

USER MANUAL

Country Domestic Animal Genetic Resources Information System (C-DAGRIS) – KAFACI Member Countries



Addis Ababa, Ethiopia 2015

1 Introduction

Welcome to the Country Domestic Animal Genetic Resources Information System (C-DAGRIS) user manual. This User Manual is intended to guide you through the data entry, search and editing interfaces of the system. It provides all the information needed by all users of the system.

The manual is organized into five sections. Sections 1 and 2 cover the general introduction and system overview. Section 3 explains how to get started by accessing C-DAGRIS home page and navigating and browsing the system from this entry point. Chapter four gives step-by-step guide on the data entry, editing and browsing interfaces. Chapter five guides how to go around other pages, manage the account etc.

1.1 Background

The Country Domestic Animal Genetic Resources Information System (C-DAGRIS) is an information system designed to facilitate the compilation, organization and dissemination of information on the origin, distribution, diversity, present use and status of indigenous farm animal genetic resources from past and present research results in an efficient way. The underlying concept is that such information provides the necessary basis for developing breed improvement as well as conservation programs.

The working objectives of C-DAGRIS are:

- Compile and organize information on farm animal genetic resources from all available sources;
- Maintain the integrity and validity of the information, and
- Disseminate the information in a readily accessible way to all key stakeholders.

1.2 Scope

C-DAGRIS contains information on the origin, diversity, present use and status of indigenous farm animals (currently: cattle, sheep and goats and later: pigs and poultry later) genetic resources from research findings of a country.

It is designed to support on-line data compilation, organization, storage, access and dissemination of the information thereof through the in-built data entry, search, browse, and display and summary tables interfaces.

1.3 System Requirements

The minimum requirements for accessing C-DAGRIS on-line are an Internet connection and a web browser. As a web-based system C-DAGRIS is accessible from **any device** that can connect to the Internet and has a standard browser. The system's Graphical User Interface (GUI) has been designed to support multiple device screen form factors by implementing *Responsive Web Design*¹.

¹ http://en.wikipedia.org/wiki/Responsive_web_design, *Responsive Web Design*, *Wikipedia.org*

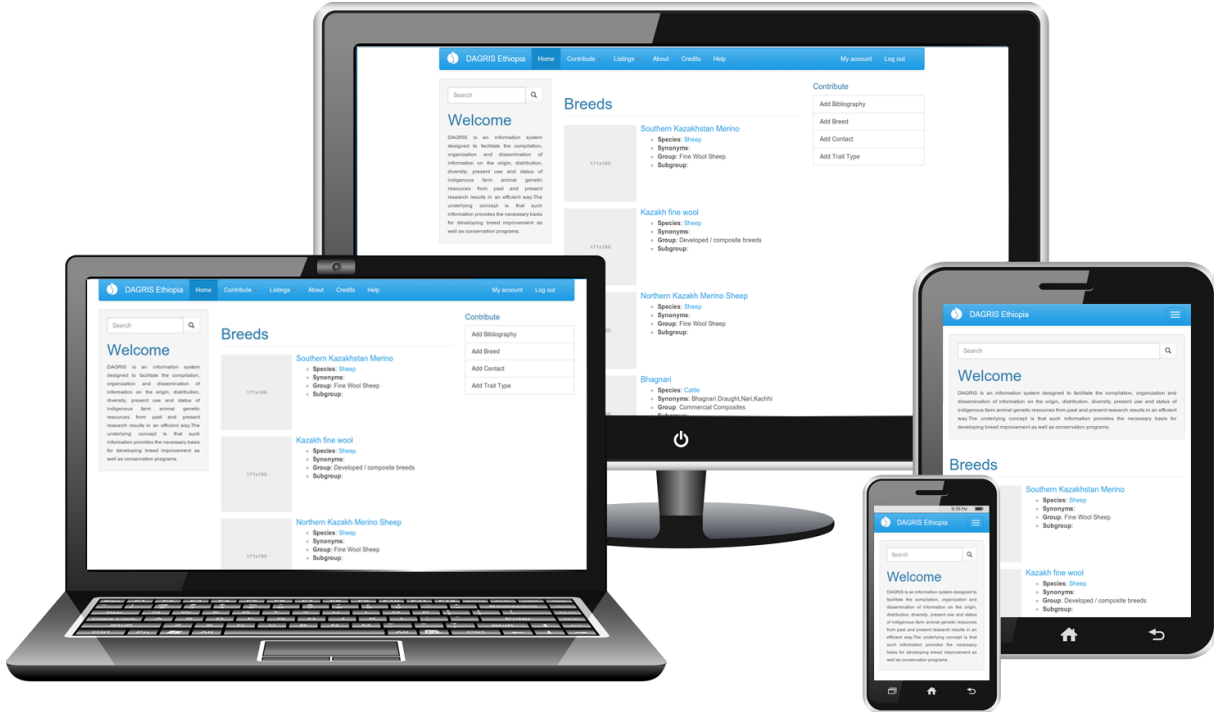


Figure 1 Different form factors

1.4 Tools

C-DAGRIS is a web-based application designed, implemented and maintained in an environment running entirely Opensource software, otherwise known as the **LAMP (Linux Apache MySQL PHP) Stack**:

Operating System: The system has been developed on a Linux machine running Ubuntu 12.04 and also deployed on an Ubuntu server. Ubuntu is the most popular Linux distribution that has excellent set of feature both for the desktop and server versions. It is also well supported by its caretaking company CANONICAL².

Web Server: C-DAGRIS uses one of the most prominent Opensource solutions as its web server, i.e. Apache Web Server³. Apache is used by **60.4%** of all the websites.

Database Management System: The third component of the LAMP stack is MySQL; it is the Relational Database Management System of choice for most Opensource projects and is ranked 2nd in the DB-Engines ranking⁴.

Programming Language: The Server-side programming language used to build the DAGRIS web framework is PHP. PHP is a recursive acronym for *Hypertext Preprocessor*.

Web Framework: C-DAGRIS is built using Drupal⁵, an open source content management platform powering millions of websites and applications.

² <http://www.canonical.com/>, Canonical Ltd.

³ <http://httpd.apache.org/>, Apache HTTP Server

⁴ <http://db-engines.com/en/ranking>, DB-Engines Ranking

⁵ <http://drupal.org/>, Drupal

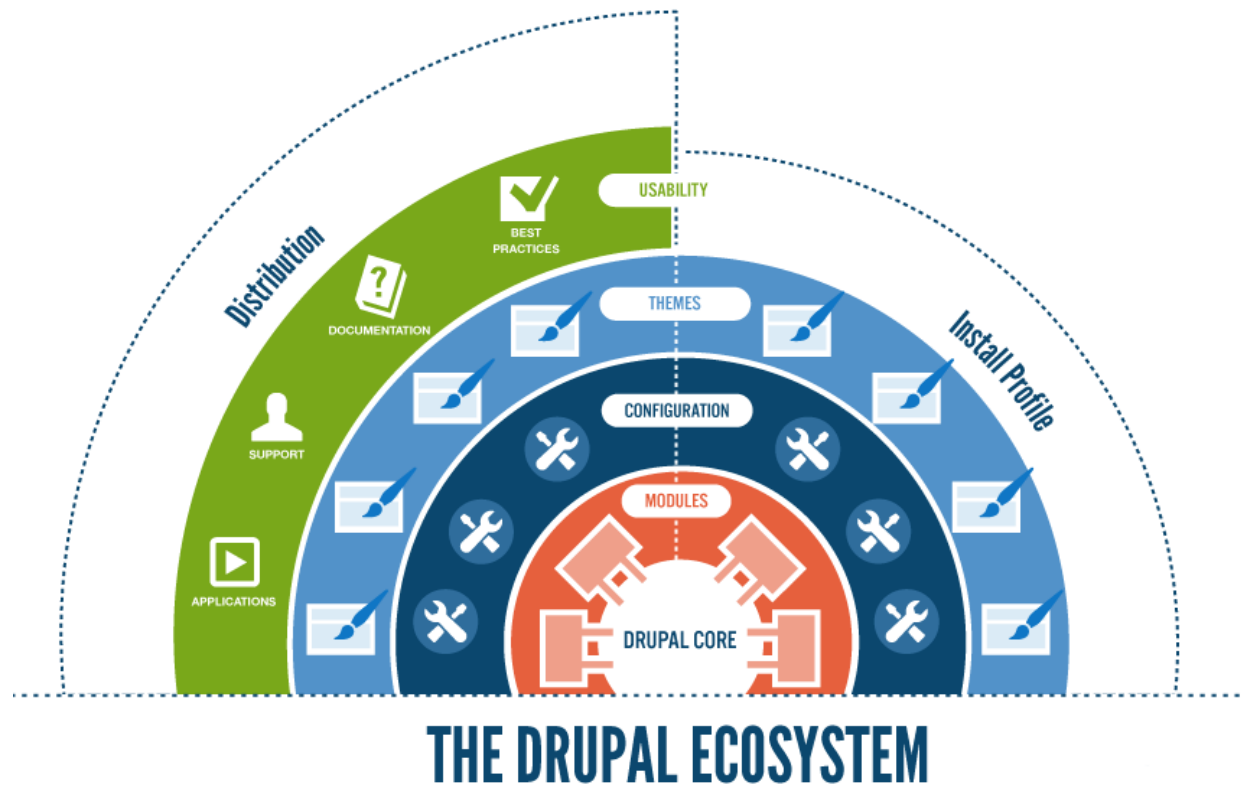


Figure 2 Drupal high-level component view

1.5 Contact Information

The contact address for the owners/administrators of C-DAGRIS system is:

