ITC-AnGR/07/REP

REPORT OF THE INTERNATIONAL TECHNICAL CONFERENCE ON ANIMAL GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Interlaken, Switzerland, 3 – 7 September 2007

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, 2007

CONTENTS

REPORT OF THE INTERNATIONAL TECHNICAL CONFERENCE

ON ANIMAL GENETIC RESOURCES FOR FOOD AND AGRICULTURE

I. INTRODUCTION

1. The International Technical Conference on Animal Genetic Resources for Food and Agriculture (the Conference) convened in Interlaken, Switzerland, from 3–7 September 2007. The agenda of the Conference is given in *Appendix A*. The list of delegates and observers is attached as *Appendix D.*

2. Mr Samuel Jutzi, Director, Animal Production and Health Division, of the Food and Agriculture Organization of the United Nations (FAO), welcomed delegates and observers to the Conference. He thanked the Government of Switzerland for its generosity in hosting the Conference. Mr Jutzi noted that the Conference had three main elements, the Scientific Forum on Animal Genetic Resources, the presentation of *The State of the World's Animal Genetic Resources for Food and Agriculture*, and the adoption of the *Global Plan of Action for Animal Genetic Resources*.

II. ELECTION OF THE CHAIR AND VICE-CHAIRS AND OF THE *RAPPORTEUR*

3. The Conference elected Mr Manfred Bötsch (Switzerland) as Chair and, as Vice Chairs, Ms Vanida Khumnirdpetch (Thailand), Mr David Hegwood (United States of America), Mr Paul Trushell (Australia), Mr Hussein Ibrahim Abu Eissa (Sudan), Mr Daniel K.N. Semambo (Uganda) and Mr Arthur da Silva Mariante (Brazil). Ms Jasmin Holness (Jamaica) was elected as *Rapporteur*.

4. Mr Bötsch welcomed delegates and observers to the Conference. He noted the decision to host the Conference underlined the importance that Switzerland attached to the sustainable use, development and conservation of animal genetic resources for food and agriculture, and the need to further support FAO's work in this area.

III. SCIENTIFIC FORUM ON ANIMAL GENETIC RESOURCES FOR FOOD AND AGRICULTURE

5. Mr Bötsch introduced Mr Fritz Schneider (Switzerland) as Chair of the Scientific Forum. Mr Schneider opened the Scientific Forum stressing that the occasion offered an excellent opportunity to address several key scientific challenges related to the management of animal genetic resources[1]. He introduced the four papers that would be presented during the Forum, by the lead authors: Dynamics of livestock production systems, the drivers of change and prospects for animal genetic resources (Carlos Seré); Inventory, characterization and monitoring (Michèle Tixier-Boichard); Sustainable use and genetic improvement (Chanda Nimbkar); and Conservation of animal genetic resources: approaches and technologies for *in situ* and *ex situ* conservation (John Woolliams). Each presentation was followed by interventions from selected panel members, and interventions from the plenary**.**

6. Participants to the Scientific Forum exchanged a wide range of views on subjects and issues raised by the presenters and by members of the panels. The importance of global action was stressed to achieve characterization, inventory and monitoring, and the sustainable use, development and conservation of animal genetic resources, and that these objectives were complementary. The need for multidisciplinary research was emphasized to underpin policy development, and the need to engage farmers and other livestock keepers in research was underscored.

IV. OPENING OF THE CONFERENCE

7. Ms Doris Leuthard, Federal Councillor, Minister of Economic Affairs (Switzerland), on behalf of the Government of Switzerland, cordially welcomed delegates and observers. She stated

[1] ITC-AnGR/07/Inf.2

that it was an honour for Switzerland to host this first ever International Technical Conference on Animal Genetic Resources in collaboration with FAO.

8. Ms Leuthard underlined the importance of agriculture in combating hunger and chronic malnutrition, and in achieving the Millennium Development Goals. She also noted that maintaining genetic resources was vital to meet new challenges posed by climate change and cross-border diseases. Ms Leuthard indicated that Switzerland had been implementing measures to address the loss of animal genetic resources, and their experience had shown the need for both conservation and improved utilization, using market forces as much as possible, and by providing coherent policies.

9. Ms Leuthard stressed that the Conference provided a historic opportunity and responsibility to adopt the *Global Plan of Action for Animal Genetic Resources*, to convey to the international community the critical roles and values of animal genetic resources. She noted that the *Global Plan of Action* would provide a global consensus on how best to move forward, and that implementation of the *Global Plan of Action* would require international collaboration and financial investments. Ms Leuthard emphasized that FAO must continue to play a leadership role in supporting the improved management of animal genetic resources, working with governments and international organizations, especially the Convention on Biological Diversity. Ms Leuthard's speech is given in *Appendix B.1*.

10. Mr Alexander Müller, FAO Assistant Director-General, Natural Resources Management and Environment Department, welcomed delegates and observers to the International Technical Conference on Animal Genetic Resources on behalf of the Director-General of the Food and Agriculture Organization of the United Nations, Mr Jacques Diouf. *The State of the World's Animal Genetic Resources for Food and Agriculture*, he said, is a major international achievement, which draws upon 169 Country Reports. It provides the first ever global assessment of the status and trends of animal genetic resources for food and agriculture.

11. The rate of breed extinctions reported in *The State of the World's Animal Genetic Resources for Food and Agriculture* is alarming, said Mr Müller, with approximately 20 percent of the world's breeds of cattle, goats, pigs, horses and poultry at risk of extinction. He stressed the need for urgent action, as the wise management of the world's animal genetic resources will be of even greater importance in the future, with the world's population expected to increase in the next forty years from 6.2 billion to 9 billion people. More people will require more meat, milk, eggs and other livestock products, and a wide portfolio of animal genetic resources will be crucial in adapting and developing the world's agricultural production systems, and in increasing the resilience of our food supply. Climate change and the emergence of new and virulent livestock diseases underline the importance of retaining the capacity to adapt agricultural production systems. Climate change means that the world is entering into a period of unprecedented uncertainty and crisis, which will affect every country. This, Mr Müller said, is a major factor to be added to those that are already driving animal breeds to extinction.

12. Mr Müller stressed the importance of the Conference adopting the *Global Plan of Action for Animal Genetic Resources*, and agreeing on how best to implement it. FAO's Commission on Genetic Resources for Food and Agriculture would oversee the implementation of outcomes of the Conference, and would monitor its success within the Commission's Multi-year Programme of Work.

13. The international community, Mr Müller stressed, must find an international consensus on ecologically sound approaches to managing biodiversity for food and agriculture, if the ambitious Millennium Development Goals are to be achieved. The deliberations of the Conference would be a major contribution to achieving this.

14. Mr Müller conveyed his gratitude and deepest appreciation to the Government of Switzerland for hosting the Conference and for working closely with FAO to make it possible.

He thanked the Governments of Australia, Germany, Ireland, Norway and Spain for their financial support. Mr Müller's speech is given in *Appendix B.2*.

15. In his address, Mr Ahmed Djoghlaf, Executive Secretary of the Convention on Biological Diversity, noted that agricultural biological diversity is essential to food security and human nutrition. He stressed that the current loss of animal genetic resources is alarming and must be addressed, and therefore warmly welcomed the release of *The State of the World's Animal Genetic Resources*, the first comprehensive survey of this essential component of agricultural biological diversity.

16. Mr Djoghlaf stated that Parties to the Convention had recognized the vital role of animal genetic resources, particularly through the Programme of Work on Agricultural Biological Diversity, and that a number of initiatives were supporting local and indigenous communities, farmers, pastoralists and animal breeders, whose livelihoods depend on the sustainable use, development and conservation of animal genetic resources. He noted that the Convention on Biological Diversity had benefited significantly from its partnership with FAO, and attached great importance to future collaboration. Mr Djoghlaf's statement is given in *Appendix B.3*.

17. The Secretary General of the Canton of Bern's Department of Economic Affairs, Mr André Nietlisbach, welcomed delegates and observers to the region. He noted that the economy of this canton was highly dependent on agriculture, including several important breeds of livestock such as the Saanen goat and Simmental cattle breeds. Mr Nietlisbach stressed that there must be a strong commitment to conserving animal genetic resources, as future human generations would depend on these resources. He noted that conserving animal genetic resources would be challenging and he hoped that the Conference would provide concrete suggestions on how to achieve the sustainable use, development and conservation of animal genetic resources. Mr. Nietlisbach's statement is given in *Appendix B.4.*

18. Mr Urs Graf, Mayor of Interlaken, welcomed delegates and observers to the city. He noted with pride, that Interlaken had the privilege of hosting such an important event, and expressed the hope that the Conference had a successful outcome, given the importance of animal genetic resources to agriculture.

V. PRESENTATION OF *THE STATE OF THE WORLD'S ANIMAL GENETIC RESOURCES FOR FOOD AND AGRICULTURE*

19. The Secretary of the Conference, Ms Irene Hoffmann, presented *The State of the World's Animal Genetic Resources for Food and Agriculture*, and in doing so, acknowledged the many contributions that had been made by countries, donors, organizations and individuals through the country-driven preparatory process. Ms Barbara Rischkowsky (formerly, *The State of the World's Animal Genetic Resources for Food and Agriculture* Coordinator) highlighted some of the results from *The State of the World's Animal Genetic Resources for Food and Agriculture* indicating improved understanding of the distribution of animal genetic resources, their risk status, and of threats to animal genetic diversity. She briefly described the major findings from the analysis of the state of country capacities to manage animal genetic resources, as had been outlined in the 169 Country Reports on Animal Genetic Resources that had been submitted to FAO. Significant gaps in current knowledge had been identified in the report, and there is urgent need for further research and improved management guidelines.

20. The Conference congratulated FAO for coordinating the preparation of *The State of the World's Animal Genetic Resources for Food and Agriculture*, noting that it would enhance understanding of the roles and values of animal genetic resources. It stressed that preparation of this authoritative survey was an important step in achieving the improved management of animal genetic resources, including enhancing the basis for further policy development. The Conference urged FAO to continue to lead global updating of the status and trends of animal genetic resources, and support developing countries in this process.

21. The Conference requested FAO to widely distribute the full report of *The State of the World's Animal Genetic Resources for Food and Agriculture* using electronic and print media formats, as well as to continue to widely distribute the "in brief" version that is currently available in six languages. It took note that the Government of China had already undertaken translation of *The State of the World's Animal Genetic Resources for Food and Agriculture* into Chinese. It highlighted the importance of translation of *The State of the World's Animal Genetic Resources for Food and Agriculture* into all other official FAO languages, and urged donors to make available resources for this.

VI. ADOPTION OF THE *GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES* AND *THE INTERLAKEN DECLARATION ON ANIMAL GENETIC RESOURCES*

22. The Conference reviewed and finalized the draft texts that the Commission on Genetic Resources for Food and Agriculture had forwarded to it.

23. The Conference then adopted *The Global Plan of Action for Animal Genetic Resources*, as an internationally agreed framework that contains: the rationale for *The Global Plan of Action*; strategic priorities for the sustainable use, development and conservation of animal genetic resources for food and agriculture, and provisions for implementation and financing. *The Global Plan of Action for Animal Genetic Resources* is contained in *Annex 1*.

24. The Conference also adopted the *Interlaken Declaration on Animal Genetic Resources*, which recognizes that animal genetic resources are critical to food security, sustainable livelihoods and human well-being, and that prompt actions need to be taken to address the erosion of these vital resources. The *Interlaken Declaration on Animal Genetic Resources* is contained in *Annex 2*.

25. The Conference decided to forward *The Global Plan of Action for Animal Genetic Resources* to the Commission on Genetic Resources for Food and Agriculture, and requested the Commission to oversee its implementation within the context of the Commission's Multi-year Programme of Work.

26. The Conference recommended that its Chair present *The Global Plan of Action for Animal Genetic Resources* to the One Hundred and Thirty-third Session of FAO Council; the Thirty-fourth Session of the FAO Conference; and the second meeting of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture; as well as to the United Nations Commission on Sustainable Development; and the Ninth Conference of the Parties to the Convention on Biological Diversity and the thirteenth meeting of the Convention's Subsidiary Body on Scientific, Technical and Technological Advice.

27. The Conference requested the Director-General of FAO to transmit *The Global Plan of Action for Animal Genetic Resources* to all FAO Members, and recommended that FAO distribute it widely, including to all relevant international organizations.

VII. CLOSURE OF THE CONFERENCE

28. Mr José María Sumpsi Viñas, FAO Assistant Director-General, Agriculture and Consumer Protection Department, congratulated delegates on behalf of Mr Diouf, for achieving consensus on the *Global Plan of Action for Animal Genetic Resources*. He noted that it was an important milestone in international efforts to promote the wise management of the world's animal genetic resources for food and agriculture, stressing that the adoption of the *Global Plan of Action* was a sign of the importance and urgency that countries and regions gave to the better management of these resources as part of efforts to achieve global food security and sustainable development.

29. Mr Sumpsi called for continued collaboration and efforts by all stakeholders to ensure the effective implementation of the *Global Plan of Action for Animal Genetic Resources*, noting the need for sustained political will and the mobilization of resources to enhance technical capacities in developing countries and reinforce national programmes. He expressed FAO's commitment to assist in the implementation of the Plan. Mr Sumpsi's speech is given in *Appendix B.5*.

30. Mr Sumpsi extended his gratitude and deepest appreciation to the Government of Switzerland for hosting the Conference in collaboration with FAO, and thanked the other donors for their essential contributions.

31. The Conference recognized that the finalization of the *Global Plan of Action for Animal Genetic Resources* had resulted from the contributions of numerous individuals and organizations over many years. In this regard, it acknowledged the importance of past accomplishments, including the establishment of a strong technical programme of work on animal genetics resources within FAO and other international and national organizations, and the guiding framework that the Global Strategy for the Management of Farm Animal Genetic Resources had provided.

32. The Conference recognized *The State of the World's Animal Genetic Resources for Food and Agriculture* as the first ever authoritative global assessment of the status and trends of animal genetic resources, stressing that it would provide for many years a sound reference for improved management of these essential resources.

33. The Conference expressed its appreciation to the Government of Switzerland, the Canton of Bern, and the City of Interlaken for extending their wonderful hospitality.

34. The Conference warmly thanked the Chair, Mr Bötsch, for the enthusiastic and respectful manner in which he had conducted the meeting, and for the guidance he provided throughout the Conference, which had been instrumental in achieving consensus on a number of sensitive issues. The Conference also acknowledged the efforts of Mr David Hegwood for chairing the contact group on finance and implementation.

35. The Conference expressed its deep appreciation for the excellent Conference arrangements that had been made, and acknowledged the outstanding efforts of the main Conference organizers, Mr François Pythoud and Ms Barbara Rychen (Switzerland), and Ms Irene Hoffmann and Mr David Boerma (FAO), and thanked all other staff members that had worked so hard during the Conference.

36. Representatives of the Consultative Group on International Agricultural Research (CGIAR) and the International Atomic Energy Agency (IAEA) congratulated the Conference for having adopted the *Global Plan of Action for Animal Genetic Resources*, and indicated their willingness to assist in the implementation of the *Global Plan of Action*.

37. The Conference Chair thanked all delegates and observers for their excellent contributions and the spirit of collaboration shown, which he termed the "Spirit of Interlaken." He noted that the *Global Plan of Action for Animal Genetic Resources* was an important step forward, but much more effort was required to achieve the sustainable use, development and conservation of animal genetic resources for food and agriculture.

38. The Conference, in paying tribute to Ms Karin Wohlfender (the Swiss National Coordinator for Animal Genetic Resources who passed away during the Conference preparation), remembered her dedication to the better management of animal genetic resources and her infectious smile and warm personality.

ANNEX 1

INTERLAKEN DECLARATION ON ANIMAL GENETIC RESOURCES

1. In recognition of the essential roles and values of animal genetic resources for food and agriculture, in particular, their contribution to food security for present and future generations; aware of the threats to food security and to the sustainable livelihoods of rural communities posed by the loss and erosion of these resources; we, the representatives of one hundred and nine States, and the European Community and forty-two Organizations have gathered together in Interlaken, Switzerland, at the invitation of the Food and Agriculture Organization of the United Nations and hosted by the Government of Switzerland, at this first International Technical Conference for Animal Genetic Resources, aware of our responsibilities and the many challenges that must be addressed, but convinced and confident that progress can and should be made. This International Technical Conference on Animal Genetic Resources is a major contribution to establishing an effective international framework for the sustainable use, development and conservation of animal genetic resources for food and agriculture, and world food security.

2. We recognize that states have sovereign rights over their animal genetic resources for food and agriculture.

3. Confirming our common and individual responsibilities in respect of conservation, sustainable use and development of animal genetic resources for food and agriculture, we recognize the interdependence of countries, regions and peoples regarding these resources.

4. We commit ourselves to achieving the sustainable use, development and conservation of animal genetic resources for food and agriculture. We also commit ourselves to facilitating access to these resources and the fair and equitable sharing of the benefits arising from their use, consistent with relevant international obligations and national laws. Our objective is to enhance world food security, improve human nutritional status, and contribute to rural development.

5. We welcome *The State of the World's Animal Genetic Resources for Food and Agriculture*, which was developed in a country-driven process under the guidance of the Commission on Genetic Resources for Food and Agriculture of the FAO. It is the first comprehensive worldwide assessment of the state of animal genetic resources and provides the basis for the *Global Plan of Action for Animal Genetic Resources.*

6. We recognize that existing diversity in animal species is not used to the extent possible for increased food production, improved human nutrition, and to further sustain rural communities, or for more efficient production systems. We note with alarm the significant ongoing loss of livestock breeds. The continuing erosion and loss of animal genetic resources for food and agriculture would compromise efforts to achieve food security, improve human nutritional status and enhance rural development. We acknowledge that efforts to further conserve, develop, improve and sustainably use animal genetic resources should be enhanced.

7. We recognize that prompt action should be taken to conserve animal breeds at risk, due to the alarming rate of erosion in animal genetic resources.

8. We recognize the need to promote the development of knowledge, in particular through research, leading to improved sustainable use, development and conservation of animal genetic resources.

9. We recognize that the genetic resources of animal species most critical to food security, sustainable livelihoods and human well-being are the result of both natural selection, and directed selection by smallholders, farmers, pastoralists and breeders, throughout the world, over generations. The result is a wide variety of livestock breeds that provide a diverse stream of

benefits to the environment, humanity and its cultural heritage. We are conscious that all countries will need to play their part in conserving these resources as a basis for livestock development, food security and the better nutrition of their rural and urban populations, as well as to sustain their rural communities.

10. We acknowledge that maintaining the diversity of animal genetic resources for food and agriculture is essential to enable farmers, pastoralists and animal breeders to meet current and future production challenges resulting from changes in the environment, including climate change; to enhance resistance to disease and parasites; and to respond to changes in consumer demand for animal products. We also recognize the intrinsic value of biological diversity and the environmental, genetic, social, economic, medicinal, scientific, educational, cultural and spiritual importance of breeds of livestock, and our ethical responsibility to ensure genetic resources are available to future human generations.

11. We are aware that the demand for meat, milk and other animal products is dramatically increasing. The sustainable use, development, and conservation of animal genetic resources for food and agriculture will make a vital contribution to achieving the goals of the Rome Declaration on World Food Security, the World Food Summit Plan of Action, as well as the Millennium Development Goals, in particular Goal 1*: eradication of extreme poverty and hunger*, and Goal 7: *ensure environmental sustainability*. The sustainable use, development and conservation of animal genetic resources for food and agriculture make an essential contribution to facilitating the implementation of Agenda 21 and the Convention on Biological Diversity.

12. We recognize the enormous contribution that the local and indigenous communities and farmers, pastoralists and animal breeders of all regions of the world have made, and will continue to make for the sustainable use, development and conservation of animal genetic resources for food and agriculture. We further recognize the historic and relevant contribution of all persons engaged in animal husbandry, who have moulded animal genetic resources to meet societal needs. It is their ownership and management of the genetic resources of their livestock that has enabled them to make important contributions in the past. It is this ownership and management that should be ensured for future societal benefits. We affirm that they should participate in the fair and equitable sharing of benefits arising from the utilization of animal genetic resources for food and agriculture. We affirm the desirability, as appropriate, subject to national legislation, of respecting, preserving and maintaining traditional knowledge relevant to animal breeding and production as a contribution to sustainable livelihoods, and the need for the participation of all stakeholders in making decisions, at the national level, on matters related to the sustainable use, development and conservation of animal genetic resources.

13. We are aware that future demand for animal products must be met within the context of sustainable agriculture and development, and that this will require integrated approaches to economic development and the pursuit of social, cultural and environmental objectives. We understand the need for adopting management approaches that combine the best of traditional and modern knowledge and technologies, and the need to apply the agro-ecosystem approach and integrated natural resource management practices.

14. We acknowledge that major gaps and weaknesses exist in national and international capacities to inventory, monitor, characterize, sustainably use, develop and conserve animal genetic resources. We recognize the need for substantial financial resources, long-term support for national and international animal genetic resources programmes, to increase world food security and contribute to sustainable rural development. We affirm the need to review institutional capacity, management structures, programmes and policies, to identify deficiencies and address them through strengthening national capabilities, particularly in developing countries. We call for enhanced partnerships among governments, scientists, farmers, pastoralists, breeders and consumers, to build upon ongoing efforts to manage animal genetic resources and overcome major gaps and weaknesses.

