COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

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REVIEW OF IMPLEMENTATION OF THE GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES

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I. INTRODUCTION

1. The Commission on Genetic Resources for Food and Agriculture (Commission), at its Sixteenth Regular Session,1 invited the FAO Director-General to bring the draft resolution Reaffirming the World’s Commitment to the Global Plan of Action for Animal Genetic Resources2 to the attention of the Fortieth FAO Conference, which endorsed it as Resolution 3/2017.3

2. The Commission4 requested FAO to continue supporting countries in their efforts to implement the Global Plan of Action for Animal Genetic Resources5 (Global Plan of Action) in order to contribute to global food security and sustainable rural development. This document provides a report on FAO activities since the Commission’s Sixteenth Regular Session. The activities are grouped according to their relevance to the four strategic priority areas of the Global Plan of Action. In addition, the document summarizes FAO’s collaboration with other stakeholders in support of the Global Plan of Action and reports on the status of the Funding Strategy for the implementation of the Global Plan of Action for Animal Genetic Resources (Funding Strategy).6

II. FAO SUPPORT TO THE IMPLEMENTATION OF THE GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES

3. FAO continued to assist countries in the implementation of all strategic priority areas of the Global Plan of Action, by providing institutional and technical support, facilitating research and building capacity. This section provides some examples of FAO's activities in the four strategic priority areas and some cross-cutting areas.7

   Strategic Priority Area 1. Characterization, inventory and monitoring of trends and risks

4. With the FAO Regular Programme budget and extra-budgetary support from the Government of Germany, the Global Focal Point has continued to maintain and further develop and update the Domestic Animal Diversity Information System (DAD-IS).8

5. The Commission, at its Sixteenth Regular Session,9 requested FAO to identify possible reasons for the continuing high proportion of breeds with unknown risk status in DAD-IS and potential means of addressing this issue. The new version of DAD-IS10 was launched at FAO headquarters in November 2017, followed by a training workshop attended by 68 National Coordinators for the Management of Animal Genetic Resources (National Coordinators) and government statisticians from 46 countries.11 Training on data entry was provided, focusing particularly on the data to be entered into DAD-IS necessary to calculate the two SDG indicators. In this context, one objective of the workshop was to analyse reasons for the high proportion of breeds with unknown risk status, which is specifically critical for SDG Indicator 2.5.2. The lack of breed population data at country level was identified as the most common constraint to reporting breed population sizes in DAD-IS.

6. To assist countries to address the lack of breed-level population data, FAO started in autumn 2017, in collaboration with the Asociación sobre la conservación de la biodiversidad de los animales domésticos locales para el desarrollo rural sostenible – Red CONBIAND, the development of a tool

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1 CGRFA-16/17/Report/Rev.1, paragraph 50.
2 C 2017/25, Appendix B.
3 C 2017/REP, paragraph 54.
4 CGRFA-16/17/Report/Rev.1, paragraph 45.
5 http://www.fao.org/docrep/010/a1404e/a1404e00.pdf
6 http://www.fao.org/docrep/012/i1674e/i1674e00.htm
7 For more in-depth information see CGRFA/WG-AnGR-10/18/Inf.2.
8 http://www.fao.org/dad-is
9 CGRFA-16/17/Report/Rev.1, paragraph 46.
10 For more detailed information on the development of DAD-IS see CGRFA-17/19/11.2/Inf.3.
11 For more information about the workshop and its results and conclusions see CGRFA/WG-AnGR-10/18/Inf.6.
that will assist countries to apply cost-efficient methodologies to collect or estimate population size data for their national breed populations. In close collaboration with National Coordinators, the tool will be tested, adapted as appropriate and implemented in up to six countries in Latin America and the Caribbean. Initial feedback on the utility of the tool is expected by early 2019.