E-Mail: C-DAGRIS@cgiar.org; <https://www.ilri.org>

2 System Overview

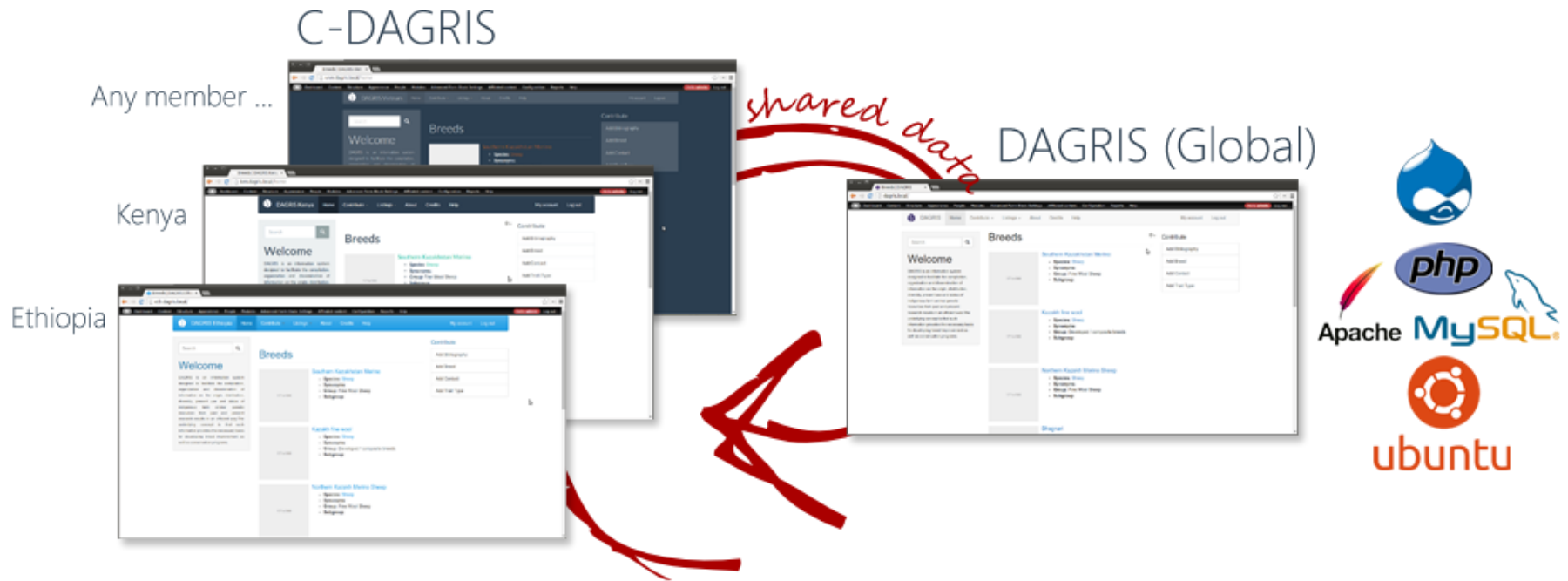


Figure 3 C-DAGRIS systems overview

2.1 System Structure

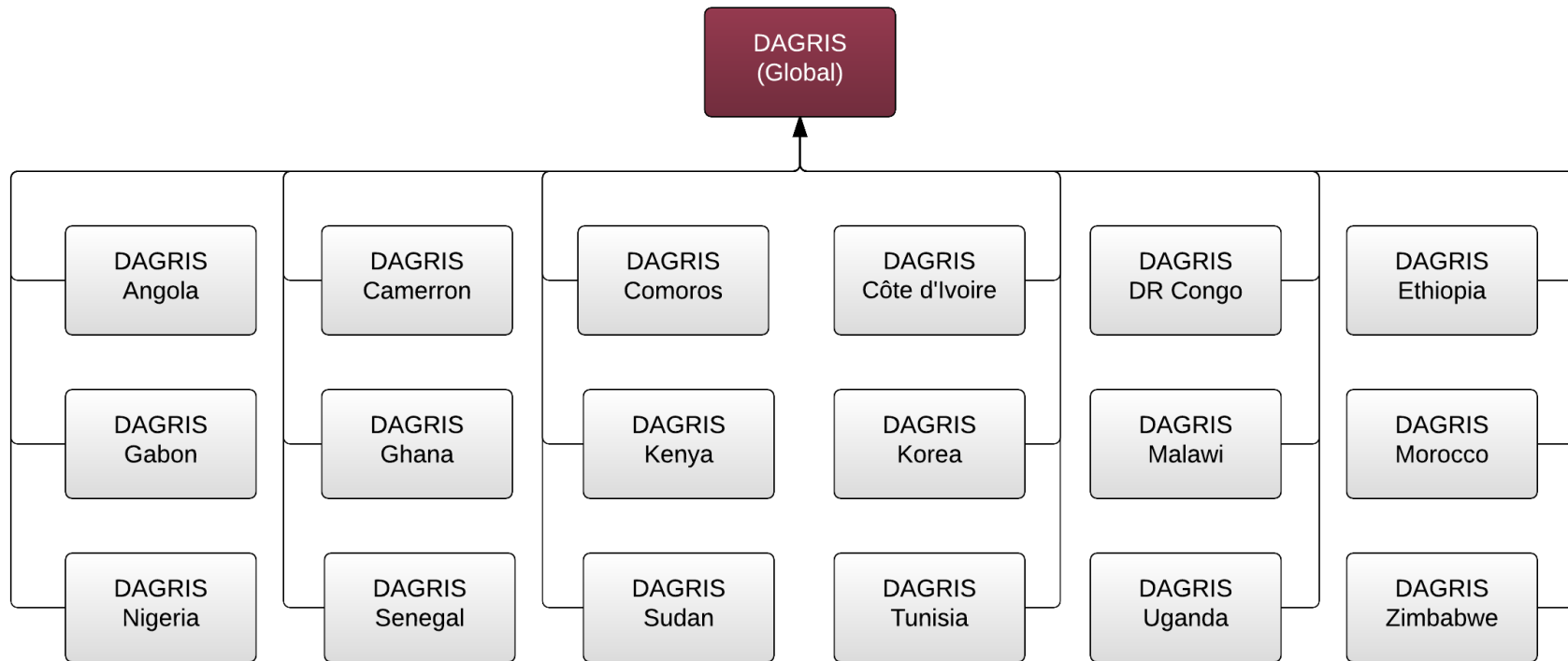


Figure 4 C-DAGRIS Eco-System

The C-DAGRIS Eco-System includes 18 different sites and a global site working together sharing data amongst themselves. Data, primarily, belongs to the site to which it has been entered and administrators have the privilege to make this data available to other sites.

2.2 Features

This section gives a high-level overview of the main features of the system.

2.2.1 Data Collection

DAGRIS is, primarily, a data collection system; it provides different forms that are used to collect the following data of interest among others:

- Species
- Breeds
- Breed Traits
- Breed Geographic Data
- Breed Population
- Breed Images (through Flickr⁶)
- Bibliographies (through CGSpace⁷)

In Section 4 of this document, we will cover how to use the different forms provided in the system to collect data.

2.2.2 Search

C-DAGRIS provides a highly customizable searching facility, to easily query information regarding genetic information collected through the different sites. The search provides the easiest way to find information within the system. As an open system, C-DAGRIS has been optimized for Search Engines to easily provide information to more popular searching tools such as Google and Bing!

2.2.3 Reports

Data is not only collected through forms but is also analyzed to provide summary reports, of which some are graphical (pie charts). A comprehensive list of reports provided by the system are as follows:

- Breeds by Region
- Breeds by Species
- Trait Types by Category
- Traits by Breeds
- Traits by Category
- Traits by Species
- Traits by Species & Sex
- Traits by Type

2.2.4 Integration with other Systems

C-DAGRIS has been designed from the ground up to integrate with other systems, namely **Flickr** and **CGSpace** to build on their specialized features of managing photos and digital documents, respectively.

⁶ <https://www.flickr.com/photos/ilri-dagris/> - DAGRIS Photos hosted on Flickr

⁷ <https://cgspace.cgiar.org/> - CGSpace, repository of agricultural research outputs and results produced by different parts of CGIAR and partners

2.2.5 Language Support

C-DAGRIS now comes with support for **four (4)** languages that are mainly used in the 18 countries of the project, these are:

- English (Default)
- French
- Korean
- Portuguese

3 Getting Started

This section gives the instruction on how to get started with using the system.

3.1 Access C-DAGRIS

The official global C-DAGRIS system URL is <http://dagris.info>, the other country sites are maintained as subdomains to the global one, the list of countries and their C-DAGRIS URI's are as follows:

Country	URL
Angola	http://ago.dagris.info
Cameroon	http://cmr.dagris.info
Comoros	http://com.dagris.info
Côte d'Ivoire	http://civ.dagris.info
DR Congo	http://cod.dagris.info
Ethiopia	http://eth.dagris.info
Gabon	http://gab.dagris.info
Ghana	http://gha.dagris.info
Kenya	http://ken.dagris.info

Country	URL
Korea	http://kor.dagris.info
Malawi	http://mwi.dagris.info
Morocco	http://mar.dagris.info
Nigeria	http://nga.dagris.info
Senegal	http://sen.dagris.info
Sudan	http://sdn.dagris.info
Tunisia	http://tun.dagris.info
Uganda	http://uga.dagris.info
Zimbabwe	http://zwe.dagris.info

Table 1. List of Project Countries and their sites

3.1.1 Register

In order to registers as a first time user, visit the login page using the login link provided at the top right of the page.



Figure 5 Login Link

After the login page loads, click on the “Create new account” link and a new user creation form will be presented.