15. We recognize that the transfer of technologies relating to sustainable use, development and conservation of animal genetic resources is essential for world food security and the needs of the growing world population, and should be facilitated, consistent with relevant international obligations and relevant national laws. We recognize that the sustainable use, development and conservation of animal genetic resources for food and agriculture will require the support and participation of farmers, pastoralists and breeders; local and indigenous communities; organizations and institutions; the private sector; and civil society. We recognize the need to promote technical and financial cooperation at the regional and international levels among countries, intergovernmental organizations, non-governmental organizations, and the private sector.

16. At this first International Technical Conference on Animal Genetic Resources, we have adopted the *Global Plan of Action for Animal Genetic Resources*. We are convinced of the utmost importance of integrating it into national biological diversity and agriculture policies, plans and programmes, and indispensable national, regional and international cooperation. This *Global Plan of Action for Animal Genetic Resources* provides a comprehensive and coherent framework for enhancing management activities in relation to animal genetic resources for food and agriculture, including through strengthening policies, institutions and building capacity. Implementation of the *Global Plan of Action for Animal Genetic Resources* will contribute to creating synergies among ongoing activities, as well as facilitate the most efficient use of available financial and human resources, and more effort is required to maintain adequate financial resources for supporting developing countries.

17. We acknowledge that the provision of new and additional resources can make a substantial difference in the world's ability to address the sustainable use, development and conservation of animal genetic resources for food and agriculture. We therefore recommend that concrete steps be taken to ensure an adequate increase in financial resources to support the implementation of the *Global Plan of Action for Animal Genetic Resources* by developing countries and countries with economies in transition.

18. We recognize that the main responsibility for implementing the *Global Plan of Action for Animal Genetic Resources* rests with national governments. We undertake to honour our commitments to taking the necessary steps to implement the *Global Plan of Action for Animal Genetic Resources*, in accordance with our national capacities and resources. We invite all people and their communities and organizations to join us in the common cause.

19. We acknowledge the essential role of the Food and Agriculture Organization of the United Nations in supporting country-driven efforts in implementing the *Global Plan of Action for Animal Genetic Resources.* We invite the Commission on Genetic Resources for Food and Agriculture of the Food and Agriculture Organization of the United Nations to oversee, assess and report on progress in the implementation of the *Global Plan of Action for Animal Genetic Resources*.

20. We warmly express our gratitude to the Government of Switzerland for hosting the International Technical Conference on Animal Genetic Resources for Food and Agriculture; for the excellent arrangements that were provided, and the very generous hospitality that contributed to make the Conference a resounding success.

Adopted this 7th day of September, 2007

ANNEX 2

GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES

1. Animal genetic resources for food and agriculture[1] are an essential part of the biological basis for world food security, and contribute to the livelihoods of over a thousand million people. A diverse resource base is critical for human survival and well-being, and a contribution to the eradication of hunger: animal genetic resources are crucial in adapting to changing socio-economic and environmental conditions, including climate change. They are the animal breeder's raw material and amongst the farmer's most essential inputs. They are essential for sustainable agricultural production. Properly managed, they need never be depleted, for there is no inherent incompatibility between utilization and conservation. The conservation and sustainable use of animal genetic resources, and the fair and equitable sharing of the benefits from their use, are an international concern and the *Global Plan of Action for Animal Genetic Resources* provides, for the first time, an agreed international framework for the sector. Promoting the broader use of livestock biodiversity can contribute to improved human health and nutrition, and expand opportunities for livelihood diversification and income generation.

Development of the *Global Plan of Action for Animal Genetic Resources*

2. In 1990, FAO initiated the preparation of a comprehensive programme for the sustainable management of animal genetic resources at the global level. In 1993, FAO launched the Global Strategy for the Management of Farm Animal Genetic Resources to guide national, regional and global efforts to strengthen the contribution of domesticated animals and their products to food security and rural development, and to prevent the erosion of animal genetic resources.

3. From 1997, FAO's intergovernmental Commission on Genetic Resources for Food and Agriculture has guided a country-driven process for the preparation of *The State of the World's Animal Genetic Resources for Food and Agriculture*. In 2001, FAO invited all countries to submit a Country Report on the status and trends of their animal genetic resources; the current and potential contributions of farm animals to food, agriculture and rural development; and the state of national capacity to manage these resources; and provide priority action lists.

4. The Country Reports demonstrate the significant and irreplaceable contribution that the diversity of farm animals makes to the food security and development of nations. They show that the full potential of animal genetic resources is far from being realized and confirm the serious erosion of genetic diversity in both developed and developing countries.

[1] The International Technical Conference used for the purpose of its discussions the following terminology. Throughout the *Global Plan of Action for Animal Genetic Resources* the term *Animal Genetic Resources* refers specifically to animal genetic resources used in or potentially useful for food and agriculture. The term *Livestock* as used in the document encompasses all domesticated animals used for food and agriculture. The term thus includes both avian and mammalian species that contribute to food and agriculture**.** The Conference requested FAO to further develop these working definitions.

5. This erosion has many causes, including changes in production systems, mechanization, the loss of rangeland grazing resources, natural calamities, disease outbreaks, inappropriate breeding policies and practices, inappropriate introduction of exotic breeds, loss of animal keepers' security of tenure on land and access to other natural resources, changing cultural practices, the erosion of customary institutions and social relations, the influence of population growth and urbanization, and the failure to assess the impact of practices in terms of sustainability, and develop adequate policies and economic measures. Erosion of animal genetic resources threatens the ability of farmers and livestock keepers to respond to environmental and socio-economic changes, including changing diets and consumer preferences.

Structure and organization of the *Global Plan of Action for Animal Genetic Resources*

6. The *Global Plan of Action for Animal Genetic Resources* consists of three parts: the Rationale for the *Global Plan of Action for Animal Genetic Resources*; Strategic Priorities for Action; and Implementation and Financing.

PART I THE RATIONALE FOR THE *GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES*

7. The Strategic Priorities for Action, contained within this *Global Plan of Action for Animal Genetic Resources,* propose specific measures to reverse the ongoing trends of erosion and underutilization of animal genetic resources. The implementation of the Strategic Priorities for Action will make a significant contribution to international efforts to promote food security and sustainable development, and alleviate poverty, in line with the Millennium Development Goals and other international commitments.

8. For the first time ever, *The State of the World's Animal Genetic Resources* provides a comprehensive global assessment of the roles, values and status of animal genetic resources, which highlights the importance of the livestock sector within agriculture. Specific Strategic Priorities for Action for the sustainable use, development and conservation of animal genetic resources for food and agriculture, contained within this *Global Plan of Action for Animal Genetic Resources,* are warranted because of their great importance for global food security, and because of the specific features of domestic animal biodiversity as an integral part of agricultural ecosystems.

9. Livestock genetic diversity and options for its utilization are usually discussed in terms of breeds. "Breeds" are cultural concepts rather than physical entities, and the concept differs from country to country. This is a fact that makes characterization at the genetic level very difficult. For sustainable management, diversity needs to be considered and understood at the species level, between breeds, and within breeds themselves.

10. Key features of animal genetic resources include:

- The diversity of animal genetic resources is essential to satisfy basic human needs for food and livelihood security. They contribute to human needs by providing meat, milk and dairy produce, eggs, fibre, clothes, resources for temporary and permanent shelter, manure for fertilizer and fuel, draught power, hunting assistance and marketable assets. Genetic diversity defines not only animal breeds' production and functional traits, but also the ability to adapt to different environments, including food and water availability, climate, pests and diseases. Diverse animal genetic resources – particularly in the developing world – are a key to economic development. Approximately 70 percent of the world's rural poor depend on livestock as an important component of their livelihoods. The diversity of these resources, and the consequent adaptability of species and breeds to extreme conditions of drought, humidity, cold and heat, makes possible human livelihoods in some of the most inhospitable areas on Earth, from Arctic and mountain regions to extreme hot and dry areas, where crop production cannot be exclusively depended upon.

- More than 7 000 domestic animal breed populations have been developed by farmers and pastoralists in diverse environments in the 12 000 years since the first livestock species were domesticated. These breeds now represent unique combinations of genes. Thus all animal genetic resources for food and agriculture are the result of human intervention: they have been consciously selected and improved by pastoralists and farmers since the origins of agriculture, and have co-evolved with economies, cultures, knowledge systems and societies. Unlike most wild biodiversity, domestic animal resources require continuous active human management, sensitive to their unique nature.
- In terms of their enormous potential contribution to reducing hunger and poverty, and to sustainable development, animal genetic resources for food and agriculture are underconserved and underutilized.
- Most countries are highly interdependent, with respect to animal genetic resources. Animal genes, genotypes and populations have spread all over the planet since ancient times, through the diffusion of agriculture and the prominent role of livestock in human migrations. Animals were means of transport and trade in many regions. Animal genetic resources have continued without interruption to be developed and improved by pastoralists and farmers, both inside and outside the historic centres of domestication. Moreover, animal genetic resources have been systematically exchanged intercontinentally and over the oceans for the last 500 years, deepening this interdependence. In global terms, most food and agricultural production systems worldwide depend on livestock originally domesticated elsewhere, and breeds developed in other countries and regions. These unique features of domestic animals need to be taken into account in ensuring the fair and equitable sharing of benefits deriving from them, and in tailoring the development of future policy and regulatory measures.
- Most animal genetic resources are currently maintained *in situ*, by farmers, pastoralists and their communities, as integral components of their agricultural ecosystems, economies and cultures. Domestic animals often play key roles in myths, cultures, religions, traditions and social practices. In addition to the animals themselves, foods of animal origin have strong socio-economic and cultural functions in many societies, in addition to playing important roles in nutrition and diets.
- Livestock resources continue to have this important social, cultural and structural role in indigenous and local communities today: the cultural importance of animals is frequently a key factor in *in situ* conservation. The important role of livestock keepers, pastoralists, and local communities in the use and development of livestock resources is recognized. In some countries, livestock keepers have specific rights, in accordance with their national legislation, or traditional rights, to these resources.
- Domestic animal breeds provide key agro-ecosystem functions, such as nutrient cycling, seed dispersal and habitat maintenance. Animal genetic resources and animal management systems are an integral part of ecosystems and productive landscapes throughout the world. By moving their herd seasonally, pastoralists connect different ecosystems. Land-based production systems that have both plant and animal components need co-management of the various components of biological diversity, including soils, crops, rangelands and pastures, fodder crops and wildlife.
- The extent and rate of animal genetic resource loss is still difficult to estimate, despite the clearer picture of animal genetic resources that has emerged in the country-driven preparation of *The State of the World's Animal Genetic Resources*. The lack of information hinders decision-making with regard to what to conserve and develop, and how to best use limited funds available for conservation. The baselines from which to measure change are still unclear, and methodologies for characterization, inventory and monitoring have not been harmonized for establishing standardized guidelines. Nonetheless, there are indications that numerous breeds have become extinct, and many more will be lost if countries do not rapidly implement conservation measures. While some nations recognize the need to conserve their national animal genetic resources, the

global response has so far been sporadic and inadequate. In particular, many local breeds, particularly those held by poor farmers in harsh environments in developing countries, have not yet been sufficiently characterized. These animal populations probably contain many valuable adaptive traits, and with their extinction before they are well understood, considerable value may be lost for ever.

- Traditional production systems required multipurpose animals, which, although less productive than high-output breeds, may contain valuable functional traits. Modern agriculture has developed specialized breeds, optimizing specific production traits. Modern animal breeders have achieved striking productivity increases in high external input production systems. Livestock currently contribute about 30 percent of agricultural gross domestic production in developing countries, with a projected increase to 39 percent by 2030. Only 14 of the more than 30 domesticated mammalian and bird species provide 90 percent of human food supply from animals. The five main livestock species: cattle, sheep, goats, pigs and chickens, provide the majority of food production, and among these, a small number of international transboundary breeds[2] account for an ever-increasing share of total production. This process leads to a narrowing genetic base, as breeds, and indeed species, are discarded in response to market forces. In commercial breeds, high selection pressure leads to a narrowing genetic base, with the potential risk for present and future food security. Breeding programmes and policies should include consideration of broad genetic variability within populations and breeds, which is essential for the development of livestock production to meet the future challenges. Long-term sustainability of selection programmes requires regular assessment of genetic changes and adjustments in selection goals.
- Policy-makers in many countries, and internationally, are seldom aware of the diverse and significant contributions of animal genetic resources to food and agriculture and of traditional rights of livestock keepers, where they may exist at the national level. The sustainable use and conservation of animal genetic resources has been, and generally continues to be, a low priority in developing agricultural, environmental, trade, and human and animal health policies. The effect has been a failure to invest adequately in essential institutional development and capacity-building.
- Managing animal genetic resources is a complex task because it is necessary to deal both with questions specific to the resources (such as selection, or the conservation of breeds) and with cross-sectorial matters affecting animal genetic resources, such as animal health measures, development and trade standards, and environmental management. Moreover, responsibilities are shared across sectors and institutions, nationally and internationally.

11. Strategically planned interventions for the conservation, use and development of animal genetic resources are essential, but countries face complex challenges in considering how best to formulate relevant national and international policies. Enhancing capacity at all levels is a key element of the *Global Plan of Action for Animal Genetic Resources*. The *Global Plan of Action for Animal Genetic Resources* aims to promote a pragmatic, systematic and efficient overall approach, which harmoniously addresses the development of institutions, human resources, cooperative frameworks, and resource mobilization.

12. Activities related to *in situ* conservation, to *ex situ* conservation, and to the utilization of animal genetic resources for food and agriculture, have to date been largely pursued without adequate linkages and coordination: the *Global Plan of Action for Animal Genetic Resources* aims at improving this situation. A certain loss of local breeds is inevitable, given ongoing changes in livestock production systems in developed and developing countries, and the limited

[2] FAO has linked breed populations that may belong to a common genepool and may therefore be considered the same breed. These breeds have been termed “transboundary breeds”. Regional transboundary breeds are reported in several countries of one region, and international transboundary breeds are reported in more than one region. It is intended that the use of the term “transboundary breeds” does not affect the sovereign rights of countries within their national jurisdictions.

availability of resources for conservation. However, to allow this to be a totally random and unsupervised process means accepting an unevaluated, but potentially important, risk of losing resources of major long-term value. Countries, and the international community, should be conscious of the losses that are likely to happen, and should debate and agree on which losses they are prepared to accept, and what investment is needed to maintain and conserve crucial animal genetic diversity. The international research community should provide scientific guidance for strategic decisions under conditions of imperfect information.

13. In most countries, the financial and human resource base for *in situ* conservation, *ex situ* conservation, and the better utilization of animal genetic resources for food and agriculture is insufficient, and there are many gaps and inefficiencies. In addition, the capacities and activities of countries and regions to address animal genetic resources are at very different stages of development. The *Global Plan of Action for Animal Genetic Resources* will provide a framework agreed by the international community, to support and increase the overall effectiveness of national, regional and global efforts for the sustainable use, development and conservation of animal genetic resources, and to facilitate mobilization of resources, including adequate financial resources.

AIMS AND STRATEGIES OF THE *GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES*

14. The *Global Plan of Action for Animal Genetic Resources* is intended as a rolling plan, with an initial time horizon of ten years, with provisions for the sustainable use, development and conservation of animal genetic resources, at national, regional and global levels.

15. The main aims of the *Global Plan of Action for Animal Genetic Resources* are:

- to promote the sustainable use and development of animal genetic resources, for food security, sustainable agriculture, and human well-being in all countries;
- to ensure the conservation of the important animal genetic resource diversity, for present and future generations, and to halt the random loss of these crucial resources;
- to promote a fair and equitable sharing of the benefits arising from the use of animal genetic resources for food and agriculture, and recognize the role of traditional knowledge, innovations and practices relevant to the conservation of animal genetic resources and their sustainable use, and, where appropriate, put in place effective policies and legislative measures;
- to meet the needs of pastoralists and farmers, individually and collectively, within the framework of national law, to have non-discriminatory access to genetic material, information, technologies, financial resources, research results, marketing systems, and natural resources, so that they may continue to manage and improve animal genetic resources, and benefit from economic development;
- to promote agro-ecosystems approaches for the sustainable use, development and conservation of animal genetic resources;
- to assist countries and institutions responsible for the management of animal genetic resources to establish, implement and regularly review national priorities for the sustainable use, development and conservation of animal genetic resources;
- to strengthen national programmes and enhance institutional capacity – in particular, in developing countries and countries with economies in transition – and develop relevant regional and international programmes; such programmes should include education, research and training to address the characterization, inventory, monitoring, conservation, development and sustainable use of animal genetic resources;

- to promote activities aimed at raising public awareness and bringing the needs of sustainable use and conservation of animal genetic resources to the attention of concerned governments and international organizations.

16. The *Global Plan of Action for Animal Genetic Resources* is based on the assumption that countries are fundamentally interdependent with respect to animal genetic resources for food and agriculture, and that substantial international cooperation is necessary. In this context, the *Global Plan of Action for Animal Genetic Resources* has been developed on the basis of the following parameters and conditions:

- A diversity of animal genetic resources will ensure the ability of the livestock sector to meet changing market demands and environmental circumstances, including climate change and emerging diseases. Farmers and pastoralists require animal breeds that meet local needs and provide employment within rural communities, and that are resilient to a variety of biotic and abiotic factors, including extreme climatic conditions, feed availability, parasites and other disease factors. Furthermore, livestock provide a direct food source in times of crop failure.

- Because of interdependence, the conservation of a diverse range of animal genetic resources in countries throughout the world reduces risks on a global basis and strengthens global food security.

- The baseline characterization and inventory of animal genetic resources, and routine monitoring of populations for variability, are fundamental to breed improvement strategies and programmes, for conservation programmes, and for contingency planning to protect valuable resources at risk.

- Animal identification and performance recording are essential for the continued improvement of animal genetic resources. Public and private breeders and breeding organizations, and market demand, play a crucial role in this endeavour. In many countries, very little has yet been done in this regard, except for certain breeds.

- The conservation and sustainable use of animal genetic resources requires a mixed approach, and both *in situ* and *ex situ* efforts. There is an increasing recognition that, because of the rapid current erosion of animal genetic resources, efficient and cost-effective *ex situ* conservation strategies need to be put in place in the near future, to complement *in situ* conservation. A holistic planning approach to conservation and utilization strategies must seek strategic priorities at the farm, community, breeding organization, national, regional and international levels, to achieve maximum effect, and be sustainable.

- Pastoralists, farmers and breeders, individually and collectively, and indigenous and local communities, play a crucial role in *in situ* conservation and development of animal genetic resources. It is important to better understand and support their roles in a context of rapid economic and social change, so that they can play an effective function in *in situ* management, and share fairly and equitably in the benefits arising from the utilization of these resources. A number of actors and stakeholders can assist livestock keepers and their communities in playing this role: researchers, extension agencies, the private sector, non-governmental organizations and local cooperatives.

- A wide variety of animal breeds supply important ecosystem services in specific landscapes, in particular grazed ecosystems, which is often a strong motivation for their maintenance *in situ*. Such productive links between breeds and landscapes need to be maintained and better managed, through appropriate land-use policies and strategies. Wild relatives of domestic animal species, and feral breeds, also require protection.

- The effective management of animal genetic resources, at all levels, depends on the inclusion and willing participation of all relevant stakeholders. Appropriate participatory processes that ensure that the interests of various stakeholders are respected and balanced, are required.

PART II THE STRATEGIC PRIORITIES FOR ACTION

17. The Strategic Priorities for Action contain the following four Strategic Priority Areas:

STRATEGIC PRIORITY AREA 1: CHARACTERIZATION, INVENTORY AND MONITORING OF TRENDS AND ASSOCIATED RISKS

The actions provide a consistent, efficient and effective approach to the classification of animal genetic resources, and to assess trends in and risks to animal genetic resources.

STRATEGIC PRIORITY AREA 2: SUSTAINABLE USE AND DEVELOPMENT

The actions are to ensure sustainability in animal production systems, with a focus on food security and rural development.

STRATEGIC PRIORITY AREA 3: CONSERVATION

The actions focus on steps needed to preserve genetic diversity and integrity, for the benefit of current and future generations.

STRATEGIC PRIORITY AREA 4: POLICIES, INSTITUTIONS AND CAPACITY-BUILDING

The actions directly address the key questions of practical implementation, through coherent and synergistic development of the necessary institutions and capacities.

18. The relative priority or importance of each Strategic Priority Area and associated actions may differ significantly for countries and regions. The relative weight applied will depend on the resources themselves (species and breeds), the production systems and environments involved, current management capacities, and programmes underway for the management of animal genetic resources.

19. There is a uniform presentation within each Strategic Priority Area:

- The *Introduction* outlines the needs, on the basis of Country Reports and other information generated in the preparatory process.
- The *Long-term goal* states the final outcome to be reached by implementing the proposed actions. In implementing the *Global Plan of Action for Animal Genetic Resources*, measurable and time-bound goals may be developed, to help the international community to judge progress and successes.

20. Each Strategic Priority Area contains a set of Strategic Priorities. For each Strategic Priority:

- The *Rationale* draws upon the findings of the preparatory process, and summarizes the reasons why this is a priority.
- The individual *Actions* propose logical steps to achieve the desired outcomes or improvements in current conditions.

21. Some of the *Actions* will clearly need to involve specific institutions or constituencies. These are not always mentioned by name in the text. The lack of reference to such key partners does not imply their exclusion.