7. Domesticated bees are animal genetic resources that supply provisioning services such as honey production and also fulfil important regulating services as pollinators. Nevertheless, because they are not a traditional “livestock” species, their status is not currently monitored in DAD-IS. The Commission, at its Sixteenth Regular Session, therefore requested FAO to consider including domesticated honey bees, and potentially other pollinators, in DAD-IS. As an initial step, FAO undertook a global survey to gather information on the status of worldwide honey bee and pollinator populations and to evaluate the current scale and scope of population monitoring. In total, 256 responses from 104 countries were collected.

8. However, as the name implies, DAD-IS is focused on domesticated animals for food and agriculture and currently contains information from 38 avian and mammalian livestock species. Pollination services are provided by around 20 000 mainly wild species. Integrating those wild pollinators into DAD-IS at the species level is simply unfeasible. In addition, the scarcity of data on wild pollinators, would require broadening the scope of DAD-IS by first including only data for monitoring the diversity of domesticated honey bees.

9. FAO continued work through its Technical Cooperation Projects (TCPs) and with various partners to support countries in the characterization, inventory and monitoring of animal genetic resources, in the standardization of methods to undertake these tasks, and in the dissemination of results and related information. AGE developed a database application for the management of data from molecular characterization studies and trained four countries in the utilization of the database.

**Strategic Priority Area 2. Sustainable use and development**

10. In response to the need for technical assistance to ensure the better use and development of animal genetic resources, FAO continued to provide assistance in these fields, both directly and through cooperation with other organizations.

11. Forty countries have received support through TCPs, administered by FAO and AGE. The projects address various issues of priority to each country, including livestock development, animal identification and traceability, genetic improvement and application of reproductive technologies.

12. FAO continued its work in support of small-scale livestock keepers. Specifically, with the extra-budgetary support received from the Government of Germany, FAO continued its operation of the Pastoralist Knowledge Hub.

**Draft guidelines on developing sustainable value chains for small-scale livestock producers**

13. At its Twelfth Regular Session, the Commission requested FAO to continue updating and further developing other technical guidelines on the management of animal genetic resources as important support for countries in their implementation of the Global Plan of Action.

14. Locally adapted breeds are mostly kept by small-scale livestock producers who rely on them to produce food as well as to provide a diversity of other services. These producers face, however, many challenges, including growing environmental constraints, poor access to markets and related services, and limited capacities, which may hamper their productivity and competitiveness vis-à-vis their larger counterparts. Strategic Priority 6 of the Global Plan of Action therefore calls for countries to “support indigenous and local production systems and associated knowledge systems of importance

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12 CGRFA-16/17/Report/Rev. 1, paragraph 46.
13 CGRFA/WG-AnGR-10/18/Inf.7; CBD/SBSTTA/22/INF/16.
14 Available on request from glidmas2017@gmail.com,
16 CGRFA-12/09/Report, paragraph 41.
to the maintenance and sustainable use of animal genetic resources” and includes an action on market
development and value addition to primary products.

15. The development of sustainable value chains can assist in addressing the challenges faced by
small-scale livestock producers. The specific characteristics of small-scale livestock production
systems (i.e. multi-functionality, input and output provision, etc.) underline the need to analyse value
chains in a holistic manner, considering not only the supply chain itself but also its broad environment,
its dynamics and its connections to other systems.

16. FAO, with the contribution of international experts, has prepared the document Revised draft
FAO guidelines on developing sustainable value chains for small-scale livestock producers.17 The
guidelines are a practical tool, providing guidance in development-thinking and intervention design,
considering livestock value chains and targeting particularly small-scale livestock producers.

17. The guidelines suggest that value chain development may be viewed as a dynamic process
with six different steps: (1) preliminary assessment; (2) value chain selection; (3) value chain analysis;
(4) vision and development strategy; (5) design and implementation; and (6) monitoring, evaluation
and scaling up. This market-based approach fully considers the interaction between the market chain
and the physical, social and economic enabling environment, and integrates the multi-faceted concepts
of value-addition and sustainability.

