



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 3 of the Provisional Agenda

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

INTERGOVERNMENTAL TECHNICAL WORKING GROUP ON ANIMAL GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Second Session

Rome, 4-6 September 2000

OVERVIEW OF COUNTRY ACTIVITIES ASSOCIATED WITH THE DEVELOPMENT AND IMPLEMENTATION OF THE GLOBAL STRATEGY FOR THE MANAGEMENT OF FARM ANIMAL GENETIC RESOURCES

CONTENTS

	<i>Paras.</i>
I. Introduction	1-3
II. Results of the Questionnaire	4
A. National Networks	5-6
B. National Management Plans	7-8
C. Inventory and Characterization	9-10
D. Monitoring	11-12
E. National Databanks	13-15
F. Sustainable Intensification	16-17
G. Conservation	18-19
H. Communication and Cooperation	20-21
I. Other Activities	22
J. Priorities	23
	<i>Page</i>
Appendix I: Questionnaire	7

OVERVIEW OF COUNTRY ACTIVITIES ASSOCIATED WITH THE DEVELOPMENT AND IMPLEMENTATION OF THE GLOBAL STRATEGY FOR THE MANAGEMENT OF FARM ANIMAL GENETIC RESOURCES

I. INTRODUCTION

1. The Commission on Genetic Resources for Food and Agriculture requested that its Intergovernmental Working Group on Animal Genetic Resources (Working Group) review activities and progress in the implementation of the Global Strategy for the Management of Farm Animal Genetic Resources (Global Strategy). The purpose of this information document is to provide an overview of activities that have been reported by countries to better manage their animal genetic resources and further develop and implement the Global Strategy. A comprehensive survey of country level activities was not possible. Rather, a short questionnaire was produced at the Global Focal Point and distributed in February 2000 to eighty-one National Coordinators using email and facsimile, requesting them to provide a summary of activities taken in relation to the management of farm animal genetic resources. The questionnaire is attached in Appendix I. The Secretariat is investigating ways and means to more comprehensively and cost-effectively report on activities and progress at the country and regional levels. It is expected that preparation of the Report of the State of the World's Animal Genetic Resources will provide a framework for future reporting.

2. Fifty-five Coordinators provided responses to the questionnaire. All respondents did not answer all of the questions. Response by region was as follows: nine countries responded from Africa; six from the Asia and Pacific region; twenty-seven countries from Europe; seven countries from Latin America and the Caribbean region, four countries from the Near East, and responses were provided from both Canada and the United States of America, of the North American region.

3. While the questionnaire results are useful in providing an overview of activities that are being implemented at the country level to enhance conservation and sustainable use of animal genetic resources, caution is needed in interpreting the level of progress that has been made for two reasons. First, there are substantial differences in the capacity to manage animal genetic resources among and within regions, and while responses were obtained from all regions, half of the responses were from Europe, which is one of the more advanced regions in terms of capacity to manage animal genetic resources. Second, the questionnaire approach used in this survey does not provide a method for evaluating the level or state of progress within a country or within a sub-region. For example, a country may have replied that they have established a National Databank for animal genetic resources, but an affirmative response does not provide an understanding of the state of their Databank. It could be advanced and widely used, or it could be in the early development phases, and not yet contributing to the management of animal genetic resources. It could enable direct inclusion of data in the Global Databank or there may be no provision for directly updating the Global Databank on DAD-IS and exchanging information about genetic resources with other countries. A clear understanding of the state of capacity to manage animal genetic resources and differences among and within regions requires a much more comprehensive approach. Inventories of activities and resources, and a detailed policy and programme analysis will be undertaken in the preparation of the Report of the State of the World's Animal Genetic Resources, providing a clear understanding of the state of animal genetic resources and capacity to manage them at the country, regional and global levels.

II. RESULTS OF THE QUESTIONNAIRE

4. The following paragraphs provide an overview of the results of the questionnaire indicating progress made in the better management of animal genetic resources and the further development and implementation of the Global Strategy at the country level. Respondents also identified gaps and future priorities for action.