STRATEGIC PRIORITY AREA 1: CHARACTERIZATION, INVENTORY AND MONITORING OF TRENDS AND ASSOCIATED RISKS

Introduction

22. The state of animal genetic resources characterization, inventory and monitoring of trends and associated risks activities varies significantly among countries. Some countries do not have data and information systems for animal genetic resources, and others have systems that require significant improvements. This complicates and hinders global monitoring of the trends and associated risks of these resources.

23. Understanding the diversity, distribution, basic characteristics, comparative performance and the current status of each country's animal genetic resources is essential for their efficient and sustainable use, development and conservation. Complete national inventories, supported by periodic monitoring of trends and associated risks, are a basic requirement for the effective management of animal genetic resources. Without such information, some breed populations and unique characteristics they contain may decline significantly, or be lost, before their value is recognized and measures taken to conserve them.

24. A good understanding of breed characteristics is necessary to guide decision-making in livestock development and breeding programmes. Information from inventories and monitoring of trends and associated risks is necessary for policy-makers to determine conservation activities, whereas the results of characterization enable farmers to determine which breed to use under prevailing production conditions. Comparative analysis of the performance of indigenous and exotic breeds – for both production and functional traits – is needed to inform strategic planning. In the absence of such analysis, local breed development may be ignored in favour of the introduction of exotic germplasm, or indiscriminate cross-breeding that will result in the erosion of local breeds.

25. A major difficulty in completing the world inventory of farm animal breeds results from the fact that most populations do not correspond to the notion of herd book breeds and are not pure breeds with identifiable and stable characteristics, but are the result of multiple crosses of diverse origins. Further research is needed to assess the optimum approaches to dealing with these mixed non-descript populations in inventories.

26. There is a clear need for inter-operative data and information systems, standards and protocols, to facilitate the sharing of data and information on the status of breeds among countries and regions. This is required to globally rationalize the status of breeds, and assist in setting conservation priorities beyond the national level. In many regions, gaps in data and information on the status of breeds, or obstacles to the effective sharing of data and information within and between countries, frustrate joint development of transboundary breeds.

Long-term goal

Improved understanding of the status, trends and associated risks, and characteristics of all aspects and components of animal genetic resources, to facilitate and enable decision-making for their sustainable use, development and conservation.

Strategic Priority 1 **Inventory and characterize animal genetic resources, monitor trends and risks associated with them, and establish country-based early-warning and response systems**

Rationale: Genetic erosion is a problem of national and international concern, and a number of animal breeds are at risk of extinction. *The State of the World's Animal Genetic Resources* provides the first global overview of the diversity, status and trends of animal genetic resources, and capacity to manage these resources at national,

regional and global levels. National data and information systems for animal genetic resources are often underdeveloped.

Inventory, monitoring of trends and associated risks, and characterization should be strengthened and maintained to assist in determining conservation priorities and strategic breeding programmes. In certain cases – such as in armed conflicts, epidemics, droughts and other environmental emergencies – threats to animal genetic resources may be sudden and require a short response time. Country-based risk monitoring will greatly assist in setting up early-warning systems and response mechanisms, at national, regional and global levels.

Actions:

1. Conduct or complete inventories of the location, population status, trends and characteristics of animal genetic resources.
2. Expand characterization and monitoring of trends in and risks to animal genetic resources.
3. Encourage the establishment of institutional responsibilities and infrastructure for monitoring of trends in animal genetic resources (for example population size and genetic diversity), including identification, registration and pedigree systems.
4. Promote participatory approaches to characterization, inventory and monitoring of trends and associated risks that foster collaboration among all stakeholders, including livestock keepers and researchers.
5. Undertake international cooperative monitoring of trends and associated risks, inventory and characterization activities among countries sharing transboundary breeds and similar production systems.
6. Strengthen global and regional information systems and networks for inventory, monitoring and characterization. *Inter alia*, the Domestic Animal Diversity Information System (DAD-IS) and the Global Databank for Animal Genetic Resources for Food and Agriculture should be strengthened to obtain, evaluate and condense information from national databases and monitoring systems, and distribute this information, highlighting threats and needs.
7. Establish or strengthen existing breed endangerment early-warning and response systems, through the further development of national, regional and global risk-monitoring mechanisms, and the inclusion of early-warning criteria in existing databases.

Strategic Priority 2 **Develop international technical standards and protocols for characterization, inventory, and monitoring of trends and associated risks**

Rationale: Cross-national intercomparability of data is essential to be able to monitor trends in and risks to animal genetic resources at regional and global levels, in particular transboundary populations, and to set and revise conservation priorities, as well as identify key genetic resources for strategic breeding of such populations. This requires the development and use of standardized methods and protocols for characterization, inventory, and monitoring of trends and associated risks. This will facilitate coordinated national

reporting in relevant international forums. There is also a need to collaborate in characterization research, to enhance coordination of existing research, and to improve the distribution of the results of characterization studies. The development of international standards for characterization, inventory and monitoring of animal genetic resources should take into account existing relevant processes.

Actions:

1. Develop agreement on a common set of minimum criteria and indicators for animal genetic diversity, including means for assessing endangerment status, and methods to assess environmental, socio-economic and cultural factors related to animal genetic resources management.
2. Develop technical standards and protocols for phenotypic and molecular characterization, including methods for the assessment of quantitative and qualitative production traits, nutrient utilization, functional traits and economic valuation. This makes possible the assessment of comparative breed performance in different production environments.
3. Develop protocols for participatory monitoring of trends and associated risks, and characterization of local breeds managed by indigenous and local communities and livestock keepers.
4. Strengthen research and development of methods for characterization, and breed evaluation, valuation and comparison. Develop inter-operability protocols for information systems.

STRATEGIC PRIORITY AREA 2: SUSTAINABLE USE AND DEVELOPMENT

Introduction

27. The challenge to achieve food security and sustainable development for all is greater now than it has ever been. More efficient use of available resources, along with appropriate technologies and improved management offer great scope for raising production and improving producers' income, while avoiding the depletion of natural resources (including genetic resources) and reducing wastes and environmental pollution.

28. In most developed countries, and some developing countries, there has been extremely rapid progress in the development of breeding and production techniques for major food-supplying livestock species and breeds, over the past 50 years. Intense selection, and husbandry improvement, have resulted in increased meat, milk or egg output in production systems where ample quantities of high-quality feeds and other inputs are provided to specialized breeds, and where production stressors (such as unfavourable climate and disease) are mitigated by capital investment. The rapid progress made – with an average of 2 percent production increase annually – is a strong indicator of the potential of animal genetic resources to further contribute to food security and rural development. However, current development efforts focus primarily on short-term production, without a strategic assessment of the long-term and collateral consequences. The wider environmental impact of intensive production systems, and the within- and between-breed reduction of genetic diversity, are often ignored.

29. In many cases, developing countries, facing highest priority needs to feed their populations, have focused investments and policies on high external input production systems using exotic breeds, rather than on establishing long-term genetic improvement schemes for local breeds. The use of exotic breeds is justified under proper management conditions in high external

input production systems, especially near urban areas, where there is growing demand for animal products, and where input supply and services can be sustained. However, in rural contexts, farmers and livestock keepers often face difficulties in securing the additional feed and other inputs that exotic breeds require. Moreover, imported breeds have often not reproduced in or been as adapted to the local environment as local breeds. Increased attention must therefore be given to the sustainable use and development of local breeds in low and medium external input production systems. The option of maintaining or developing production systems in marginal environments, based on multiple-use animal genetic resources, needs to be addressed in depth.

30. Investment in developing local breeds of livestock will benefit small-scale, resource-poor pastoralists and farmers, and will often contribute to the sustainable development of the poorest regions of a country. However, a major obstacle to the further development of indigenous breeds is the lack of national strategies, programmes and institutional infrastructure to facilitate genetic and husbandry improvement programmes in low external input systems. Farmers' associations and breed societies do not exist in many developing countries, and pastoralists' and farmers' knowledge of modern breeding methods is often poor. National institutions and research facilities are needed to make animal husbandry and animal health care services, facilities and techniques available to all livestock keepers and also encourage private sector participation.

Long-term goal

Enhanced sustainable use and development of animal genetic resources in all relevant production systems, as a key contribution to achieving sustainable development, poverty eradication and adaptation to the effects of climate change.

Strategic Priority 3 **Establish and strengthen national sustainable use policies**

Rationale: Most countries lack comprehensive policies to support the maintenance and development of animal genetic resources held within their territories. Sustainable use policies should balance food-security goals and economic development with long-term sustainability and adaptation objectives. In addition, environmental and socio-economic changes, including demographic changes, climate change and desertification, require adaptive medium- and long-term policies and strategies for the management of animal genetic resources. These policies should also consider the contributions of livestock keepers, professional breeders and other actors to animal genetic diversity, respect the interests, rights and obligations of stakeholders, and take into account exchange, access, and the fair and equitable sharing of the benefits from animal genetic resources.

Sustainable use policies should also include consideration of broad genetic variability between and within breeds which is essential for present and future livestock production. One perspective is to maintain a broad diversity of breeds within economic production systems. Sustainable animal production should be responsive to differing domestic and export market demands, as appropriate, while matching genotypes to production systems. Most countries are aiming to satisfy domestic consumption, while others are also seeking to derive export income from animal production. These objectives should be considered when sustainable genetic improvement programmes are developed and evaluated. Flexible breeding strategies, including selection and also cross-breeding, where appropriate, should be utilized to promote the sustainable development and profitability of livestock sectors. The breeding strategies need to be adaptable to respond to production opportunities and technology.

Actions:

1. Review existing national policies on sustainable use to assess their impacts on animal genetic resources management.
2. Develop, as necessary, national policies that incorporate the contribution of animal genetic resources to sustainable use, which may include setting strategic objectives for breeding and sustainable use; conducting economic and cultural valuation of animal genetic resources; and developing approaches, including mechanisms, to support wide access to, and the fair and equitable sharing of benefits arising from the use of animal genetic resources and associated traditional knowledge.

Strategic Priority 4 **Establish national species and breed development strategies and programmes**

Rationale: The development and implementation of breeding strategies and programmes to meet foreseeable economic needs of farming and herding communities and markets are required for all species and breeds. Breeding organizations and recording schemes are highly beneficial in achieving breeding objectives and are crucial for breed development strategies, but are often lacking. Breeding goals should be regularly assessed and take into account the impacts of selection on genetic diversity.

Actions:

1. Develop long-term planning and strategic breeding programmes and consider a number of elements, including: efforts to improve underutilized breeds, especially within low to medium external input production systems; assessments of the impact of exotic animal breeds and the development of measures for producers to realize positive impacts and prevent negative impacts; training and technical support for the breeding activities of pastoralist and farming communities; and the integration of improved husbandry practices in animal genetic resources development programmes. Whereas plans and programmes developed will be national, in some cases cooperation with other countries may be required.
2. Assess breed development programmes and revise, as appropriate, with the aim of meeting foreseeable economic and social needs and market demands, bearing in mind scientific and technological parameters. The information about breeds and production systems could be made available to consumers.
3. Establish and develop organizational structures of breeding programmes, especially breeders' organizations and breeding schemes, including recording systems.
4. Incorporate consideration of the impacts of selection on genetic diversity into breeding programmes and develop approaches to maintain the desired variability.
5. Establish or strengthen recording schemes to monitor changes in non-production traits (e.g. health, welfare) and adjust breeding goals accordingly.
6. Encourage the development of backup collections of frozen semen and embryos from current breeding schemes to ensure genetic variability.

7. Provide information to farmers and livestock keepers to assist in facilitating access to animal genetic resources from various sources.

Strategic Priority 5 **Promote agro-ecosystems approaches to the management of animal genetic resources**

Rationale: Agro-ecosystems depend on human management practices, knowledge systems, cultural norms, values and beliefs, as well as social relationships and livelihood strategies. In some production systems the management of animal genetic resources, particularly by indigenous and local communities, takes place in close relationship with the management of crops, pastures, forests and other biological resources, and land and water management in productive landscapes. Rapid intensification of production is driven by a number of factors. Inadequate planning of intensive animal production can lead to negative ecological impacts, such as soil and vegetation degradation, water and marine pollution, and the unsustainable use and conversion of rangelands. Management decisions and policies on the sustainable use of animal genetic resources therefore should be based on an understanding of human environments and livelihoods, and efforts to achieve food security and environmental objectives.

Actions:

1. Assess environmental and socio-economic trends that may require a medium- and long-term policy revision in animal genetic resources management.
2. Integrate agro-ecosystem approaches in national agricultural and environmental policies and programmes of relevance to animal genetic resources, where appropriate, particularly those directed towards pastoralist and rural smallholder communities, and fragile environments.
3. Establish networks to enhance interaction among the main stakeholders, scientific disciplines and sectors involved.

Strategic Priority 6 **Support indigenous and local production systems and associated knowledge systems of importance to the maintenance and sustainable use of animal genetic resources**

Rationale: Over millennia, animal species and breeds have been domesticated, developed and maintained for human use. These resources have co-evolved with the social, economic and cultural knowledge and management practices. The historic contribution of indigenous and local communities to animal genetic diversity, and the knowledge systems that manage these resources, needs to be recognized, and their continuity supported. Today, the adaptive animal genetic resources management strategies of these communities continue to have economic, social and cultural significance, and to be highly relevant to food security in many rural subsistence societies, particularly, though not exclusively, in dry lands and mountainous regions. Measures to support such systems should take their specific ecological and socio-economic and cultural features into consideration.

Actions:

1. Assess the value and importance of indigenous and local production systems, and identify trends and drivers of change that may affect the genetic base, and the resilience and sustainability of the production systems.
2. Support indigenous and local livestock systems of importance to animal genetic resources, including through the removal of factors contributing to genetic erosion. Support may include the provision of veterinary and extension services, delivery of microcredit for women in rural areas, appropriate access to natural resources and to the market, resolving land tenure issues, the recognition of cultural practices and values, and adding value to their specialist products.
3. Promote and enable relevant exchange, interaction and dialogue among indigenous and rural communities and scientists and government officials and other stakeholders, in order to integrate traditional knowledge with scientific approaches.
4. Promote the development of niche markets for products derived from indigenous and local species and breeds, and strengthen processes to add value to their primary products.

STRATEGIC PRIORITY AREA 3: CONSERVATION

Introduction

31. The erosion of animal genetic resources is a long-term threat to ensuring food security and rural development. According to *The State of the World's Animal Genetic Resources*, 20 percent of all reported breeds are at risk of extinction; however, the population status of many breeds is still unknown, and the problem may thus be underestimated. Most developing countries and some developed countries do not currently have animal genetic resources conservation strategies or policies in place. Without strategically planned interventions, using both *in situ* and *ex situ* conservation, erosion will continue and may accelerate.

32. The main underlying factors that result in some cases in the loss of animal genetic resources are:

- The focus on a few high-output breeds;
- The lack of adequate policies, leading to the marginalization of relevant stakeholders, such as pastoralists, socio-economic changes leading to transformation of production systems and livelihoods, and disasters (natural and human induced); and
- The transformation of traditional systems into external input-oriented systems, often by using exotic animal genetic resources that displace local breeds. The indiscriminate cross-breeding with exotic breeds is also rapidly compromising the genetic integrity of local populations.

33. Loss of local breeds will cause cultural erosion and diminish the ability of communities to maintain their cultures and livelihoods. Structural changes in the livestock sector may result in a situation where the previous keepers of a breed are no longer in a position to maintain it: in such circumstances, other ways need to be identified to preserve the breed, as part of the global heritage of animal genetic resources.

34. Loss of animal genetic resources reduces opportunities to develop rural economies in some countries. It may also have negative social and cultural impacts, given the long history of domestication and the resulting incorporation of domestic animals into community culture. Replacement of indigenous breeds could result in the loss of products and services preferred by local people, and the conservation of local breeds must therefore be considered within the broader context of sustaining rural communities and their existing economic foundations. Moreover, such losses now may limit future development options, based on animal products and services from specific breeds, that otherwise could have added considerable economic value as consumer demands become more varied.

35. The loss of local breeds may have negative environmental impacts in some production environments, especially in dry lands and mountainous areas. Many Country Reports indicated the importance of local breeds in contributing to landscape management, vegetation control, and rangeland ecosystem sustainability, preventing the erosion of associated biodiversity.

36. Many breeds at risk are in developing countries, which have limited capacity and resources for designing and implementing conservation programmes. These breeds often possess unique genetic traits that enable their survival in a diverse range of production environments with intense stresses, such as disease and drought.

37. Appropriate conservation measures should ensure that farmers and researchers have access to a diverse gene pool for further breeding and research. This genetic diversity provides an essential resource to cope with the impacts of climate change, pest and disease outbreaks, and new and growing consumer demands. Strategic and considered investment in the conservation of animal genetic resources is of critical importance and international collaboration is essential to halt the serious decline of these resources.

38. In most developing countries, *in situ* conservation is the preferred conservation approach. *In situ* conservation has the benefit of allowing continued co-evolution of the genetic resources within the prevailing environment. *Ex situ* conservation measures are complementary to *in situ* approaches and should be linked where appropriate. However, the capacity for *ex situ* conservation varies significantly among countries, but *ex situ* conservation efforts for animal genetic resources generally lag far behind similar efforts for plant genetic resources. The storage of genetic material for breeding purposes is common for some commercial breeds, but not in all species. However, for local breeds, the collection and storage of animal genetic material has not been adequate. In such cases, it is important to support planned and targeted collecting of animal genetic resources, and to expand *ex situ* conservation activities.

39. Emergency situations for farm animals are caused by a variety of factors such as disease, natural disaster, armed conflict and economic crises. There is significant variation in the preparedness of countries to respond to emergency situations. A lack of early-warning systems and financial resources are the main constraints to establishing effective and consistent monitoring and emergency-response mechanisms, and in assisting farmers and livestock keepers to restore agricultural systems after disaster situations.

Long-term goal

Secure the diversity and integrity of the genetic base of animal genetic resources by better implementing and harmonizing measures to conserve these resources, both *in situ* and *ex situ*, including in the context of emergencies and disasters.

Strategic Priority 7 **Establish national conservation policies**

Rationale: Countries have a responsibility to conserve their animal genetic resources; however, most countries lack comprehensive policies. Such policies should serve to ensure the maintenance of animal genetic resources with direct values for human use, including

production, ecological, social and cultural values, as well as option values for future use and adaptation. Production and functional traits, and national capacity, should be taken into consideration in setting conservation priorities. The erosion of animal genetic resources has complex drivers and cannot be halted by one simple solution. A combination of *in situ* and *ex situ* conservation measures is necessary.

Actions:

1. Set and regularly review conservation priorities and goals.
2. Assess factors leading to the erosion of animal genetic resources and formulate appropriate policy responses. Establish or strengthen information systems on animal breeding approaches as well as on different gene banks, as they affect animal genetic diversity, in order to enable breeders and countries to make appropriate choices in their improvement programmes.
3. Establish institutional structures and policies, as appropriate, including specific measures to conserve breeds at risk of extinction, and to prevent breeds from becoming at risk. A combination of *in situ* and *ex situ* measures is necessary.
4. Provide and catalyse incentives for producers and consumers to support conservation of animal genetic resources at risk, as evaluated by individual countries, provided that such incentives are consistent with existing international agreements.

Strategic Priority 8 **Establish or strengthen *in situ* conservation programmes**

Rationale: *In situ* conservation measures allow for the maintenance and adaptive management of animal genetic resources in productive landscapes. *In situ* measures facilitate continued co-evolution in diverse environments, and avoid stagnation of the genetic stock. *In situ* conservation measures are best based on agro-ecosystem approaches and, ideally, should be established through economically profitable and socially beneficial sustainable use. However, in some instances this can only be achieved after initial investments in creating markets and in product development. In cases where this is not possible, support for the *in situ* conservation of animal genetic resources may be necessary.

Actions:

1. Set and regularly review *in situ* conservation priorities and goals.
2. Encourage the development and implementation of national and regional *in situ* conservation programmes for breeds and populations that are at risk. This may include support, either directly for breeders of threatened breeds, or measures to support agricultural production systems that manage areas of importance to breeds at risk, the encouragement of breed organizations, community-based conservation organizations, non-governmental organizations and other actors to participate in conservation efforts provided that such support or such measures are consistent with existing international agreements.
3. Promote policies and means to achieve the sustainable use of a diversity of local breeds, without the need for support from public funds or extra funding, through *in situ* conservation.

Strategic Priority 9 **Establish or strengthen *ex situ* conservation programmes**

Rationale: *Ex situ* conservation measures provide backup insurance against losses of animal genetic resources in the field, either through erosion or as a result of emergencies. *Ex situ* measures are complementary to *in situ* measures, and should be linked, where appropriate. *Ex situ* collections can also play an active role in strategic breeding programmes.

Actions:

1. Set and regularly review *ex situ* conservation priorities and goals.
2. Establish or strengthen national and regional facilities for *ex situ* conservation, in particular cryogenic storage. Support the efforts of countries within a region that have opted to establish a regional facility.
3. Establish modalities to facilitate use of genetic material stored in *ex situ* gene banks under fair and equitable arrangements for storage, access and use of animal genetic resources.
4. Develop and implement measures to secure *ex situ* collections from loss of genetic diversity resulting from disease outbreaks and other threats, in particular by establishing backup samples.
5. Identify and fill gaps in *ex situ* collections.
6. Develop procedures for replenishment of genetic material taken from gene banks, by systematically developing links with live populations, or establishing *in vivo* populations of breeds at risk at off-farm locations, such as zoos and parks.

