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September 2004

منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Organización de las Naciones Unidas para la Agricultura y la Alimentación

Item 4.1 of the Draft Provisional Agenda

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Tenth Regular Session

Rome, 8 – 12 November 2004

PROGRESS IN THE DEVELOPMENT OF THE GLOBAL STRATEGY FOR THE MANAGEMENT OF FARM ANIMAL GENETIC RESOURCES

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I. INTRODUCTION

1. Ten years ago, FAO initiated the development of the Global Strategy for the Management of Farm Animal Genetic Resources. In 1995, the FAO Council recommended that its further development and implementation be coordinated by the Commission on Genetic Resources for Food and Agriculture, assisted by its Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture. FAO provides the Global Focal Point for the Global Strategy within the Animal Production and Health Division.

2. The Working Group has reviewed the Global Strategy at all its Sessions, and made recommendations to the Commission. At its Third Session (31 March - 2 April 2004), the Working Group reviewed progress in developing the Global Strategy and agreed on several key issues to be addressed. The report of the Working Group is before the Commission.[1]

3. This document reports on progress made in the Global Strategy, responding to the Working Group's recommendations, and seeks guidance on priority areas for its further development. Although the primary focus over the past four years has been to support the preparation of the first *Report on the State of the World's Animal Genetic Resources*,[2] a number of actions have been initiated and implemented to advance the Global Strategy. The various components of the Global Strategy are described below, with a focus on recent developments. A possible set of recommendations regarding priorities for the further development of the Global Strategy is contained in the last section of this document.

II. STATUS OF THE COMPONENTS OF THE GLOBAL STRATEGY FOR THE MANAGEMENT OF FARM ANIMAL GENETIC RESOURCES

4. Progress has been made in various aspects of each of the four main components of the Global Strategy: the Inter-governmental Mechanism; the Country-based Planning and Implementation Infrastructure; the Technical Programme of Work; and the Reporting and Evaluation component.

The Inter-governmental Mechanism

5. The Working Group has underlined the need to better inform and involve policy makers in the preparation of the *Report on the State of the World's Animal Genetic Resources*, and to increase their awareness of the functions and values of animal genetic resources, in order to enhance political commitment for the implementation of priorities identified in Country Reports.

6. While the Commission guides the development of the Global Strategy, it is important that other inter-governmental processes are also informed about the Global Strategy, in order to promote synergy and avoid duplication. The Global Focal Point has accordingly undertaken a number of initiatives to increase awareness of the Global Strategy.

- A side-event on the Global Strategy was organized during the Seventeenth Session of the Committee on Agriculture (COAG) in 2003.
- A further side-event was held during the meeting of the Committee for the Review of the United Nations Convention to Combat Desertification, in November 2002, to promote the

[1] CGRFA-10/04/8, *Report of the Third Session of the Intergovernmental Technical Working Group on Animal Genetic Resources*.

[2] Progress in the preparation of the first *Report on the State of the World's Animal Genetic Resources* is covered in a separate document, CGRFA-10/04/8.

understanding of integrated dryland ecosystem and local animal genetic resource management.

- Progress in the Global Strategy and the development of the *Report on the State of the World's Animal Genetic Resources* was reported to the FAO Regional Conferences in 2004. The Conference of the Parties to the Convention on Biological Diversity (CBD) has been informed of FAO's animal genetic resources initiatives, and the Conference of the Parties has supported the Global Strategy in a number of decisions.
- The outcome of a workshop on agrobiodiversity in West Africa, held in Mali in December 2003, with focus on the management of animal genetic resources, was presented at a side-event during the last Conference of the Parties.

Country-based planning and implementation infrastructure

7. The Global Strategy's country-based planning and implementation infrastructure provides an enabling framework for country action and regional and global support. It includes a number of elements: the global focal point; regional and national focal points; the donor and stakeholder involvement mechanism; and the Domestic Animal Diversity Information System (DAD-IS).

8. Support for **National Focal Points for Animal Genetic Resources** remains one of the most important elements of the Global Strategy: National Coordinators have now been appointed in 129 countries. They collectively constitute a unique global animal genetic resources network. Moreover, in 145 countries the preparation of the Country Report in the *State of the World's Animal Genetic Resources* process has involved the establishment of a National Consultative Committee with chairpersons and technical secretaries.