[Create new account](#) [Log in](#) [Request new password](#)

Username *

E-mail address *

A valid e-mail address. All e-mails from the system will be sent to this address. The e-mail address is not made public and will only be used if you wish to receive a new password or wish to receive certain news or notifications by e-mail.

[Create new account](#)

Figure 6 New User Account Form

Fill in the form with appropriate information and submit it. A registration email will be sent to the address you just provided, which will contain a link to activate your account on the system. Use that link to login for the first time.

3.1.2 Login

After creating your account and activating it, you can simply login using the login screen. This is provided through the login link, at the top left corner of the page, *see Figure 5 above*.

3.1.3 Logout

Once logged in the system provides quick links to your profile page and the logout action as shown below.



Figure 7 Profile and Logout Links

3.1.4 Bookmark the site

It is usually a good idea to bookmark the site of your interest. Please use the following shortcut keys to add the site to your bookmarks.

Operating System	Browsers	Shortcut Keys
Windows	Internet Explorer	ctrl + d
	Google Chrome	ctrl + d
	Firefox	ctrl + d
Mac OS X	Safari	⌘ + d
	Google Chrome	⌘ + d
	Firefox	⌘ + d
Linux	Google Chrome	ctrl + d
	Firefox	ctrl + d

Table 2 Bookmarking Shortcuts

3.2 Site Map

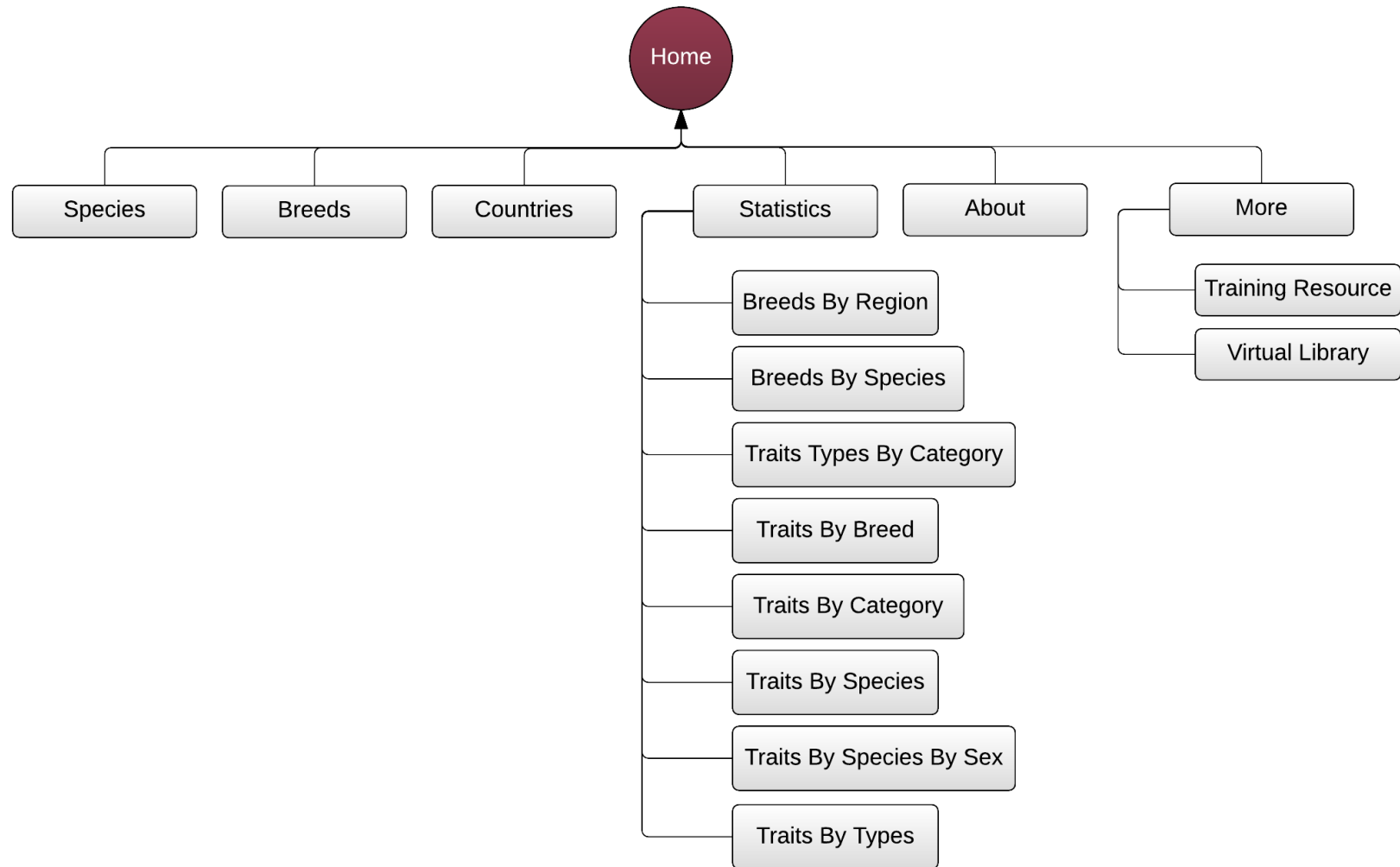


Figure 8 C-DAGRIS Site Map

3.2.1 Main Menu

The Main Menu links as depicted in Figure 8 above lead to different section of the site:

Species: This page lists all species recorded in the system with links to breed listings for a particular species.



Species	Breeds
Buffalo	139
Cattle	189
Chickens	126
Dromedary Camels	10
Goats	83
Pigs	166
Sheep	179
Yaks	30

Figure 9 Species Listing

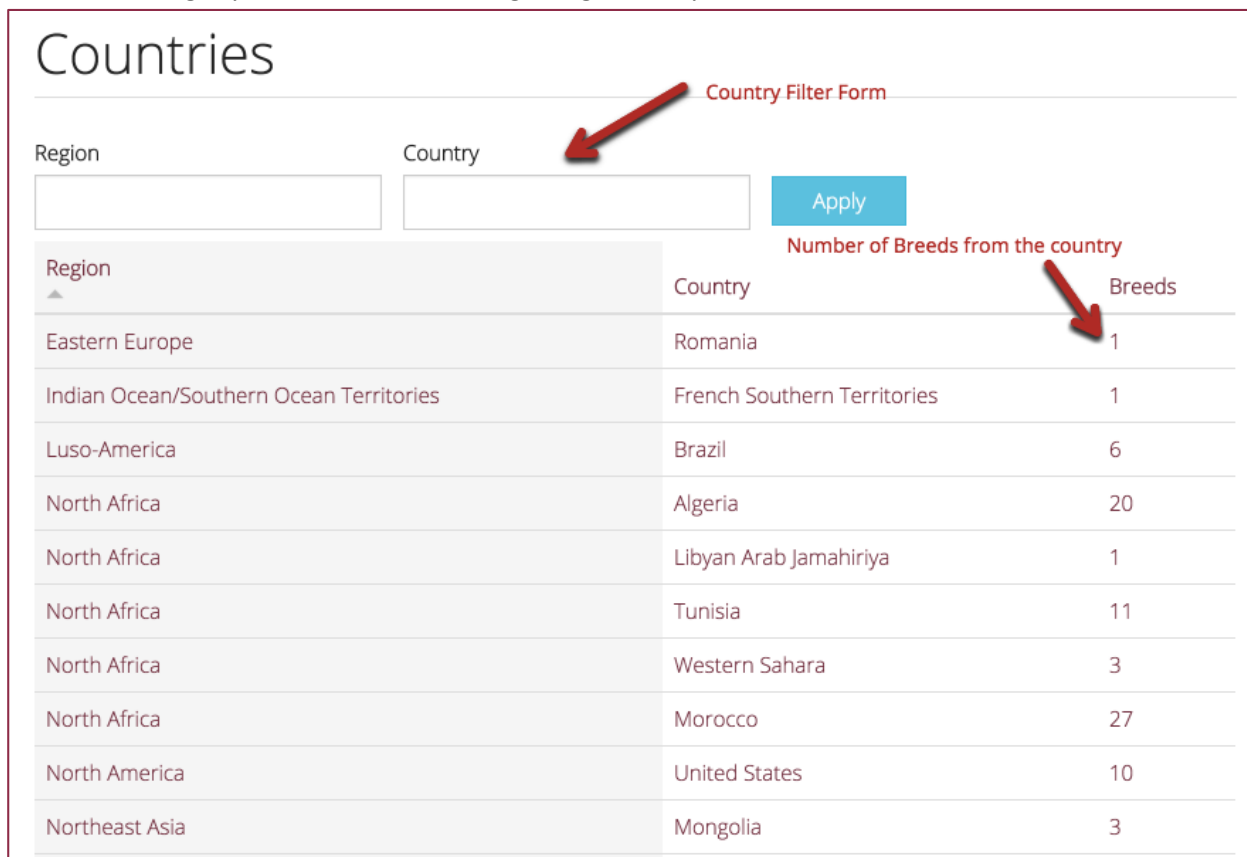
Breeds: The Breeds page listing all breeds in the system, can be filtered using the filter form provided at the top. The links lead to detailed breed page.

The screenshot shows the 'Breeds' page interface. At the top, there is a 'Breed Filter Form' with a 'Species' dropdown menu set to '- Any -' and a 'Name' search input field. An 'Apply' button is located to the right of the search field. Below the filter form is a table listing various buffalo breeds. The table has three columns: 'Species', 'Name', and 'Synonyms'. The 'Species' column contains the word 'Buffalo' for every row. The 'Name' column lists breeds such as 'Selembu', 'Italiano', 'Nelore', 'Haizi', 'Ravi', 'Mediterranean', 'Búfalo de Pantano', 'Kebo', 'Godavari', 'Fuan', 'Buffel', 'Native buffaloes in the southern part', 'Kuhzestani', 'Ghab', and 'Tarai'. The 'Synonyms' column lists alternative names for some breeds, such as 'Haitszy; Haitzu (Wade-Giles)', 'Sandal Bar', 'Bufalo Italiano; Bufalo Prete; Mediterraneo', and 'Iraqi buffalo'. At the bottom of the table, there is a pagination control showing page numbers 1 through 9, with an ellipsis and a 'next' button. Red arrows point to the 'Apply' button, the 'Selembu' row, and the pagination control.