Strategic Priority 10 **Develop and implement regional and global long-term conservation strategies**

Rationale: There are considerable numbers of regional and international transboundary breeds. Collaboration for *in situ* conservation is desirable for regional transboundary breeds and for transhumant livestock populations held by pastoralist communities that cross national boundaries. To ensure the highest efficiency and cost-saving in implementing *ex situ* conservation measures, regional and global strategies and facilities may be preferred over the duplication of national efforts, providing that modalities are developed for sharing facilities among countries and that conservation policies remain part of national sovereignty, and that such measures are consistent with existing international agreements. In the medium and long term, and taking into account likely environmental and socio-economic change, as well as disasters and emergencies, it is likely that international interdependence with regard to animal genetic resources will increase. This provides further cause to the international community to collaborate on conservation measures, for local, regional and international transboundary breeds, under fair and equitable arrangements for storage, access and use of animal genetic resources. Regional and global cooperation should be based on national efforts, but should not replace them.

Actions:

1. Assist countries to develop and implement conservation plans for breeds and populations, particularly transboundary breeds and populations, combining *in situ* and *ex situ* measures.
2. Establish integrated support arrangements to protect breeds and populations at risk from emergency or other disaster scenarios, and to enable restocking after emergencies, in line with the national policy.
3. Establish regional and global networks of gene banks for animal genetic resources and harmonize approaches to conservation in gene banks and to facilitating exchange.
4. Facilitate the establishment of core collections of animal genetic diversity, at the appropriate regional or species level.

Strategic Priority 11 **Develop approaches and technical standards for conservation**

Rationale: *In situ* and *ex situ* conservation methods for animal genetic resources are still under development. Particularly in the area of *ex situ* conservation, there is a considerable need for standardized methods and technologies.

Actions:

1. Undertake research, including participatory research, to develop *in situ* and *ex situ* methods and technologies, including for conservation breeding. Elaborate standardized methods and guidelines for their use, where necessary.
2. Document and disseminate knowledge, technologies and best practices.
3. Promote the use of appropriate genetic indicators to complement phenotypic characterization as a basis to make decisions on conserving animal genetic resources.
4. Review the impact of zoosanitary standards on the conservation of animal genetic resources, and in particular, their accessibility.

STRATEGIC PRIORITY AREA 4: POLICIES, INSTITUTIONS AND CAPACITY-BUILDING

Introduction

40. In many cases, national policies and regulatory frameworks for animal genetic resources are still partial and ineffective. Policy and legislative development is required to address the dynamics that are shaping the sector, and deal with increasingly complex emerging issues, such as an increasing focus on consumer affairs, food safety and food standards, response to diseases (animal diseases proper and animal diseases that can pass to humans), the humane treatment of animals, increasingly sophisticated biotechnology, as well as the assessment and mitigation of the environmental impacts of livestock operations. A further area that requires development is the framework for the exchange of animal genetic resources among countries. Policy development should take into account the increasing role of intellectual property rights in the sector, and the need to secure fair and equitable benefit-sharing, the rights of indigenous and local communities, particularly pastoralists, and the role of their knowledge systems.

41. In developing countries an increasing demand for animal production is driving rapid structural change in the livestock sector. Without proper management, including spatial and physical planning aspects as cities expand into previously agricultural lands, there will be major risks for human health and the sustainability of production. Social and economic policies need to aim at ensuring equity for rural populations in the process of change, so that they are enabled to build up, in a sustainable way, their productive capacity to supply goods and services of increasing quantity and quality to expanding national economies, and meet growing consumer demands. In a time of rapid change and growing privatization, national planning will also need to ensure the long-term supply of public goods, such as public health, biodiversity maintenance, and clean air and secure water supplies. There will inevitably be trade-offs between different national policy goals. The management of animal genetic resources will need to be balanced with the other goals, and short- and long-term policies are required for the sector, within the larger cross-sectorial planning framework.

42. In developing countries in particular, a lack of trained personnel – both in terms of numbers and in skills to address animal genetic resources management, in a time of rapid social and economic change – is a major impediment to developing and implementing animal genetic resources policies, strategies, programmes and projects. Education and training in order to build sustainable capacity in all priority areas is required.

43. Research at national and international levels in all aspects of animal genetic resources management needs to be strengthened. The role of the National Agricultural Research Systems (NARS) and their support by the Consultative Group on International Agricultural Research (CGIAR) system is crucial in this context.

44. Facing these major challenges will require the development of a strong and diverse skills base. In many developing countries in particular, a lack of human capacity and financial resources is a major obstacle to developing the necessary institutions, and planning and implementing a strategic approach to using, developing and conserving animal genetic resources. For this reason, and in order to achieve sustainable use, development and conservation of their animal genetic resources, many countries will need to devote particular attention to establishing and building up the relevant institutions, to adopting and implementing appropriate policies and effective regulatory frameworks, and to building the human capacity they need.

45. National Focal Points for animal genetic resources – established in the context of the Global Strategy for the Management of Farm Animal Genetic Resources – are a key institutional element through which to build and maintain networks for the management of animal genetic resources. Most countries have established a National Focal Point for animal genetic resources. Serious human and financial resources constraints have made their establishment difficult, and still threaten their continuity. Cooperation between countries is needed to set up Regional Focal Points and develop regional networks.

46. Networks are important in linking stakeholders, and in supporting institutional development and capacity-building. In some countries, where networks are well developed, they draw upon the support of active non-governmental organizations, such as breeders' associations, which design, plan and implement animal genetic resources programmes and action plans.

47. In addition to developing national planning capacity, popular awareness of the importance of animal genetic resources needs to be developed, in order to promote investments in developing national animal genetic resources. In many instances to date, livestock development has focused on the deployment of exotic breeds, rather than the development and conservation of local breeds. Consumers will need to understand and support efforts to conserve and use local breeds, rather than over-reliance on transboundary breeds. In many developed countries, the share of high-value products, linking back to specific breeds, is contributing to the maintenance of animal diversity. Cultural identity in developing countries, often expressed in food preferences, can be the basis for a growing awareness of the value of diverse breeds, and underwrite long-term economic development, including for small farmers and currently marginal communities.

48. Awareness-building at the international level will also be a key factor in mobilizing popular support and international collaboration for the implementation of the *Global Plan of Action for Animal Genetic Resources*.

Long-term goal

Established cross-cutting policies and legal frameworks, and strong institutional and human capacities to achieve successful medium- and long-term planning for livestock sector development, and the implementation of national programmes for the long-term sustainable use, development and conservation of animal genetic resources.

Strategic Priority 12 **Establish or strengthen national institutions, including National Focal Points, for planning and implementing animal genetic resources measures, for livestock sector development**

Rationale: Increasingly complex issues are emerging within the livestock sector that require balancing the interests of a variety of stakeholders, and the active promotion of the generation of public goods that may otherwise cease to be produced in a time of rapid and unregulated change. Consumer affairs, human health matters and the management of new biotechnologies, as well as physical and spatial planning of animal production in the context of urban expansion and protected areas, need to be integrated into national planning in a holistic manner.

Actions:

1. Analyse national institutional capacity in support of holistic planning of the livestock sector.
2. Establish or strengthen fully functional National Focal Points for animal genetic resources.
3. Develop strong national coordination between the National Focal Point and stakeholders involved in animal genetic resources, such as the breeding industry, government agencies, civil society organizations, and networks and advisory committees.
4. Develop and implement intervention tools, as appropriate, for national planners to shape the future development of the livestock sector in accordance with national priorities, including in relation to the deployment of animal genetic resources, and the effects of animal production systems on the environment.
5. Promote coordination and synergy between the different authorities dealing with various aspects of planning, within and across ministries, as well as with other stakeholders, and ensure their participation in the process.

Strategic Priority 13 **Establish or strengthen national educational and research facilities**

Rationale: Research and education needs strengthening in all areas of management of animal genetic resources. Establishing, strengthening and maintaining research and education institutions is key to building national capacities to plan and implement priority activities for the characterization, inventory and monitoring of risks and trends; sustainable use and development; and conservation of animal genetic resources.

Actions:

1. Identify the short-term, medium-term and long-term needs for research and education, and promote the formation of the relevant cadres of experts, nationally or through international training.
2. Review national research and education capacities in relevant fields, and establish targets for training to build the national skill base.
3. Establish or strengthen, in partnership with other countries, as appropriate, relevant research, training and extension institutions, including national and regional agricultural research systems, to support efforts to characterize, inventory and monitor trends and associated risks, sustainably use and develop, and conserve animal genetic resources.
4. Review the national educational needs of livestock keepers, while respecting traditional knowledge and indigenous practices.

Strategic Priority 14 **Strengthen national human capacity for characterization, inventory, and monitoring of trends and associated risks, for sustainable use and development, and for conservation**

Rationale: Many countries have inadequate human capacity to:

- undertake systematic characterization, inventory, and monitoring of trends and associated risks to underpin policy decisions;
- strategically plan, develop and implement policies and programmes for sustainable use and development; and
- strategically plan, develop and implement policies and programmes for the *in situ* and *ex situ* conservation of animal genetic resources.

Training, as well as exchange of information and experiences within and between countries and regions would be beneficial.

Actions:

1. Establish or strengthen training and technology transfer programmes, and information systems for the inventory, characterization and monitoring of trends and associated risks; sustainable use and development; and conservation, particularly in developing countries and countries with economies in transition.
2. Establish or strengthen collaborative networks of researchers, breeders and conservation organizations, and other public, civil and private actors, within and between countries, for information and knowledge exchange for sustainable use, breeding and conservation.
3. Establish or strengthen community-based organizations, networks and initiatives for sustainable use, breeding and conservation.

Strategic Priority 15 **Establish or strengthen international information sharing, research and education**

Rationale: Established international research and education institutions, including in the CGIAR system, provide major public

goods through research and capacity-building, as well as through information systems, of relevance to animal genetic resources. FAO, through its technical programmes, also contributes actively to this work.

Actions:

1. Establish or strengthen international research and education, in particular, to assist developing countries and countries with economies in transition to better use and develop animal genetic resources.
2. Continue to develop the FAO Domestic Animal Diversity Information System (DAD-IS), as a global communication tool and clearing-house mechanism for animal genetic resources.
3. Develop means for reporting on the status and trends of national animal genetic resources that may also assist governments in relevant reporting in other international forums, to reduce the overall reporting burden.
4. Establish and strengthen the development of national databases to enable information sharing among countries.

Strategic Priority 16 **Strengthen international cooperation to build capacities in developing countries and countries with economies in transition, for:**

- **characterization, inventory, and monitoring of trends and associated risks;**
- **sustainable use and development; and**
- **conservation of animal genetic resources**

Rationale: There are significant differences within and between regions in national human, institutional, technological and research capacities for inventory, characterization and monitoring of trends and associated risks; sustainable use and development; and conservation – both *in situ* and *ex situ* – of animal genetic resources. Developing countries and countries with economies in transition will greatly benefit from information exchange and collaboration with countries with comparative advantages in these areas. International action is particularly required for endangered breeds and for transboundary breeds which may have a narrow genetic base.

Actions:

1. Build or strengthen technical cooperation and establish facilities for technology transfer and exchange of experience, and enhance educational and other training opportunities, between countries, considering the particular interests of developing countries and countries with economies in transition.
2. Establish or strengthen international collaboration in the characterization, use and development, and conservation of transboundary breeds.

Strategic Priority 17 **Establish Regional Focal Points and strengthen international networks**

Rationale: The management of transboundary breeds and populations, as well as specific regional socio-economic, cultural and environmental characteristics, provide a rationale for coordination and collaboration at the regional level. Investment in

joint activities (such as gene banking) may often be more efficient and cost effective than the multiplication of overlapping national activities.

Actions:

1. Support the establishment of country-driven Regional Focal Points for animal genetic resources, where appropriate.
2. Establish or strengthen and maintain regional networks, including regional databases, if required, for the use, development and conservation of animal genetic resources.
3. Link regional activities on animal genetic resources to regional organizations.
4. Maintain and strengthen the FAO Global Focal Point for animal genetic resources to promote international networking and collaboration.

Strategic Priority 18 **Raise national awareness of the roles and values of animal genetic resources**

Rationale: Within the livestock sector and in other sectors impacting on the livestock sector, including environmental and broader agricultural and development policies and practices, there is a considerable need to raise awareness of the important roles and values of animal genetic resources. This includes their specific characteristics, the products and services derived from local breeds, and the factors impacting their maintenance and use. Such national awareness-building should draw attention to the specific features of the livestock sector, and should seek to mobilize support for public and private initiatives for the sustainable use, development and conservation of animal genetic resources.

Action:

1. Provide targeted, effective information through media, public events and other means to raise awareness about the important roles and values of animal genetic resources. This should address their specific characteristics and the consequent special policy needs for their sustainable use, development and conservation, including livestock keepers' contributions, needs, and all relevant rights that may exist at national level.
   Target audiences include policy-makers, all major stakeholders within the livestock sector and related sectors, and the general public.

Strategic Priority 19 **Raise regional and international awareness of the roles and values of animal genetic resources**

Rationale: There is a need to raise awareness – including within environmental and broader agricultural and development institutions and forums, and among other stakeholders, such as donors and civil society – of the important roles and values of animal genetic resources, their specific characteristics and the consequent needs for sustainable use, development and conservation.

Action:

1. Support regional and international campaigns to raise awareness of the status of animal genetic resources for food and agriculture,

and seek to develop wide support at the government and institutional levels, as well as among the general public.

Strategic Priority 20 **Review and develop national policies and legal frameworks for animal genetic resources**

Rationale: A range of policies and legal instruments have direct or indirect effects on the use, development and conservation of animal genetic resources. These instruments often pursue different objectives, such as economic development, environmental protection, animal health, food safety, consumer protection, intellectual property rights, genetic resources conservation, and access to and equitable sharing of benefits arising from the use of animal genetic resources. Enhanced coherence between these instruments and policies is needed, without compromising their objectives, or the key objective of food security, and taking into account the distinctive features of animal genetic resources that need distinctive solutions. Means for access and benefit-sharing need to be taken into account.

Actions:

1. Periodically review existing national policies and regulatory frameworks, with a view to identifying any possible effects they may have on the use, development and conservation of animal genetic resources, especially with regard to the contribution and needs of local communities keeping livestock.
2. Consider measures to address any effects identified in reviews of policy and legal frameworks. Measures may include policy or legislative changes, or adjustments at the level of implementation, taking into account the need to balance the goals and objectives of the relevant legal instruments and policies, and the interests of different stakeholders.
3. Encourage consistency of national law and policies concerning animal genetic resources with relevant international agreements, as appropriate.
4. Ensure that relevant research results are taken into consideration in the development of national policies and regulations on animal genetic resources.

Strategic Priority 21 **Review and develop international policies and regulatory frameworks relevant to animal genetic resources**

Rationale: International policies and regulatory agreements may directly or indirectly affect the use of animal genetic resources for food and agriculture. The dominant policies and frameworks that affect the development of the animal genetic resources sector are often general, and deal with such matters as economic development, trade standards, environmental protection, food safety, access and benefit-sharing and intellectual property. Sector-specific international agreements include animal health standards and food standards for animal products. It is important to ensure that international instruments to which countries are parties, which impact upon their ability to exchange, use and conserve animal genetic resources, and trade in animal products, are mutually supportive.

Actions:

1. Review existing international agreements that impact upon the use, development and conservation of animal genetic resources, with a view to ensuring that international policies and regulatory frameworks take into account the special importance of animal genetic resources for food and agriculture for food security, the distinctive features of these resources needing distinctive solutions, the importance of science and innovation, and the need to balance the goals and objectives of the various agreements, as well as the interests of regions, countries and stakeholders, including livestock keepers.
2. Review the implications and impacts of international agreements and developments relevant to access to animal genetic resources and sharing the benefits of their use upon animal genetic resources stakeholders, especially livestock keepers.

Strategic Priority 22 **Coordinate the Commission's efforts on animal genetic resources policy with other international forums**

Rationale: The Commission on Genetic Resources for Food and Agriculture is FAO's standing intergovernmental forum where countries discuss policies and sectorial and cross-sectorial matters related to the conservation and sustainable use of genetic resources for food and agriculture. Other international organizations and forums regularly discuss issues and develop policy and regulatory measures that directly or indirectly affect the management of animal genetic resources and the roles and interests of the various stakeholders in the livestock sector. Such forums include the Convention on Biological Diversity, the World Intellectual Property Organization, the World Trade Organization, the World Organisation for Animal Health, and *Codex Alimentarius*. There is a need to enhance synergy and harmony between such processes.

Action:

1. Develop cooperation with and strengthen the involvement and contributions of international organizations and forums in supporting the work of the Commission on Genetic Resources for Food and Agriculture on animal genetic resources.

Strategic Priority 23 **Strengthen efforts to mobilize resources, including financial resources, for the conservation, sustainable use and development of animal genetic resources**

Rationale: Global efforts to mobilize resources for the conservation, sustainable use and development of animal genetic resources, both nationally and internationally, fall far short of the needs. The success of the *Global Plan of Action for Animal Genetic Resources* will depend on mobilizing financial resources, and on providing a coherent framework for exchange of information, access to and transfer of technology and capacity-building.

Action:

1. Assist all stakeholders to strengthen capacity-building, including by exchange of experience, by enhancing research and educational activities, and by providing training opportunities, technology transfer and financial resources, at national, regional and international levels, as detailed in PART III below.

2. Develop a follow-up process to implement the *Global Plan of Action for Animal Genetic Resources*.

3. Strengthen cooperation and coordination of conservation, sustainable use and development of animal genetic resources at national, regional and international levels, including through *ex situ* backup systems for the protection against the risk of emergency or disaster scenarios.

PART III IMPLEMENTATION AND FINANCING OF THE *GLOBAL PLAN OF ACTION FOR ANIMAL GENETIC RESOURCES*

49. The *Global Plan of Action for Animal Genetic Resources* provides an important and effective international framework for advancing efforts to ensure the sustainable use, development and conservation of animal genetic resources for food and agriculture, and will contribute to efforts for achieving world food security and eradicating poverty.

50. Funding for animal genetic resources for food and agriculture is currently provided by some national governments and other domestic sources of funds, as well as from multilateral and bilateral organizations and regional sources. However, implementation of the *Global Plan of Action for Animal Genetic Resources* will require substantial and additional financial resources and long-term support for national, regional and international animal genetic resources programmes and priority activities, provided such incentives are consistent with relevant international agreements. The process should encourage and support the participation of governments and all relevant stakeholders. Regional and international collaboration will be crucial.

51. Overall progress in the implementation of the *Global Plan of Action for Animal Genetic Resources* would be assessed by national governments and Members of FAO, through the Commission on Genetic Resources for Food and Agriculture. In order to discharge this function, the Commission would need to address the priority areas of the *Global Plan of Action for Animal Genetic Resources* in an organized and focused manner, within the context of the Commission's Multi-year Programme of Work, without prejudice to national priorities.

52. The Commission on Genetic Resources for Food and Agriculture should agree on the modalities for the presentation of the progress reports, as well as the criteria and parameters for the evaluation of the progress in the implementation of the *Global Plan of Action for Animal Genetic Resources*.

53. It will be necessary to periodically assess the status and trends of animal genetic resources, especially in light of the large number of breeds that are at risk of being lost globally. The Commission on Genetic Resources for Food and Agriculture should regularly receive, from countries, status and trends reports on national animal genetic resources and factors influencing change, in order to review progress and further develop country-based early-warning and response systems for animal genetic resources.

54. The Conference requests the Commission on Genetic Resources for Food and Agriculture to develop a Funding Strategy for the implementation of the *Global Plan of Action for Animal Genetic Resources*.

55. In light of the findings of national reports on progress in implementation and on status and trends, the conclusions of the Commission should be brought to the attention of concerned governments and international institutions to fill gaps, rectify imbalances or lack of coordination, and to consider new initiatives or activities.

56. The main responsibility for implementing the *Global Plan of Action for Animal Genetic Resources* rests with national governments. The need for effective National Focal Points for animal genetic resources, and the importance of national networks to mobilize and engage stakeholders in the implementation of the *Global Plan of Action for Animal Genetic Resources* is recognized. Each country will determine its own priorities in light of those agreed in the *Global Plan of Action for Animal Genetic Resources.* As appropriate, countries will determine their priorities within the framework of their food and their agricultural development needs, and cooperate with other nations and international organizations.

57. The international networks for animal genetic resources should be encouraged and strengthened through implementation of the *Global Plan of Action for Animal Genetic Resources,* noting the important role of Regional Focal Points and regional networking to build collaborative partnerships, to coordinate regional management efforts in animal genetic resources, to further develop information sharing, and for technical cooperation, training and research.

58. The essential role of the FAO in supporting country-driven efforts to implement the *Global Plan of Action for Animal Genetic Resources*, especially to support developing countries and countries with economies in transition is recognized, in particular, in continuing to facilitate global and regional collaboration and networks, supporting the convening of intergovernmental meetings, maintaining and further developing DAD-IS, mobilizing donor resources for animal genetic resources, developing communications products, and coordinating future preparation of global status and trends reports on animal genetic resources.

59. The importance of developing and transferring environmentally sound technologies related to the inventory, characterization, sustainable use, development and conservation of animal genetic resources, and other aspects related to the management of these resources is recognized. The Strategic Priorities for Action underline the need for technical development and collaboration. Implementation of the four Priority Areas requires information exchange, collaborative involvement, and coordination among governments, international agencies, non-governmental organizations and others, to organize and conduct training and research initiatives throughout the world.