A. NATIONAL NETWORKS

5. National networking of all stakeholders is a key feature of the Global Strategy. Conservation and sustainable use of animal genetic resources requires sound policy development, mobilization of financial resources and expertise, and many coordinated management activities. These activities require the involvement of all stakeholders, and therefore, networking is essential. The FAO, with extra-budgetary support from some countries, made significant investments in developing the Domestic Animal Diversity – Information System (DAD-IS), in large part to facilitate and support networking. Guidance to countries in the establishment of national networks has been provided in a document prepared by the FAO called *Primary Guidelines for Development of National Farm Animal Genetic Resources Management Plans*¹ (*Primary Guidelines*).

6. Results of the questionnaire indicate that there has been significant progress in the establishment of national networks for animal genetic resources. Forty-one countries indicated that they had in place some sort of national network. Many of the networks included linkages to research/educational institutions and breeders' organizations. Thirty-four countries indicated that they have established a national Advisory Committee for animal genetic resources. It is significant however, that ten countries indicated that they have not established a national network, and several indicated that breeders' organizations are not in place. Some respondent indicated that while breeders' organizations exist in their country, they do not cover all important livestock breeds or species. Also, a number of countries indicated that they do not have a national advisory committee for animal genetic resources. Progress in the establishment of national networks for animal genetic resources is crucial as national advisory groups and breeders' organizations are essential to the effective development of national management plans for animal genetic resources, and will be invaluable as countries undertake preparation of Country Reports as their contribution to the Report of the State of the World's Animal Genetic Resources.

B. NATIONAL MANAGEMENT PLANS

7. The preparation and implementation of national management plans for animal genetic resources is one of the most fundamental elements of the Global Strategy. The FAO undertook development of the *Primary Guidelines* as an early priority activity to assist countries to develop their national management plans. Using these guidelines, significant progress has been made in preparing national management plans with twenty-three respondents indicating that their country had completed a national management plan, and that it had been approved for implementation. Twenty-five countries indicated that their national plan was being prepared, while twelve indicated that it was in the planning stage. While there has been progress in developing national management plans, it is significant that twenty-one countries have not yet started preparation of a national management plan. Some countries indicated that this was a priority but are constrained by a lack of financial resources.

8. Preparation of Country Reports will complement and support national management planning activities. For countries that have prepared national management plans for animal genetic resources, these plans should assist them in undertaking preparation of their Country Reports for the Report of the State of the World's Animal Genetic Resources. Moreover, preparation of the Country Report should provide an opportunity to evaluate, update and renew existing plans. Countries that have not yet developed a national management plan will be assisted in this activity through the preparation of their Country Report, which will provide an analysis of their capacity to manage animal genetic resources, and will contain valuable data on their resources.

¹ Primary Guidelines for Development of National Farm Animal Genetic Resources Management Plans. 1998. The Food and Agriculture Organization of the United Nations. Rome, Italy. 136 pages.

C. INVENTORY AND CHARACTERIZATION

9. Inventory and characterization are key elements of the Global Strategy and necessary activities for the effective management of animal genetic resources at the country level. Results of the questionnaire indicate that some progress has been made to enhance national inventories of animal genetic resources, and through characterization, better understand the values of these resources. The results also indicate that much more work is required. Thirty-five countries (24 from Europe) reported that they had undertaken at least a first inventory of all livestock species of economic importance. Twelve countries indicated that this activity was underway, and another fifteen countries reported that inventories are planned. Nine countries reported that they do not have a first inventory nor is this activity currently being planned. Much less progress has been made in the characterization of animal genetic resources. Only twenty-five countries (17 from Europe) have basic characterization completed for their important livestock species. Twenty-one countries reported that this work was underway, and six countries indicated that they were in the planning phase. Characterization for basic performance was completed in seven countries and partially completed in another thirty countries. Eight countries indicated that this work was being planned. In terms of molecular characterization, fifteen countries (10 from Europe) indicated that they had partially completed this work for some of their most important livestock species, and thirty countries were planning molecular characterization work. No country reported having completed their basic molecular characterization.

10. The result of the questionnaire indicate that significant progress has been made in developing or planning basic inventories, with several countries reporting the need to update their inventories. However, some countries do not yet have a basic livestock species inventory from which to plan the better use and development of animal genetic resources. The questionnaire also clearly established the need for additional investments in characterization. Characterization is advancing in some countries and/or for some species, however, much more effort is required to characterize all of the important livestock species, and in some countries, to establish a basic understanding of the diversity of their resources, and the performance and values of these resources.