Species	Name	Synonyms
Buffalo	Selembu	
Buffalo	Italiano	
Buffalo	Nelore	
Buffalo	Haizi	Haitszy; Haitzu (Wade-Giles)
Buffalo	Ravi	Sandal Bar
Buffalo	Mediterranean	Bufalo Italiano; Bufalo Prete; Mediterraneo
Buffalo	Búfalo de Pantano	
Buffalo	Kebo	
Buffalo	Godavari	
Buffalo	Fuan	Fu'an
Buffalo	Buffel	Buffalo
Buffalo	Native buffaloes in the southern part	
Buffalo	Kuhzestani	Iraqi buffalo
Buffalo	Ghab	Palestinian; Syrian
Buffalo	Tarai	

Figure 10 Breeds Page

Countries: A slightly modified breeds listing categorized by the countries in which the breed is found.



The screenshot shows a web interface titled "Countries". At the top, there is a "Country Filter Form" with two input fields: "Region" and "Country". An "Apply" button is located to the right of the "Country" field. Below the filter form is a table with the following columns: "Region", "Country", and "Breeds". The table lists various regions and their corresponding countries and the number of breeds found in each country. Red arrows in the original image point to the "Country" filter input and the "Breeds" column header.

Region	Country	Number of Breeds from the country
Eastern Europe	Romania	1
Indian Ocean/Southern Ocean Territories	French Southern Territories	1
Luso-America	Brazil	6
North Africa	Algeria	20
North Africa	Libyan Arab Jamahiriya	1
North Africa	Tunisia	11
North Africa	Western Sahara	3
North Africa	Morocco	27
North America	United States	10
Northeast Asia	Mongolia	3

Figure 11 Breeds by Countries listing

Statistics: A parent menu to all the report pages, there are 8 report pages on the global site. The country C-DAGRIS sites, however, have only 5 relevant reports.

About: The About page gives a general description of the system and also provides the credits to those who have worked (built) on the system.

More: Provides external links to a Training Resources and Virtual Library.

3.2.2 Forms

There are a number of forms in the system, however, the main forms are listed below:

Breed: provides the fields to record a breed.

The screenshot shows a web form titled "Add Breed" with a breadcrumb "Contribute / Add Breed". The form contains the following fields:

- Name ***: A text input field.
- Species**: A dropdown menu with "- None -" selected.
- Group**: A dropdown menu with "- None -" selected.
- Synonyms**: A text input field.
- Subgroup**: A text input field.
- Origin**: A large text area.
- Flickr**: A text input field.
- Habitat**: A large text area.
- Main Location**: A large text area.
- Special Characteristics**: A large text area.
- Language**: A dropdown menu with "Language neutral" selected.
- Domain access options**: A text input field.
- Save Breed**: A green button at the bottom left.

Figure 12 Breed Form

Breed Trait: the form used to record a breed's traits.

Add Trait

Identifier *

Trait Type

Bibliography

Breed Country

Contact

Management Condition

Sex

Value

Mean

Standard Deviation

Standard Error

Size

Management

Location

Comment

Age

[Domain access options](#)

Save Trait

Figure 13 Breed Trait Form

Breed Distribution: allows attaching geographic and related information to a breed.

Add Breed Distribution

Local Name *

Country

Main Location

Present Use

Risk Status

Risk Cause

Habitat

Environment Report

Temperature

Rainfall

Relative Humidity

Altitude

Vegetation

Comment

Domain access options

Save Breed Country

Figure 14 Breed Distribution Form


Traits Types: used to define a trait that could be associated to a breed.

Contribute / Add Trait Type


Add Trait Type

Name *


Sex Group

Trait Category

Trait Value Type

Description

Is Identifier Required?

Identifier Name

Identify What?

Is Age Required?

Use in Summary?

[Domain access options](#)

[Save Trait Type](#)

Figure 15 Trait Type Form

3.2.3 Search

Drupal provides a powerful search mechanism that looks through all records found in the system's database and outputs a manageable list of results as shown below.

The screenshot shows a search interface with a breadcrumb trail 'Search / Content / Content'. The search results are displayed under the 'Content' tab, with 'Users' also visible. The search input field contains 'kuri'. Below the search bar is an 'Advanced search' button. The search results are titled 'Search results' and list five items:

- 1. A close look at a rare African breed - the Kuri cattle of Lake Chad Basin: origin, distribution, production and adaptive characteristics**
... Conference Date: Descriptors: LAKE CHAD; KURI CATTLE; BREEDS; PROVENANCE; GEOGRAPHICAL DISTRIBUTION; ADAPTATION; ... BIODIVERSITY; NATURE CONSERVATION
Abstract: The Kuri is a rare, little known breed of cattle of the Hamitic Longhorn (Bos ...
Anonymous (not verified) - 06/16/2014 - 03:39
- 2. Kuri**
... a characteristic they need to survive in their environment. Kuri animals are intolerant to heat and sunlight and are unable to stand ... Group: Humpless Longhorns Flickr tags: KURI Main Location: The Kuri predominates on the shores and islands ...
admin - 06/01/2015 - 09:37
- 3. <http://www.ansi.okstate.edu/breeds/cattle/kuri/>**
... Burditt, David Buchanan and Jerry Fitch Breed: Kuri ...
Anonymous (not verified) - 06/16/2014 - 03:39
- 4. <http://www.ansi.okstate.edu/breeds/cattle/kuri/>**
... Burditt, David Buchanan and Jerry Fitch Breed: Kuri ...
Anonymous (not verified) - 06/16/2014 - 03:39
- 5. <http://www.ansi.okstate.edu/breeds/cattle/kuri/>**
Description: Livestock database of the Oklahoma State University Summary: This website is presented by the Department of Animal Science of Oklahoma State University. Breeds of Livestock Committee: Larry Burditt, David Buchanan and...
Anonymous (not verified) - 06/16/2014 - 03:39

At the bottom of the results, there is a pagination bar with the number '1' highlighted in a dark red box, followed by numbers 2 through 9, an ellipsis, and the word 'next'.

Figure 16 Search Results

3.2.4 Graphical Reports

The graphical reports in the system provide a summarized review of the data. They are found under the “Statistics” main menu entry. Here are a few of them:

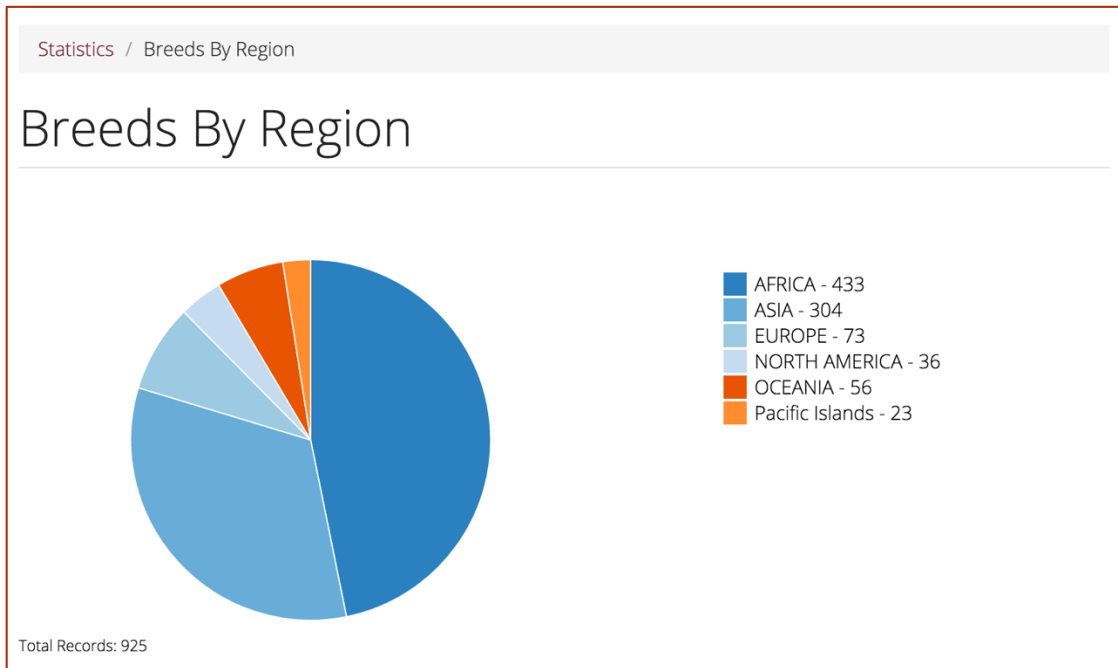


Figure 17.a Breeds by Region Report

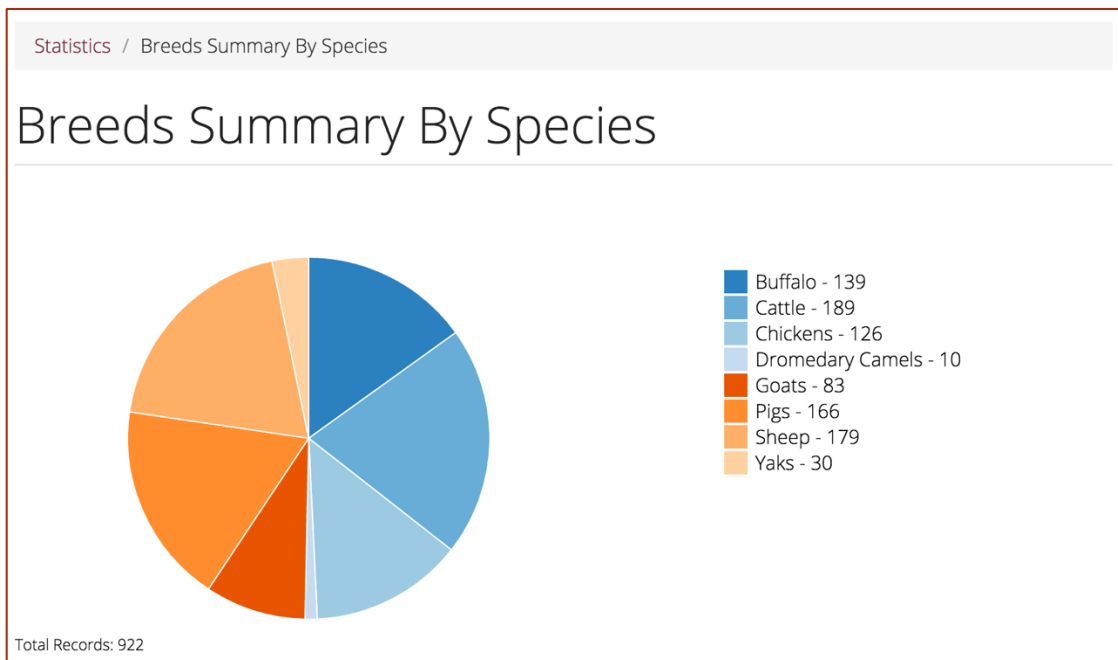


Figure 17.b Breeds Summary by Species Report

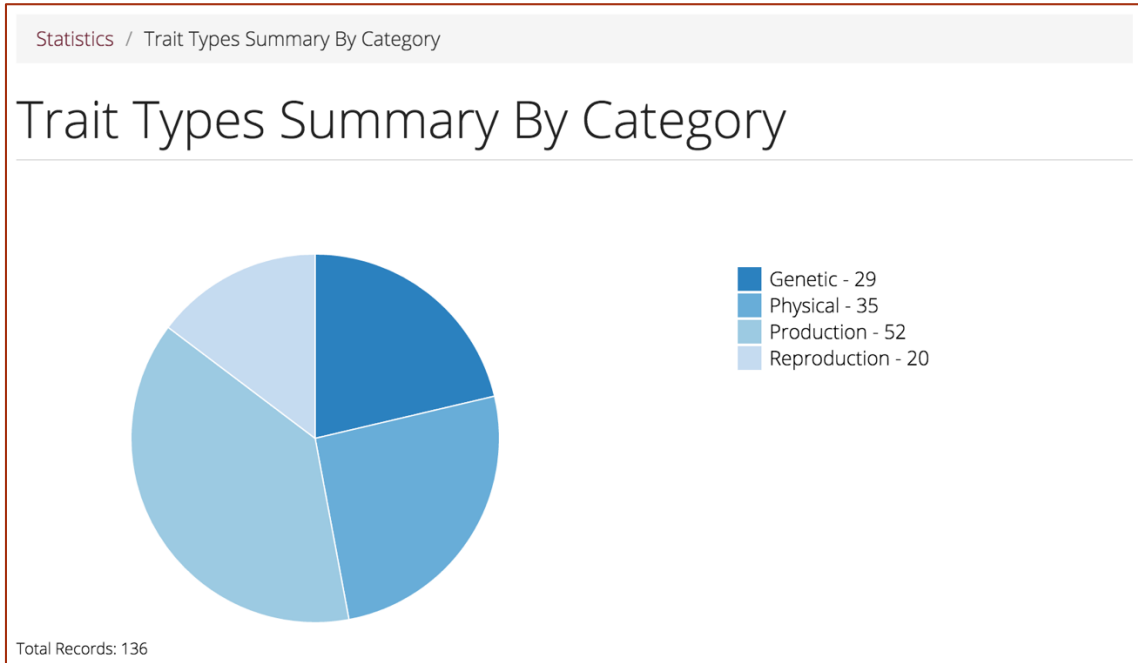


Figure 17.c Trait Types Summary by Category Report

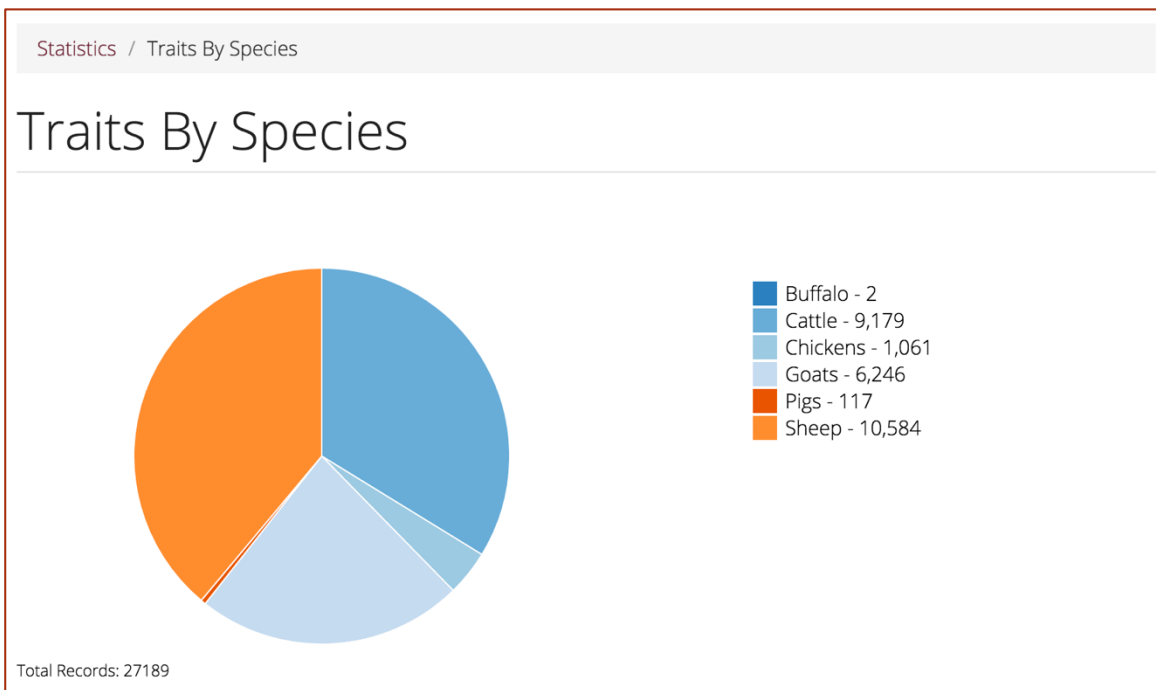


Figure 17.d Traits by Species Report

4 Data Entry

The most important data entries of the C-DAGRIS system are done through a handful of forms conveniently accessed through the “*Contribute*” main menu item. This menu item is only made available for registered and authenticated (logged in) users.

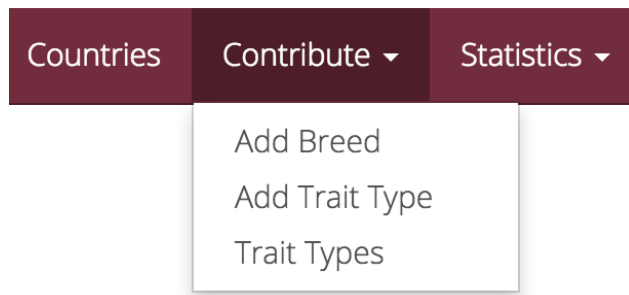


Figure 18 Contribute Menu

With respect to data entry, the most important pieces of information that a regular user needs to be concerned are described in the follow sections and illustrated in Figure 19 below.

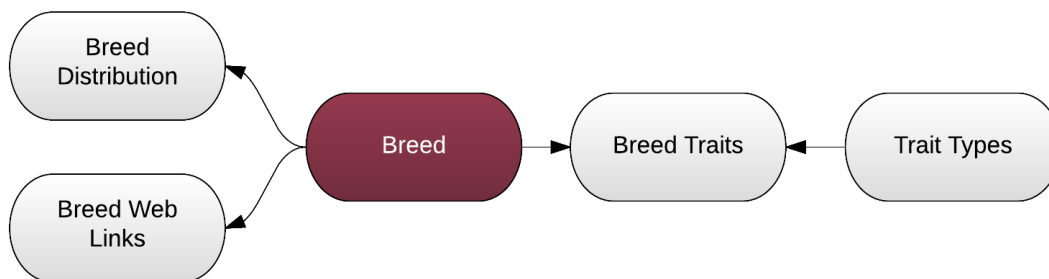


Figure 19 C-DAGRIS Data Model

4.1 Breed

A Breed is the central data unit on to which other additional information is attached. The breed describes a specific species of a domestic animal with following data attributes:

- **Species:** The main species the animal belongs to.
- **Group:** The group name, e.g. for Kuri cattle this would be *Humpless Longhorns*
- **Subgroup:** A more specialized group name.
- **Name:** The name of the Breed
- **Synonyms:** Other names the Breed is also know by, e.g. Kuri cattle has several synonyms such as Baharie, Bare, Borrie, Boundouma etc
- **Origin:** The origin of the breed.
- **Habitat:** The description of the environmental features of the animal’s dwellings
- **Main Location:** The main locations in which this animal has been identified
- **Special Characteristics:** Any special characteristics of the animal that distinguish it from other similar animals.