18. The preparation of the draft guidelines has involved a diversity of contributors. Colleagues
from different FAO units and offices as well as external international experts with various institutional
and geographical backgrounds have participated in two meetings. The first meeting was held in Spain
in March 2016, at which the outline of the document was discussed. The second meeting was held in
Morocco in May 2017, at which the first draft was discussed and validated. Experts have also
contributed to the document through case studies. Lessons learned from FAO and non-FAO projects
(e.g. in Uganda, Turkey or Viet Nam) were also incorporated into the document.

19. A draft18 of the guidelines was welcomed and reviewed by the Intergovernmental Technical
Working Group on Animal Genetic Resources for Food and Agriculture (Working Group) at its Tenth
Regular Session.19 The Working Group noted that the guidelines would benefit from the inclusion of
developed-country examples; material on a broader spectrum of livestock production systems,
including integrated systems; and material on niche markets. The Working Group further noted that
the draft contained highly technical language and would benefit from simplification in this regard. It
requested FAO to revise the document accordingly, for consideration by the Commission. The
document Revised draft FAO guidelines on developing sustainable value chains for small-scale
livestock producers20 has been prepared taking the Working Group’s comments into account.

Contributions of livestock species and breeds to the provision of ecosystem services

20. The Commission, at its Sixteenth Regular Session, requested FAO and invited countries to
continue raising awareness of the important roles of livestock producers and of livestock species and
breeds in the provision of ecosystem services.21 The brochure The contributions of livestock species
and breeds to ecosystem services22 was prepared and distributed at several events.

21. The Commission invited FAO to reflect the role of livestock species and breeds in the supply
of ecosystem services in The State of the World’s Biodiversity for Food and Agriculture. The various
roles of livestock species and breeds in the supply of ecosystem services are discussed throughout the
report, in particular in Chapter 2: “Roles and importance of biodiversity for food and agriculture”.

17 CGRFA/WG-AnGR-10/18/Inf.4.
18 CGRFA/WG-AnGR-10/18/ Inf.4.
19 CGRFA-17/19/11.1, paragraph 11.
20 CGRFA-17/19/11.2/Inf.5.
21 CGRFA-16/17/Report/Rev.1, paragraph 47.
22 http://www.fao.org/3/a-i6482e.pdf
22. The Commission requested FAO and countries to improve the mapping of species and breed distributions, where possible, and the description of phenotypic measures and biological functions, particularly in grassland-based production systems, in order to better target interventions for livestock producers. The new version of DAD-IS contains many data fields that allow comprehensive descriptions of breeds and their production systems, including the ecosystems services provided by the breeds. The user-friendly data entry system will facilitate the provision of information related to ecosystem services to DAD-IS and thus presumably increase their availability for planning of interventions supporting the maintenance of these services.

23. The Commission requested FAO to review methods for identification and valuation of the ecosystem services provided by livestock breeds for consideration by the Working Group at its Tenth Session. The Working Group took note of the review document, but recommended revision and the addition of material, including concrete examples that broadened the scope of the document to cover all continents and livestock production systems, socio-ecological systems and categories of breeds and addressed the question of how to scale up data collection from local to national level. It requested FAO to revise the document accordingly, for consideration by the Commission. The document Review of methods for identification and valuation of the ecosystem services provided by livestock breeds has been revised to address the comments made by the Working Group.

24. The Commission encouraged countries to investigate the feasibility of result-based incentive systems supporting the continued provision of ecosystem services, with special consideration to locally adapted breeds, in compliance with international trade regulations, and called on FAO to develop guidelines in this regard. FAO has begun the preparation of such guidelines, as described in the document Status of preparation of guidelines on result-based incentive systems supporting the continued provision of ecosystem services.

Strategic Priority Area 3. Conservation

25. FAO is a member of a consortium consisting of collaborators from Europe and several African and South American countries that is implementing the project “IMAGE – Innovative Management of Animal Genetic Resources”, supported by the European Union. The project aims to improve the management and ex situ conservation programmes for animal genetic resources and increase the utilization of germplasm stored in gene banks. In particular, FAO is leading activities associated with training for the African and Latin American partners and for benchmarking best practices for quality assurance of gene banks. The project will continue until 2020.