9. In many countries, the *State of the World's Animal Genetic Resources* process has stimulated the establishment of a permanent National Focal Point, and the nomination of a National Coordinator. In many countries, National Consultative Committees serve as National Advisory Committees for Animal Genetic Resources. Other countries are in the process of establishing National Focal Points, with support from regional facilitators and through improved networking among National Focal Points.

10. The Working Group recommended that FAO emphasize the need for countries to establish and strengthen their animal genetic resources National Focal Points, in order to enhance their participation in the further development of the Global Strategy. The Working Group also suggested that countries consider maintaining National Consultative Committees (or other appropriate committees), to ensure national stakeholder support for and participation in the Global Strategy.

11. The Working Group also considered the status of **Regional Focal Points** for animal genetic resources.[3] Despite the high value placed on Regional Focal Points by the Working Group and by regions and individual countries, the mobilization of financial resources for their establishment and maintenance has been extremely difficult.

12. The Working Group noted that the need for enhanced regional collaboration and coordination had been re-confirmed in the *State of the World's Animal Genetic Resources* process. Where countries indicated the need for Regional Focal Points, it recommended that extra-budgetary support be provided for this purpose, either through FAO or through the mobilization of funds within the region, and encouraged FAO to continue seeking donor support.

13. The **Stakeholder Involvement Mechanism** is an important element of the Global Strategy. The process of preparing Country Reports for the *Report on the State of the World's Animal Genetic Resources* has provided many opportunities for contributions from a wide range

[3] CGRFA/WG-AnGR-3/04/3, *Progress Report on the further development of the Global Strategy for the Management of Farm Animal Genetic Resources*, para. 17-22.

of national and international stakeholders. Although there has not been a stakeholder meeting since 2001, stakeholders have been kept informed of progress in the development of the Global Strategy through newsletters and DAD-IS.

14. **Donor support** continues to be crucial in the further development of the Global Strategy, including for the operation of the Global Focal Point itself. In the past four years, donor support has helped developing countries in the preparation of their Country Reports, and has been extremely important in the development of DAD-IS. A summary of contributions of donors was presented to the Working Group.[4]

15. The **Domestic Animal Diversity Information System (DAD-IS)**[5] is a key element of the Global Strategy, providing the chief means for information exchange and communication between National Focal Points and the Global Focal Point. It also provides a tool for establishing national animal genetic resource databases.

16. The Working Group recommended that FAO comprehensively review DAD-IS, to make it easier for countries to use, and seek resources to further develop DAD-IS as a more effective communication tool.[6] An evaluation of DAD-IS has therefore been initiated, and over 6 500 users have been invited to express their views on areas for improvement. A visiting scientist from Poland has assisted in updating DAD-IS, including validation and editing of data entered by National Coordinators into their national databases within DAD-IS.

17. The further development of DAD-IS will be dependent upon extra-budgetary resources. Netherlands funding for a software engineer has ended, and there is an urgent need to replace this key position, especially to ensure that the Global Focal Point can fully contribute to and benefit from the European Farm Animal Biodiversity Information System (EFABIS) project.[7]

The Technical Programme of Work

18. **Characterization:** the Measurement of Domestic Animal Diversity programme (MoDAD) provides recommendations on research protocols for animal genetic diversity studies. The International Society for Animal Genetics and FAO have formed a joint Standing Committee on Animal Genetic Resources, to develop standards for individual species, which has recommended a standard list of microsatellite markers for cattle, chicken, sheep and pigs. In September 2004, this was revised and expanded to cover cattle, sheep, goat, yak, buffalo, horse, ass, pig, camelids, chicken, and duck.[8]

19. The use by researchers of the recommended markers will enable the comparison of parallel or overlapping studies of animal genetic diversity: this is a prerequisite for meta-analyses and the construction of phylogenetic trees. A review of genetic diversity studies on domestic animals, to evaluate the actual application of MoDAD recommendations in research during the past ten years was undertaken, and made available to the Working Group.[9]

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[4] CGRFA/WG-AnGR-3/04/3, para. 25-30. Donors include the Government of the Netherlands, through the FAO-Netherlands Partnership Programme, Norway, Finland and Germany and the Nordic Genebank. A Trust Fund from the Government of Japan enabled the development of a *Farm Animal Encyclopedia* and a picture database.

[5] www.fao.org/dad-is.

[6] CGRFA/WG-AnGR-3/04/3, para. 31-35.

[7] http://www.eaap.org/efabis.htm.

