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Item 5.2 of the Provisional Agenda

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Thirteenth Regular Session

Rome, 18 – 22 July 2011

FAO PROGRESS REPORT ON THE 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 Twelfth Regular Session, noted the progress made in the implementation of the *Global Plan of Action for Animal Genetic Resources* (*Global Plan of Action*).[1] It requested FAO to prepare a progress report on FAO activities related to animal genetic resources and the implementation of the *Global Plan of Action*.[2] The Commission also requested its Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture (Working Group) to meet prior to its next regular session to review progress made and action taken to implement the *Global Plan of Action*, including the Funding Strategy.[3]

2. The FAO Conference, at its Thirty-sixth Session in November 2009, also reviewed the status of implementation of the *Global Plan of Action*. It stressed the essential role of FAO in supporting country-driven efforts to implement the *Global Plan of Action*, in facilitating international and regional cooperation and networking, providing technical assistance and capacity building, coordinating training programmes, and promoting the transfer of technologies. The FAO Conference requested the Commission to regularly report back on the implementation of the *Global Plan of Action*.[4] The status of implementation of the *Global Plan of Action* forms part of the provisional agenda of the Thirty-seventh Session of the FAO Conference that will be held from 25 June to 2 July 2011.

3. This document provides an overview of FAO activities supporting the implementation of the *Global Plan of Action* since the Twelfth Regular Session of the Commission, including the preparation of draft technical guidelines. Related recommendations by the Working Group are contained in the *Report of the Sixth Session of the Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture*. [5] Information on the implementation of the Funding Strategy is given in the document, *Funding Strategy for the implementation of the Global Plan of Action for Animal Genetic Resources, including administrative arrangements for the FAO Trust Account*.[6] Relevant conclusions of the Thirty-seventh Session of the FAO Conference will be reported orally at the meeting of the Commission.

II. STATUS OF IMPLEMENTATION OF THE *GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES*

4. Since its adoption in 2007, the *Global Plan of Action* has become a key instrument for the conservation and sustainable use of animal genetic resources at global, regional and national levels. *The State of the World's Animal Genetic Resources for Food and Agriculture (Report)* and the *Global Plan of Action* have been published in all FAO languages and in several additional languages. Since 2007, more than 54 000 hard copies of the *Global Plan of Action*, including the *Interlaken Declaration,* the *Report* and related products have been distributed in multiple languages.

5. Pending the development of Country Progress Reports on the implementation of the *Global Plan of Action* for the Fourteenth Session of the Commission, FAO undertook an informal survey on national implementation.[7] The responses indicate that the adoption of the *Global Plan of Action* has created an important momentum for the promotion of the wise management of animal genetic resources for the improvement of food security and sustainable development worldwide. Countries are taking important steps for the implementation of the *Global Plan of*

[1] CGRFA-12/09/Report, paragraph 38.
[2] CGRFA-12/09/Report, Appendix G (Strategic Plan), paragraph 10.
[3] CGRFA-12/09/Report, paragraph 46.
[4] C 2009/REP, paragraph 69.
[5] CGRFA-13/11/14
[6] CGRFA-13/11/16.
[7] CGRFA/WG-AnGR-6/10/Inf.10.

Action, even though at different speeds and with different priorities (see *Table 1* in the Annex to this document). Countries have made strategic use of national, bilateral and multilateral resources to advance the implementation of the *Global Plan of Action*. Flexibility in national approaches while aiming at a common outcome is a built-in strength of the *Global Plan of Action*. While developing countries aim to strengthen the linkages between genetic diversity, livelihoods and food security, several developed countries highlighted the links between genetic diversity and landscapes, and focus their activities on development, labelling and marketing of high-value products. Several countries are currently revising their livestock or breeding policies and strategies (see *Table 2* in the Annex to this document). Regional organizations (e.g. the African Union) have included use and conservation of genetic resources in their newly developed strategic plans (AU-IBAR, 2009).

6. FAO focuses its support to the implementation of the *Global Plan of Action* on areas of strategic importance. One of these areas is the development of technical guidelines to support countries in their implementation of the *Global Plan of Action*, for endorsement by the Commission and subsequent publication in several languages. The Commission's Working Group, at its Sixth Session, reviewed five additional draft guidelines and recommended them for endorsement by the Commission.

7. FAO received an increasing number of requests for technical assistance, as demonstrated by the non-exhaustive list of projects given in *Table 3* in the Annex to this document. FAO and its partners contributed to operating or developing projects involving more than 100 countries. Over the past two years, FAO and its partners organized 21 regional capacity-building activities with an average of 11 countries participating in each of them.

