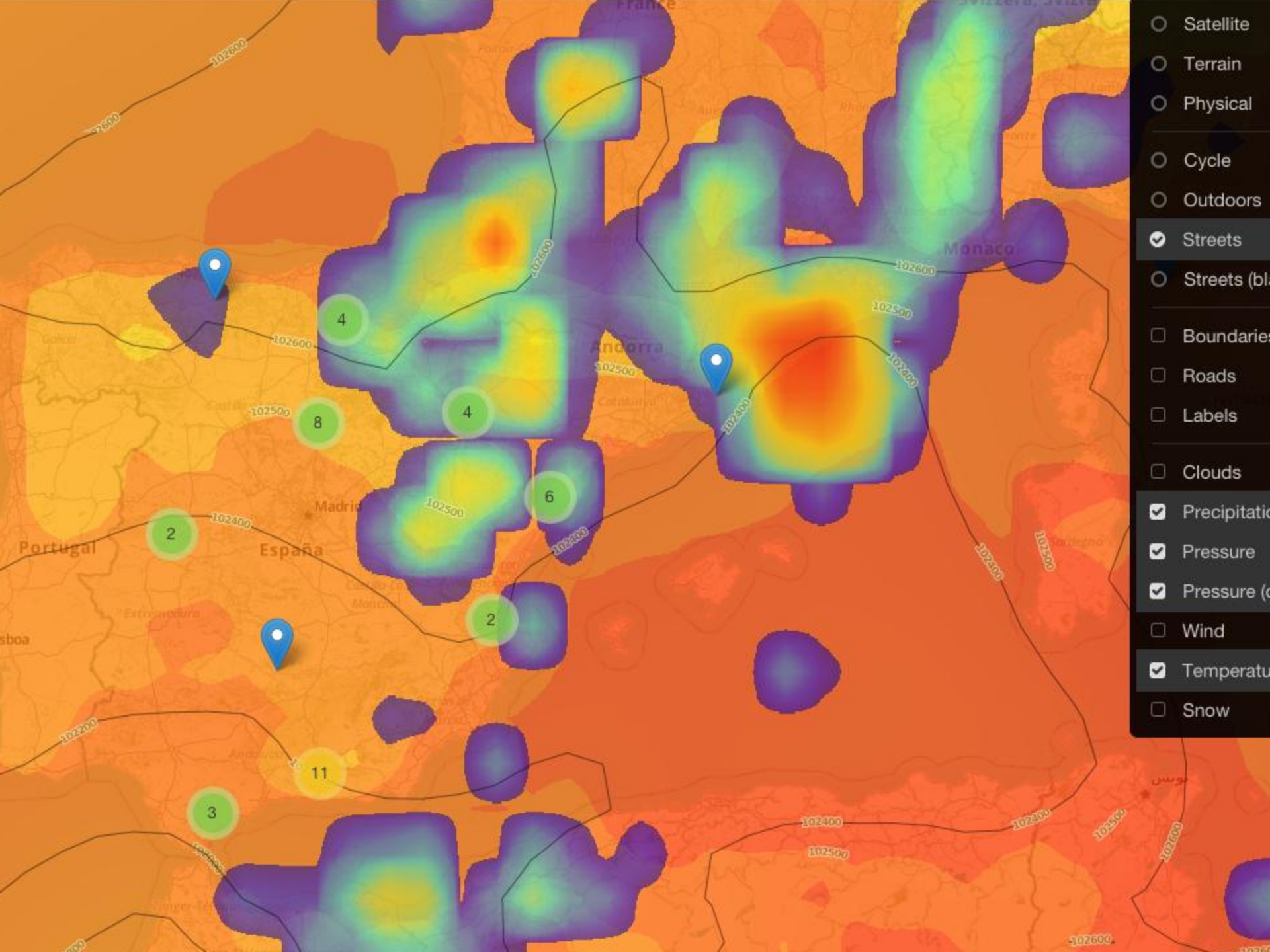

Bioversity International: research for development in agricultural and forest biodiversity
Forms
Summary
Map
Search
Graphs
Map
Developer
Reset all searches
undefined:
Elevation : 166
Decimal latitude : 26.8235
Provided latitude : 26°49'24.637
Degrees of latitude : 26
Minutes of latitude : 49.0000
Seconds of latitude : 24.6370
Latitude hemisphere : N
Decimal longitude : 70.7145
Provided longitude : 70°42'52.143
Degrees of longitude : 70
Minutes of longitude : 42.0000
Seconds of longitude : 52.1430
Longitude hemisphere : E
Environment :
Global Environment Stratification : Q2
Climatic zone: Drylands
Environmental zone: Extremely hot and xeric
Global land cover type: Bare areas
Harmonised world soil type: Calcic Yermosols
Monthly precipitation :
Monthly temperature :
Bioclimatic variables :
Environment tiles : 1
Environment mean elevation : 204
Global Human Footprint : 20
Enumerator's name: OMPARAKASH
Head name: DEVISINGH/GUMANSINGH
Head gender: Male household head
Head education level : 0
Head age : 30
Head marital status: Married
Head spouse status: Present in household
Spouse education level : 0
Relation of respondent to head of household: Spouse
Interview date: 2/11203
Species information:
Cyamopsis tetragonoloba:
Genus: Cyamopsis
Species: tetragonoloba
Scientific name: Cyamopsis tetragonoloba
Species name: Cyamopsis tetragonoloba
Common taxon names: undefined
Species sequential number: 1
Species category: Annual plant species
Local name of species: GWAR
English name of species: CLUSTERBEEN