[8] Lists of recommended microsatellite markers can be found in DAD-IS: http://dad.fao.org/en/refer/library/guidelin/marker.pdf.

[9] CGRFA/WG-AnGR-3/04/ inf.3, *Measurement of Domestic Animal Diversity - a Review of recent Diversity Studies*.

20. The FAO/International Atomic Energy Agency Joint Division for Nuclear Techniques in Food and Agriculture, jointly with the International Livestock Research Institute (ILRI) will establish a bank of standardized microsatellite primers for small ruminants in 2005, and assist with their application in genetic diversity studies, under the Coordinated Research Project (CRP) Programme, "Gene-based Technologies in Livestock Breeding: Phase 1 - Characterization of Small Ruminant Genetic Resources in Asia". It is planned to expand this activity, and establish banks of standard primers for other major livestock species and make them available to all interested parties. The funds to support the elaboration of the primers have still to be secured.

21. **Conservation:** The continuing erosion of irreplaceable animal genetic resources underlines the importance of understanding, improving and applying animal genetic resource conservation technologies. Progress on efforts to enhance conservation was reported to the Working Group,[10] which recommended that FAO investigate the feasibility of animal genetic resources genebanks, as a possible cost-effective national conservation measure, especially in light of recent advances in technologies and methodologies. The Working Group noted that significant capacity would be required by countries, to sustain such genebanks, and that, in many developing countries, *in situ* conservation was the priority.

22. FAO has initiated a study on *Options and strategies for the conservation of animal genetic resources*, within the context of the *State of the World's Animal Genetic Resources* process. An expert consultation on options for the conservation of animal genetic resources is planned for early 2005, organized by ILRI, the International Centre for Agricultural Research in the Dry Areas **(**ICARDA), and the International Plant Genetic Resources Institute (IPGRI) through the Consultative Group on International Agricultural Research's (CGIAR) System-wide Genetic Resources Programme (SGRP).

23. In order to ensure the enhanced contribution of animal genetic resources to food security and rural development, **Sustainable utilization** continues to be a key focus of the Global Strategy. As recommended by the Working Group, FAO has initiated the development of guidelines and simple support tools to assist in planning and executing breeding programmes, particularly in low- to medium-input production systems. This covers the design and development of the decision-support tools, their field testing in 2005, the subsequent refining of the guidelines, and the holding of regional training workshops.

24. One of the most urgent tasks is to design and implement regional capacity-building courses in the sustainable management and conservation of animal genetic resources, such as the course jointly organized by FAO and the Centre International de Hautes Etudes Agronomiques Méditerranéennes (CIHEAM), in 2003 in Zaragoza, Spain.[11] In order to better serve countries in different regions, the Global Focal Point will need to prepare additional training materials for capacity-building courses that take into consideration the specific circumstances of the production systems and animal genetic resources involved: extra-budgetary financial resources will be required.

25. **Technical assistance**: the Working Group has recommended that countries develop technical cooperation projects with FAO and other organizations, in the light of the strategic priorities identified in Country Reports in the *State of the World's Animal Genetic Resources* process. FAO has already been approached by over twenty countries requesting such technical and financial assistance, including for the development of breeding strategies and programmes. Extra-budgetary resources will be required to expand field activities in developing countries. The follow-up mechanism for the implementation of strategic priorities for action in animal genetic

[10] CGRFA/WG-AnGR-3/04/3, para. 48-53.

[11] www.iamz.ciheam.org/en/index.html.

resources will play a crucial role in identifying and facilitating access to possible funding, by informing bi-lateral and multi-lateral donors and international organizations of priority needs.[12]

26. It is anticipated that between 2005 and 2007 many countries will request the Global Focal Point to help formulate project proposals to respond to priorities identified in Country Reports. Many national projects, funded by various national governments, with or without bilateral cooperation, and with some technical assistance from FAO, are expected to be prepared in the next few years. Based on a preliminary analysis, it is anticipated that twelve projects may be directed to emergency situations both in conservation and animal breeding, and twelve projects will relate to regional and interregional cooperation. The follow-up mechanism could significantly contribute to the design, funding and implementation of these projects. With adequate support, over the medium term, more and more countries will be enabled to establish national programmes for the conservation and sustainable utilization of animal genetic resources, and develop regional activities.