26. FAO and AGE have contributed to two training workshops and expert meetings on conservation of animal genetic resources, attended by a total of approximately 50 participants from six countries.

Strategic Priority Area 4. Policies, institutions and capacity-building

27. FAO provided support to various countries and regional bodies in the development of policies related to the management of animal genetic resources, including national strategies and action plans, and national laws and legislation.

28. FAO and its partners contributed to the development and/or implementation of six global projects and 28 regional or national projects involving 48 countries. Over the past two years, FAO

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23 CGRFA-16/17/Report/Rev.1, paragraph 47.
24 CGRFA-16/17/Report/Rev.1, paragraph 47.
25 CGRFA/WG-AnGR-10/18/ Inf.5.
26 CGRFA-17/19/11.1, paragraph 10.
27 CGRFA17/19/11.2/Inf.1.
28 CGRFA-16/17/Report/Rev.1, paragraph 47.
29 CGRFA-17/19/11.2/Inf.6.
30 http://imageh2020.eu
organized, with partners, 18 national and regional capacity-building events with an average of eight countries participating.

29. FAO continued to collaborate with National Coordinators and regional stakeholders to maintain and strengthen Regional and Subregional Focal Points or networks in Asia, the Central Asia sub-region, the Near East and Africa. It continued its collaboration with the Regional Focal Points for Europe and for Latin America and the Caribbean. FAO organized/contributed to seven meetings for National Coordinators during the reporting period.

30. FAO also contributed to a range of cross-cutting initiatives related to biodiversity, biotechnology and ecosystem services, including through the preparation of scientific papers and book chapters on the interactions between animal genetic resources and climate change, genetic improvement of small breeds and various applications of genomics. FAO terminated the production of the Animal Genetic Resources scientific journal following the publication of the 59th volume in 2016.31

31. FAO collaborated with the organizers of the 11th World Congress on Genetics Applied to Livestock Production, held in New Zealand in February 2018 by organising and co-chairing a session on genetic improvement of local breeds and offered travel support to young scientists from nine developing countries.

32. FAO continues to maintain DAD-Net and regional subgroups as an informal forum for the discussion of issues relevant to the management of animal genetic resources. As of October 2018, approximately 3,230 people from more than 150 countries were subscribed to the network.

III. COLLABORATION

33. The Commission, at its Sixteenth Regular Session,32 requested FAO to continue to pursue partnerships and alliances in order to enhance the implementation of the Global Plan of Action. The Commission encouraged FAO and countries to foster collaboration with other stakeholders to improve the management of animal genetic resources.

34. FAO continued its interaction with regional bodies and regional economic communities, various scientific organizations and non-governmental organizations. FAO maintains its recognized technical competence in the management of animal genetic resources through various contributions to scientific endeavours, including by undertaking research and development projects, leading sessions at international scientific conferences and publishing scientific publications.

IV. EVALUATING PROGRESS IN THE IMPLEMENTATION OF THE GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES


36. Previous reviews have been based on data collected via a reporting process agreed by the Commission at its Twelfth Regular Session in 2009,37 designed to facilitate reporting at country level through the flexible use of an electronic questionnaire prepared by FAO. The Working Group

31 C2017/3, paragraph 59 b).
32 CGFRA-16/17/Report/Rev.1, paragraph 45.
33 CGFRA-16/17/Report/Rev.1, Appendix C.
34 CGFRA-14/13/Inf.15.
35 CGFRA-15/15/Inf.19.
37 CGFRA-12/09/Report, paragraph 38.
recommended that the Commission endorse the proposed procedure of following the reporting format that was used for the preparation of the previous synthesis reports, with the potential inclusion of some additional questions. A review by FAO of the questionnaire has led to the insertion of a single question each on 1) ecosystem services and 2) access by livestock keepers to natural resources. These two subjects had been identified among the five emerging issues to require close attention in the future management of animal during the review of the Global Plan of Action undertaken prior to the Commission’s Sixteenth Regular Session. The other three emerging issues are already addressed by the questionnaire. A question on participation in support of the Commission’s suggested Goal 4 of its Strategic Plan 2018-2027 is also already covered in the questionnaire.