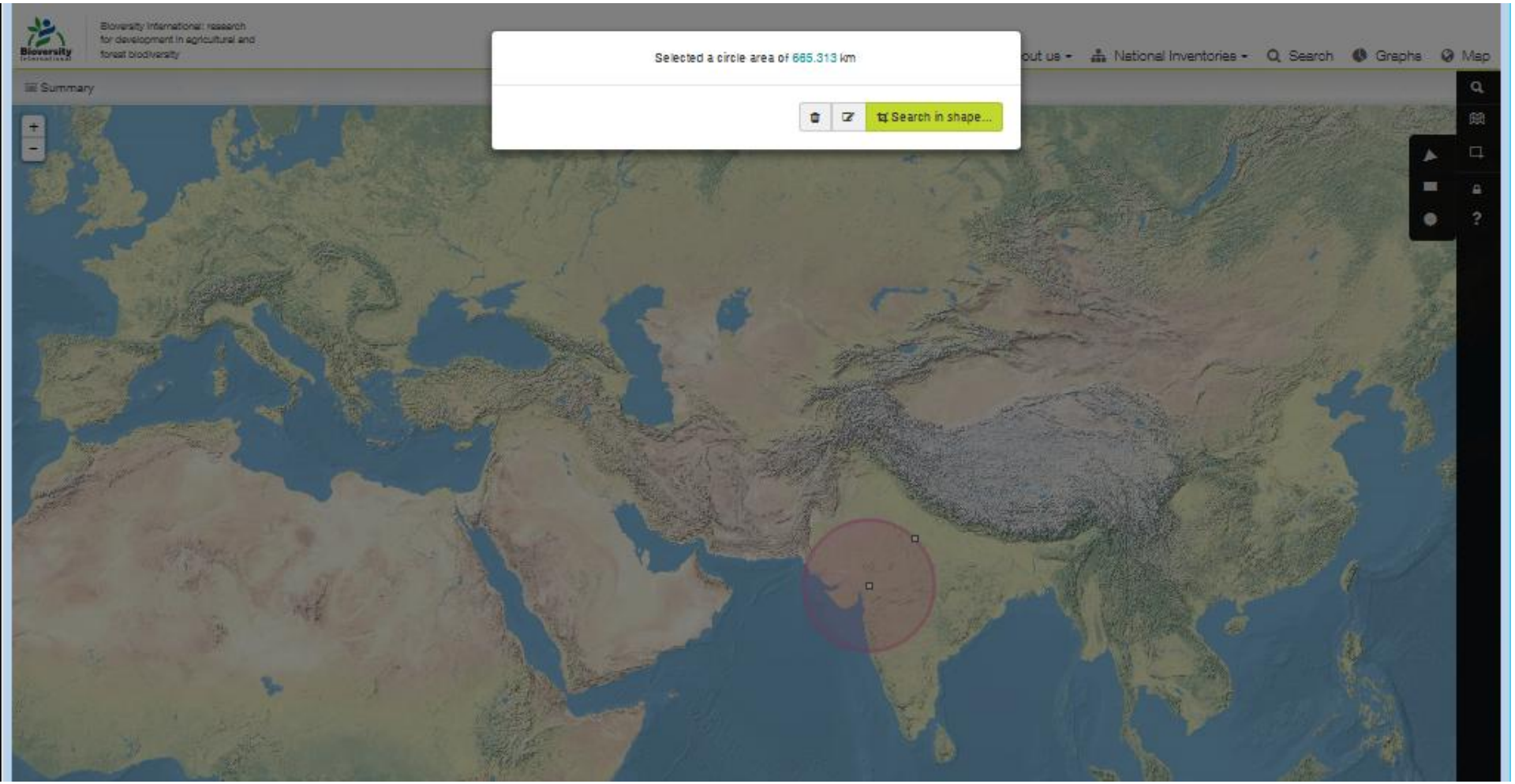


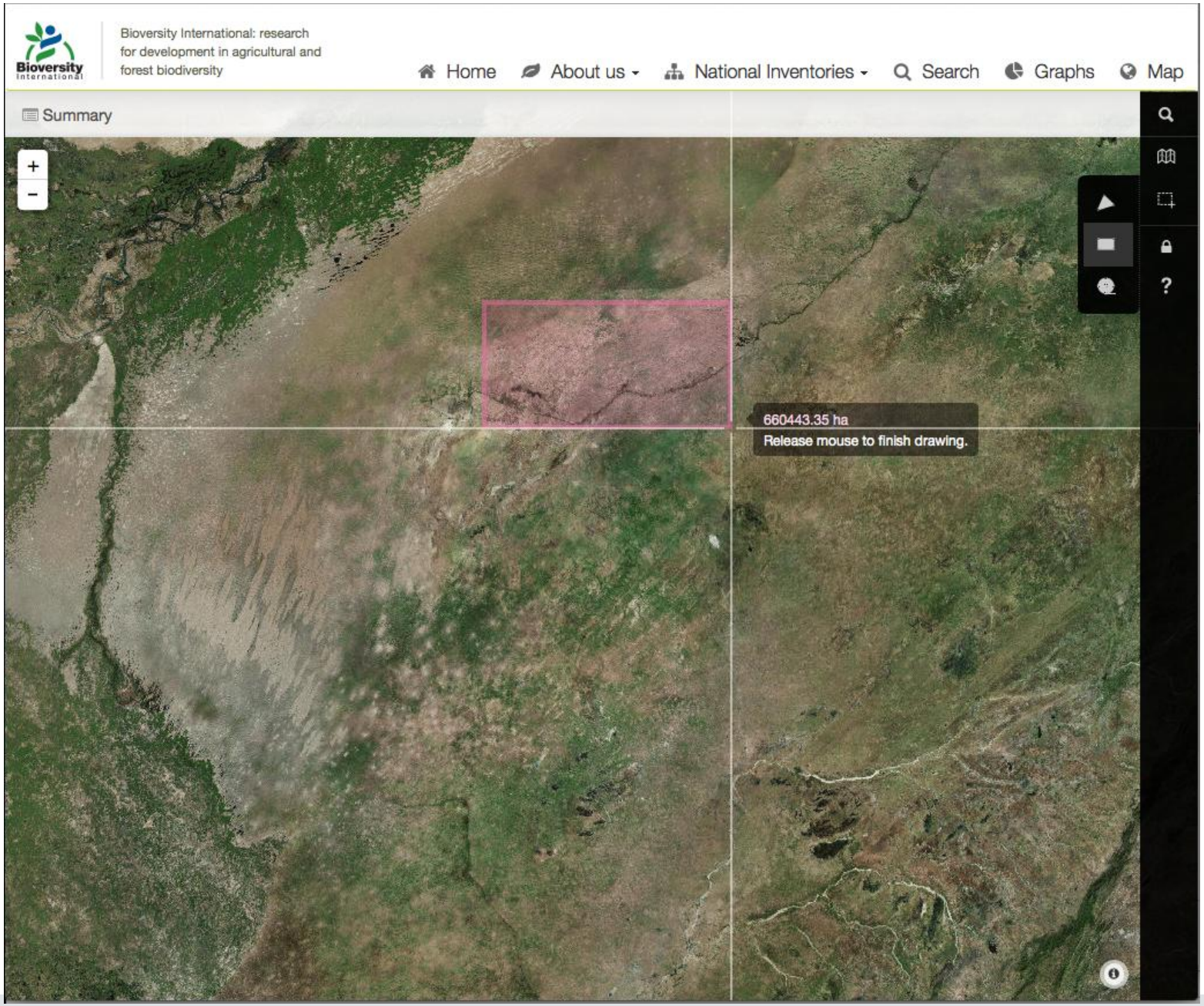
Site profile

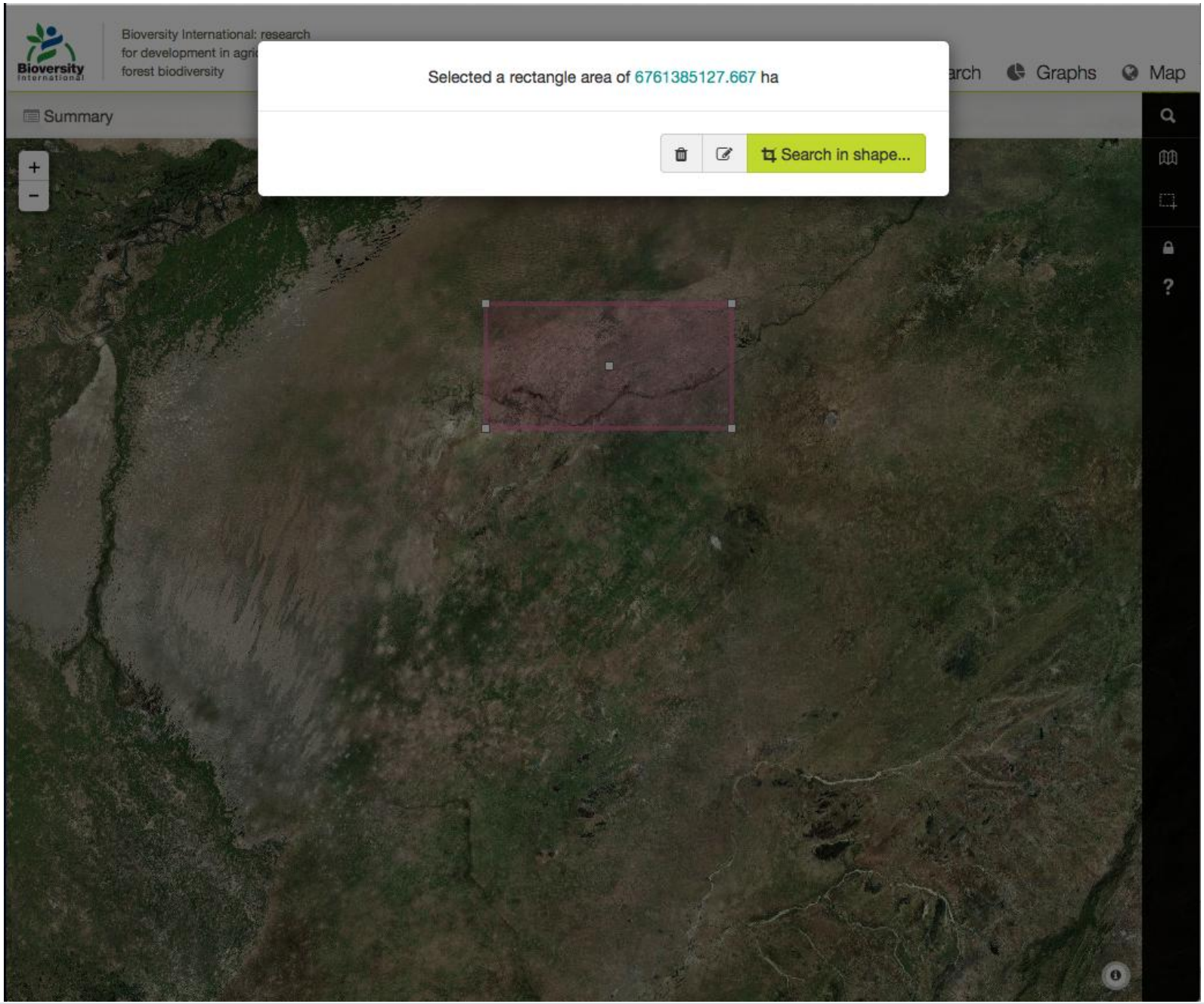

Summary
Map
Pakistan
پاکستان
Ziarat
Harappa
Sahiwal
Khanewal
Arifwala
Multan
Vihari
Dera Ghazi Khan
Bahawalnagar
Sri Ganganagar
Chishtian
Bahawalpur
Ellenabad
Khanpur
Jacobabad
Rahīmyār Khān
(Balochistān)