60. There is a need to promote the provision of technical assistance, especially to developing countries and countries with economies in transition, either bilaterally or through appropriate national and international organizations, with the objective of facilitating implementation of the *Global Plan of Action for Animal Genetic Resources*. There is also a need to promote the transfer of technologies relating to sustainable use, development and conservation of animal genetic resources, which should be facilitated, consistent with relevant international obligations and relevant national laws.

61. The technical guidelines and assistance, and coordinated training programmes prepared by FAO have been instrumental in advancing work on animal genetic resources. This essential role should continue in future to assist all countries to implement the *Global Plan of Action for Animal Genetic Resources*.

62. Despite efforts to increase public awareness through national governments, international organizations and agencies, the necessary financial resources for the implementation of the *Global Plan of Action for Animal Genetic Resources* by developing countries and countries with economies in transition are insufficient. Furthermore, fluctuations in the financial resources provided to developing countries and countries with economies in transition cause an intermittent level of activity on the sustainable use, development and conservation of animal genetic resources for food and agriculture.

63. Countries should make every effort to provide, in accordance with their capacities, support with respect to national strategic priorities that are intended to achieve the objectives of the *Global Plan of Action for Animal Genetic Resources.* Countries should promote the implementation of the *Global Plan of Action for Animal Genetic Resources,* in particular through

national actions and by international cooperation, in order to provide a coherent framework for exchange of information, access to and transfer of technology and capacity-building.

64. International cooperation should be strengthened to facilitate the implementation of the *Global Plan of Action for Animal Genetic Resources*, in particular, to support and complement the efforts of developing countries and countries with economies in transition. The major multilateral and bilateral funding and development institutions should be invited to examine ways and means of supporting the implementation of the *Global Plan of Action for Animal Genetic Resources*. Every effort should be made by all countries, in particular, developed countries, to, *inter alia*, leverage existing and available financial resources, including from sources that have not previously funded activities included in the *Global Plan of Action for Animal Genetic Resources*.

65. To this end, the FAO should ensure adequate regular programme support for the implementation of the *Global Plan of Action for Animal Genetic Resources*.

66. In addition, FAO should pursue within relevant international mechanisms, funds and bodies, means by which they might contribute to the implementation of the *Global Plan of Action for Animal Genetic Resources*. Presentation of the *Global Plan of Action for Animal Genetic Resources* within these institutions as well as regular mutual reporting on activities within the strategic priorities of the *Global Plan of Action for Animal Genetic Resources* will be appropriate instruments in this context.

67. Governments should, in support of the above-mentioned activities, take the necessary and appropriate measures within relevant international mechanisms, funds and bodies to ensure 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 for Animal Genetic Resources*.

68. Furthermore, governments of developed countries should attach due attention, including funding, to the implementation of activities within the Strategic Priority Areas of the *Global Plan of Action for Animal Genetic Resources* through bilateral, regional and multilateral cooperation. The extent to which developing countries will effectively implement their commitments under this *Global Plan of Action for Animal Genetic Resources* will depend on the effective provision of funding. Governments of developing countries and countries with economies in transition should accord due priority in their own plans and programmes to building capacity in animal genetic resources.
Voluntary contributions should also be encouraged, in particular from private sector and non-governmental organizations, for the implementation of the *Global Plan of Action for Animal Genetic Resources*. This might entail the establishment of an FAO Trust Account. Non-governmental organizations and the private sector should be encouraged to participate and support implementation of the *Global Plan of Action for Animal Genetic Resources*.

APPENDIX A

Agenda

1. Election of the Chair, Vice-Chair(s) and Rapporteur
2. Adoption of the agenda and timetable
3. Scientific Forum on Animal Genetic Resources
4. Opening Ceremony
5. Presentation of *The State of the World's Animal Genetic Resources for Food and Agriculture*
6. The *Global Plan of Action for Animal Genetic Resources*
7. Adoption of the *Global Plan of Action for Animal Genetic Resources* through the *Interlaken Declaration*
8. Adoption of the Final Report

APPENDIX B

STATEMENTS

B.1. Ms Doris Leuthard, Federal Councillor, Minister of Economic Affairs, Switzerland

Switzerland and Animal Genetic Resources for Food and Agriculture

Ministers,
Assistant Director-General of the FAO,
Executive Secretary of the United Nations Convention on Biological Diversity,
Representatives of the canton of Bern and town of Interlaken,
Delegates,
Friends,

Welcome to Interlaken,
Bienvenue à Interlaken

On behalf of the Swiss government, I am delighted to welcome you to the beautiful town of Interlaken for the first International Conference on Animal Genetic Resources for Food and Agriculture organized by the FAO. It is an honour for Switzerland to host this conference.

Ladies and Gentlemen,

As you know, there are some 800 million people throughout the world who continue to suffer from chronic malnutrition. Agriculture has a key role to play in combating hunger and helping to achieve the Millennium Development Goals. Genetic resources are vital given the new challenges facing us. I am thinking particularly of climate change, cross-border diseases and food security.

The international community has become aware of this issue, and the result is the adoption of the International Treaty on Plant Genetic Resources for Food and Agriculture under the aegis of the FAO. We now need to focus on animal genetic resources, which are being eroded at an alarming rate, as shown by The State of the World's Animal Genetic Resources.

It is up to us to take action at international level in order to conserve genetic resources. Conservation alone, however, is not enough. We must also ensure the sustainable use of these resources, as far as possible through the market.

Switzerland considers it crucial that the FAO takes the lead in this. It will work in close collaboration with the international organizations concerned with particular emphasis on the Convention on Biological Diversity. The Interlaken conference is an important step in this respect. A Global Plan of Action needs to be adopted. This plan will combine the Strategic Priorities for Action which became clear during the preparation of the report on the State of the World's Animal Genetic Resources for Food and Agriculture.

It is also vital that your deliberations lead to the adoption of the Interlaken Declaration. This declaration will reflect the commitment of all of us to the structured management of animal genetic resources. Our aim is to achieve food security and sustainable development.

Ladies and Gentlemen, the Interlaken Conference is a historic opportunity for the international community. What we must do is:

- make strategic choices with regard to the future management of animal genetic resources; and
- aim for a consensus on priority measures for the sustainable use, development and conservation of animal genetic resources.

Switzerland is aware of the importance of this meeting and of the issues you will be examining this week. By ratifying the Convention on Biodiversity, my country has undertaken to make a contribution to the conservation and sustainable use of genetic resources. Switzerland has a stock of some 90 breeds of cattle, horses, pigs, sheep and goats.

The exhibition "Biodiversity, Food and Culture: Discover farm animal diversity", organized as a fringe event to this conference and which I recommend you visit, shows you specific examples.

My country has for several years been taking steps to preserve this diversity. Support programmes have been set up for all Swiss breeds threatened with extinction, and have been given the necessary financial resources. These programmes are run by breeders' organizations and by the Pro Specie Rara Foundation, which came into being 25 years ago.

Efforts to support the diversity of animal genetic resources are not isolated cases for Switzerland. On the contrary, they are part and parcel of a coherent agricultural policy focusing on sustainability.

By means of our agricultural policy, we wish to preserve diversified production systems, maintain a natural balance, ensure the vitality of rural space including disadvantaged regions and, last but not least, bring a plus to consumers with quality products that have a lasting identity.

It is part of a broader picture in which the conservation of genetic resources has its place and the future mapped out. I hope that your visits to various regions of our country have convinced you of this reality.

An analysis of the situation was undertaken in Switzerland in 2002. The measures taken have had positive results. We have succeeded either in increasing or at least stabilising the number of livestock for all the breeds concerned. I am aware that not all countries are in a position to provide such financial support. Our aim would be to guarantee the sustainable use of genetic resources through the sale of produce.

The measures taken in Switzerland are only a small contribution towards solving a worldwide problem, which needs the whole international community to rally round and take action.

For my country, Interlaken is an important step in the right direction. However, it is only a step. There is still a long way to go and much remains to be done. The implementation of the Plan of Action will require financial investment, which is an issue you will also be discussing.

In this regard, I can assure you that Switzerland will continue to support FAO efforts and work alongside the appropriate international authorities. We all need to redouble our efforts towards guaranteeing the conservation and sustainable use of animal genetic resources and ensuring the sustainability of these steps.

Finally, I would like to extend my thanks to all those who have contributed in some way to the organization of this conference. Many of them are here with us today. I am thinking in particular of the group of FAO employees. I thank the Assistant Director-General, Mr Müller, for his presence at this opening. My thanks go to each and every one of you.

I sincerely hope that your work achieves what it has set out to do and that this conference will provide the impetus for specific measures and decisions.

Ladies and Gentlemen, it is our responsibility towards future generations that is at stake! Enhancing genetic resources in a sustainable manner is a challenge that we must take up as a united front!

I trust your discussions will be rewarding and wish you an excellent stay in Interlaken.

B.2. Mr Alexander Müller, Assistant Director-General, Natural Resources Management and Environment Department, FAO

Excellencies, Distinguished Delegates, Ladies and Gentlemen,

On behalf of the Director-General of the Food and Agriculture Organization of the United Nations, Mr Jacques Diouf, it is my pleasure to welcome you all to the International Technical Conference on Animal Genetic Resources. This is first ever inter-governmental conference to deal with animal genetic resources, and a milestone in the management of agricultural biodiversity.

The Conference is the fruit of a process launched in 1995 by the FAO Commission on Genetic Resources for Food and Agriculture, to provide an internationally agreed framework for the wise management of animal genetic resources. One of the major outputs of that process, which you have before you, is *The State of the World's Animal Genetic Resources*. This in itself is a major achievement. It is the first ever global assessment of the status and trends of animal genetic resources, and the state of institutional and technological capacity to manage these resources. The need felt by countries on all continents to establish a sound basis for the management of animal genetic resources is shown by the fact that fully 169 countries Country Reports were prepared, and are reflected in *The State of the World's Animal Genetic Resources*.

A crucial task of this Conference is to finalize and adopt the *Global Plan of Action for Animal Genetic Resources*, and to agree how it will be implemented. The draft of the *Global Plan of Action* builds on the findings on the *State of the World's Animal Genetic Resources*. Once adopted, it will provide a framework for action and international cooperation for many years to come, in order to safeguard the valuable animal genetic resources that we have under our care, which we have inherited from the generations before us. We must pay homage to their skills, as Charles Darwin himself did, when he wrote in 1868 of "*that wonderful skill and perseverance shown by the men who have left an enduring monument of their success in the present state of our domesticated animals*".

The need for the wise management of the world's animal genetic resources is of ever greater importance and concern. The options that these resources offer for maintaining and improving animal production will be of enormous significance in the coming decades. Climate change and the emergence of new and virulent livestock diseases highlight the importance of retaining the capacity to adapt our agricultural production systems. In the next forty years, the world's population will rise from 6.2 billion to 9 billion, with all this growth taking place in developing countries. More people will require more meat, milk, eggs and other livestock products. A wide portfolio of animal genetic resources will be crucial in adapting and developing the world's agricultural production systems and increasing the resilience of our food supply.

And yet, animal genetic diversity is under threat. The rate of breed extinctions, as reported in *The State of the World's Animal Genetic Resources*, is alarming. At least one livestock breed a month has become extinct over the past seven years, which means its genetic characteristics have been lost forever. Around 20 percent of the world's breeds of cattle, goats, pigs, horses and poultry are currently at risk of extinction.

In this situation, the world cannot simply take a business-as-usual, wait-and-see attitude. Climate change means that we are entering in a period of unprecedented uncertainty and crisis, which will affect every country. Climate change is a major factor to be added to those that are already driving animal breeds to extinction. To name only a few of these: rapid and poorly regulated economic and social changes; a globalizing economy; increasing specialization around a small number of high-input, high-output production systems; animal diseases and zoonoses and the drastic disease control measures often needed; as well as poverty, socio-economic instability and armed conflict in some of the areas richest in animal genetic resources.

These forces all combine to increase the level of risk and the rate of breed extinction. Urgent action is required to manage this risk and to stem excessive losses. This is best done by improving opportunities, through appropriate policies and technologies, for the better utilization of animal genetic diversity. Sustainable use is a key component of the *Global Plan of Action* that is before you for negotiation. Just as important, however, are the components dealing with characterization and conservation, in the light of the strong dynamics of the genetic erosion process. The world must safeguard the widest possible range of animal genetic resources, to be able to adapt to rapidly changing economic and biophysical environments throughout the world. Such changes affect every country, and make international cooperation imperative.

You and your Governments have a unique opportunity and responsibility at this Conference to make effective arrangements for the long-term management of these crucial resources. Your decisions here will set the scene for international efforts to save and sustainably use these resources for the future. The *Global Plan of Action* that you are going to negotiate this week is intended to express the international community's resolve to provide effective stewardship to this important element of humanity's vital heritage.

Although animal genetic resources are important for everyone, they are particularly important for many livelihoods in developing countries, often of the very poorest. Poor livestock keepers have been the stewards of much of our animal genetic diversity. We cannot and should not ignore this, or neglect the needs of livestock keepers. Your decisions here will set the basis for international efforts to help them use these resources sustainably, both to improve their livelihoods, and to save the genetic resources themselves for the future.

FAO and its Commission on Genetic Resources for Food and Agriculture – under whose aegis this conference is being held – will follow up on your decisions, and monitor the success of the actions you decide on, as a major part of its Multi-year Programme of Work, which covers all components of biological diversity of interest to food and agriculture. These include – in addition to animal genetic resources – aquatic, forestry, microbial and invertebrate, and plant genetic resources. Farming systems are complex mixtures of these resources. Animal production, for example, depends on pastures, feeds and fodders, which themselves depend on soil microbes. Recent outbreaks of avian flu and foot-and-mouth disease show the crucial importance of understanding and controlling animal disease genomes.

The Commission's Multi-year Programme of Work therefore promotes cross-sectorial integration to assist countries to face new and emerging challenges for food and agriculture, perhaps most urgently the dislocation of farming systems by accelerating global warming. The international community must find an international consensus on ecologically sound approaches to managing biodiversity for food and agriculture under these difficult conditions, if we are to achieve the ambitious Millennium Development Goals. Your deliberations here will be a major contribution to solving this problem.

In closing, I wish to convey my gratitude and deepest appreciation to the Government of Switzerland and particularly the Federal Office for Agriculture for hosting this Conference and collaborating closely with FAO to make it possible. I would also like to thank the Swiss Agency for Development and Cooperation, and the Governments of Australia, Germany, Ireland, Norway and Spain for their financial support.

I wish you a successful meeting.

B.3. Mr Ahmed Djoghlaf, Executive Secretary, Convention on Biological Diversity

Mr. Chairman,
Distinguished delegates,
Ladies and gentlemen,

It is a great pleasure and honour to address this historic First International Technical Conference for Animal Genetic Resources. As Executive Secretary of the Convention on Biological Diversity (CBD) I, above all, wish to extend my most sincere gratitude to the Swiss authorities, namely Ms Doris Leuthard, the Swiss Federal Councillor, Head of the Federal Department of Economic Affairs, for the continued support of Switzerland to promoting the environmental agenda, in general, and during the preparation, negotiation, and now implementation of the three objectives of the CBD. I would like to tell you that it is an honour to be hosted by Switzerland as a participant of this historical meeting, and an honour to be in the city of Interlaken. I would like to also extend my deep gratitude to FAO, represented today by the Assistant Director-General, Mr Alexander Müller, for its continued support to the Convention and its objectives. Furthermore, my sincere appreciation goes to the members and delegates of the FAO Commission on Genetic Resources for Food and Agriculture (CGRFA) for their continuous cooperation with the CBD in the area of biodiversity for food and agriculture. On the occasion of the eleventh regular session of CGRFA, held recently in Rome, the Commission highlighted the need for coordinated action to establish an effective international framework for the conservation of agricultural biological diversity, the sustainable use of its components, including animal genetic resources, and the fair and equitable sharing of the benefits arising from their use.

The Parties to the Convention on Biological Diversity recognize that Animal Genetic Resources are vital to the well-being and food security of both rural and urban populations around the world. Through its programmes of work on agricultural biodiversity, on traditional knowledge, innovations and practices, and on access and benefit-sharing, the Convention has developed a number of initiatives to support local and indigenous communities, farmers, pastoralists and animal breeders whose livelihoods depend on the conservation, development and sustainable use of animal genetic resources. We, at the CBD Secretariat, will therefore look forward to the adoption and implementation of the Interlaken Global Plan of Action, as well as the Interlaken Declaration in advancing the furthering of the implementation of the Convention in the key areas of animal genetic resources.

As you know, a negotiating process is under way within the framework of the Convention with a view to developing an international regime on access to genetic resources and the fair and equitable sharing of the benefits arising from their utilization by 2010. The International Treaty on Plant Genetic Resources for Food and Agriculture is being considered as one of the possible components of this international regime. Developments on animal genetic resources within the framework of FAO will also be of great interest to the negotiating process. I would therefore like to extend to Dr. Shakeel Bhatti, the Secretary of the International Treaty on Plant Genetic Resources for Food and Agriculture, my warmest congratulations upon his well deserved appointment, as well as my deep gratitude for the spirit of cooperation he has demonstrated as evidence of the result of our today's meeting on issues of collaboration between our two institutions on access and benefit-sharing.

Similarly, these developments will be of great interest to indigenous and local communities and to the work within the Convention on traditional knowledge. Indigenous and local communities have accumulated an enormous amount of biological diversity-related knowledge in their long history of managing the environment. These refined systems of knowledge that indigenous peoples have nurtured and transmitted orally from generation to generation, are of direct value to these societies but also of considerable value to humankind as a whole. For example, in the Andes, indigenous peoples are using animal genetic diversity to adapt to climate change, through the breeding of highland alpacas with lowland alpacas to produce stronger hybrid animals that better resist climate variability.

We know that agricultural biodiversity at the genetic, species and ecosystems levels plays important roles, among others, in food security, human nutrition, and pest and disease management. It also contributes to the maintenance of productive habitats and culturally important landscapes. Domestic animal breeds provide such critical ecosystem services as support for primary production and soil formation through seed dispersal and nutrient cycling. It is therefore disturbing to note that genetic material is being lost at an alarming rate, with some 30 per cent of domesticated breeds found internationally being currently at risk of extinction. Susceptibility to diseases is increasing and fertility rates and product quality are falling. In Africa alone, where over 80 distinct breeds of cattle can still be found, their replacement or cross-breeding with exotic varieties is weakening breeding programmes that could otherwise improve the hardiness of the stock. This unprecedented loss of biodiversity is taking place while the international community at the highest level has committed itself as early as 2002 to spare no efforts to substantially reduce the loss of biodiversity, including animal genetic resources, by 2010. Biodiversity commitment has been recently endorsed for the first time by the G-8 Summit, as evidenced by Heligendamm statement.

It is for these reasons that I warmly welcome the release of the Commission's report on The State of the World's Animal Genetic Resources, the first comprehensive global assessment of the status and trends of, and threats to Animal Genetic Resources. The report's baseline information about animal genetic diversity and its detailed assessments of the various drivers of biodiversity loss provide the necessary basis from which to design and implement a comprehensive and effective Global Plan of Action for Animal Genetic Resources. The organizers and the delegates to this international conference here in Interlaken, Switzerland, recognize that in order to be successful, this plan for the sustainable use, development and conservation of animal genetic resources will have to mobilize additional human and financial resources, promote capacity-building and develop new cooperative institutional frameworks. Perhaps it was in part this very same recognition that helped to convince the conference organizers to hold this remarkable event in such an inspiring location.

Here in Interlaken – well known for the extraordinary beauty of the imposing Jungfrau-Aletsch-Bietschhorn UNESCO World Natural Heritage site – local myths and legends have considered the surrounding mountains, lakes, springs, and caves to be centres of powerful energy for thousands of years. Ringgenberg, Grindelwald, Lauterbrunnen… what makes these places so special? It is precisely the harmonious development of the economy, community and ecology that have combined to produce this extraordinarily cultural agro-ecosystem. The unique wealth of Switzerland's animal genetic resources can be admired at the exit of our conference centre. I would therefore like to convey to the Mayor of Interlaken, who is present here with us, our congratulations for demonstrating and protecting nature and its biodiversity, which is not only good for the environment, but also for business and local communities. Just as preserving the unique landscapes and cultural heritage of the Jungfrau-Aletsch-Bietschhorn region requires a sound management strategy established with the active participation of local communities and stakeholders, a similar approach will be required to safeguard the Dorper sheep in South Africa, the Hungarian Grey Cattle, the Neuquén-Criollo goats in Argentina, and the Ban pigs in north-west Viet Nam. These are only a few of the remarkable species and rare breeds that constitute a source of hope to farmers and pastoral peoples in their struggle to adapt to changing market and ecological conditions.

FAO is a key partner in implementing the Convention on Biological Diversity and achieving the 2010 Biodiversity Target set by the World Summit on Sustainable Development, and we continue to attach great importance to the close cooperation with FAO in pursuing our common goal for the benefit of the life on Earth. I look forward to the forthcoming thirteenth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-13), which will be hosted for the first time by FAO, as well as the suggested high-level dialogue between the Director-General of FAO and CBD Parties. I also look forward to working with FAO for the celebration of next year's International Day for Biological Diversity under the theme "Biological Diversity and Agriculture", and I wish you every success in your deliberations in the coming days.

Thank you for your kind attention.

B.4 Mr André Nietlisbach, Secretary General, Department of Economic Affairs, Canton of Bern, Switzerland

Diversity not Uniformity: The genetic material of rare breeds is an important resource of the future

Excellencies,
Madame Federal Councillor,
Mister Assistant Director-General,
Mister Executive Secretary,
Mister Chairman,
Dear Delegates,
Ladies and Gentlemen:

I am delighted, and it is a great honour for me, to welcome you on behalf of the Government (= Executive Council) of the Canton of Berne to the first FAO International Technical Conference on Animal Genetic Resources.

