

CONCEPT NOTE
International Workshop
“Role of animal genetic resources in ensuring food security and improving livestock production”

Background

Livestock production in the region of Organization of Islamic Cooperation (OIC) is an important sub-sector of the agricultural industry and makes a significant contribution to the national economies of member states. In 2018, OIC countries accounted for 12.9% of the world’s total production of livestock products, registering an increase since its 2000 value of 11.0%. Supply-side factors have enabled expansion in livestock production. Cheap inputs, technological change and scale efficiency gains in recent decades have resulted in declining prices for livestock products (SESRIC Report).

Farm animal genetic resources have an important contribution in the socioeconomic welfare of smallholder farmers. Thus, animal genetic resources are critical to livestock productivity and adaptability, facilitate resilience to climate change, and are a key contributor to food security and livelihoods. Growing pressures upon the world's animal genetic resources, arising mainly from short-term economic interests, are threatening and depleting animal genetic variation. In this regard, it is important to expand the program of animal genetic resource preservation and improved use as a matter of urgency, in order to stem the current loss of indigenous breeds of animals. Animal genetic resources are also a part of the larger field of biological diversity.

Sustainable use of animal genetic resources for agriculture and food production is proposed as the best strategy for maintaining their diversity. Achievement of sustainable use would continue to support livelihoods and minimize the long-term risk for survival of animal populations. The concept of sustainable use has economic, environmental and socio-cultural dimensions. Sustainable use of animal genetic resources also contributes to food security, rural development, increasing employment opportunities and improving standards of living of keepers of breeds. Genetic improvement programs need to be considered in terms of national agriculture and livestock development objectives, suitability to local conditions and livelihood security as well as environmental sustainability.

Relevance of conducting Workshop

The loss of genetic diversity of animals reduces the possibilities for maintaining local breeds (genetic selection activities) and the possibility of creating new local breeds of animals that are adapted for breeding in local climatic conditions when conducting extensive agriculture and are most suitable for breeding in medium and smallholder farms.

In connection with the above, as well as in accordance with the IOFS “Development of National Gene Banks” approved within the Third General Assembly of IOFS held on 2-3 December 2020 in Ankara, Turkey and as per the Dubai Declaration adopted at the Conference on Development of National Gene Banks in OIC member states, 5-6 July 2020 in Dubai, UAE, the **Islamic Organization for Food Security (IOFS)** conducts the **International Workshop** titled **“Role of animal genetic resources in ensuring food security and improving livestock production” on 6-7 September 2021** to identify and discuss the current challenges of the state of genetic resources of farm animals across OIC countries.

Workshop objectives

- To discuss the problems in management of animal genetic resources;
- To assess the current state of genetic resources of agricultural animals (cattle (cattle), small ruminant: sheep, goat), camels (camelids) in the OIC member countries;
- To overview the present activities implemented by gene banks, research and science institutions in OIC member states;
- To assess species composition (imported, local and indigenous breeds), their phenotypic assessment (genotyping), productive qualities;
- To share practices in the conservation and use of animal genetic resources, particularly use of assisted reproduction technologies (ART) in breeding and selection of farm animals, as well as molecular genetic assessment of breeds and populations of farm animals.

Workshop Sessions

1. CATTLE:

- Assessment of the current state of the genetic resources of cattle.
- Species composition (imported, local and indigenous breeds), their phenotypic assessment (genotyping), productive qualities. Data on the prevalence of imported animal breeds as well as local and indigenous breeds are particularly important.
- Programs and research activities for the in vivo and in vitro conservation of cattle genetic resources.
- The use of assisted reproduction technologies (ART) in cattle breeding and selection.
- Research on molecular genetic evaluation of cattle breeds and populations.

2. SMALL RUMINANT, SHEEP AND GOAT:

- Assessment of the current state of genetic resources of small ruminants (sheep and goats).
- Species composition (imported, local and indigenous breeds), their phenotypic assessment (genotyping), productive qualities. Data on the prevalence of imported animal breeds as well as local and indigenous breeds are particularly important.
- Programs and research activities for in vivo and in vitro conservation of genetic resources of small ruminants (sheep and goats).
- The use of assisted reproductive technologies (ART) in the breeding and selection of small ruminants (sheep and goats).
- Research on molecular genetic evaluation of breeds and populations of small ruminants (sheep and goats).

3. CAMELIDS

- Assessment of the current state of camel genetic resources.
- Species composition (imported, local and indigenous breeds), their phenotypic assessment (genotyping), productive qualities. Data on the prevalence of imported animal breeds as well as local and indigenous breeds are particularly important.
- Programs and research activities for in vivo and in vitro conservation of camel genetic resources.
- The use of assisted reproduction technologies (ART) in camel breeding and selection.
- Research on molecular genetic evaluation of camel breeds and populations.

Format: Online (*Zoom platform*)

Date: 6-7 September 2021

Language: English (*interpretation into Russian, French, Arabic upon requests*)

Participants:

The workshop participants will include representatives of gene banks, research and science organizations, specialized in management of animal genetic resources, government agencies, responsible for improvement of biological diversity, and other stakeholders interested in the workshop theme.

Registration:

To attend the Workshop and receive informational materials regarding the event please register: <https://bit.ly/IOFS-workshop-registration>

Expected results

1. The current state of the genetic resources of agricultural animals (cattle (cattle), small ruminant: sheep, goat), camels (camelids) in the OIC member countries is identified and discussed.
2. The breed composition (imported, local and indigenous breeds), their phenotypic assessment (genotyping), productive qualities are reviewed, the relevant information with clear data is obtained. It is important to have the data on the prevalence of imported animal breeds, as well as local and indigenous breeds, for the analysis to further conserve the genetic resources of local and indigenous breeds.
3. The programs and research activities for in vivo and in vitro conservation of genetic resources in small ruminants (sheep and goats) under the implementation are shared with workshop participants.
4. The development and use of assisted reproduction technologies (ART) methods in breeding and breeding farm animals across OIC countries are discussed among workshop speakers;
5. The studies of molecular genetic assessment of breeds and populations of farm animals in OIC countries are presented at the workshop;
6. The presented and shared information, data, practices, experience and views are collected and analyzed; the recommendations based on the outcomes of the workshop is developed and provided to OIC Member countries and research organizations.