Khuzdar
Shikarpur
Shahdadkot
Sukkur
Larkana
Bikaner
58
61
56
Rajasthan
Dadu
Jodhpur
Pali
Sindh
Hyderabad
Thatta
Udaipur
Palanpur
Satellite
Terrain
Physical
Cycle
Outdoors
Streets
Streets (bla
Boundaries
Roads
Labels
Clouds
Precipitatio
Pressure
Pressure (c
Wind
Temperatu
Snow

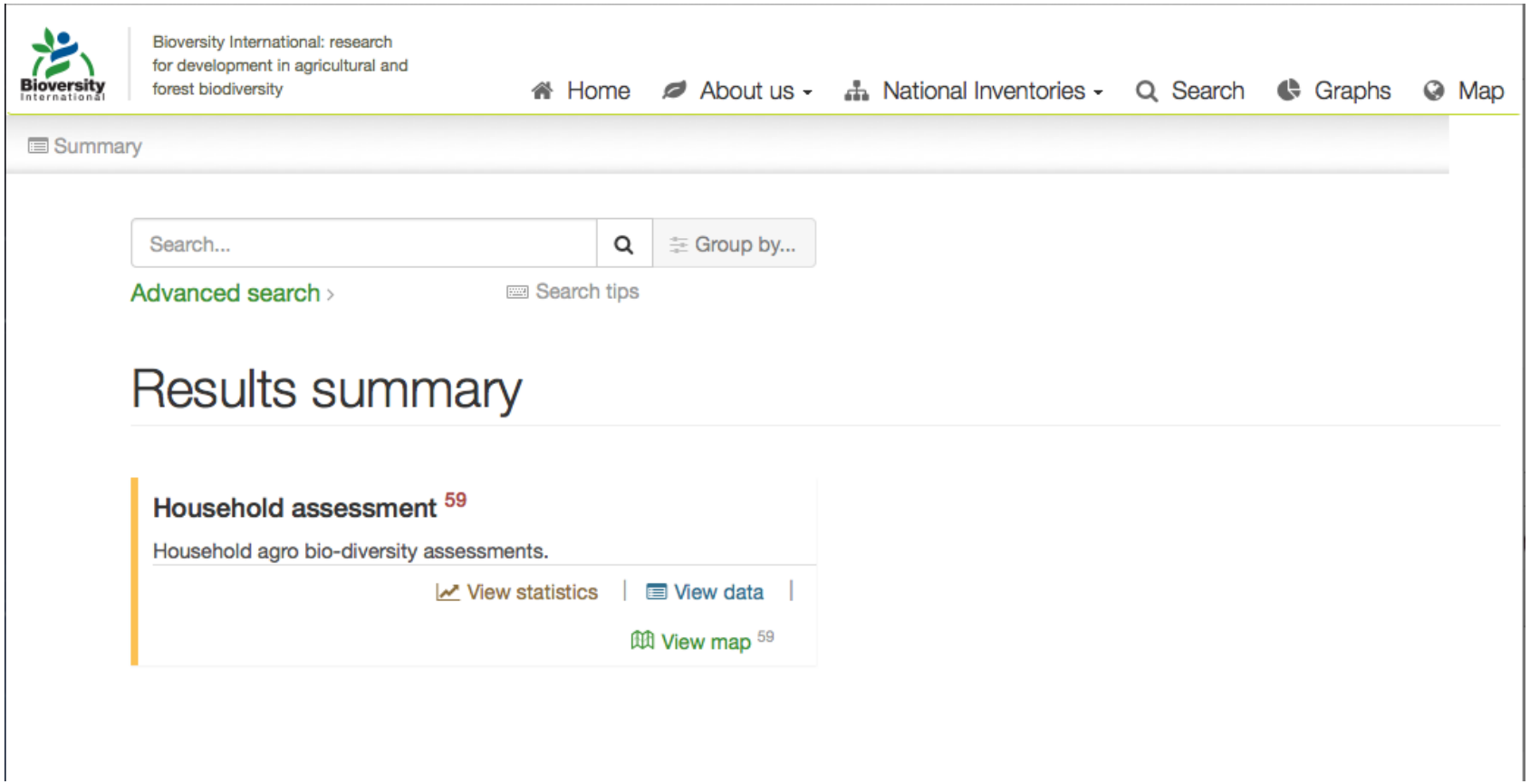

Bioversity International: research for development in agricultural and forest biodiversity
Home
About us
National Inventories
Search
Graphs
Map
Developer
Forms
Summary
Map
Reset all searches
Satellite
Terrain
Physical
Cycle
Outdoors
Streets
Streets (black & white)
Boundaries
Roads
Labels
Clouds
Precipitation
Pressure
Pressure (contour)
Wind
Temperature
Snow
116
117