The organizers of the event have put together a fascinating programme, for which I would like to extend my warmest thanks to everyone concerned at the FAO and the Swiss Federal office for Agriculture. The authorities of the Canton of Berne are delighted that so many prominent people and experts from more than 160 countries all over the world have gathered here in Interlaken.

The Canton of Berne is the second biggest canton in Switzerland, not only in terms of its area but also in terms of its population and economic strength. Our annual net aggregate income is approximately CHF 44 billion, or 11 percent of that of Switzerland as a whole.

The Canton of Berne is also the country's biggest agricultural canton. Between a fifth and a quarter of all agricultural activity in Switzerland takes place here. So it is no surprise that our canton also has much to offer in the area of animal genetic resources.

Because of its climatic and topographic conditions, animal husbandry has always played a major role in the Canton of Berne. The Bernese Oberland also has a lot to offer in terms of the theme of the conference, being as it is the home of

- the original Simmental;
- the Black-Brown mountain sheep; and
- the Saanen and Brienz goats.

The Canton of Berne is – and traditionally always has been – committed to a sustainable, low-resource agricultural policy. That is one of the reasons why these breeds have gained an international reputation.

In the light of the rapid pace of change in general agricultural conditions, we are well aware of the urgent need to place breeds such as these on the Red List.

So we are extremely interested in concepts that can help prevent such developments. Diversity in animal genetic resources is essential if we are to master the agricultural issues and challenges that lie ahead. I am thinking, for example, of the question of how to feed the world's population in the face of climate change.

We have a saying in German: "*Erhalten ist schwerer als erwerben*", (To preserve is more difficult than to acquire). It is very difficult to preserve the genetic material of rare breeds of domesticated animals. And once genetic material is lost, it is lost forever. This is a great

challenge to you, the experts – but also to society and politicians as well. I would therefore like to thank the organizers of this event for giving us the opportunity to discuss these issues.

Strategic decisions on managing animal genetic resources in the future are crucial for the quality of life of future generations. That is why it is so important to debate them.

I wish you much success at the conference and a pleasant stay in the Bernese Oberland.

Thank you.

B.5 Mr José María Sumpsi Viñas, Assistant Director-General, Agriculture and Consumer Protection Department, FAO

Excellencies, Distinguished Delegates, Ladies and Gentlemen,

To me falls the pleasure and the honour of congratulating you on behalf of the Director-General of the Food and Agriculture Organization of the United Nations, Mr Jacques Diouf, for the historic results you have achieved this week.

You have just adopted the *Global Plan of Action for Animal Genetic Resources*. This is a milestone in international efforts to promote the wise management of the world's animal genetic resources for food and agriculture. It will provide the framework for action and international cooperation for many years to come. It is a visible sign of the urgency that all countries and regions give to ensuring the survival of these crucial resources, and to improving their use to achieve global food security and sustainable development.

Today's animal genetic resources were developed by 10 000 or more years of animal husbandry, through the skills and patience of generation after generation of livestock keepers and farmers, throughout the world. Domestic animals accompanied our ancestors into a wide range of climates, from the kindest to the harshest, from hot to cool, from rainy to desert. They have proved themselves immensely adaptable. Human survival in some of the harshest environments is only possible because of our animals. We will now need to once again call on the adaptability and production potential that animal genetic resources represent to supply the growing needs of our burgeoning populations, in the face of the enormous challenge of climatic dislocation and global warning. We cannot afford to let them be lost through inaction, difficult as this task may be. That would be disrespect towards our forbears, and irresponsibility towards our children. The *Global Plan of Action for Animal Genetic Resources* is the first concrete international instrument to address this challenge in a systematic way. It recognizes the interdependence of all peoples upon these valuable resources in a world that changes faster than ever before, and the joint responsibilities of rich and poor, north and south, and developed and developing countries.

But we cannot stop here. Adopting a *Global Plan of Action* is not an end in itself. It now needs to be implemented. Governments must now demonstrate the sustained political will to do so, and resources will have to be found, nationally and internationally. Success will depend on farsighted cooperation among many stakeholders. Governments, international organizations, the scientific community, donors, civil society organizations and the private sector all have important roles to play.

There are both moral and practical imperatives to reinforce support to livestock keepers and breeders, particularly in developing countries, who are the custodians of much of the world's animal genetic resources, and who depend directly on them for their livelihoods. Their roles and needs cannot be ignored, if the *Global Plan of Action* is to succeed.

In the *Interlaken Declaration*, which you adopted today, you have affirmed your commitment to stewardship of the world's heritage of animal genetic resources, and to implementing to the best of your capabilities the *Global Plan of Action*. On behalf of FAO, I should like to express our full commitment to assisting you in this task. We must move simultaneously on many fronts. Technical capacities, particularly in developing countries, will have to be reinforced; national programmes and policies for sustainable use and development, conservation and characterization will have to be established or strengthened; and an effective international policy framework for animal genetic resources – a crucial part of the world's biodiversity for food and agriculture – must be incrementally built up in a way that reflects the specific characteristics of animal genetic resources and livestock production, and the real needs of animal breeders and livestock keepers everywhere.

FAO's Agriculture Department will work closely with your governments in this. Our Commission on Genetic Resources for Food and Agriculture will direct this work and monitor its success, as a major component of its Multi-year Programme of Work, which covers all components of biological diversity of interest to food and agriculture. Your success here joins recent international successes in establishing a framework for plant genetic resources, and the implementation of the *Global Plan of Action* can profit from and contribute to work in the other sectors of biodiversity for food and agriculture, and to cross-sectorial integration.

In closing, I wish to convey my gratitude and deepest appreciation to the Government of Switzerland and particularly the Federal Office for Agriculture for hosting this Conference and collaborating closely with FAO to make it possible. I would also like to thank the Swiss Agency for Development and Cooperation, and the Governments of Australia, Germany, Ireland, Norway and Spain for their financial support.

Your work here this week has been an important contribution to developing an international consensus on ecologically sound approaches to managing biodiversity for food and agriculture, at a time of accelerating socio-economic and climatic stresses. I congratulate you on the success of the Conference and I wish you all a safe trip home.

Thank you.

APPENDIX C*

LIST OF DOCUMENTS

Working Documents

ITC-AnGR/07/1	Draft provisional agenda
ITC-AnGR/07/2	Provisional annotated agenda and timetable
ITC-AnGR/07/3	The Global Plan of Action for Animal Genetic Resources and the Interlaken Declaration on Animal Genetic Resources

Information Documents

ITC-AnGR/07/Inf.1	Information note for participants
ITC-AnGR/07/Inf.2	Scientific Forum on Animal Genetic Resources
ITC-AnGR/07/Inf.3	Statement of competence and voting rights submitted by the European Community (EC) and its Member States
ITC-AnGR/07/Inf.4	List of documents
ITC-AnGR/07/Inf.5	List of delegates and observers

Other Documents

The State of the World's Animal Genetic Resources for Food and Agriculture

The State of the World's Animal Genetic Resources for Food and Agriculture – In brief

Report of the Eleventh Regular Session of the Commission on Genetic Resources for Food and Agriculture (CGRFA-11/07/Report)

* All documents are available at: http://www.fao.org/ag/againfo/programmes/en/genetics/ITC_docs.html

APPENDIX D

LIST OF DELEGATES AND OBSERVERS
LISTE DES DÉLEGUÉS ET OBSERVATEURS
LISTA DE DELEGADOS Y OBSERVADORES

Chairman Président Presidente	: : :	Mr. Manfred Bötsch (Switzerland)
Vice-Chairmen Vice-présidents Vicepresidentes	: : :	Ms Vanida Khumnirdpetch (Thailand) Mr David Hegwood (United States of America) Mr Paul Trushell (Australia) Mr Hussein Ibrahim Abu Eissa (Sudan) Mr Daniel K.N. Semambo (Uganda) Mr. Arthur da Silva Mariante (Brazil)

FAO MEMBER COUNTRIES
ÉTATS MEMBRES DE LA FAO
PAÍSES MIEMBROS DE LA FAO

ALGERIA - ALGÉRIE - ARGELIA

M Mourad ABDELFETTAH
Coordinateur National AnGR
Chargé de Recherche
Institut National de la Recherche Agronomique (INRA)
El Harrach, BP 115
Alger
Algeria
Tel: + 213 21521281
Fax: + 213 21521283
E-Mail: af_mourad@yahoo.fr
afmourad@hotmail.com

ANGOLA - ANGOLA - ANGOLA

Mme Stella MONTEIRO CIPRIANO
Conseiller
Ministère de l'agriculture et du développement rural
Rue Comandante Gika
C.P. 257
Luanda
Angola
Tel: +244 222 320552
Fax: +244 222 320553

Mme Bernardete SANTANA
Directeur général adjoint des services vétérinaires
Institut des services vétérinaires
Largo Antonio Jacinto, Edificio B
4º Andar, Ala Direita
Luanda
Angola
E-mail: dnap@ebonet.net

ARGENTINA - ARGENTINE – ARGENTINA

Sra María Rosa LANARI
Investigadora en Recursos Zoogenéticos
Instituto Nacional de Tecnología Agropecuaria (INTA)
Casilla de Correo 277
8400 San Carlos de Bariloche
Argentina
E-mail: mrlanari@bariloche.inta.gov.ar

Sr Carlos MEZZADRA
Coordinador Nacional ante FAO en Recursos Zoogenéticos
Departamento Producción Animal
Estacion Experimental Agropecuaria Balcarce
Instituto Nacional de Tecnología Agropecuaria (INTA)
Casilla de Correo 276
B7620 Balcarce, Buenos Aires
Argentina
Tel: +54 2266 439104
Fax: +54 2266 439101
E-mail:
cmezzadra@balcarce.inta.gov.ar

Sra María del Carmen SQUEFF
Consejero, Representante Permanente Alterna ante la FAO
Embajada de la República Argentina
Piazza dell'Esquilino 2
00185 Roma
Italia
Tel: +39 0648073345 – 0648073333
Fax: +39 0648906984
E-mail: faoprarg1@interfree.it
mcsquelf@yahoo.com

AUSTRALIA - AUSTRALIE - AUSTRALIA

Mr Paul TRUSHELL
Executive Officer
Australian Department of Agriculture, Fisheries and Forestry
GPO Box 858
Barton ACT 2601
Australia
Tel: +61 2 62725628
Fax: +61 62724600
E-mail: paul.trushell@daff.gov.au

AUSTRIA - AUTRICHE – AUSTRIA

Ms Beate BERGER
National Coordinator
Ministry of Agriculture
Institute for Organic Farming and Biodiversity of Farm Animals
c/o Austrasse 10
A-4601 Thalheim bei Wels
Vienna
Austria
Tel: +43 7242 47012/22
Fax: +43 7242 47012/15

E-mail: beate.berger@raumberg-gumpenstein.at

BANGLADESH - BANGLADESH - BANGLADESH

Mr Sunil Chandra GHOSH
Director-General
Department of Livestock Services
Ministry of Fishery and Livestock
MOFL
Krishi Khamar Sarak, Farmgate
Dhaka 1215
Bangladesh
Tel: +880 2 8115532
Fax: +880 2 9110326
E-mail: dg_dls@yahoo.com

BELGIUM - BELGIQUE - BÉLGICA

M Serge MASSART
Attaché
Direction de la Qualité des Produits
Direction Générale de l' Agriculture –
Ministère de la Région Wallonne
Chaussée de Louvain 14
B-5000 Namur
Belgique
Tel: +32 81 649609
Cell: +32 475 780337
Fax: +32 81 649544
E-mail: s.massart@mrw.wallonie.be

BENIN - BÉNIN – BENIN

Mr Jean Camille ATCHADE
Coordonnateur National
Direction de l'Elevage
Ministère de l'Agriculture, de l'Elevage
et de la Pêche
01 BP 2041
Cotonou
Benin
Tel: +229 335424
Fax: +229 335408
E-mail: camatchade@yahoo.fr

BOTSWANA - BOTSWANA – BOTSWANA

Mr Slumber BADUBI
Senior Agricultural Research Officer
Department of Agricultural Research
Private Bag 0033
Gaborone, Botswana
Tel: +267 366 8134
Fax: +267 392 8965
E-mail: sbadubi@gov.bw

Mr Oitshupile B. KOLARE
Principal Scientific Officer
National Coordinator for
Farm Animal Genetic Resources
Department of Animal Production
Private Bag 0032
Gaborone, Botswana
E-mail: Okolare@gov.bw

Mr Seja G. MAPHANYANE
Director of Agricultural Research
Department of Agricultural Research
Private Bag 0033
Gaborone, Botswana
Tel: +267 366 8135
Fax: +267 392 8965
E-mail: smaphanyane@gov.bw

Mr Utlwanang MOSUPIEMANG
Assistant Agricultural Research Officer
Department of Agricultural Research
Private Bag 0033
Gaborone, Botswana
Tel: +267 366 8164
Fax: +267 392 8965
e-mail: umosupiemang@gov.bw

BRAZIL - BRÉSIL - BRASIL

Mr Saulo A. CEOLIN
First Secretary
Permanent Representation of Brazil
to FAO
Via Santa Maria dell'Anima, 32
00186 Rome
Italy
Tel: +39.06.6789353
Fax: +39.06.6839882
E-mail: ceolin@brafao.it

Mr Arthur DA SILVA MARIANTE
Animal Genetic Resources
Embrapa Genetic Resources and
Biotechnology
Ministry of Agriculture, Livestock
and Supply
PqEB Estação Biológica
Brasilia DF
Brazil
Tel: +55 61 34484904
Fax: +55 61 33403602
E-mail: mariante@cenargen.embrapa.br

BULGARIA - BULGARIE - BULGARIA

Mr Valentin GEORGIEV
Director, Selection and Reproduction Direction
Secretary of FAO National Coordinator for Management and Conservation of Animal Genetic Resources
26 Bistrishko shoes Str.
Sofia
Bulgaria
Tel: +359 29612172
E-mail: dkrdj@mb.bia-bg.com

BURKINA FASO - BURKINA FASO - BURKINA FASO

M Oula COULIBALY
Directeur Général des Productions Animales
03 BP 7026
Ouagadougou 03
Burkina Faso
Tel: +226 50317476
E-mail: oulacoul@yahoo.fr

BURUNDI - BURUNDI – BURUNDI

M Liboire NGENDAHAYO
Médecin vétérinaire
Conseiller au Cabinet du Ministre de l'agriculture et de l'élevage
Ministère de l'agriculture et de l'élevage
B.P. 1850
Bujumbura
Burundi
Tel: +257 22222087 – 22225141
E-mail: ldngenda@yahoo.fr

CAMEROON - CAMEROUN - CAMERÚN

M Sale ABOUAME
Chef Cellule de la Coopération et Suivi des Projets Sectoriels
Programme National de Vulgarisation et Recherche Agricole (PNVRA)
Ministère Elevage, Pêche et Industries Animales (MINEPIA)
Yaoundé
Cameroun
Tel: +237 7742448
E-mail: abouame@yahoo.fr

M Médi MOUNGUI
Représentant Permanent Adjoint
Représentation du Cameroun auprès de la FAO
Via Siracusa, 4/6
00161 Rome
Italie
Tel: +39 064403644
Fax: +39 0644291323
E-mail: medimoungui@yahoo.fr

CANADA - CANADA – CANADÁ

Mr Brad FRALEIGH
Director
Intergovernmental Relations
Agriculture and Agri-Food Canada
International Scientific Cooperation Bureau
930 Carling Avenue
Sir John Carling Building, Room 759
Ottawa, Ontario K1A 0C5
Canada
Tel: +1 613 759 7902
Fax: +1 613 759 7771
E-mail: fraleighb@agr.gc.ca

Mr Barry GRACE
Science Director
Pacific Agri-Food Research Centre
4200Highway 97
P.O. Box 5000
Summerland
British Columbia V0H 1Z0
Canada
Tel: +1 250 494 6412
Fax: +1 250 494 2122
E-mail: graceb@agr.gc.ca

Mr Herb MCLANE
Executive Vice President
Canadian Beef Breeds Council
320, 6715 - 8th Street N.E.
Calgary, AB T2E 7H7
Canada
Tel: +1 403 730 0350
Fax: +1 403 275 8490
Email: herb@canadianbeefbreeds.com

Mr Yves PLANTE
Research Scientist
Animal Genetic Diversity
Canadian Animal Genetic Resources Programme
Agriculture and Agri-Food Canada
Room 6D62, 51 Campus Drive
Saskatoon, Saskatchewan S7N 5A8
Canada
Tel: +1 306 956 7209
Fax: +1 306 966 4151
E-mail: plantey@agr.gc.ca

CAPE VERDE - CAP - VERT – CABO VERDE

M Ledo DE PINA
Responsable du Secteur de l'Alimentation et de la Reproduction
Point Focal Zootechnie
Technicien
Direction Générale de l'Agriculture, Sylviculture et Elevage
Ministère de l'environnement et de l'agriculture
Praia
Cap-Vert

CENTRAL AFRICAN REPUBLIC (THE) – RÉPUBLIQUE CENTRAFRICAINE - REPÚBLICA CENTROAFRICANA

Mr David BANZOKOU
Ministre Délégué Chargé de l'Agriculture
Ministère du Développement Rural
B.P. 876
Bangui
République Centrafricaine
Tel : +236 611776
E-mail: davibanzokou@yahoo.fr

CHAD - TCHAD - CHAD

M Adoumi YOUSSOUF
Secrétaire Général Adjoint
Ministère de l'élevage
B.P. 750
N'Djamena
République du Tchad

CHILE - CHILI - CHILE

Sra Teresa AGÜERO TEARE
Encargada materias ambientales, Bioseguridad y recursos genéticos
Departamento de Políticas Agrarias
Oficina de Estudios y Políticas Agrarias (ODEPA)
Ministerio de Agricultura
Teatinos 40 – 8 Piso
Santiago, Chile
Tel: +56 2 3973039
Fax: +56 2 3973044
E-mail: taguero@odepa.gob.cl

Sr Ángel SARTORI ARELLANO
División de Asuntos Internacionales
Servicio Agrícola y Ganadero
Ministerio de Agricultura
Teatinos 40, 9º piso
Santiago
Chile
E-mail: angel.sartori@sag.gob.cl

CHINA - CHINE – CHINA

Mr Weisheng CHEN
Deputy Director-General
Department of Animal Industry
Ministry of Agriculture
No. 11, Nongzhanguannanli
Chaoyang District
100026 Beijing
China
Tel: +86 10 64193246
Fax: +86 10 64192869
E-mail: chenwsh@agri.gov.cn

Mr Jicheng GU
Director, Secretary-General
National Animal Husbandry Service
China Feed Industry Association
Building No. 20, Maizidian Street
Chaoyang District
100026 Beijing
China
Tel: +86 10 64194656
Fax: +86 10 64194709

Mr Yan'an HU
Counsellor
Permanent Representation of China to UN Agencies for Food and Agriculture
Via degli Urali, 12
00144 Rome
Italy
Tel: +39 0659193121
Fax: +39 0659193130
E-mail: chinamission@chinamission.it

Mr Hongjie YANG
Chief, International Cooperation Division
National Animal Husbandry Service
China Feed Industry Association
Maizidian Street 20
Chaoyang District
100026 Beijing
China
Tel: +86 10 64194754
Fax: +86 10 64194611
E-mail: yanghj67@yahoo.com

Mr Yuliang PANG
Third Secretary
Permanent Representation of the People's Republic of China to the UN Agencies for Food and Agriculture
Via degli Urali, 12
00144 Rome
Italy
Tel: +39 0659193123
Fax: +39 0659193130
E-mail: yuliangpang@hotmail.com

Mr Lijun ZHAO
Officer
Department of International Cooperation
Ministry of Agriculture
N.11 Nong Zhan Guan Nan Li
100026 Beijing
China
Tel: +86 10 64192423
Fax: +86 10 65003621
E-mail: zhaolijun@agri.gov.cn

COLOMBIA - COLOMBIE – COLOMBIA

Sra Jimena NIETO
Coordinadora de Asuntos Ambientales
Ministerio de Relaciones Exteriores
Cancillería de San Carlos
Calle 10 No. 5-51,
Bogotá D.C.
República de Colombia
Tel: +571 5667077
Fax: +571 5666081
E-mail:
jimena.nieto@cancilleria.gov.co

COSTA RICA - COSTA RICA - COSTA RICA

Sra Argerie CRUZ MÉNDEZ
Coordinadora Región Chorotega
INTA-Costa Rica
Apdo. Postal 245-4250
San Ramón-Alajuela
Costa Rica
Tel: +506 8825323
Fax: +506 2960858
E-mail: famcruz@ice.co.cr

CÔTE D'IVOIRE - CÔTE D'IVOIRE - CÔTE D'IVOIRE

M Souleymane FADIGA
Directeur de Cabinet Adjoint
Ministère de la Production Animale et des Ressources Halieutiques
BP V 185
Abidjan
Côte d'Ivoire
Tel: +225 20213410
Fax: +225 20229919 - 20213410
E-mail: yakhus2000@yahoo.fr

Mr K. DJADAN AMOS
Premier Conseiller
Ambassade de Côte d'Ivoire
Thormannstrasse 51
CH-3005 Berne
Switzerland
Tel : +41 31 3508085
Fax : +41 31 3508081
E-mail : acibe-1@bluewin.ch