D. MONITORING

11. Monitoring of animal genetic resources is a key element of national management plans and the Global Strategy. The Primary Guidelines provide guidance to assist countries to establish monitoring systems. The questionnaire asked countries to report on their animal genetic resources monitoring systems, both monitoring of trends in population size, and trends in performance. Less than half of the respondents (24, 19 from Europe) reported having systems in place to monitor population trends in all of their important livestock species. Nineteen countries have monitoring systems under development, and seventeen countries indicated that this activity is planned. Less progress has been made in the establishment of monitoring systems for performance. Fourteen countries reported that they have systems in place to monitor genetic trends in performance, twenty-three reported that this work was under development, and twenty-one countries indicated that monitoring systems were being planned.

12. The results indicate that while some progress has been made in the establishment of monitoring systems, much work remains to be done, especially in monitoring genetic trends in performance. The results also suggest that monitoring is considered a priority, and some Coordinators report that they believe that monitoring will be enhanced as monitoring protocols are established, and as national management plans are prepared.

E. NATIONAL DATABANKS

13. Establishment of National Databanks for animal genetic resources is an important mechanism in the implementation of national management plans and national reporting activities.

They also make it possible for cost-effective contributions to regional and global reporting, which assists international priority setting, especially assisting the work of the Commission on Genetic Resources for Food and Agriculture, and Parties to the Convention on Biological Diversity.

14. National Coordinators were asked several questions relating to the establishment of National Databanks, including questions concerning the capability of these National Databanks permit direct updating of the Global Databank in DAD-IS. Thirty-two countries reported that they had established a National Databank within DAD-IS. This included eighteen countries from Europe. Another fifteen countries reported that they had established a National Databank that was separate from DAD-IS, but was a complementary system. Sixteen countries indicated that they had a National Databank separate from DAD-IS. It is unlikely that direct updating of DAD-IS is feasible from these separate systems. Eighteen countries indicated that development of their National Databank was a priority. In terms of updating the data contained in National Databanks, progress was reported with twenty-seven countries indicating that they had updated their Databanks within the past two-years.

15. While there has been significant progress in establishing and developing National Databanks for animal genetic resources, much work remains to be done. Several respondents, particularly, from developing countries in Africa, indicated that they do not have any sort of National Databank for animal genetic resources, and that establishment of a databank was a priority. Many countries indicated that while they have established a Databank, its further development is necessary. Some countries indicated that networking was also an issue with some of the least developed countries reporting that they do not have financial resources to enable access to the Internet. One country indicated that they had only recently acquired computers and staff was being trained in their use. Further development of National Databank is essential to provide long-term national benefits in terms of the management of animal genetic resources. National Databanks will also be essential for cost-effective national reporting on the state of animal genetic resources, and to effectively contribute to the Report of the State of the World's Animal Genetic Resources.

F. SUSTAINABLE INTENSIFICATION

16. Sustainable intensification is an underpinning goal of the Global Strategy. Wise use and development of animal genetic resources is essential to increase production and productivity and/or enhance product quality. Development must consider economic, social and environmental conditions, so as to ensure that it is sustainable over the long-term. National Coordinators were asked whether they had over the past two years implemented new or improved projects for animal genetic resources aimed at achieving sustainable intensification of production. They were also asked to provide examples. Seven countries did not respond, while one respondent indicated that they did not understand the question. Eleven countries reported that they did not have any sustainable intensification projects underway, with some countries indicating that this was the result of a lack of available financial resources. Twenty-seven countries reported that they had projects underway aimed at achieving sustainable intensification, including: breeding projects, training for farmers, reintroduction of an indigenous breed, and performance testing.

17. It is significant that slightly less than half the respondents reported having sustainable intensification projects underway. Increasing demand for food, and in particular increased demand for animal products, requires progress to be made under the Global Strategy to emphasize sustainable intensification in order to increase national capacity and establish appropriate strategies to better use and develop animal genetic resources, utilizing both indigenous and other locally adapted genetic resources in low, medium and high input production systems to overcome food insecurity.