4.1.1 Add Breed

To add Breed data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Contribute” link.
4. From the “Contribute” drop down menu, choose the “Add Breed” menu by clicking on it.
5. Once the “Add Breed” form page loads, fill in all the required information.
6. Submit the form by clicking the “Save Breed” button.

4.1.2 View Breed

To view previously saved Breed data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. From the top main menu, click on the “Breeds” link.
3. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
4. Click on the name of the breed which leads to the detailed breed information page.

4.1.3 Edit Breed

To edit previously saved Breed data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. Click on the “Edit” link at the top of the breed detail page.
7. This loads the breed form with the selected breed’s information prepopulated. Edit any fields provided.
8. Submit the form by clicking the “Save” button.

4.1.4 Delete Breed

To delete previously saved Breed data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. Click on the “Edit” link at the top of the breed detail page.

7. This loads the breed form with the selected breed's information prepopulated.
8. Go to the bottom of the page and click on the "Delete" button, you will be asked for your confirmation to delete the entry.
9. Confirm the request by clicking the "Delete" button.

4.2 Breed Distribution

A Breed Distribution, as its name suggest is additional information attached to a register Breed, with purpose of adding relevant geographic data. The data points of interest are:

- **Local Name:** The local name of that breed in this particular geographic location.
- **Country:** The country of the location we want to associate with the breed.
- **Main Location:** The location with in the chosen country where the breed is mainly located.
- **Present Use:** The economic activity the animal is associated with in that location.
- **Risk Status:** The vulnerability to different risk factors of the particular animal in the location.
- **Risk Cause:** The main causes of these vulnerabilities.
- **Habitat:** The description of the environmental factors of the dwellings of the animal.
- **Environment Report:** More analysis regarding the living environment of the animal.
- **Temperature:** The temperature information of the area.
- **Rainfall:** The rainfall measurements of the area.
- **Relative Humidity:** The relative humidity measurements of the area.
- **Altitude:** The the elevation of the area from sea level.
- **Vegetation:** General description of the vegetation of the area.
- **Comment:** Any additional information that are of interest of the area.

4.2.1 Add Breed Distribution

Breed distribution data manipulation is done with respect to a previously registered breed information. Before performing any activity on breed distribution data, one must choose a breed first.

To add Breed Distribution data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the "Breeds" link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. On the right-hand side of the page, click on the "Add Breed Distribution" link.
7. A modal form will appear, providing breed distribution fields.
8. Fill in the required data.
9. Submit the form by clicking the "Save" button.

4.2.2 View Breed Distribution

To view previously saved Breed Distribution data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. From the top main menu, click on the “Breeds” link.
3. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
4. Click on the name of the breed which leads to the detailed breed information page.
5. On the right-hand side of the page, click on the “Breed Distribution” link.
6. A page providing the list of breed distributions will load, click on the distribution of your interest. This will load the breed distribution detail page.

4.2.3 Edit Breed Distribution

To edit previously saved Breed Distribution data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. On the right-hand side of the page, click on the “Breed Distribution” link.
7. A page providing the list of breed distributions will load, click on the distribution of your interest. This will load the breed distribution detail page.
8. Click on the “Edit” link at the top of the page.
9. This loads the breed distribution form with the selected distribution information prepopulated. Edit any of the fields provided.
10. Submit the form by clicking the “Save” button.

4.2.4 Delete Breed Distribution

To delete previously saved Breed Distribution data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. On the right-hand side of the page, click on the “Breed Distribution” link.
7. A page providing the list of breed distributions will load, click on the distribution of your interest. This will load the breed distribution detail page.
8. Click on the “Edit” link at the top of the page.
9. This loads the breed distribution form with the selected distribution information prepopulated.
10. Go to the bottom of the page and click on the “Delete” button, you will be asked for your confirmation to delete the entry.

11. Confirm the request by clicking the “Delete” button.

4.3 Breed Web Links

Web links are used to associate any external resources to the Breed information. These resources are described as URL’s on the Internet. The data points of interest are:

- **URL:** The Universal Resource Location (URL) of the external source of information.
- **Description:** A detailed description what is being referred.
- **Summary:** A summarized review of the description.

4.3.1 Add Breed Web Link

Similar to Breed Distribution, before performing any activity on breed web links, one must choose a breed first.

To add Breed Web Link, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. On the right-hand side of the page, click on the “Add Breed Web Link” link.
7. A modal form will appear, providing breed web link fields.
8. Fill in the required data.
9. Submit the form by clicking the “Save” button.

4.3.2 View Breed Web Link

To view previously saved Breed Distribution data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. From the top main menu, click on the “Breeds” link.
3. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
4. Click on the name of the breed which leads to the detailed breed information page.
5. On the right-hand side of the page, click on the “Breed Web Links” link.
6. A page providing the list of breed web links will load, click on the URL of the web link to open the external resource in a new browser tab/window.

4.3.3 Edit Breed Web Link

To edit previously saved Breed Distribution data, follow these steps:

1. Visit the C-DAGRIS site of your interest.

2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. On the right-hand side of the page, click on the “Breed Web Links” link.
7. A page providing the list of breed web links will load, click either the web link description or summary links of your interest. This will load the breed web link detail page.
8. Click on the “Edit” link at the top of the page.
9. This loads the breed web link form with the selected web link information prepopulated. Edit any of the fields provided.
10. Submit the form by clicking the “Save” button.

4.3.4 Delete Breed Web Link

To delete previously saved Breed Distribution data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. On the right-hand side of the page, click on the “Breed Web Links” link.
7. A page providing the list of breed web links will load, click either the web link description or summary links of your interest. This will load the breed web link detail page.
8. Click on the “Edit” link at the top of the page.
9. This loads the breed web link form with the selected web link information prepopulated.
10. Go to the bottom of the page and click on the “Delete” button, you will be asked for your confirmation to delete the entry.
11. Confirm the request by clicking the “Delete” button.

4.4 Trait Types

A Trait Type describes general characteristics that can be exhibited by an animal. For example, Adaptability is one such information that is described as *“a broad term to measure the capacity/potential of an animal to survive and thrive in particular environments and stressors.”* This trait type could be associated to any breed and when it is, it is called a Breed Trait.

The data points of interest, when it comes to trait types are:

- **Name:** The name of the Trait Type.
- **Sex Group:** The sex group of animals that this trait is exhibited by.
- **Trait Category:** The general category of the trait, mainly identifies whether the trait describes the Genetic, Physical, Production or Reproduction aspect of the animal.

- **Trait Value Type:** Describes whether the measurement of trait type is quantitative, qualitative or both.
- **Description:** The detail description of what the trait type is.
- **Identifier:** Any identifier information related to the trait type if one is required.

4.4.1 Add Trait Type

To add Trait Type data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Contribute” link.
4. From the “Contribute” drop down menu, choose the “Add Trait Type” menu by clicking on it.
5. Once the “Add Trait Type” form page loads, fill in all the required information.
6. Submit the form by clicking the “Save Trait Type” button.

4.4.2 View Breed

To view previously saved Trait Type data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. From the top main menu, click on the “Trait Types” under the “Contribute” parent menu item link.
3. Once the trait type listing page loads, look for the trait type of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of trait types using the pager at the bottom of the list
4. Click on the name of the trait type which leads to the detailed trait type information page.

4.4.3 Edit Trait Type

To edit previously saved Trait Type data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. From the top main menu, click on the “Trait Types” under the “Contribute” parent menu item link.
3. Once the trait type listing page loads, look for the trait type of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of trait types using the pager at the bottom of the list
4. Click on the name of the trait type which leads to the detailed trait type information page.
5. Click on the “Edit” link at the top of the breed detail page.
6. This loads the trait type form with the selected trait type’s information prepopulated. Edit any fields provided.
7. Submit the form by clicking the “Save” button.

4.4.4 Delete Trait Type

To delete previously saved Trait Type data, follow these steps:

1. Visit the C-DAGRIS site of your interest.

2. From the top main menu, click on the “Trait Types” under the “Contribute” parent menu item link.
3. Once the trait type listing page loads, look for the trait type of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of trait types using the pager at the bottom of the list
4. Click on the name of the trait type which leads to the detailed trait type information page.
5. Click on the “Edit” link at the top of the breed detail page.
6. This loads the trait type form with the selected trait type’s information prepopulated.
7. Go to the bottom of the page and click on the “Delete” button, you will be asked for your confirmation to delete the entry.
8. Confirm the request by clicking the “Delete” button.

4.5 Breed Traits

The association of a Trait Type with a Breed providing addition information such as the measured value or the qualities observed is called a Breed Trait. The data points of interest are:

- **Identifier:** The specific identifier of the breed trait
- **Trait Type:** A selection from one of the available trait types in the system.
- **Breed Country:** The breed distribution country in which the trait has been observed
- **Contact:** The individual/institution responsible for recording the trait
- **Management Condition:** The condition in which the animal was being managed when trait was observed.
- **Sex:** The specific sex of the animal the trait was observed on.
- **Value:** The quantitative and/or qualitative value of the trait.
- **Mean:** The mean of the value.
- **Standard Deviation:** The standard deviation of the value.
- **Standard Error:** The standard error calculated for the value.
- **Size:** The sample size from which the data was collected.
- **Management:** Detail indicating how the data was collected and managed.
- **Location:** The more specific location of the animal when trait was being observed.
- **Comment:** Any additional comment regarding how the process went.
- **Age:** The age of the animal when the trait was being observed.

4.5.1 Add Breed Trait

To add Breed Trait data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. On the right-hand side of the page, click on the “Add Trait” link.
7. A modal form will appear, providing breed trait fields.