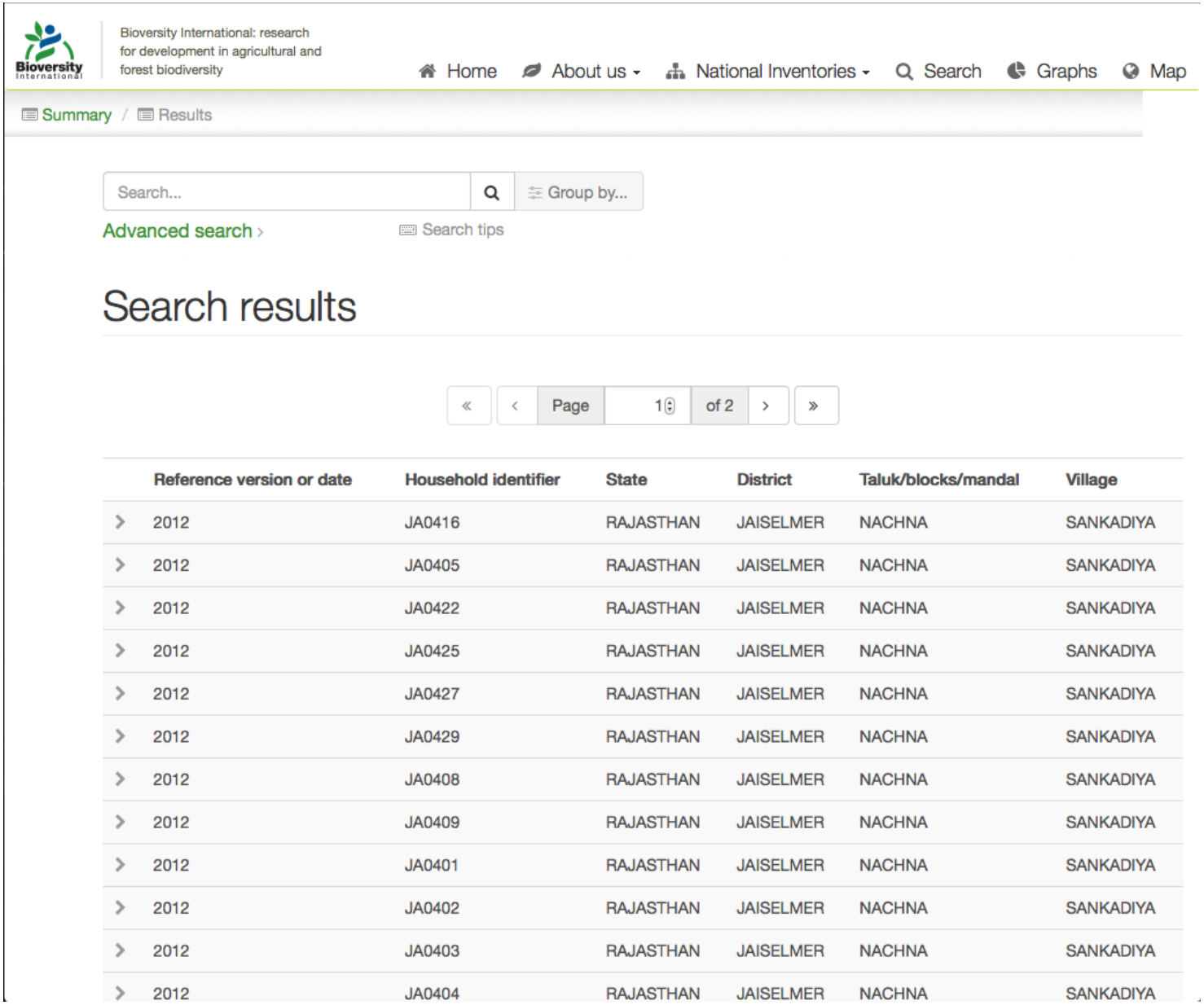

Satellite
Terrain
Physical
Cycle
Outdoors
Streets
Streets (bl
Boundaries
Roads
Labels
Clouds
Precipitati
Pressure
Pressure (
Wind
Temperatu
Snow
Portugal
España
Andorra
Monaco
Madrid
4
8
4
6
2
2
11
3
102600
102500
102400
102200