G. CONSERVATION

18. Conservation of animal genetic resources is a critical element of the Global Strategy, and is an obligation of Parties to the Convention on Biological Diversity. Recent surveys undertaken by countries and the FAO to determine the status of animal genetic resources, indicates a very high number of breeds are at risk of being lost. National Coordinators were asked if their countries have established conservation programmes for breeds at risk for their important livestock species, and what types of conservation methods were being employed. While most countries have established conservation projects for some breeds, many respondents indicated that they have identified additional priority breeds requiring conservation. Many countries (18) indicated that they do not have conservation programmes in place for all priority breeds. Countries with conservation programmes most often employ *in situ* conservation measures, however several countries indicated employing *ex situ* measures, both *in vivo* and *in vitro*.

19. National Coordinators were also asked if their countries had established emergency response systems for threatened breeds. Significantly, thirty-six respondents indicated that they have not established an emergency response system. It is clear from the results of the questionnaire that additional efforts are required in order to prevent the further erosion of animal genetic resources. Several countries have identified priority breeds for conservation but lack capacity to implement conservation efforts. The FAO has produced *Secondary Guidelines for the Development of National Farm Animal Genetic Resources Management Plans – Management of Small Populations at Risk*². This document provides the rationale for conservation, describes survey and analysis methods, and explains available options for conservation. Preparation of the Report of the State of the World's Animal Genetic Resources will also be helpful in advancing support for conservation by assisting in the identification of country, regional and global priorities for conservation.

H. COMMUNICATION AND COOPERATION

20. Effective communication among all stakeholders is a key feature of both the Global Strategy and national management planning. The questionnaire asked if the National Focal Point had a programme for increasing public awareness. Sixteen National Focal Points reported having public awareness programmes in place. Forty respondents indicated that public awareness programmes were either under development, or are planned. Thirteen countries reported that they had not yet developed or planned any public awareness programmes, but that this was a future priority. The Report of the State of the World's Animal Genetic Resources will be a valuable communication resource providing a medium for improved public understanding of the state of animal genetic resources, and the need for conservation and sustainable intensification.

21. Non-governmental organizations operating at both the international and national levels are making an invaluable contribution to the management of animal genetic resources. To provide some understanding of the roles of non-governmental organizations, the questionnaire asked if there were non-governmental organizations operating at either the national or international level, assisting with characterization, sustainable intensification or conservation efforts. The results clearly establish the important role of both national and international non-governmental organizations with thirty-four countries indicating the involvement of non-governmental organizations in characterization efforts, thirty-one involved in achieving sustainable intensification, and thirty-seven leading or participating in conservation projects. These results confirm the importance that has been placed on including non-governmental interests in all levels

² Secondary Guidelines for the Development of National Farm Animal Genetic Resources Management Plans – Management of Small Populations at Risk. 1998. The Food and Agriculture Organization of the United Nations. Rome, Italy. 215 pages.

of development and implementation of the Global Strategy. Their involvement in the process for developing the Report on the State of the World's Animal Genetic Resources will also be crucial.

I. OTHER ACTIVITIES

22. The questionnaire asked National Coordinators to list and briefly describe any major activities that they had initiated over the past two-years to implement the Global Strategy, not already described in responding to other questions. This question produced a wide-range of activities: including research, training, breed surveys, seminars, improved legislation, new courses in animal genetic resources, and preparation of a business plan. A few developing countries indicated that they do not have the financial resources to implement much-needed projects to conserve and improve use of their animal genetic resources.

J. PRIORITIES

23. The questionnaire asked National Coordinators to list and briefly describe their priority activities for animal genetic resources. There was considerable convergence on priorities areas, which include, the need for:

- Enhanced animal genetic resources inventories;
- Projects to enhance use and development of animal genetic resources;
- Conservation projects;
- Improved national and international networking, including national committees and breeders' organizations;
- Improved characterization;
- Increased technical support and training, especially for developing countries, with several countries indicating their desire for increased technical support from the FAO; and
- Improvements in capacity to manage data and information (Databanks).

Appendix I

Questionnaire

Country name: _____

Respondent: _____

1) Have you established a National network on Farm Animal Genetic Resources?

- | | |
|---|----------|
| a) Advisory Committee | Yes / No |
| b) Co-operation with research /educational institutions | Yes / No |
| c) Co-operation with breeders organizations | Yes / No |

Further comments: _____

2) What is the current status of your country's national Animal Genetic Resources Management Plan?