8. FAO and partners continued to pursue the standardization of methods for molecular and phenotypic characterization of animal genetic resources, a prerequisite for cross-country comparisons and meta-studies, and on the storage of data in publicly accessible databases. In addition, the Domestic Animal Diversity Information System (DAD-IS) was further developed, as it serves the Clearing-House Mechanism for animal genetic resources recognized by the Convention on Biological Diversity (CBD). The global breeds data base within DAD-IS is crucial for monitoring the resource indicator for the success of the *Global Plan of Action*. Work on targets and indicators has progressed.

9. FAO intensified its cooperation with the CBD, and collaborated with a wide range of partners on cross-cutting issues such as climate change and value addition, and identifying co-benefits of better animal genetic resources management. For example, animal identification, performance recording and traceability link animal breeding to the health sector, while improved grazing management links breed sustainable use and conservation with natural resources management and carbon-sequestration.

III. FAO SUPPORT TO THE STRATEGIC PRIORITY AREAS OF THE *GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES*

10. The following paragraphs provide examples of FAO's activities and are presented in the order of the four Strategic Priority Areas of the *Global Plan of Action* and some cross-cutting areas.[8]

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

11. FAO and its partners supported the genetic and phenotypic characterization of local breeds through various projects. Metastudies, involving other consortia and diversity studies, are envisaged. The Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture (AGE) developed a web-accessible database for storage and exchange of molecular data. The data

[8] For more detailed information see document, *Detailed FAO Progress Report on the Implementation of the Global Plan of Action for Animal Genetic Resources,* CGRFA/WG-AnGR-6/10/Inf. 2.

generated through AGE projects are being utilized to identify genes that could have economic or environmental importance.

12. To facilitate global analysis of breed diversity through molecular genetic characterization, FAO continued to promote the use of standard microsatellite marker sets for various species of livestock. Together with research consortia, FAO developed the contents of the *Draft guidelines on molecular genetic characterization*.

13. FAO continued with the development of *Draft guidelines on phenotypic characterization* of animal genetic resources and their production environments. A module for geo-referencing the distribution of national breed populations and describing their production environments has been developed in DAD-IS.

14. The Commission, at its Twelfth Regular Session, requested that status and trends reports on animal genetic resources be prepared by FAO every two years[9] and that these reports include the relevant CBD headline indicator on genetic diversity of terrestrial domesticated animals, once it has been developed.[10] In response, FAO prepared the document, *Status and trends report on animal genetic resources – 2010*.[11] Countries have increased their levels of activity in updating their national data. To assist countries in inventorying and monitoring trends and risks, FAO prepared *Draft guidelines on surveying and monitoring*.

Strategic Priority Area 2: Sustainable use and development

15. FAO published and distributed in English, French and Spanish the guidelines, *Breeding strategies for sustainable management of animal genetic resources,* as endorsed by the Commission at its last session. Translations of the guidelines into Arabic and Russian are currently under preparation.

16. FAO cooperated with the International Committee for Animal Recording to conduct a survey to assess the current status of animal identification and recording systems in 33 developing countries. Guidelines for animal identification, traceability and performance recording in low and medium input production systems are under preparation, and regional training workshops were held.

Strategic Priority Area 3: Conservation

17. FAO prepared *Draft guidelines on cryoconservation*; guidelines on *in vivo* conservation are in preparation. FAO undertook a global survey on current arrangements for regional storage systems, including existing health and other relevant regulations for the exchange of genetic materials among countries.[12] The majority of countries expressed willingness to participate in multi-country gene banks for animal genetic resources, but frameworks for formal collaboration are required in order to address issues such as: ownership of germplasm; differences between countries in technical capacity and health/sanitary standards; and funding.

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

18. The Commission, at its Twelfth Regular Session, endorsed the guidelines, *Preparation of national strategies and action plans for animal genetic resources*.[13] For this session, FAO prepared *Draft guidelines on developing the institutional framework for the management of animal genetic resources*. FAO provided training in the development of national strategies and action plans to National Coordinators at several regional workshops attended by participants from more than 60 countries.

[9] CGRFA-12/09/Report, paragraph 39.
[10] CGRFA/WG-AnGR-5/09/3.2 Appendix A.
[11] CGRFA-13/11/Inf.17.
[12] CGRFA/WG-AnGR-6/10/Inf.4.
[13] CGRFA-12/09/Report, paragraph 41.