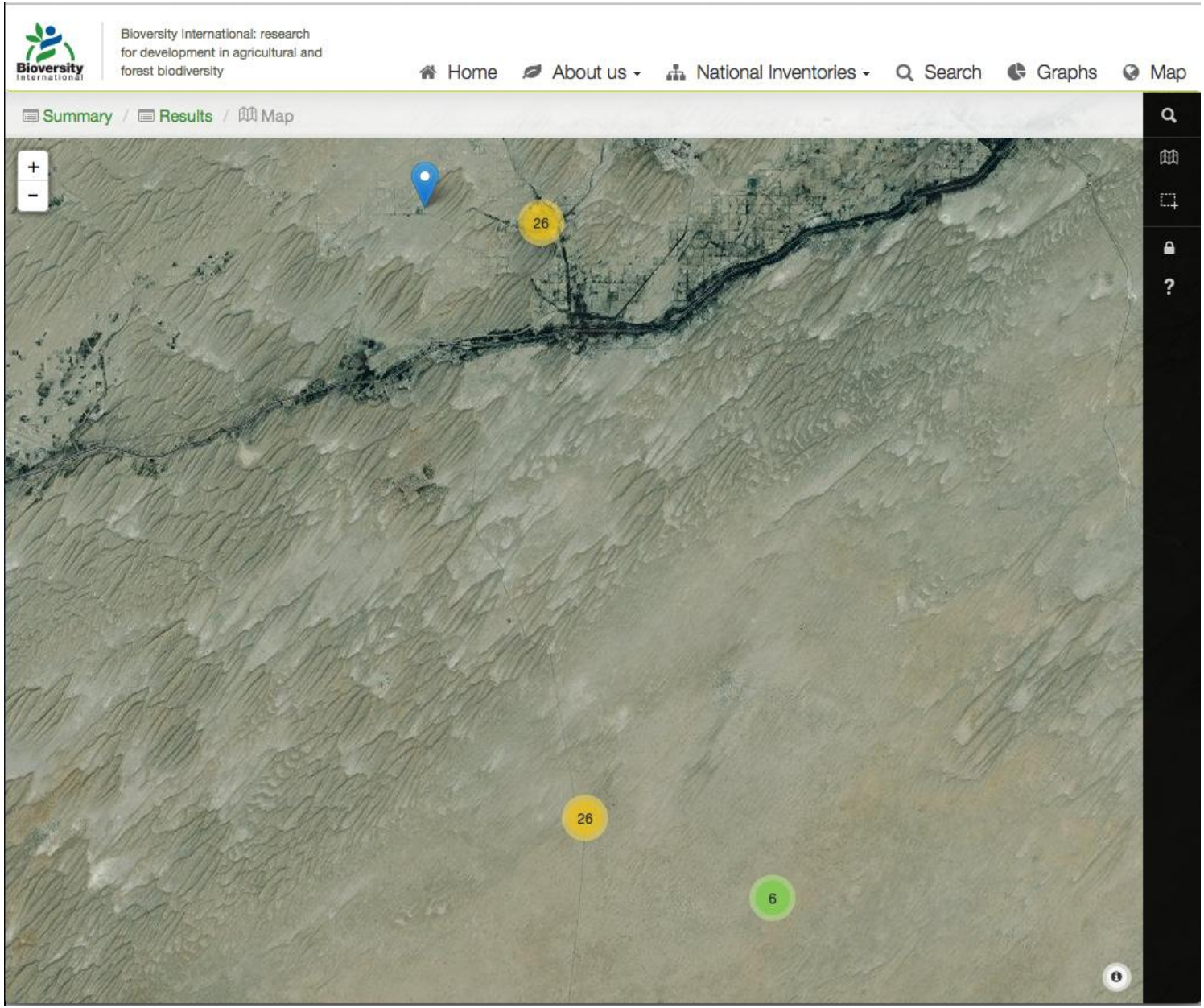

Bioversity International: research for development in agricultural and forest biodiversity
Selected a circle area of 665.313 km
Search in shape...
National Inventories
Search
Graphs
Map
Summary


Bioversity International: research for development in agricultural and forest biodiversity
Home
About us
National Inventories
Search
Graphs
Map
Summary
660443.35 ha
Release mouse to finish drawing.