8. Fill in the required data.
9. Submit the form by clicking the “Save” button.

4.5.2 View Breed Trait

To view previously saved Breed Trait data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. From the top main menu, click on the “Breeds” link.
3. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
4. Click on the name of the breed which leads to the detailed breed information page.
5. On the right-hand side of the page, click on the “Traits” link.
6. A page providing the list of breed traits will load, click on the trait of your interest. This will load the breed trait detail page.

4.5.3 Edit Breed Trait

To edit previously saved Breed Trait data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. On the right-hand side of the page, click on the “Traits” link.
7. A page providing the list of breed traits will load, click on the trait of your interest. This will load the breed trait detail page.
8. Click on the “Edit” link at the top of the page.
9. This loads the breed trait form with the selected trait information prepopulated. Edit any of the fields provided.
10. Submit the form by clicking the “Save” button.

4.5.4 Delete Breed Trait

To delete previously saved Breed Trait data, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. From the top main menu, click on the “Breeds” link.
4. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
5. Click on the name of the breed which leads to the detailed breed information page.
6. On the right-hand side of the page, click on the “Traits” link.

7. A page providing the list of breed traits will load, click on the trait of your interest. This will load the breed trait detail page.
8. Click on the “Edit” link at the top of the page.
9. This loads the breed trait form with the selected trait information prepopulated.
10. Go to the bottom of the page and click on the “Delete” button, you will be asked for your confirmation to delete the entry.
11. Confirm the request by clicking the “Delete” button.

4.6 Bibliographies and Images

The management of Bibliographies and Images has been outsourced to other systems specialized in maintaining such information. The C-DAGRIS system automatically associates Breed information with Bibliographies entries in CGSpace. Similarly, images for the different Breed of the system are managed through ILRI’s Flickr account dedicated specifically for C-DAGRIS.

Managing these systems is beyond the scope of this manual. Visiting the respective sites, however, will provide enough information on how to use them.

4.6.1 View Bibliography

To view a bibliography entry associated with a breed, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. From the top main menu, click on the “Breeds” link.
3. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
4. Click on the name of the breed which leads to the detailed breed information page.
5. On the right-hand side of the page, click on the “Bibliographies” link. This will open a new browser tab/window loading a **CGSpace** search page with results for the specific Breed name.
6. Selected any of the search result entries to get detailed information.

4.6.2 View Images

To view images associated with a breed, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. From the top main menu, click on the “Breeds” link.
3. Once the breed listing page loads, look for the breed of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of breeds using the pager at the bottom of the list
4. Click on the name of the breed which leads to the detailed breed information page.
5. On the bottom right-hand side of the page, you will see image thumbnails given images for the specific breed have been uploaded to the **Flickr** image repository.
6. Click on the thumbnail of your choice to see a bigger version of the image with some caption text.

5 Administration

This section of the manual describes the most common administration activities for the C-DAGRIS system. The underlying framework, Drupal, provides a handy administration interface that is made available for users with the appropriate type of privileges, i.e. administrators.

Although, there is much to cover in the normal administration of a Drupal based system, our focus for this manual would be limited to the administration of users and content.

5.1 User Administration

Generally, there are three types of users of the system:

- **Visitors (Anonymous):** are possibly the most common users of the system. These users do not register on the system and are usually looking for some kind of information provided by the system.
- **Contributors (Authenticated):** these users would be required to register on the system and have an account. They have privileges to create/edit/delete content besides just viewing it. Contributors are the primary sources of all the information in the system.
- **Administrators:** this group of users administer the technical part of the system primarily look after the:
 - proper functioning of the system with respect to its uptime and error free operations and
 - moderate user activities and the content generated by them

The following sections describe the typical day-to-day activities of Administrators.

5.1.1 View System Users

To view the list of users in the system, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Click on the “People” link.
4. A page containing the list of users in the system will be loaded. See figure 20 below.

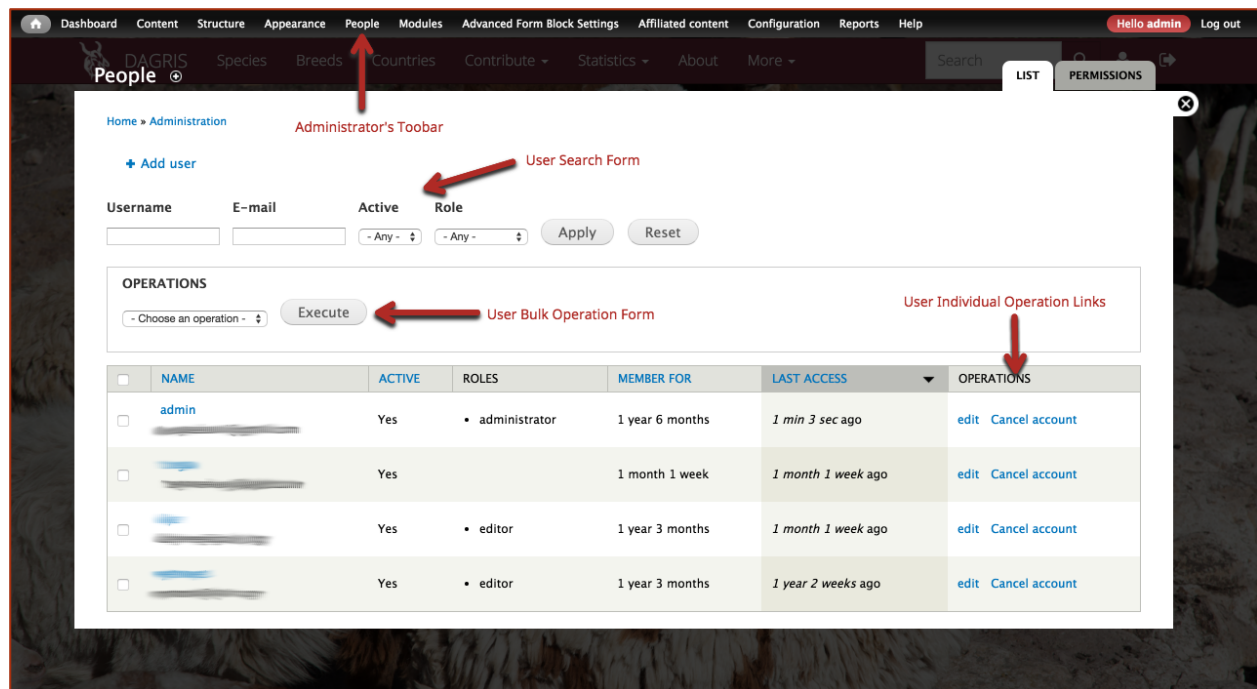


Figure 20 System Users List

5.1.2 Add New User

To add a new user to the system, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Navigate to the “People >> Add User” page. This loads the new user form page.
4. Fill in all the required fields.
5. Submit the form by clicking on the “Create new account” button.

5.1.3 Edit User

To edit a previously registered user, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Click on the “People” link.
4. A page containing the list of users in the system will be loaded.
5. Once the users listing page loads, locate the user of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of users using the pager at the bottom of the list
6. Click the “Edit” link on the right-most column of the row containing the users. This loads the edit user form page with the selected user information prepopulated.
7. Edit any of the provided fields.
8. Submit the form by clicking the “Save” button.

5.1.4 Delete User

To edit a previously registered user, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Click on the “People” link.
4. A page containing the list of users in the system will be loaded.
5. Once the users listing page loads, locate the user of your interest by:
 - a. Searching the list using the filter form
 - b. Going through the pages of users using the pager at the bottom of the list
6. Click the “Edit” link on the right-most column of the row containing the users. This loads the edit user form page with the selected user information prepopulated.
7. Go to the bottom of the page and click on the “Cancel Account” button. This will load a prompt to confirm your action and a list of options on how to handle the user’s data.
8. Select the option that you desire and confirm the deletion of the account by clicking on the “Cancel Account” button.

5.1.5 View Roles

To view available user roles in the system, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Navigate to “People >> Permissions >> Roles” . This will list all the roles available to the users of the system. See figure 21 below.

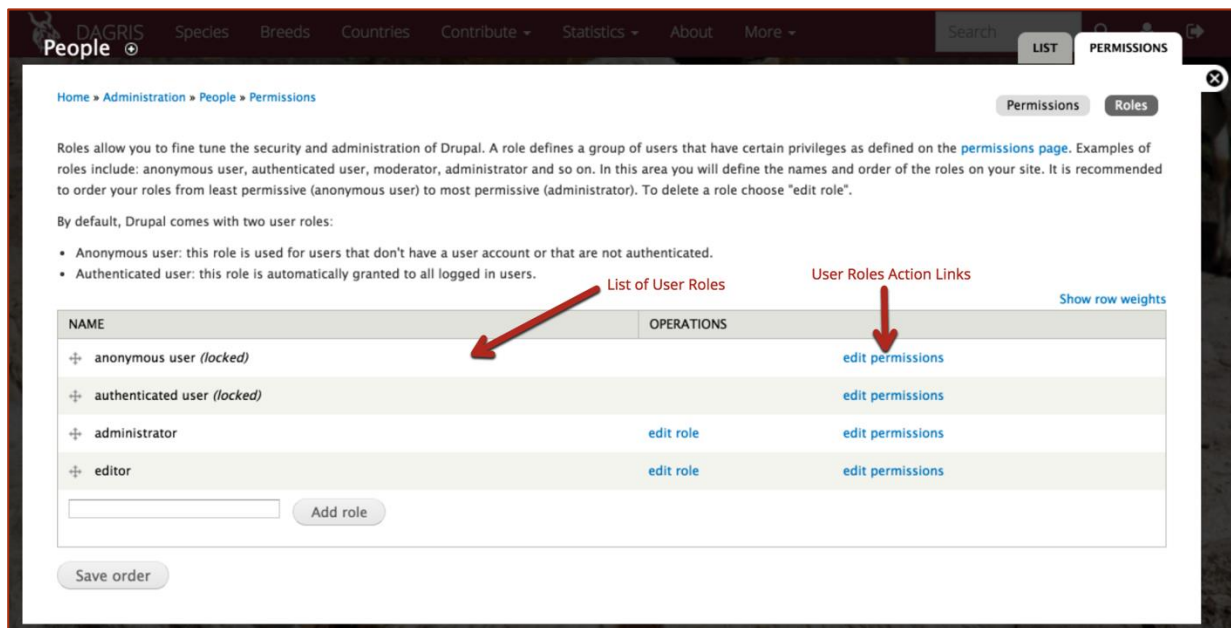


Figure 21 User Roles List

5.1.6 Add Role

To add a new user role, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Navigate to “People >> Permissions >> Roles” . This will list all the roles available to the users of the system.
4. Fill in name of the new role you want to add in new role form found at the bottom of the list.
5. Submit the form by clicking on the “Add Role” button.