19. The Commission's *Strategic Plan 2010-2017 for the implementation of the Multi-Year* Programme *of Work* foresees a progress report on international organizations' contributions to the implementation of the *Global Plan of Action*.[14] FAO invited more than 400 international organizations to report on their activities in this field through an electronic questionnaire. The inputs received are summarized in document*, Progress report of international organizations on the implementation of the Global Plan of Action for Animal Genetic Resources*.[15]

20. The Thirty-sixth FAO Conference stressed the importance of addressing the particular needs of small-scale livestock keepers and pastoralists, custodians of much of the world's animal genetic resources, and encouraged their full and effective participation in the implementation of the *Global Plan of Action*.[16] In response, FAO prepared and widely distributed the publication "Livestock keepers – guardians of biodiversity" and, in collaboration with two NGOs, piloted biocultural community protocols and tested their potential for strengthening indigenous communities' stewardship of animal genetic resources and their ecosystems. Biocultural protocols aim to create a link between Articles 15 and 8(j) of the CBD and the *Global Plan of Action*. A booklet summarizing experiences with the first four protocols was widely distributed and results presented to the CBD.

IV. COLLABORATION

21. FAO continued its interaction with various scientific organizations and the breeding industry. It hosted several research-project workshops, organized joint sessions at scientific conferences and continues to operate DAD-Net as an informal forum for discussion of issues relevant to the management of animal genetic resources. FAO also prepared 28 scientific and 30 conference papers on related issues that established FAO as a recognized technical player in the field, increasing awareness of the *Global Plan of Action* in the scientific community.

22. As one of the partners in the 2010 Biodiversity Indicators Partnership Project, FAO convened an expert meeting, which produced recommendations on the development of the CBD headline indicator on genetic diversity of terrestrial domesticated animals. FAO also contributed to the CBD publications "Biodiversity indicators & the 2010 Biodiversity Targets: outputs, experiences and lessons learnt from the 2010 Biodiversity Indicators Partnership", the 2010 issue of the "Global Biodiversity Outlook", and the CBD Good Practice Guide "Pastoralism, nature conservation and development".

23. In welcoming the Commission's *Strategic Plan 2010-2017*, the tenth meeting of the Conference of the Parties to the CBD, in Decision X/34 also welcomed the adoption of the Funding Strategy for the implementation of the *Global Plan of Action*, and invited Parties and other Governments to take into account the inter-disciplinary and inter-sectoral nature of these publications in their implementation of the programme of work on agricultural biodiversity.

V. DRAFT GUIDELINES SUPPORTING THE IMPLEMENTATION OF THE *GLOBAL PLAN OF ACTION*

24. FAO continued with the preparation of technical guidelines to support countries in the implementation of the *Global Plan of Action*. Five draft guidelines were presented to the Working Group, for review. FAO revised the guidelines based on suggestions and comments received. The Working Group recommended that the revised draft guidelines be submitted to the Commission, for endorsement.[17]

25. The following five draft guidelines are presented to the Commission, for endorsement:

[14] CGRFA-12/09/Report, Appendix G, page 15.
[15] CGRFA-13/11/Inf.16
[16] C 2009/REP, paragraph 67.
[17] CGRFA/WG-AnGR-6/10/Report, paragraph 21.

- *Draft guidelines on surveying and monitoring of animal genetic resources*;[18]
- *Draft guidelines on phenotypic characterization of animal genetic resources*;[19]
- *Draft guidelines on molecular genetic characterization of animal genetic resources*;[20]
- *Draft guidelines for cryoconservation of animal genetic resources*;[21] and
- *Draft guidelines on developing the institutional framework for the management of animal genetic resources*.[22]

26. Guidelines on animal identification, traceability and performance recording, and on *in vivo* conservation of animal genetic resources, and an updated DAD-IS manual are being developed.

VI. GUIDANCE SOUGHT

27. The Commission may wish to:

i) Welcome the progress in the implementation of the *Global Plan of Action* and request FAO to continue its activities in support of the implementation of the *Global Plan of Action;*

ii) Request FAO to continue collaborating with other organizations and institutions in the implementation of policies and programmes aiming at the conservation and sustainable use of animal genetic resources;

iii) Appeal to all FAO Members and relevant international mechanisms, funds and bodies to give due priority and attention to the effective allocation of predictable and agreed resources for the implementation of activities within the Strategic Priority Areas of the *Global Plan of Action*;

iv) Request FAO to maintain and further develop DAD-IS and stress the need for countries to regularly update their national data and information in DAD-IS; and request FAO and IAEA to continue their joint efforts to establish a genetic resources database (with open access) to support national genetic resources programmes;

v) Endorse the five guidelines *Draft guidelines on surveying and monitoring; Draft guidelines on phenotypic characterization; Draft guidelines on molecular genetic characterization; Draft guidelines on cryoconservation;* and *Draft guidelines on development of the institutional framework for the management animal genetic resources* and request FAO to finalize, publish and widely distribute these guidelines, and encourage countries to make full use of them; and

vi) Invite FAO and countries to initiate the development of policies and protocols for the exchange of animal genetics resources for the purpose of multi-country conservation activities, including gene banking, especially in light of spreading diseases, climate change and natural disasters, for review by the Working Group.