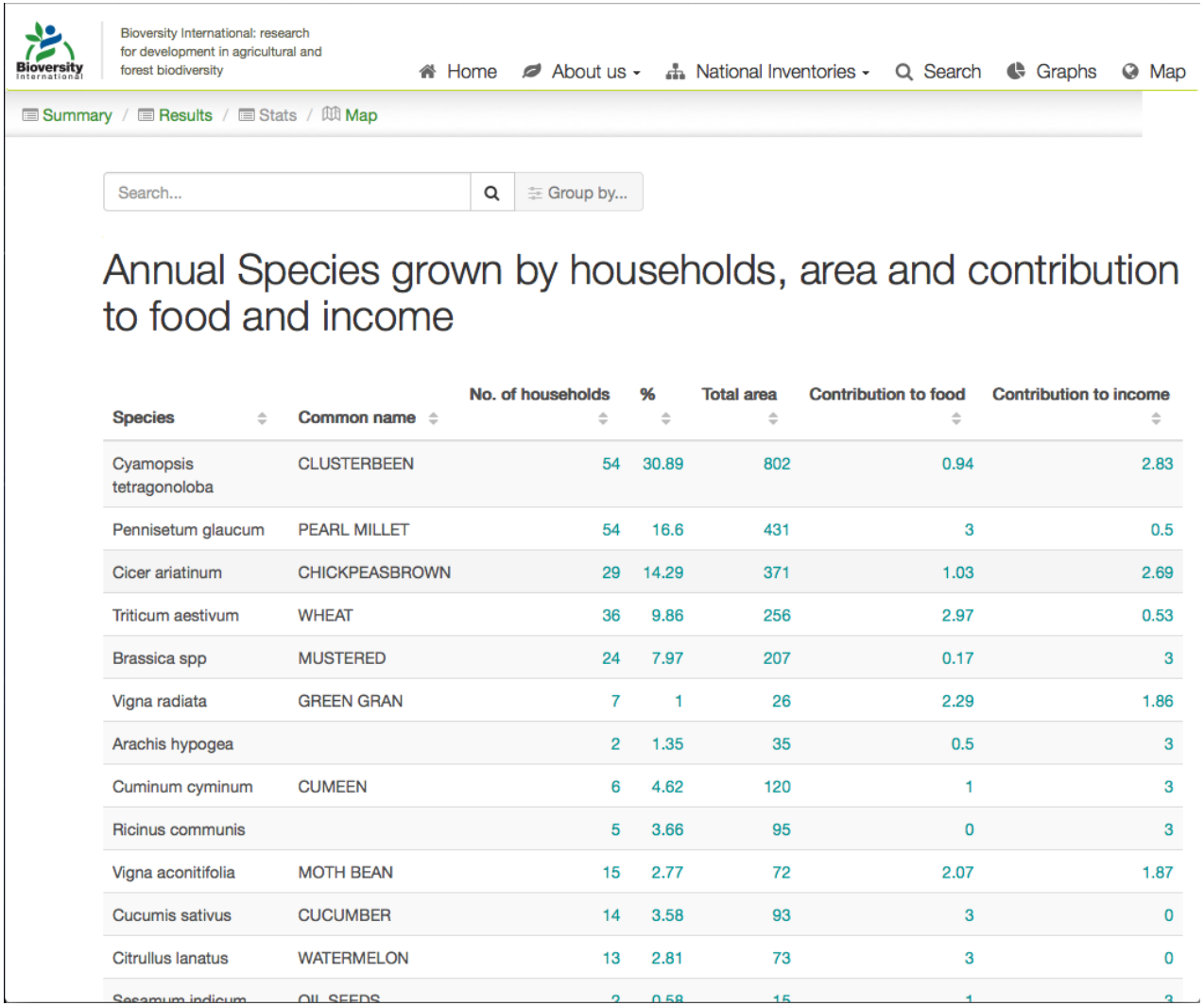

Bioversity International: research for development in agri
forest biodiversity
Graphs
Map
Summary
Selected a rectangle area of 6761385127.667 ha
Search in shape...


Bioversity International: research for development in agricultural and forest biodiversity
Home
About us
National Inventories
Search
Graphs
Map
Summary
Search...
Group by...
Advanced search
Search tips
Results summary
Household assessment 59
Household agro bio-diversity assessments.
View statistics
View data
View map 59


Bioversity International: research for development in agricultural and forest biodiversity
Home
About us
National Inventories
Search
Graphs
Map
Summary / Results
Search...
Group by...
Advanced search
Search tips
Search results
Page 1 of 2
Reference version or date | Household identifier | State | District | Taluk/blocks/mandal | Village
2012 | JA0416 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0405 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0422 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0425 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0427 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0429 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0408 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0409 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0401 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0402 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0403 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA
2012 | JA0404 | RAJASTHAN | JAISELMER | NACHNA | SANKADIYA


Bioversity International: research for development in agricultural and forest biodiversity
Home
About us
National Inventories
Search
Graphs
Map
Summary
Results
Map
26
26
6

Analysis



Bioversity International: research for development in agricultural and forest biodiversity

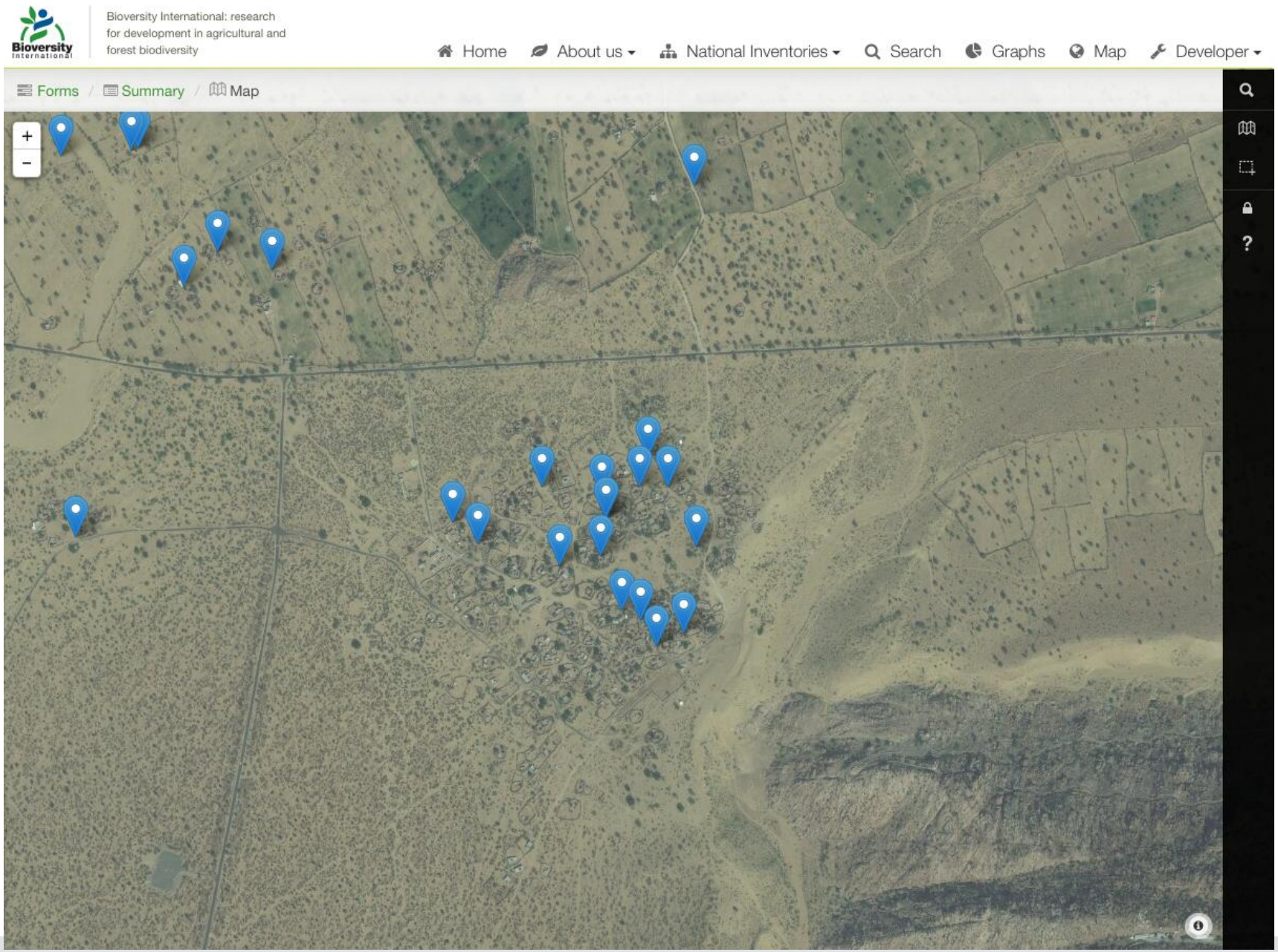
Home | About us | National Inventories | Search | Graphs | Map

