



## AFRICAN COMMISSION ON AGRICULTURAL STATISTICS

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### SDG INDICATOR 2.5.2 “PROPORTION OF LOCAL BREEDS, CLASSIFIED AS BEING AT RISK, NOT-AT-RISK OR UNKNOWN LEVEL OF RISK OF EXTINCTION”

## I. Introduction

Genetic diversity in livestock species is important to agriculture and food production because it enables livestock to be raised in a wide range of production environments and to provide a wide range of products and services (food, fibres, manure, draught power, etc.). It also provides the basis for adapting livestock populations to future changes in environmental conditions or in demand for products and services. Livestock genetic diversity is threatened by various factors including the trend towards greater homogeneity in the world’s livestock production systems and a lack of appropriate management strategies and policies. Planning measures to promote the sustainable use, development and conservation of animal genetic resources requires information on the diversity of these resources nationally and internationally.

## II. Methodology

### a. Rationale for the SDG Indicator 2.5.2

The indicator has a direct link to “biodiversity” as animal or livestock genetic resources represent an integral part of agricultural ecosystems and biodiversity as such. Further there are indirect links to “malnutrition”: Animal genetic resources for food and agriculture are an essential part of the biological basis for world food security, and contribute to the livelihoods of over a thousand million people. A diverse resource base is critical for human survival and well-being, and a contribution to the eradication of hunger: animal genetic resources are crucial in adapting to changing socio-economic and environmental conditions, including climate change. They are the animal breeder’s raw material and amongst the farmer’s most essential inputs. They are essential for sustainable agricultural production.

## **b. Computation method**

The indicator is based on the most up to date data contained in FAO's Global Databank for Animal Genetic Resources DAD-IS (<http://dad.fao.org/>) at the time of calculation. Risk classes are defined based on population sizes of breeds reported to DAD-IS. The classes for risk of extinction are defined according to the FAO guidelines *[In vivo conservation of animal genetic resources](#)* (FAO Animal Production and Health Guidelines. No. 14. Rome. 2013).

The risk class is considered to be "unknown" if (i) no population sizes are reported or (ii) the most recent population size reported refers to a year more than 10- years before the year of calculation (10 year cut off point).

## **c. Interpretation**

No increase of the percentage of breeds being at risk or being extinct is directly related to "halt the loss of biodiversity".

## **d. Treatment of missing values**

Missing values are treated as such and not replaced by estimates.

## **e. Regional aggregates**

Data are available by country. Regional aggregates are the sum of country values.

## **f. Sources of discrepancies**

The indicator is related to a monitoring framework endorsed by the FAO Commission on Genetic Resources for Food and Agriculture in which the status and trends of animal genetic resources are described through globally agreed indicators and regular country-driven assessments. Officially appointed National Focal Points / National Coordinators report directly to FAO, using a format agreed by the Commission on Genetic Resources for Food and Agriculture. Since FAO does not alter those data, there should be no difference between data reported by FAO and national figures.

## **g. Quality assurance**

Described in section 7 of FAO. 2011. Surveying and monitoring of animal genetic resources. FAO Animal Production and Health Guidelines. No. 7. Rome. (available at <http://www.fao.org/docrep/014/ba0055e/ba0055e00.htm>).

The guidelines were presented to and endorsed by the Commission on Genetic Resources for Food and Agriculture at its Thirteenth Regular Session in July 2011.

## **h. Limitations**

Breed-related information remains far from complete. For almost 60 percent of all reported breeds, risk status is not known because of missing population data or lack of recent updates. Generally, data

collection should be possible in all countries. Updating of population size data at least each 10 years is needed for the definition of the risk classes.

### **III. Data sources**

#### **a. Description**

The Global Databank for Animal Genetic Resources currently contains data from 182 countries and 38 species. The total number of national breed populations recorded in the Global Databank has increased dramatically since 1993 (from 2,716 national breed populations to 14,915 and from 131 countries to 182). The total number of mammalian national breed populations recorded in February 2016 was 11,116. The total number of avian national breed populations recorded in 2016 was 3,799.

#### **b. Collection process**

The data are provided by the National Coordinators for the Management of Animal Genetic Resources (NCs). The NC is officially nominated by the country (usually by the Ministry of Agriculture). FAO provides the password for entering/updating the country's data within the global data information system DAD-IS directly to the NC, but only after having received the official nomination letter.

The underlying data base DAD-IS is maintained by FAO/AGAG (see <http://dad.fao.org/>). Data entry is possible all over the year.

### **IV. Conclusion**

During the last years the coverage of the Global Databank for Animal Genetic Resources remained stable. Breed-related information still remains far from complete. For almost 60 percent of all reported breeds, risk status is not known because of missing population data or the lack of recent updates.

Explicit reporting on the proportions of local breeds classified as being at risk, not at risk or unknown with respect to risk of extinction is foreseen to become an inherent part of future status and trends reports, thereby linking this report directly to the indicators under the SDGs and reflecting better the dramatic situation of local breeds.

DAD-IS is a suitable information system for monitoring a specific target under the SDGs. DAD-IS allows the regular provision of up-to-date data for the annual reports on the SDGs, but will require more frequent reporting of breed data by FAO Members.