[18] CGRFA-13/11/Inf.18
[19] CGRFA-13/11/Inf.19
[20] CGRFA-13/11/Inf.20
[21] CGRFA-13/11/Inf.21
[22] CGRFA-13/11/Inf.22

ANNEX

Table 1: Country activities undertaken to implement Strategic Priority Areas of the *Global Plan of Action*

	Strategic Priority Area			
	1 **Characterization, inventory and monitoring of trends and associated risk**	2 **Sustainable use and development**	3 **Conservation**	4 **Policies, institutions and capacity building**
Research and capacity-building	73%	77%	73%	63%
Institutional and technical support	53%	60%	70%	70%
Awareness raising and information	63%	57%	60%	67%

Source: FAO informal questionnaire: responses from 30 countries, multiple replies allowed.

Table 2: Countries that are developing and implementing national strategies and action plans for the management of animal genetic resources

Status	**No.**	**Countries**
Not yet planned	5	Burundi, Costa Rica, Ghana, Tunisia, Zimbabwe
Planned	15	Bangladesh, Bolivia (Plurinational State of), Cambodia, China, Iran (Islamic Republic of), Lao People's Democratic Republic, Myanmar, Nepal, Papua New Guinea, Poland, Philippines, Republic of Moldova*, Rwanda, Sri Lanka, Viet Nam
Under development	21	Belgium, Bhutan, Burkina Faso, Chile*, Colombia*, France, India, Kenya, Malawi, Malaysia, Mongolia, the Netherlands, Nigeria, Oman, Peru*, Russian Federation, Slovakia, Syrian Arab Republic, Togo, Turkey, Ukraine
Endorsed	7	Armenia*, Denmark, Finland, Iceland, Norway, Romania, Sweden
Being implemented	9	Albania*, Austria, Canada, Czech Republic, Germany**, Montenegro, Spain, United Kingdom**, United States of America

Source: FAO informal questionnaire and technical reports.
* with FAO support as TCPF or TCP.
** developed during the State of the World process prior to endorsement of *Global Plan of Action.*

Table 3: Projects, FAO and in collaboration with partners, by Strategic Priority Area

Project topic	SPA	Donor	List of countries participating
Promoting strategies for prevention and control of HPAI; genetic characterization of local poultry breeds and production systems	1,4	FAO-GCP-Germany	Cambodia, Egypt, Uganda
Characterization of local pig and poultry breeds	1,4	FAO-MUL-Australia	6 Southwest-Pacific countries
Characterization of small ruminant genetic resources	1,2	AGE-CRP	Bangladesh, China, Indonesia, Islamic Republic of Iran, Pakistan, Saudi Arabia, Sri Lanka, Viet Nam
Genetic variation on the control of resistance to infectious diseases in small ruminants	1,2	AGE-CRP	Argentina, Bangladesh, Brazil, Burkina Faso, China, Eritrea, Ethiopia, Indonesia, Islamic Republic of Iran, Mexico, Nigeria, Pakistan, Saudi Arabia, Sri Lanka
Characterization of animal genetic resources	1	AGE-TCP	Burkina Faso, Morocco, Sri Lanka Zambia
Genotyping of indigenous cattle breeds	1	AGE	Austria, Bulgaria, Kenya
2010 Biodiversity Indicators Partnership project	1	GEF	International
GLOBALDIV A global view of livestock biodiversity and conservation	1,3	EC	International
Farm Animal Biodiversity Information System Network	1	EC	13 European countries
		FAO-TCP	Republic of Moldova
Development and application of decision support tools to conserve and sustainably use genetic diversity in indigenous livestock and wild relatives	2	GEF	Bangladesh, Pakistan, Sri Lanka, Viet Nam
In situ conservation of endemic ruminant livestock	1,2,3,4	GEF, AfDB	Gambia, Guinea, Mali, Senegal
Dairy cattle improvement	2	FAO-TCP	Mongolia
			Nepal
			Myanmar
			Sri Lanka
		FAO-GCP Turkey	Azerbaijan, Kyrgyzstan, Tajikistan, Uzbekistan
Cattle breeding	2	AGE	Regional, 13 Asian countries
			Regional, 22 African countries
Development of the animal identification and traceability system	2	FAO-TCP	India
			United Republic of Tanzania
National policy and strategy for the management and the improvement of animal genetic resources	2,4	FAO-TCPF	Armenia
			Burundi
Formulation of National Strategy and Action Plan	4	FAO-TCPF	Peru
			Colombia
			Chile
Establish a Sub-regional Focal Point, develop National Strategy and Action Plans		FAO-GCP Turkey	5 countries of Central Asia, Azerbaijan, Turkey

SPA = Strategic Priority Area.
CRP = Coordinated Research Project.
TCPF = Technical Cooperation Project-Facility.
TCP = Technical Cooperation Project.

AGE = Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture.