

# livestock Xchange

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## Information systems on domestic animal genetic resources

*Tadelle Dessie, Yetnayet Mamo and Okeyo Mwai*

### Rationale

Information has always been an important component of economic development, but it is becoming even more so as the world moves towards an information-based economy. Livestock agriculture is no different: Systematic information on existing genetic diversity, characteristics and use of indigenous farm animal genetic resources in developing countries is the basis for their present and future sustainable use.

In developing countries, lack of accurate information on the diversity and status of existing farm animal genetic resources is believed to exacerbate the alarming rate of irreversible loss of genetic diversity. Such losses reduce opportunities to improve food security, alleviate poverty and attain sustainable agricultural practices. The other known threats to their conservation are droughts, post-drought livestock restocking schemes that do not take account of undesirable impacts on indigenous genetic resources, civil strife, well-meant crossbreeding programs that get out of control, lack of markets and

**DAGRIS**  
DOMESTIC ANIMAL  
GENETIC RESOURCES  
INFORMATION SYSTEM

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**Welcome to DAGRIS**

Information on the extent of existing diversity, characteristics and use of indigenous farm animal genetic resources in developing countries is the basis for their present as well as future sustainable utilization. In view of lack of a systematic database on this information, ILRI has been developing the Domestic Animal Genetic Resources Information System (DAGRIS) as a web-based electronic source of information on selected indigenous farm animal genetic resources (breeds/ecotypes of cattle, sheep, goats, chicken and pigs) with options to extend it further to cover geese, turkey and ducks. Its current geographic scope is Africa and selected Asian countries with an envisaged future coverage of developing countries in Asia and Latin America and the Caribbean.

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 programmes.

The working objectives of 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.

**DAGRIS Team:**  
Dr. Okeyo Mwai  
Dr. Tadelle Dessie  
Ms. Yetnayet Mamo

**Collaborators:**  
NARS, SGRP (SINGER) & CABI

**Contact Information:**  
DAGRIS Project  
Animal Genetic Resources (AnGR)  
International Livestock Research Institute (ILRI)  
PO Box 5689, Addis Ababa, Ethiopia  
Tel: +251-11-6172000 Fax: +251-11-6172001  
Web: <http://www.ilri.org>

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gradual shifts in socio-economic settings of traditional communities. The situation is alarming because 16% of the 7000 unique animal populations (breeds/strains/ecotypes) have been lost since the beginning of the 19th century. A further 32% are at risk.

The idea to establish regional Animal Genetic Resource (AnGR) databanks for developing countries emerged from the FAO/UNEP Joint Expert Panel

on AnGR Conservation and Management meeting in Rome in October 1983 (FAO, 1986a; 1999). The reason behind this move was the recognition that some 70% of global livestock biodiversity is in the hands of smallholder farmers who do not necessarily share global concerns to maintain livestock biodiversity. Furthermore, countries and their governments lack the capacity to respond adequately and effectively to the irreversible loss of genetic diversity.

Databases can help monitor and report on the status of AnGR. Comprehensive information sources in organized databases help in priority setting and targeting of specific interventions. As a contribution to this agenda, ILRI established the Domestic Animal Genetic Resources Information System (DAGRIS) in 1999 with the following objectives.

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## DAGRIS

DAGRIS (<http://dagris.ilri.cgiar.org>) is an electronic source of systematic information on indigenous farm animal genetic resources. Initial development of the system focused on three priority farm animal species in Africa - cattle, sheep and goats. It was subsequently expanded to include other livestock species (chicken, pigs, buffalo and yak) and developing countries in Africa and Asia.

The database currently comprises 24,536 trait records on 176 cattle, 170 sheep, 82 goat, 124 chicken, 165 pigs, 30 yak and 141 buffalo breeds. Most information is on African breeds.

Version 1 of the database was published on the Internet released in April 2003; Version 2 was launched in late 2008. The same resource is available on CD-ROM.

## *Features of DAGRIS*

The development of DAGRIS was prompted by the lack of a comprehensive source of information on the extent and status of existing diversity, characteristics and uses of indigenous farm animal genetic resources in developing countries. Unique features of the system are:

- It provides essential bibliographic information linked to all breed-specific information in the database;
- It helps to identify information gaps in characterization information at breed level;
- It uses available relevant breed characterization information from unpublished literature;
- It retains the original integrity of scientific information because results are captured 'as published'; the original data is available to the user, including the source; and
- It provides options to summarize available information; this is strengthened further through the development of decision support tools.