37. It is proposed that invitations to countries to contribute to the reporting process be distributed in March 2019. A four-month reporting period is proposed, resulting in a deadline of July 2019. Following data analysis and interpretation, a new Synthesis Report would be prepared by FAO and presented for consideration by the Working Group at its Eleventh Regular Session in 2020 and the Commission at its Eighteenth Regular Session in 2021.

V. REVIEW OF THE FUNDING STRATEGY FOR THE IMPLEMENTATION OF THE GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES

38. The Commission, at its Twelfth Regular Session, adopted the Funding Strategy for the implementation of the Global Plan of Action for Animal Genetic Resources (Funding Strategy) and requested FAO to implement it.

39. The Funding Strategy covers all known and potential sources of financial resources that support the implementation of the Global Plan of Action. The Funding Strategy established, as one of its financial resources, an FAO Trust Account for voluntary contributions to support national and regional projects for implementation of the Global Plan of Action.

Status of the FAO Trust Account

40. The activities of the 13 projects of the first call for proposals funded through the FAO Trust Account were operationally closed in December 2016 and financially closed in December 2017. Total expenditures were USD 943,723. The Commission, at its Sixteenth Regular Session, requested FAO to compile reports and achievements of projects under the Funding Strategy and publicize these on the Web site of FAO. All reports have been made available on the Web pages of the Animal Production and Genetics Unit. FAO has prepared the document Funding Strategy for the Implementation of the Global Plan of Action for Animal Genetic Resources: achievements and challenges. The substantial investments in extra-budgetary funds and FAO in-kind contributions have yielded lasting benefits, inasmuch as an informal survey of beneficiaries undertaken in September 2018 revealed that in many countries the initiatives launched by the projects have been sustained by the government or other local actors and/or have spawned collateral activities.

41. At its Sixteenth Regular Session, the Commission invited donors to contribute to the Funding Strategy and to allocate sufficient funding for monitoring, backstopping and technical assistance of projects. The Commission agreed, with regard to future calls for proposals under the Funding Strategy and projects to be funded, to amended modalities designed to improve the

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38 CGRFA-17/19/11.1, paragraph 12.
39 CGRFA-16/17/14, paragraph 8.
40 CGRFA-17/19/13.
41 CGRFA-12/09/Report, Appendix C.
42 CGRFA-12/09/Report, paragraph 43.
43 CGRFA-16/17/Report/Rev.1, paragraph 49.
45 CGRFA-17/19/11.2./Inf.2.
46 CGRFA-16/17/Report/Rev.1, paragraph 49.
47 CGRFA-16/17/Report/Rev.1, paragraph 49.
48 CGRFA-16/17/13, paragraph 49 xvi, xviii–xxi.
operation and effectiveness of the FAO Trust Account. To date, no funds are available for a second call for proposals under the FAO Trust Account.

**Status of other resources under the Funding Strategy**

42. Work on animal genetic resources, including the implementation of the Global Plan of Action, contributes to six outcomes of the FAO’s *Medium Term Plan 2018–21* relating to: Strategic Objective 2 – Make agriculture, forestry and fisheries more productive and sustainable; Strategic Objective 3 – Reduce rural poverty; and Strategic Objective 4 – Enable more inclusive and efficient agricultural and food systems. For 2016–17, the portion of FAO’s Regular Programme resources planned for work on animal genetic resources was USD 2.7 million. However, the final Regular Programme expenditures for animal genetic resources in 2016–17 were USD 2.1 million, due to the reconfiguration of AGA professional staff time during the 2016–17 implementation, due to internal secondments and the consolidation of the Animal Genetic Resources (AGAG) and Animal Production Systems Units (AGAS) of the Animal Production and Health Division. In 2018, USD 0.86 million were allocated to activities related to animal genetic resources.