CROATIA - CROATIE – CROACIA

Ms Mirna DADIC
Senior Adviser for Livestock Production
Agriculture Directorate
Ministry of Agriculture, Forestry and Water Management
Ulica grada Vukovara 78
HR – 10000 Zagreb
Croatia
Tel: +385 16106693
Fax: +385 16109202
E-mail : mirna.dadic@mps.hr

Mr Ante IVANKOVIC
Faculty of Agronomy University of Zagreb
Department of Animal Production
Svetosimunska c. 25
Zagreb
Croatia
Tel : +385 12393991
Fax : +385 12393901
E-mail : aivankovic@agr.hr

CUBA - CUBA – CUBA

Sra Myriam PÉREZ PLA
Asociación Cubana de Producción Animal (ACPA)
Ministerio de Agricultura (MINAGRI)
Ave. Independencia y Conill
Nuevo Vedado
La Habana
Cuba
Tel: +537 8322612 - 8322898
E-mail: socpa@acpa1.co.cu

CYPRUS - CHYPRE - CHIPRE

Mr Cristos PAPACHRISTOFOROU
Chief Research Officer
Ministry of Agricultura, Natural Resources and Environment
Agricultural Research Institute
P.O. Box 22016
Lefkosia
Cyprus
E-mail: christos@arinet.ari.gov.cy

CZECH REPUBLIC (THE) - RÉPUBLIQUE TCHÈQUE - REPÚBLICA CHECA

Mr Vít ŠKARÝD
Animal Commodities Department
Ministry of Agriculture
Tesnov 17
117 05 Prague
Czech Republic
Tel: +420 221812041
Fax: +420 221812925
E-mail: skaryd@mze.cz

Mr Karel Jan STOLC
Research
Education and Extension Department
Ministry of Agriculture
Tesnov 17
117 05 Prague
Czech Republic
Tel: +420 2 2312728
Fax: +420 2 24810097
E-mail: stolc@mze.cz

DEMOCRATIC REPUBLIC OF THE CONGO (THE) – REPUBLIQUE DEMOCRATIQUE DU CONGO REPÚBLICA DEMOCRÁTICA DEL CONGO

Mme Brigitte KAJINGA MUTOMBO
Coordonnatrice Nationale des Ressources Génétiques des Animaux et d'Elevage
Ministère de l'Agriculture
Av. 24 Novembre No. 18-20
Kinshasa
République Démocratique du Congo
Tel: +243 999919553 - 815121070
E-mail: brigkam@yahoo.fr

DENMARK - DANEMARK - DINAMARCA

Mr Henry Damsgaard LANNG
Head of Section
Ministry of Food, Agriculture and Fisheries
Slotsholmsgade 12
DK-1216 Copenhagen K
Denmark
Tel: +45 33 922172
Fax: +45 33 124686
E-mail: hlan@fvm.dk

Mr Morten KARGO SØRENSEN
Scientist,
Faculty of Agricultural Sciences
Department of Genetic and Biotechnology
Aarhus University
Blichers Allé 20
Postboks 50
DK-8830 Tjele
Denmark
Tel: +45 89 991900
Fax: +45 89 991300
E-mail: morten.kargo@agrsci.dk

Ms Helle Anette PALMØ
National Coordinator/Special Advisor Center for Genetic Resources
Plant Directorate
Skovbrynet 20
DK-2800 Kongens Lyngby
Denmark
Tel: +45 45263888
E-mail: hpa@pdir.dk

DOMINICAN REPUBLIC (THE) - REPUBLIQUE DOMINICAINE – REPÚBLICA DOMINICANA

Sr Rafael PÉREZ DUVERGÉ
Director Ejecutivo
Instituto Dominicano de Investigaciones Agropecuarias y Forestales (IDIAF)
Calle Rafael Augusto Sánchez 89
Ensanche Evaristo Morales
Santo Domingo
República Dominicana
Tel: +1 809 567 8999
Fax: +1 809 567 9199
E-mail: pduverge@idiaf.org.do

ECUADOR - ÉQUATEUR - ECUADOR

Sr Jaime DURANGO FLORES
Viceministro
Ministerio de Agricultura, Ganadería, Acuacultura y Pesca
Avenidas Eloy Alfaro y Amazonas
Piso 10
Quito
Ecuador

EGYPT - ÉGYPTE - EGIPTO

Mr Tawfik SHALABY
Director
Animal Production Research Institute
7 Nadi El-Saed st.
Dokki, Giza
Egypt
Tel: +20 2 33369552
Fax: +20 233372934
E-mail: shalaby48@gmail.com

EL SALVADOR - EL SALVADOR – EL SALVADOR

Sr Jorge Alfredo PLEITEZ VALLE
Coordinador
División de Análisis Estratégico
Oficina de Políticas y Estrategias
Ministerio de Agricultura y Ganadería
Final 1a Av. Norte y Av. Manuel Gallardo
Santa Tecla, La Libertad
El Salvador
Tel: +503 2241 1735
Fax: +503 2288 9988
E-mail: jpleitez@mag.gob.sv

ESTONIA - ESTONIE – ESTONIA

Ms Anneli HÄRMSON
Chief Specialist
Animal Welfare and Zootechnics Bureau
Ministry of Agriculture
Food and Veterinary Department
39/41 Lai Street
15056 Tallinn
Estonia
Tel: +372 6256289
Fax: +372 6256210
E-mail: anneli.harmson@agri.ee

Ms Haldja VIINALASS
Head of Bureau
Veterinary and Food Board (VFB)
Kreutzwaldi 46
51006 Tartu
Estonia
Tel: +372 7313467
Fax: +372 7422344
E-mail: haldja.viinalass@emu.ee

ETHIOPIA - ÉTHIOPIE - ETIOPÍA

Mr Misikire TESSEMA
Institute of Biodiversity Conservation
P.O. Box 30726
Addis Ababa
Ethiopia
Tel: +251 11 6512038 - 6511734
Fax: +251 11 6513722
E-mail: misikiretessema@yahoo.com
biod-et@telecom.net.et

EUROPEAN COMMUNITY (MEMBER ORGANIZATION) - COMMUNAUTÉ EUROPÉENNE (ORGANISATION MEMBRE)- COMUNIDAD EUROPEA (ORGANIZACIÓN MIEMBRO)

M Kai-Uwe SPRENGER
Commission Européenne
Direction Générale Santé et Protection des Consommateurs
Rue Breydel 4
1040 Bruxelles
Belgique
Tel: +32 2 2960935 – 2953143
Fax: +32 2 2953144
E-mail:
kai-uwe.sprenger@ec.europa.eu

FIJI - FIDJI - FIJI

Mr Navitalai ROKOTUITAI
VAKACOKOVANUA
Research Officer (Beef)
Division of Animal Health and Production
Ministry of Agriculture, Fisheries and Forests
P.O. Box 24
Sigatoka
Fiji
E-mail: navitalairokotuitai@yahoo.com

FINLAND - FINLANDE – FINLANDIA

Mr Asko MÄKI-TANILA
Professor
MTT Agrifood Research Finland
Biotechnology and Food Research
Genetic Diversity
FI-31600 Jokioinen
Finland
Tel: +358 341883601
Fax: +358 341883618
E-mail: asko.maki-tanila@mtt.fi

Ms Tuula PEHU
Senior Officer
Deparment of Agriculture
Ministry of Agriculture and Forestry
P.O. Box 30
FI – 00023 Government
Helsinki
Finland
Tel: +358 916052839
Fax: +358 916052203
E-mail: tuula.pehu@mmm.fi

FRANCE - FRANCE – FRANCIA

Mme Mathilde GUERAND
Chargée de mission au Bureau de la génétique animale
Ministère de l'agriculture et de la pêche
Direction générale des politiques économique, européenne et internationale
3, rue Barbet de Jouy
75349 Paris 07 SP
France
Tel: +33 1 49554228
Fax: +33 1 49558693
E-mail:
mathilde.guerand@agriculture.gouv.fr

M Jean-Jacques SOULA
Conseiller scientifique
Représentant Suppléant Permanent auprès de l'OAA
Représentation permanente de la France auprès de l'OAA
Corso Rinascimento, 52
00186 Rome
Italie
Tel: +39 0668405222
Fax: +39 066892692
E-mail:
cad.rome-dfra@diplomatie.gouv.fr

Mme Michèle TIXIER-BOICHARD
Directeur de recherches
Centre de recherches INRA
UMR GDA
78352 Jouy en Josas Cedex
France
E-mail: michele.boichard@jouy.inra.fr

Mme Marie-Anne VAUTRIN
Chargée de mission
Direction générale des politiques économiques européenne et internationale
Bureau des relations extérieures de l'Union européenne
Ministère de l'agriculture et de la pêche
78, rue de Varenne
75349 Paris 07 SP
France
Tel: +33 1 49554981
Fax: +33 1 49554784
E-mail:
marie-anne.vautrin@agriculture.gouv.fr

GERMANY - ALLEMAGNE - ALEMANIA

Mr Frank BEGEMANN
Head
Information and Coordination Centre for Biological Diversity (IBV)
Federal Agency for Agriculture and Food
Deichmanns Aue 29
53179 Bonn
Germany
Tel: +49 228 68453239
Fax: +49 228 68453787
E-mail: frank.begemann@ble.de

Mr Jörg BREMOND
Federal Agency for Agriculture and Food
Deichmanns Aue 29
53179 Bonn
Germany
Tel: +49 228 68453242
Fax: +49 228 68453787
E-mail: joerg.bremond@ble.de

Mr Eildert GROENEVELD
Director and Professor
Bundesforschungsanstalt für Landwirtschaft (FAL)
Höltystraβe 10
31535 Neustadt
Germany
Tel: +49 5034 871155
Fax: +49 5034 871239
E-mail: eildert.groeneveld@fal.de

Mr Jörg KALISCH
Federal Ministry of Food, Agriculture and Consumer Protection
Rochusstrasse 1
53123 Bonn
Germany
Tel: +49 228 5293490
E-mail: joerg.kalisch@bmelv.bund.de

Ms Franziska WOLFF
Environmental Law and Governance Division
Öko-Institute e.V.
Institute for Applied Ecology
Novalisstrasse 10
D-10115 Berlin
Germany
Tel: +49 30 28048671
Fax: +49 30 28048688
E-mail: f.wolff@oeko.de

GHANA - GHANA - GHANA

Mr Richard OSEI-AMPONSAH
National Coordinator of Animal Genetic Resources
Department of Animal Science
University of Ghana
Legon
Ghana
Tel: +233 277407496 - 208637575
E-mail: rich12668@yahoo.co.uk

GREECE - GRÈCE – GRECIA

Mr Andreas GEORGOUDIS
Professor of Animal Genetics and Breeding
School of Agriculture
Department of Animal Production
Aristotle University of Thessaloniki
541 24 Thessaloniki
Greece
Tel: +30 2310 998683/87
Fax: +30 2310 998719
E-mail: andgeorg@agro.auth.gr

Ms Christina LIGDA
Researcher
National Agricultural Research Foundation
Centre for Agricultural Research of Northern Greece
P.O.Box 60458
57001 Thessaloniki
Greece
Tel: +30 2310 471110
Fax: +30 2310 471209
E-mail: chligda.arsc@nagref.gr

Ms Stamatina TRIVIZAKI
Officer
Department of Genetic Improvement of Sheep and Goat
Ministry of Rural Development and Food
Verameron 46
Athens
Greece

GRENADA - GRENADE - GRANADA

Mr Bowen LOUISON
Chief Veterinary Officer
Ministry of Agriculture
Ministerial Complex
Botanical Gardens
Tanteen
St. George's
Grenada
Tel: +473 440 307873083/2708
Fax: +473 440 4191
E-mail: agriculture@gov.gd
vetlive@spiceisle.com

GUINEA - BISSAU –
GUINÉE - BISSAU –
GUINEA - BISSAU

M Manuel BATISTA
Zootechnicien
Direction Générale de l'élevage
Ministère de l'agriculture et
du développement rural
B.P. 71
Santa Luzia, Bairro Q.G.
Bissau
Republic of Guinea-Bissau

HAITI - HAÏTI – HAITÍ

M Roger Rosen JASMIN
Chef
Service de l'élevage menu bétail
Direction production animale
Ministère de l'agriculture
3, Impasse Cetini, Avenue Poupelard
Port-au-Prince
Haiti
Tel: +509 4082164-7400810
E-mail: jasminrogerrosen@yahoo.fr

HUNGARY - HONGRIE - HUNGRÍA

Mr Béla MODLI
Chief, Central Agricultural Office
Keletiky 24
2084 Budapest
Hungary
Tel: +36 13369220

INDIA - INDE – INDIA

Mr Arvind KAUSHAL
Joint Secretary
Department of Animal Husbandry,
Dairying and Fisheries
Ministry of Agriculture
Room No. 240
Krishi Bhawan
New Delhi-110001
India
Tel: +91 1123384509
Fax: +91 11 23383228
E-mail: js.pf@nic.in

Ms Chanda NIMBKAR
Director
Animal Husbandry Division
Nimbkar Agricultural Research Institute
P.O. Box 23
Phaltan – 415 523
Maharashtra
Tel: +91 2166 262106 – 221095
Fax: +91 2166262106

Mr D.K. SADANA
Principal Scientist
National Bureau of Animal Genetic
Resources
P.B. No. 129
Karnal – 132 001
Haryana
India
Tel: +91 184 2267918
Fax: +91 1842267654

Ms Charusheela SOHONI
Secretary
Department of Animal Husbandry,
Dairying and Fisheries
Ministry of Agriculture
Krishi Bhawan
New Delhi 110001
India
Tel: +91 1123382608
Fax: +91 11 23388006
E-mail: secyahd@hub.nic.in

INDONESIA - INDONÉSIE - INDONESIA

Mr Abdullah M. BAMUALIM
Director
Indonesia Centre for Animal Research
and
Development (ICARD)
Jl. Raya Padjajaran Kav. E59
Bogor 16151
Indonesia
Tel: +62 251 322 185
Fax: +62 251 328 382
E-mail:
crianci@indo.net.id

IRAN (ISLAMIC REPUBLIC OF) –
IRAN (REPUBLIQUE ISLAMIQUE D') –
IRÁN (REPÚBLICA ISLÁMICA DEL)

Mr Mohammad Ali KAMALI
Ministry of Jahad-e- Agriculture
Research and Education Organization
Director of Animal Sciences Research
Institute of Iran
P.O. Box 31585-1483
Karaj
Islamic Republic of Iran
Tel: +98 261 44300104-4439110
Fax: +98 261 4413258
E-mail: m_kamali@asri.ir
kamali110@yahoo.com

IRAQ - IRAQ – IRAQ

Mr Sajjad Mazyed IDREES
Chief Agricultural Engineer
State Board for Agricultural Researches
Baghdad
Republic of Iraq
E-mail: smoosawi@yahoo.com

IRELAND - IRLANDE – IRLANDA

Mr John CARTY
Agricultural Inspector
Livestock, Beef and Sheepmeat Division
Department of Agriculture and Food
Portlaoise
Co. Laoise
Ireland
Tel: +353 57 8694404
E-mail:
JohnD.Carty@agriculture.gov.ie

ITALY - ITALIE – ITALIA

M Agostino CASAPULLO
Coordinateur Technique
Département des politiques de développement
Ministère des politiques agricoles alimentaires et des forêts
Rome
Italie
Tel: +39 0646655095
Fax: +39 0646655132
E-mail:
a.casapullo@politicheagricole.gov.it

Mme Bianca MOIOLI
CRA-Istituto Sperimentale per la Zootecnia
Via Salaria 31
00015 Monterotondo
Italie
E-mail: bianca.moioli@isz.it

M Fabrizio OLEARI
Directeur Général
Secrétariat national d'évaluation du risque de la chaîne alimentaire
Ministère de la Santé
Piazza Marconi 25
00144 Rome
Italie
Tel: +39 0659946681
Fax: +39 0659946928
E-mail: f.oleari@sanita.it

JAMAICA - JAMAÏQUE - JAMAICA

Mrs Jasmin HOLNESS
Deputy Research Director
Research and Development
Bodles - Old Harbour
Ministry of Agriculture and Lands
Hope Gardens
Kingston 6
Jamaica
Tel: +1 876 9832088
Fax: +1 876 9832822
E-mail: jaholness@moa.gov.jm
jahmekyah@gmail.com

JAPAN - JAPON - JAPÓN

Mr Takahiro ASANO
Section Chief
Administration Division
Minister's Secretariat
Ministry of Agriculture, Forestry and Fisheries
1-2-1 Kasumigaseki
Chiyoda-ku
Tokyo, 100-8950
Japan
Tel: +81 3 35028111 (ext. 83734)
Fax: +81 3 3593 2209
E-mail: takahiro_asano@nm.maff.go.jp

Mr Mitsuru MINEZAWA
Head of Animal Genetic Resources
National Institute of Agrobiological Sciences
2-1-2 Kannondai
Tsukuba
Ibaraki 305-8602
Japan
Tel: +81 29 8388367
Fax: +81 29 8387408
E-mail: minezawa@affrc.go.jp

JORDAN - JORDANIE - JORDANIA

Mr Ayman H. AL-SALTI
Animal Production Department
Ministry of Agriculture
P.O. Box 11118/183670
Amman
Jordan
Tel: +962 64625662
Fax: +962 65686310
E-mail: aymansalti@hotmail.com

KENYA - KENYA - KENYA

Mr Muchemi KARIUKI
Assistant Director of Veterinary Services
Department of Veterinary Services
Ministry of Livestock and Fisheries Development
Central AI Station
Ngong Road
P.O. Box 23070
Nairobi
Kenya
Tel: +254 0722874095
Fax: +254 0724181328
E-mail: muchemi-k@yahoo.com

Mr William B. MUHUYI
Centre Director
Kenya Agricultural Research Institute
P.O. Box 3840
20100 Nakuru
Kenya
Tel: +254 051 851712
E-mail: muhuyi2004@yahoo.com

Mr Cleopas OKORE
Senior Assistant Director of Livestock Production
Ministry of Livestock and Fisheries Development
Hill Plaza Building, Ngong Road
P.O. Box 34188
Nairobi
Kenya
Tel: +254 020 2722601-37
E-mail: cleopasokore@yahoo.com

KIRIBATI - KIRIBATI - KIRIBATI

Ms Utinia ANRUTI
Senior Assistant Secretary
Ministry of Communication, Transport and Tourism Development
Betio, Tarawa
Republic of Kiribati
Tel: +686 29207
Fax: +686 26193
E-mail: sas@mict.gov.ki

KUWAIT - KOWEÏT – KUWAIT

Ms Fadila A. AL-SALAMEEN
Associate Researh Scientist
Biotechnology Department
Kuwait Institute for Scientific Research
P.O. Box 24885
Safat 13109
Kuwait
Tel: +965 4989157
Fax: +965 4989069
E-mail: fslamian@safat.kisr.edu.kw

KYRGYZSTAN - KIRGHIZISTAN – KIRGUISTÁN

Mr Rysbek APASOV
Deputy Head, Agrarian Policy and Processing Industry
Ministry of Agriculture, Water Resources and Processing Industry
96/A Kievskaya Street
Bishkek 720040
Kyrgyzstan
Tel: +996 312 623716
Fax: +996 312 623632
E-mail: agroinvest@agroprod.kg

Ms Janara APASOVA
Department of animal health
Str. Pierskaya 96.5
Kyrgyzstan

LESOTHO - LESOTHO – LESOTHO

Mr Molapo HLASOA
Chief Animal Production Officer
Farm Animal Genetic Resources
Department of Livestock
Ministry of Agriculture and Food Security
Private Bag A82
Maseru
Lesotho
Tel: +266 22312318
E-mail: mdapophlasoa@yahoo.com

LIBYAN ARAB JAMAHIRIYA (THE) - JAMAHIRIYA ARABE LIBYENNE – JAMAHIRIYA ÁRABE LIBIA

Mr Aeyad Maremi AL-MDAWAKH
Director of Research and Studies
Agriculture Research Center
P.O. Box 2480
Tripoli
Libyan Arab Jamahiriya

Mr E. Abduljalil ALZADMA
Animal Wealth Director
Ministry of Agriculture
Tripoli
Libyan Arab Jamahiriya
Tel: +218 912119697
Fax: +218 214801461

Mr Abdeul Majid KHAPOLI
Chief
Veterinary Inspection and Control
Food and Drug Administration
P.O. Box 15424
Zawiqa
Libyan Arab Jamahiriya
Tel: +218 926325916 - 912109040

LITHUANIA - LITUANIE - LITUANIA

Ms Violeta ICISKIENE
Institute of Animal Science
Zebenkos 12
Baisogala LT 82317
Lithuania

Mr Aleksandras MUZIKEVICIUS
Chief of Animal Husbandry Division
Ministry of Agriculture
Gedimino 19
Vilnius
Lithuania

Ms Ruta SVEISTIENE
Institute of Animal Science
Zebenkos 12
Baisogala LT 82317
Lithuania
Tel: +370 42265383
Fax: +370 42265886
E-mail: rutasv@mail.it

MADAGASCAR - MADAGASCAR – MADAGASCAR

M R. RAKOTONDRAVAO
Chef, Département de Recherche Zootechnique et Vétérinaire (FOFIFA)
Ministère de l'education nationale et de la recherche scientifique
B.P. 4
101 Antananarivo
Madagascar
Tel: +261 331215085
Fax: +261 320203345
E-mail: r.rakotondravao@blueline.mg
r.rakotondravao@yahoo.fr