## *Further development*

- While the African research and academic community welcomed DAGRIS, they called for long-term mechanisms to ensure its continuous updating. Users also provided many suggestions on features of the system, requesting enhanced geo-referencing, and further development of decision support tools for different stakeholders.
- Consistent with the Convention on Biological Diversity (CBD), countries also want to have full control of technical information on their genetic resources.
- This latter demand has led to efforts to develop 'country' versions of DAGRIS in which the contents would be updated and managed locally, and shared globally (a prototype was produced in October 2011).
- To this end, the next generation of DAGRIS is being developed in several parallel strands:

- The existing 'global' interface is being re-designed as an open platform, drawing on open standards and using open source software, with content that can be easily interrogated, analyzed and updated. The new platform will have extended features and functionalities – forming part of a wider AnGR knowledge base of ILRI and partners.
- Country versions of DAGRIS are being developed using existing content from the global database. The overall system will be designed to allow local updating and management – through a country 'dashboard' – which will simultaneously update the global components. This work started in 2011 and will include training, creative partnership arrangements, and different ways of working. It should extend the reach of the system at the country level, and address updating challenges: Such a system can no longer be totally managed from one place; and moreover digital applications are now available to much more easily build such decentralized systems.
- Organizing the various types of DAGRIS content and linking this with a 'virtual library' of full text documents and reports (<http://cgspace.cgiar.org/handle/10568/3545>), the Animal Genetics Training Resource (<http://agtr.ilri.cgiar.org>), and other related resources of ILRI and its partners.

## References

- DAGRIS, 2003. Domestic Animal Genetic Resources Information System (DAGRIS). Version 1. (eds. J.E.O. Rege, W. Ayalew and E. Getahun). Nairobi: ILRI.
- FAO. 1986. Animal Genetic Resource Data Banks 1: Computer Systems study for Regional data banks. Animal Production and Health Paper 59/1. Rome: FAO.
- FAO. 1999. The Global Strategy for the Management of Animal Genetic Resources: Executive Brief. Rome: FAO.

*On 9 and 10 November 2011, the ILRI Board of Trustees hosted a 2-day 'liveSTOCK Exchange' to discuss and reflect on livestock research for development.*

**Animal Genetic Resources Virtual Library**

CGSpace Home → Animal Genetic Resources Virtual Library

**Animal Genetic Resources Virtual Library**

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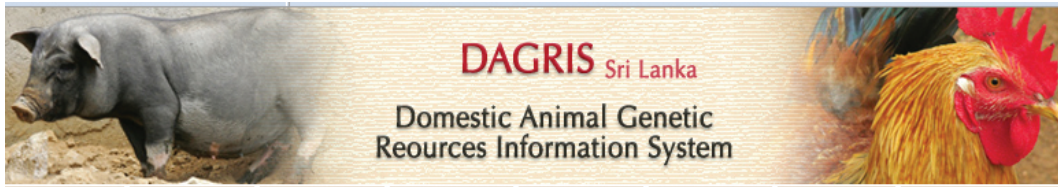
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DAGRIS Sri Lanka

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### Welcome to DAGRIS Sri Lanka

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#### Biotechnology News

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Public research institutions (PRIs) are crucial for innovation due to their role in knowledge creation and

### What's New!

In Global DAGRIS database, the total number of trait-level records has now reached to **26, 666** Trait Records. More particularly, in the last three months **121, 1811, 137 and 60 physical, production, reproduction and genetic** traits from **cattle, sheep, goat and pig** breeds of Africa and Asia, respectively, are included.

### Useful links

1. [Farm Animals Genetic resources \(FAnGR\) Asia](#)
2. [International livestock research institute](#)
3. [Food and Agriculture Organization of the United Nations](#)
4. [Domestic Animal Diversity Information System](#)
5. [Animal Genetics Training Resource](#)

### Non-curative data

Non curative data available for Sri Lanka are:

- [Farm Animal Genetic Resources ...](#)
- [Characteristics of cattle farming system in Sri Lanka](#)
- [Pre-pubertal and postpartum anestrus intropical Zebu cattle](#)

### Contact Information:

DAGRIS Project  
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Web: <http://www.ilri.org>

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[www.ilri.org](http://www.ilri.org)

P O Box 30709, Nairobi 00100, Kenya  
Phone: + 254 20 422 3000  
Fax: +254 20 422 3001  
Email: [ILRI-Kenya@cgiar.org](mailto:ILRI-Kenya@cgiar.org)

P O Box 5689, Addis Ababa, Ethiopia  
Phone: +251 11 617 2000  
Fax: +251 11 617 2001  
Email: [ILRI-Ethiopia@cgiar.org](mailto:ILRI-Ethiopia@cgiar.org)

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