5.1.7 Edit Role

To edit a previously registered user role, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Navigate to “People >> Permissions >> Roles” . This will list all the roles available to the users of the system.
4. Click on the “Edit Role” link in the second column of the user role row of your choice. This will load the role edit form with the name of the selected user role prepopulated.
5. Edit the name of the role.
6. Submit the form by click on the “Save Role” button.

5.1.8 Delete Role

To delete a previously registered user role from the system, follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Navigate to “People >> Permissions >> Roles” . This will list all the roles available to the users of the system.
4. Click on the “Edit Role” link in the second column of the user role row of your choice. This will load the role edit form with the name of the selected user role prepopulated.
5. Delete the user role by click on the “Delete Role” button.

5.1.9 Set Permissions

Permissions are used to give access to users to the different features of the system. Drupal provides a very intuitive administration interface to control user permissions via roles.

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Navigate to “People >> Permissions” . This will list all the role permissions in the system. See figure 22 below.

4. Find the permission you want to give access to by:
 - a. Searching for the permission using the filter box provided at the top of the list
 - b. Manually scrolling down the page and finding the permission
5. Pick the role(s) you want to give permission to by selecting the checkbox for each role.
6. Submit the form by clicking on the “Save Permission” button at the bottom of the page.

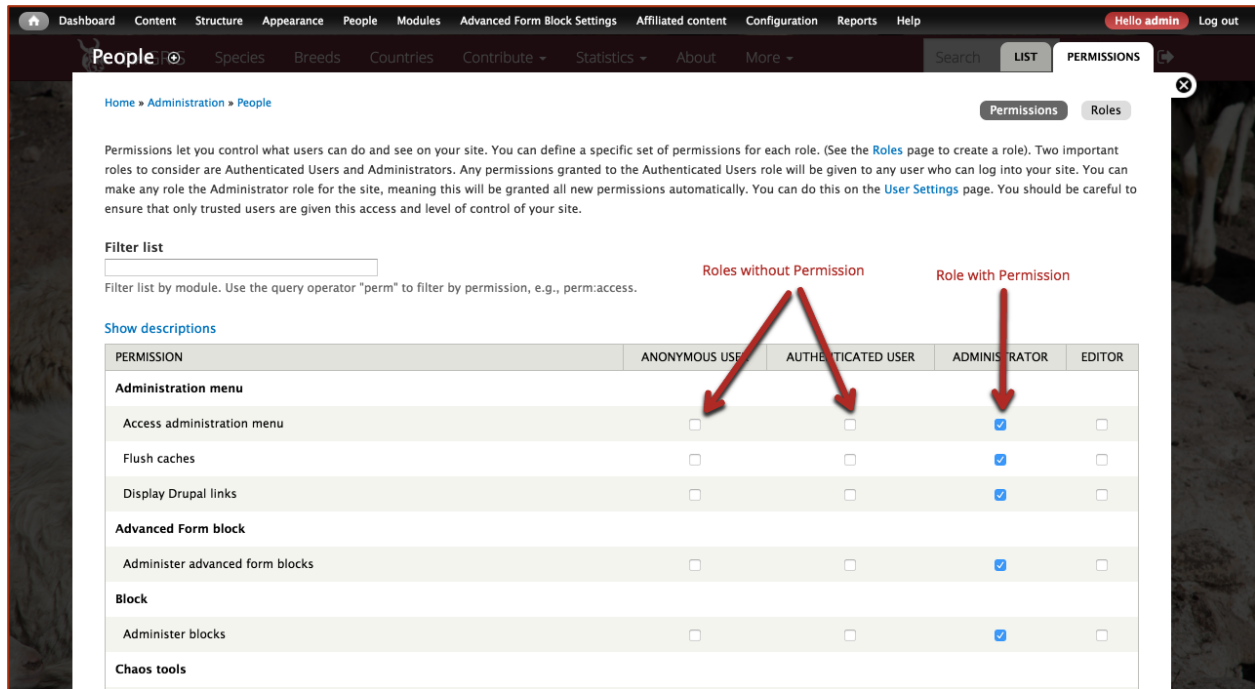


Figure 22 Permissions List

5.2 Content Administration

Administrators have full control of what is being published through the C-DAGRIS system. This partly due to the flexible administrative interface that allows managing of content. Although, content is primarily sourced from contributors, administrators are delegated to manage the data being presented.

Content in the system could in one of two states;

- **Published:** is made available to the public and is reachable by everyone.
- **Unpublished:** is only available to the creator and/or administrators.

Unpublished content can easily be made available by publishing it. Conversely, published content can also be made unpublished. This is done through the publishing options provided in the content edit form, as shown below in figure 23.

Menu settings Not in menu	<input checked="" type="checkbox"/> Published
Revision information No revision	<input type="checkbox"/> Promoted to front page
URL path settings No alias	<input type="checkbox"/> Sticky at top of lists
Comment settings Closed	
Authoring information By Anonymous on 2014-06-16 03:39:51 +0200	
Publishing options Published	

Save Preview Delete

Figure 23 Content Publishing Options

5.2.1 Access Content Types

Drupal provides a flexible toolkit to build different types of content, e.g. Pages, Articles, Breeds, Trait Types etc., to access these different types of content types follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Navigate to “Structure >> Content Types” . This will list all available content types in the system. See figure 23 below.

NAME	OPERATIONS
Article (Machine name: article) Use <i>articles</i> for time-sensitive content like news, press releases or blog posts.	edit manage fields manage display delete
Basic page (Machine name: page) Use <i>basic pages</i> for your static content, such as an 'About us' page.	edit manage fields manage display delete
Bibliography (Machine name: bibliography) Information to be attached as reference to breed data collected by DAGRIS. This information is found in another system, CGSpace.	edit manage fields manage display delete
Breed (Machine name: breed) The main focus of the DAGRIS system. Describes an animal of a particular species, found in a specific country; exhibiting defined traits.	edit manage fields manage display delete
Breed Country (Machine name: breed_country) The country in which a breed is found.	edit manage fields manage display delete
Breed Image (Machine name: breed_image) Image data of breeds to be collected from third party image hosting, Flickr.	edit manage fields manage display delete
Breed Population (Machine name: breed_population) The population of a breed in a certain country.	edit manage fields manage display delete
Breed Weblink (Machine name: breed_weblink)	edit manage manage display delete

Figure 24 Content Types

5.2.2 Manage Content

Using the available content types, contributors can create new content for the site. For the C-DAGRIS system the center piece is the **Breed** content type. To manage content follow these steps:

1. Visit the C-DAGRIS site of your interest.
2. Login to the system.
3. Once logged in, a system administration will be presented at the top of the page. Navigate to “Content” . This will list all available content in the system with newly created/edited one at the top. See figure 25 below.
4. From this list, one can search for content using:
 - a. Searching the list using the filter form
 - b. Going through the pages of content using the pager at the bottom of the list
5. Select an individual entry or a set of entries to perform an individual operation or a bulk operation.

Dashboard Content Structure Appearance People Modules Advanced Form Block Settings Affiliated content Configuration Reports Help Hello admin Log out

Home » Administration

Content

+ Add content

Content Filter Form

Title Type Author Published Vocabulary Apply Reset

OPERATIONS

- Choose an operation - Execute Content Bulk Operation Single Content Operation

<input type="checkbox"/>	TITLE	TYPE	AUTHOR	PUBLISHED	UPDATED	OPERATIONS
<input type="checkbox"/>	Adaptability	Trait Type	Anonymous (not verified)	Yes	09/25/2014 - 11:11	edit delete
<input type="checkbox"/>	Hetrozygosity (gene diversity)	Trait Type	Anonymous (not verified)	Yes	06/16/2014 - 03:39	edit delete
<input type="checkbox"/>	Skin Color	Trait Type	Anonymous (not verified)	Yes	06/16/2014 - 03:39	edit delete
<input type="checkbox"/>	Crus length (cm)	Trait Type	Anonymous (not verified)	Yes	06/16/2014 - 03:39	edit delete
<input type="checkbox"/>	Hatchability from set eggs (%)	Trait Type	Anonymous (not verified)	Yes	06/16/2014 - 03:39	edit delete
<input type="checkbox"/>	Pattern within feather	Trait Type	Anonymous (not verified)	Yes	06/16/2014 - 03:39	edit delete
<input type="checkbox"/>	Broodiness	Trait Type	Anonymous (not verified)	Yes	06/16/2014 - 03:39	edit delete
<input type="checkbox"/>	Weight at Specific Age (g)	Trait Type	Anonymous (not verified)	Yes	06/16/2014 - 03:39	edit delete

Figure 25 List of Content