- | | |
|--|----------|
| a) Preparation completed and approved | Yes / No |
| b) In preparation | Yes / No |
| c) Planned | Yes / No |
| d) Under discussion | Yes / No |
| e) If not under way or planned - is it a future priority activity? | Yes / No |

Further comments: _____

3) Has a first inventory of your National Animal Genetic Resources been conducted covering all species of economic importance?

- | | |
|--|----------|
| a) Completed for all important species | Yes / No |
| b) Under development | Yes / No |
| c) Planned | Yes / No |
| d) If not under way or planned - is it a future priority activity? | Yes / No |

Further comments: _____

4) Has your country characterized its Animal Genetic Resources, their performance and specific features?

Characterization for all important species:

- | | |
|-------------------------------------|---|
| a) Basic | Completed / Partially completed / Planned |
| b) Specific, including performance | Completed / Partially completed / Planned |
| c) Molecular level characterization | Completed / Partially completed / Planned |

Further comments: _____

5) Have you developed a monitoring system to assess your National Animal Genetic Resources, in terms of:

- | | |
|--|----------|
| a) Trends in population size? | |
| i) Completed for all important species | Yes / No |

- | | | |
|-------------|--------------------------|-----------------|
| ii) | <i>Under development</i> | Yes / No |
| iii) | <i>Planned</i> | Yes / No |

Further comments: _____

b) Genetic trends in performance?

- | | | |
|-------------|--------------------------|-----------------|
| i) | <i>Completed</i> | Yes / No |
| ii) | <i>Under development</i> | Yes / No |
| iii) | <i>Planned</i> | Yes / No |

Further comments: _____

6) Have you established a National Databank on Animal Genetic Resources?

- | | | |
|-----------|---|-----------------|
| a) | <i>National Databank established, within DAD-IS</i> | Yes / No |
| b) | <i>National Databank established, separate from DAD-IS</i> | Yes / No |
| c) | <i>National Databank established, complementary to but separate from DAD-I</i> | Yes / No |
| d) | <i>If you have not established a National Databank (within or separate from DAD-IS) - is this a future priority area?</i> | Yes / No |

Further comments: _____

7) Have you updated your National Databank in the past two years?

- | | | |
|-----------|---|-----------------|
| a) | <i>National Databank updated, within DAD-IS</i> | Yes / No |
| b) | <i>National Databank updated, separate from DAD-IS</i> | Yes / No |
| c) | <i>National Databank updated, complementary to but separate from DAD-IS</i> | Yes / No |

Further comments: _____

8) Over the past 2 years have you implemented new or improved projects for Animal Genetic Resources aimed at achieving sustainable intensification of production? Please provide some examples!

List and briefly describe: _____

9) Do you have conservation programmes in place for breeds at risk for all important species?

Yes / No

If yes:

What conservation methods are being employed?

- | | | |
|-----------|-------------------------------|-----------------|
| a) | <i>In situ</i> | Yes / No |
| b) | <i>Ex-situ - in vivo</i> | Yes / No |
| c) | <i>Ex-situ - in vitro</i> | Yes / No |
| d) | <i>Combination of above -</i> | |

Please describe: _____

e) If you have not established conservation programmes - is this a future priority area?

Yes / No

f) Have you identified priority breeds for conservation?

Yes / No

Further comments: _____

10) *Have you established emergency response system that provides for immediate action to maintain threatened breeds for all important species?*

Yes / No

Further comments: _____

11) *Does the National Focal Point have a programme increasing public awareness?*

a) *Operational* **Yes / No**

b) *Under development* **Yes / No**

c) *Planned* **Yes / No**

d) *If not under way or planned - is it a future priority activity?* **Yes / No**

Further comments: _____

12) *Are there any National / International NGOs active in your country in the fields of:*

a) *Characterization* **No / National NGOs / INGOs**

b) *Sustainable intensification?* **No / National NGOs / INGOs**

c) *Conservation of breeds at risk?* **No / National NGOs / INGOs**

Further comments: _____

13) *Are there any other major activities that you have initiated in the past 2 years to implement the Global Strategy for the Management of Farm Animal Genetic Resources?*

List and briefly describe each: _____

14) *What other priority activities are needed for your country?*

List and briefly describe each: _____