27. **Communication strategy**: the Global Focal Point has undertaken a variety of communication measures to improve awareness of the roles and values of animal genetic resources in contributing to food security and rural development. It continues to collaborate with professional and civil society organizations in the further development of the Global Strategy. The follow-up mechanism, when implemented, will significantly contribute to increasing the awareness of policy-makers and the general public of the importance of animal genetic resources.

Reporting and Evaluation Component

28. The ***World Watch List for Domestic Animal Diversity***: distribution of the third edition continues, and National Coordinators are encouraged to continue editing and updating national data within the global animal genetic resources database: this is required for the fourth edition of the *World Watch List*, as the basis for a global early warning system. It is envisaged that the preparation of the fourth edition will complement the *Report on the State of the World's Animal Genetic Resources*. This could be considered by the Working Group in 2006.

29. **Monitoring system and early warning and response mechanism**: the Working Group recommended that FAO and other organizations prepare a proposal for country-based monitoring of animal genetic resources, in particular those resources that are most at risk, on the basis of the Country Reports and the *Report on Strategic Priorities for Action*, and identify options for establishing a country-driven regional early warning and response mechanism. However, as a result of the priority given to the preparation of the *Report on the State of the World's Animal Genetic Resources*, this will not be possible without extra-budgetary resources. Nor has FAO been able to undertake an assessment of the impact of the current rapid loss of animal genetic resources on food security, rural development, and sustainable livelihoods, as was requested by the Working Group during its second Session.

Financial Resources

30. As noted above, when discussing various components of the Global Strategy, substantial extra-budgetary resources will be needed to further develop the Global Strategy, in addition to those activities covered by FAO's Regular Programme contribution, and over and above the needs for the completion of the country-driven process to prepare the first *Report on the State of the World's Animal Genetic Resources*.[13] Table 1 summarizes the needs for activities already identified as priorities by the Commission or its Working Group on Animal Genetic Resources.

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[12] CGRFA-10/04/9Add.1, *Initiation of the follow-up mechanism for the implementation of strategic priorities for action in animal genetic resources*.

[13] CGRFA-10/04/9, *Progress in the preparation of the first Report on the State of the World's Animal Genetic Resources and the Report on Strategic Priorities for Action*.

Table 1: Indicative budget of extra-budgetary resources needed for the further development of priority activities under the Global Strategy

Component Activity	**Period**	**Costs US $**
Design and undertake regional capacity-building programmes and courses in sustainable management and conservation of animal genetic resources.	2005-2007	555,000
Develop breeding programmes, including field-testing, and training workshops on sustainable genetic improvement	2005-2006	363,000
Conceptual development of a country-based monitoring and early-warning system	2005	80,000
Further development of DAD-IS	2004-2006	320,000
Further Development of MoDAD: Development and validation of standardised microsatellite marker sets for 13 species, production of primers, and shipment to developing countries (AGE)	2005-2007	330,000
Convening of an expert consultation on strategies for the conservation of animal genetic resources	2005	100,000
Total	2005-2007	**1,748,000**

III. GUIDANCE REQUESTED FROM THE COMMISSION

31. In considering progress in the development of the Global Strategy, and the further priority actions that have been identified, the Commission may wish to:

(i) Encourage countries to strengthen their National Focal Points for animal genetic resources, in order to ensure their enhanced participation in the further development of the Global Strategy, including in the implementation of the strategic priorities for action identified in Country Reports;

(ii) Recognize the need for extra-budgetary financial resources for the further development of the Global Strategy, especially to enable regional training in the sustainable utilization and conservation of animal genetic resources, and to provide developing countries with improved capacity to manage their animal genetic resources;

(iii) Request FAO, in collaboration with relevant partners, to continue to develop decision-support tools to assist in the formulation of breeding programmes for locally adapted breeds in low- to medium-input production systems, with associated training;

(iv) Encourage donor support for the further development of DAD-IS;

(v) Request FAO, in collaboration with other relevant organizations, to prepare a proposal for a monitoring system for animal genetic resources, with options for establishing an early warning and response mechanism, on the basis of the Country Reports and the *Report on Strategic Priorities for Action*;

(vi) Request FAO to further elaborate strategies for the conservation of animal genetic resources, and to assess the feasibility of *ex situ* conservation in genebanks, as a possible

cost-effective national conservation measure, in the light of recent advances in relevant technologies and methodologies;

(vii) Request FAO to continue to develop other components of the Global Strategy; and

(viii) Request the Working Group on Animal Genetic Resources to meet in 2006 to review progress and report to the Commission at its Eleventh Session.