Summary / Results / Stats / Map

Search... | Group by...

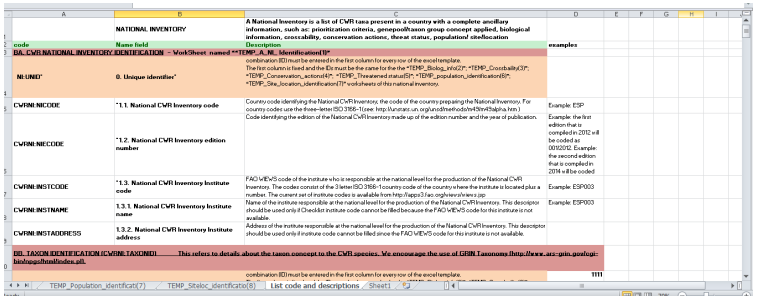
Annual Species grown by households, area and contribution to food and income

Species	Common name	No. of households	%	Total area	Contribution to food	Contribution to income
Cyamopsis tetragonoloba	CLUSTERBEEN	54	30.89	802	0.94	2.83
Pennisetum glaucum	PEARL MILLET	54	16.6	431	3	0.5
Cicer ariatinum	CHICKPEASBROWN	29	14.29	371	1.03	2.69
Triticum aestivum	WHEAT	36	9.86	256	2.97	0.53
Brassica spp	MUSTERED	24	7.97	207	0.17	3
Vigna radiata	GREEN GRAN	7	1	26	2.29	1.86
Arachis hypogea		2	1.35	35	0.5	3
Cuminum cyminum	CUMEEN	6	4.62	120	1	3
Ricinus communis		5	3.66	95	0	3
Vigna aconitifolia	MOTH BEAN	15	2.77	72	2.07	1.87
Cucumis sativus	CUCUMBER	14	3.58	93	3	0
Citrullus lanatus	WATERMELON	13	2.81	73	3	0
Sesamum indicum	OIL SEEDS	2	0.58	15	1	3


Bioversity International
Bioversity International: research for development in agricultural and forest biodiversity
Home
About us
National Inventories
Search
Graphs
Map
Developer
Forms
Summary
Map

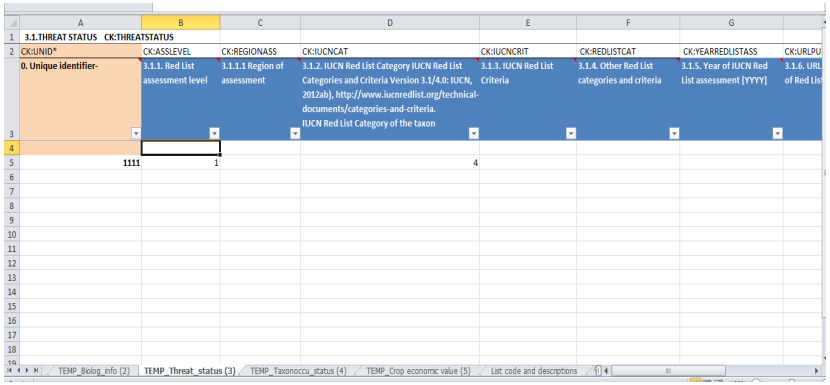
Back to the excel templates

- Checklist (CK) data
- National inventory (NI) data
- Conservation strategies



CK and NI templates have 3 types of worksheets:

- a read me page
- worksheets for each section
- list of codes and descriptions.



Note: final editing and proof reading still pending. We will share the final version very soon. The one shared today is for your own use, not to be further distributed.

Thank you for your attention

Bioversity International

CGIAR

Science for a food secure future