43. Additional efforts will be required to deliver all critical outputs in the next reporting period, as the Multi-Year Programme of Work of the Commission foresees an increased workload, including the preparation of: (i) the Synthesis Report 2020; (ii) the report on progress by international organizations in implementation of the Global Plan of Action; and (iii) the proposed process for collecting national data to support the preparation of *The Third Report on the State of the World’s Animal Genetic Resources for Food and Agriculture* during the next biennium.

44. During the reporting period, the value of FAO Technical Cooperation Projects contributing to this work amounted to approximately USD 2.2 million, and from the IAEA Technical Cooperation Programme through the FAO/IAEA Joint Division of Nuclear Techniques in Food and Agriculture to approximately USD 1.75 million.

**Voluntary contributions to FAO**

45. FAO received funds to support the implementation of the Global Plan of Action, including support for pastoralism, at global level, from France and Germany (total of approximately USD 2.4 million) and for regional and country projects from Austria, Mongolia, Nepal, Saudi Arabia and Switzerland (total of approximately USD 3.5 million). Additional funding was received from the Bill and Melinda Gates Foundation. For some of these countries, the support was with funds the countries had received from donors, specifically the European Union and the World Bank. The funds under these programme cooperation agreements helped FAO provide catalytic funds for special activities at all levels. FAO is also associated with several European Commission-funded projects that provide stipends for developing-country participants and support the generation and dissemination of knowledge.

**Resources not under FAO control**

46. The Funding Strategy lists four different types of relevant resources, including resources that are not under FAO control. FAO has a facilitating role in enhancing countries’ access to information on funding. It carries out this role by continuing to provide information on funding sources and grants through the Domestic Animal Diversity discussion network (DAD-Net) and through the Funding Strategy Web site.

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49 PC 124/5, paragraph 16.
50 CGRFA-17/19/13, Appendix I, Annex 2.
VI. GUIDANCE SOUGHT

47. The Commission may wish to:

- welcome the *Review of methods for identification and valuation of the ecosystem services provided by livestock breeds*;
- endorse the *Revised draft FAO guidelines on developing sustainable value chains for small-scale livestock producers* and request FAO to publish them and distribute them widely;
- endorse the proposed procedure of following the reporting format that was used for the preparation of the previous Synthesis Reports, with the inclusion of two additional questions, when undertaking the next review of progress in the implementation of the Global Plan of Action for Animal Genetic Resources;
- invite countries in March 2019 to complete the reporting process in a timely manner, submitting country progress reports by 31 July 2019;
- call upon countries to continue implementing the Global Plan of Action, in order to contribute to global food security and sustainable rural development, and in particular to help achieve SDGs 2 and 15;
- request FAO to strengthen partnerships with stakeholders and donors to continue technical and policy support for country implementation of the Global Plan of Action;
- invite donors to contribute to the implementation of the Global Plan of Action, including to a second call for proposals under the FAO Trust Account; and
- request FAO and countries to continue raising awareness and improving the knowledge base of the important roles of livestock producers and of livestock species and breeds in the provision of ecosystem services in order to better target interventions for livestock producers.

48. With specific regard to DAD-IS, the Commission may further wish to:

- stress the importance of DAD-IS as the international clearing-house mechanism for animal genetic resources;
- request FAO to further maintain and develop DAD-IS, continuing to collaborate with managers of national and regional systems to develop and refine procedures for exchange of data, completing work on the translation of the interface, providing additional training material and investigating the possibility of implementing descriptors for ecosystem services, production systems and the geographical distributions of breeds;
- stress the need for countries to regularly update their national data in DAD-IS or FABIS-net and other relevant databases, including information on animal genetic resources both *in situ* and *ex situ*, and to provide information on population size and breed classifications, in order to ensure that decisions on the implementation of the Global Plan of Action and the achievement of the SDGs are informed by the most up-to-date data and information available;
- request FAO to allocate regular programme resources to the continued maintenance and development of DAD-IS and continue to provide technical support to countries on the estimation of breed population sizes and on the use of DAD-IS; and
- request FAO to include in DAD-IS data fields for monitoring the diversity of domesticated honey bees.