MALAYSIA - MALAISIE – MALASIA

Mr Adrien Kumar RAYMOND
Senior Research Officer
Research Division
Department of Veterinary Services
Ministry of Agriculture and Agro-Based Industry
Wisma Tani, Blok Podium 1B, Lot 4G1, Precint 4
62630 Putrajaya
Malaysia
Tel: +603 8870 2226
Fax: +603 8888 6949
E-mail: adrien@jph.gov.my

MOROCCO - MAROC - MARRUECOS

M Abderrahman BENLEKHAL
Chef de Service des ressources génétiques
Coordonnateur national des resources zoogénétiques
Ministère de l'agriculture
Direction de l'Elevage
Rue Haj Ahmed Cherkaoui (ex Siège SODEA)
Rabat
Maroc
Tel: +212 75379515
Fax: +212 37682049
E-mail: a.benlekhal@yahoo.fr
bagde2005@yahoo.fr

MOZAMBIQUE - MOZAMBIQUE - MOZAMBIQUE

Mrs Sónia Maria ATAIDE MACIEL
Agrarian Research Institute of Mozambique (IIAM)
Ministry of Agriculture
Av. Salvador Allende 138
Maputo
Mozambique
Tel: +258 1720395
Fax: +258 1720396
E-mail: sonia_maciel@hotmail.com

Mr José A. Mateus LIBOMBO Jr.
Deputy Director
Agrarian Services National Directorate
Ministry of Agriculture
Rua da Resistencia 1747
P.O. Box 2272
Maputo
Mozambique
Tel: +258 21 415110/11
Fax: +258 21 415103
E-mail: jilibombojr@map.gov.mz

MYANMAR - MYANMAR - MYANMAR

Mr Ye AUNG
Deputy Director (Bago Division)
Ministry of Livestock and Fisheries
Livestock Breeding and Veterinary Department
Yangon
Myanmar
Tel: +951 642453 - 644271
Fax: +951 642927
E-mail: lbvd@mptmail.net.mm

NAMIBIA - NAMIBIE – NAMIBIA

Mr Issaskar Petoorua MATE
Deputy Director
Liverstock Research
Ministry of Agriculture, Water and Forestry
Private Bag 13184
Windhoek
Republic of Namibia
Tel: +264 61 2087086
Fax: +264 61 2087082
E-mail: matei@mawrd.gov.na

NEPAL - NEPAL - NEPAL

Mr Arun Shankar RANJIT
Deputy Director General
Department of Livestock Services
Ministry of Agriculture and Cooperatives
Harihar Bhawan
P.O. Box 8975, EPC-933
Kathmandu
Nepal
Tel: +977 1 5542644
Fax: +977 1 5542915
E-mail: ranjitarun@yahoo.com

NETHERLANDS (THE) – PAYS - BAS – PAÍSES BAJOS

Mr Dirk DE JONG
Policy Co-ordinator
Department of International Affairs
Ministry of Agriculture, Nature and Food Quality
P.O. Box 20401
2500 EK Den Haag
The Netherlands
Tel: +31 703784310
Fax: +31 703786105
E-mail: d.j.de.jong@minlnv.nl

Mr Sipke Joost HIEMSTRA
Head Animal Genetic Resources
Centre for Genetic Resources, the Netherlands (CGN)
Wageningen University and Research Centre
P.O. Box 16
6700 AA. Wageningen
The Netherlands
Tel: +31 320 238009
Fax: +31 320 293591
E-mail: sipkejoost.hiemstra@wur.nl

Mr J. Kor OLDENBROEK
Netherland Centre for Genetic Resources (CGN)
Wageningen University
Bornesteeg 65
P.O. Box 16
6700 AA Wageningen
The Netherlands
Tel: +31 317 475898
Fax: +31 317 423110
E-mail: kor.oldenbroek@wur.nl

NIGER (THE) - NIGER – NÍGER

M Baare AMADOU
Secrétaire Général
Ministère des ressources animales
B.P. 12 091
Niamey
Niger
Tel : +227 20732147
Fax : +227 20733186
E-mail : baareamadou@yahoo.fr

NIGERIA - NIGÉRIA - NIGERIA

Mr Junaidu A. MAINA
Director/Chief Veterinary Officer
Department of Livestock and Pest Control Services
Federal Ministry of Agriculture and Rural Development
P.M.B 135
Garki, Abuja
Nigeria
Tel: +234 8037044433
E-mail: junaidumaina@yahoo.com

NORWAY - NORVÈGE - NORUEGA

Mr Gunnvor BERGE
Associate Professor
NORAGRIC
Department of International Environment and Development Studies
Norwegian University of Life Sciences
P.O. Box 5003
NO-1432 Ås
Norway
Tel: + 47 64 96 53 38
E-mail: gunnvor.berge@umb.no

Ms Grethe Helene EVJEN
Senior Adviser
Department of Forest and Natural Resource Policy
Ministry of Agriculture and Food
P.O. Box 8007 Dep
NO-0030 Oslo
Norway
Tel: +47 22 249311
Fax: +47 22 242753
E-mail: Grethe-Helene.Evjen@lmd.dep.no

Mr Erling FIMLAND
Director
Nordic Gene Bank Farm Animals
P.O. Box 5003
N-1432 Aas
Norway.
Tel: +47 64965164/92698547
Fax: +47 64965101
E-mail: erling.fimland@nordgen.org

Ms Elisabeth KOREN
Adviser, Ministry of Agriculture and Food
P.O. Box 8007
N-0030 Oslo
Norway
Tel: +47 22249090
Fax: +47 22242753
Email: elisabeth.koren@imd.dep.no

Ms Benedicte LUND
Head of Information
Nordic Gene Bank Farm Animals
P.O Box 5025
N-1432 Aas
Norway
Tel: +47 64965202
Fax: +47 64965101
E-mail: benedicte.lund@umb.no

Ms Nina Hovden SÆTHER
Adviser
Norwegian Genetic Resource Centre
P.O. Box 115
N-1431 Ås
Norway
Tel: +47 64949067
Fax: 47 64 94 80 01
Email: nhs@skogoglandskap.no

Mr Torstein STEINE
GENO/Global Ltd
N-2326 Hamar
Norway
Tel: +47 64965109
Fax: +47 62520601
E-mail: torstein.steine@geno.no

Mr Odd VANGEN
Professor
Department of Animal and Aquacultural Sciences
Norwegian University of Life Sciences
P.O. Box 5003
NO-1432 Ås
Norway
Tel: +47 64965144
Fax: +47 64965101
E-mail: odd.vangen@umb.no

PAKISTAN - PAKISTAN - PAKISTÁN

Mr Muhammad SAJJAD KHAN
Chairman, Department of Animal Breeding and Genetics
University of Agriculture
Faisalabad
Pakistan
Tel: +92 41 9200161 (Ext: 3202)
Fax: +92 41 2625191
E-mail: drsajjad2@yahoo.com

PAPUA NEW GUINEA – PAPOUASIE - NOUVELLE - GUINÉE– PAPUA NUEVA GUINEA

Mr Masayan MOAT
Director
Provincial and Industry Support Services Momase Region
Department of Agriculture and Livestock
PO Box 4535
LAE, Morobe Province
Papua New Guinea
Tel: +675 4720056
Fax: +675 4791006
E-mail: moatm@global.net.pg;

PARAGUAY - PARAGUAY - PARAGUAY

Sra Nelly ALVARENGA SOSA
Técnica
Viceministerio de Ganadería
Ministerio de Agricultura y Ganadería
Calle Ciencias Veterinarias y Primera
San Lorenzo
Paraguay
Tel: +595 21585212
E-mail: nellyalva@gmail.com
sseg@telesurf.com.py

PERU - PEROU – PERÚ

Sr William VIVANCO MACKIE
Jefe de Subdirección de Recursos Genéticos y Biotecnología
Instituto Nacional de Investigación Agraria (INIA)
Ministerio de Agricultura
Av. La Molina, 1981, Casilla 2791
Lima 12
Perú
Tel: +511 349 2600 313/315
E-mail: wivanco@inia.gob.pe

POLAND - POLOGNE - POLONIA

Ms Hanna KOSTRZEWSKA
Deputy Director
Department of Food Safety and Veterinary
Ministry of Agriculture and Rural Development
30 Wspólna St.
00-930 Warsaw
Poland
Tel: +48 22 6231843
Fax: +48 22 6232105
E-mail:
hanna.hostrzewska@minrol.gov.pl

Mr Jedrzej KRUPINSKI
Director
National Research Institute of Animal Production
ul. Sarego 2
31-047 Kraków
Poland
Tel: +48 12 2588133
Fax: +48 12 2856733
E-mail: jkrupins@izoo.krakow.pl

Ms Elzbieta MARTYNIUK
National Coordinator for FAO's Global Strategy on Management of Farm Animal Genetic Resources
National Research Institute of Animal Production
ul. Wspólna 30
00-930 Warszawa
Poland
Tel: +48 22 6231714
Fax: +48 22 6231056
E-mail: Elzbieta.Martyniuk@minrol.gov.pl

PORTUGAL - PORTUGAL – PORTUGAL

Mr Antonio João LEITÃO ALEGRE
Técnico Superior Veterinario
Direção Geral de Veterinária
Direção Serviços de Produção Animal
Avenida Antonio Serpa 26
Lisboa9050-027 Lisboa
Portugal
Tel: +35 1217808200
Fax: +35 1217956066
E-mail: leitaoalegre@sapo.pt

Ms Filomena Augusta MENDES-PIRES AFONSO
Direcção Geral de Veterinária
Direcção Serviços de Produção Animal
Avenida Antonio Serpa 26
9050-027 Lisboa
Portugal
Tel: +35 1217808200
Fax: +35 1217956066
E-mail:
filomena_afonso@dgv.min-agricultura.pt

Ms Christina STROMHOLM
Principal Administrator
General Directorate (Agriculture and Fisheries)
Council of the European Union
Rue de la Loi, 175
B-1148 Brussels
Belgium
Tel: +32 2 2816004
Fax: +32 2 288413
E-mail:
christina.stromholm@consilium.europa.eu

Mr Luis TELO DA GAMA
Researcher
Instituto National de Recursos Biológicos (INRB)
Ministry of Agriculture, Rural Development and Fisheries (MADRP)
Estação Zootécnica Nacional
INIA
2000 Santarém
Portugal
Tel: +351 243767300
Fax: +351 243767307
E-mail: ltgama@hotmail.com

REPUBLIC OF KOREA (THE) - REPUBLIQUE DE COREE – REPÚBLICA DE COREA

Ms Chong-Dae KIM
Management and Evaluation of Animal Genetic Resources
Animal Genetic Resources Station
National Institute of Animal Science
Rural Development Administration
San 4-1, Youngsan-ri
Unbong-eup, Namwon, Jeonbuk
590-832 Republic of Korea
Tel: +82 636203535
Fax: +82 636203592
E-mail: chongkim@rda.go.kr

Mr Seong-Heum YEON
Management and Evaluation of Animal Genetic Resources
Animal Genetic Resources Station
National Institute of Animal Science
Rural Development Administration
San 4-1, Youngsan-ri
Unbong-eup, Namwon, Jeonbuk
590-832 Republic of Korea
Tel: +82 636203534
Fax: +82 636203592
E-mail: yeonsu@rda.go.kr

Mr YOUNG-HWA KIM
National Institute of Animal Science
Rural Development Administration
77 Chucksan-gil
Kwonsun-Gu
Suwon
Republic of Korea
Tel: +82 312901753
Fax: +82 312901598
E-mail: yhkims@rda.go.kr

ROMANIA - ROUMANIE – RUMANIA

M Fanica DOROFTEI
Directeur
Autorité nationale pour l'élevage, l'amélioration et la reproduction animale (ANRZ)
Str. Calea - Bucuresti
Balotesti - km 18,2
Roumanie
Tel: +40 21 3501018
Fax : +40 21 3501019
E-mail: fdoroftei@gmail.com

M Viorel GIT
Conseiller
Ministère de l'agriculture et du développement rural
Str Roma Nr 29
Bucarest
Roumanie
Tel: +40 21 3072417
E-mail: viorelgit@yahoo.com

M Horia GROSU
Directeur général
Institut national pour la recherche en biologie et nutrition animale
Calea Bucuresti No. 1 km 18
Jud. Ilfov Balotesti
Roumanie
Tel: +40 21 3512081
Fax: +40 21 3512080
E-mail: hgrosu@yahoo.com

SAINT VINCENT AND THE GRENADINES – SAINT - VINCENT - ET - LES GRENADINES
SAN VICENTE Y LAS GRANADINAS

Mr Reuben ROBERTSON
Chief Agricultural Officer
Ministry of Agriculture, Forestry and Fisheries
Murrays Road
Kingstown
Saint Vincent and The Grenadines
Tel: +1 784 456 1410
Fax: +1 784 457 1688
E-mail: office.agriculture@mail.gov.vc

SAMOA - SAMOA - SAMOA

Mr Tevita TIATIA FALEUPOLU
Assistan Chief Executive Officer
Animal Production and Health Division
Ministry of Agriculture and Fisheries
P.O. Box 1874
Apia
Samoa
Tel: +685 22561 - 21052
Fax: +685 26532
E-mail: fttev@lesamoa.net

SAUDI ARABIA - ARABIE SAOUDITE - ARABIA SAUDITA

Mr Abdallah Bin Hassan AL YEMENI
Animal Production Manager
National Coordinator for Animal Genetic Resources
Ministry of Agriculture
Alkharj Agricultural Project
Kingdom of Saudi Arabia
Tel: +966 15452316
Fax: +966 154521
E-mail: AHAHY@hotmail.com

SEYCHELLES - SEYCHELLES – SEYCHELLES

Mr Jimmy MELANIE
Director, Veterinary Services
Ministry of Environment, Natural Resources and Transport
P.O Box 166
Victoria, Mahé
Republic of Seychelles
Tel: +248 722869
Fax: +248 22545
E-mail: vetmamr@seychelles.net

SIERRA LEONE - SIERRA LEONE – SIERRA LEONA

Mr Amadu TEJAN JALLOH
Veterinary Officer
National Coordinator, Animal Genetic Resources
Attached to the Avian Influenza Secretariat
c/o Ministry of Agriculture andFood Security
Livestock Services Division
Youyi Building
Freetown
Sierra Leone
Tel: +232 76 732694
E-mail: amadutj@yahoo.com

SLOVAKIA - SLOVAQUIE – ESLOVAQUIA

Mr Ladislav HETENYI
Professor
National Coordinator, Animal Genetic Resources
Slovak Centre of Agriculture Research
Research Institute of Animal Production
Hlohovska 2
94992 Nitra
Slovak Republic
Tel: +421 376546220
E-mail: hetenyi@scpv.sk

SLOVENIA - SLOVENIE - ESLOVENIA

Mr Drago KOMPAN
National Coordinator for Animal Genetic Resources
Zootechnical Department, Biotechnical Faculty
University of Ljubljana
Groblje 3
1230 Domzale
Slovenia
Tel: +386 1 72 17 865
Fax : +386 1 72 41 005
E-mail: Drago.KOMPAN@bfro.uni-lj.si

Mr Viktor KREK
Secretary
Ministry of Agriculture, Forestry and Food
Dunajska, 58
SL-1000 Ljubljana
Slovenia
Tel: +386 14789122
Fax: +386 14362047
E-mail: viktor.krek@gov.si

SPAIN - ESPAGNE – ESPAÑA

Sra Monserrat CASTELLANOS MONCHO
Jefa de Área de Zootecnia
Sub.´ Gral. Medios de Producción Ganaderos
Dirección General de Ganadería
c/Alfonso XII, 62
28071 Madrid
España
Tel: +34 91 3474092
Fax: +34 91 3476671
E-mail: mcastell@mapya.es

Sr Carlos ESCRIBANO MORA
Director General de Ganadería
Secretaría General de Agricultura y Alimentación
Ministerio de Agricultura, Pesca y Alimentación
c/Alfonso XII, 62
28071 Madrid
España
Tel: +34 91 3476606
Fax: +34 91 3475883
E-mail: cescriba@mapa.es

Sr Miguel FERNANDEZ RODRIGUEZ
Centro de Recursos Zoogenéticos de Galicia
Pazo de Fontefiz
32152 Coles-Ourense
España

SRI LANKA - SRI LANKA – SRI LANKA

Mr Alawattage Don Nimal CHANDRASIRI
Deputy Director (Veterinary Research)
Veterinary Research Institute
P.O. Box 28
Peradeniya
Sri Lanka
Tel: +94 812 388312
Fax: +94 812 388125
E-mail: adnchandrasiri@yahoo.com

SUDAN (THE) - SOUDAN - SUDÁN

Mr Awad El Karim ABDULLA MOHAMMED
General Director of Animal Production
Federal Ministry of Animal Resources and Fisheries
Al Shagara Street
P.O. Box 241
Khartoum
Sudan

Mr Hussein Ibrahim ABU EISSA
Director
Animal Production Research Center
Ministry of Science and Technology
P.O. Box 1355
Khartoum North
Sudan
Tel: +249 912150596
Fax: +249 85385269
E-mail: hiabueissa@hotmail.com

Mr Mohammed ELTAYEB ELFAKI ELNOR
Councellor
Permanent Representative to FAO/IFAD/WFP
Embassy of the Republic of the Sudan
Via Prati della Farnesina, 57
00194 Rome
Italy
Tel: +39 06 33220433 - 33222138
Fax: +39 06 3340841
E-mail: permrepoffice_sudanembassyrome@yahoo.it

SURINAME - SURINAME - SURINAME

Mr Gerald TJON-A-SAN
Livestock Expert
Ministry of Agriculture, Animal Husbandry and Fisheries
Abattoirstaat
Beekhuizen, Paramaribo
Suriname
Tel: +597 404415
Fax: +597 404407
E-mail: veeteelt@odve.minlvv.sr
g_tjonasan@hotmail.com

SWAZILAND - SWAZILAND - SWAZILANDIA

Mr Sipho A. NXUMALO
Under Secretary (Personnel Administration)
Ministry of Agriculture and Co-operatives
P.O. Box 162
Mbabane
Swaziland
Tel: +268 404 2731
Fax: +268 404 0585
E-mail: nxumalosia@gov.sz

Ms Dorah D. VILAKATI
National Coordinator on Animal Genetic Resources
Ministry of Agriculture and Co-operatives
P.O. Box 162
Mbabane
Swaziland
Tel: +268 404 9803
Fax: +268 404 9802
E-mail: sd-fangr@realnet.co.sz
vilakatido@gov.sz

SWEDEN - SUÈDE – SUECIA

Mr Hans EKSTRÖM
Project Coordinator
Nordic Gene Bank Farm Animals
P.O. Box 254
SE-311 23 Falkenberg
Sweden
Tel.: +46 34 648433
Fax: +46 34 6484 50
E-mail: hans.ekstrom@nordgen.org

Ms Harriet FALCK REHN
Senior Administrative Officer
Ministry of Agriculture, Food and Consumer Affairs
Fredsgatan 8
S103-33 Stockholm
Sweden
Tel: +46 8 4051097
Fax: +46 8 4054970
E-mail: harriet.falck-rehn@agriculture.ministry.se

Mr Peter HERTHELIUS
Senior Agricultural Adviser
Department of Natural Resources and the Environment
Sida / Swedish International Development Cooperation Agency
SE-105 25 Stockholm
Sweden
Tel.: +46 8 698 53 69
Fax: +46 8 6985653
E-mail: peter.herthelius@sida.se

Ms Tina LINDSTRÖM
Senior Administrative Officer
Ministry of Agriculture, Food and Fisheries
Secretariat for EU Coordination and International Affairs
Fredsgatan 8
SE103-33 Stockholm
Sweden
Tel: +46 8 4053508
Fax: +46 8 4054972
E-mail:
tina.lindstrom@agriculture.ministry.se

Ms Birgitta MALMFORS
Associate Professor
Department of Animal Breeding and Genetics
Swedish University of Agricultural Sciences (SLU)
P.O. Box 7023
SE-750 07 Uppsala
Sweden
Tel.: +46 18 671939
Fax : +46 18 672848
E-mail: Birgitta.Malmfors@hgen.slu.se

Ms Eva-Marie STÅLHAMMAR
Senior Officer
Division of Strategic Issues
Animal breeding, biodiversity and public health
Swedish Board of Agriculture
SE-551 82 Jönköping
Tel: +46 36155822
Fax: +46 36308182
E-mail: eva-marie.stalhammar@sjv.se

SWITZERLAND - SUISSE – SUIZA

M Philippe AMMANN
Pro Specie Rara
Pfrundweg 14
CH-5000 Aarau
Suisse
Tel: +41 628320820
Fax: +41 628320825
E-mail:
philippe.ammann@prospecierara.ch

M Manfred BÖTSCH
Directeur
Office fédéral de l'agriculture (OFAG)
Mattenhofstrasse 5
CH-3003 Berne
Suisse
Tel: +41 31 3222501
Fax : +41 31 3222634
E-mail:
manfred.boetsch@blw.admin.ch

Mme Claudia CHALLANDES BINGGELI
Section Agriculture durable internationale
Office fédéral de l'agriculture (OFAG)
Mattenhofstrasse 5
CH-3003 Berne
Suisse
Tel: +41 31 3222554
Fax: +41 31 3222634
E-mail:
claudia.challandes@blw.adming.ch

M Jacques CHAVAZ
Directeur Suppléant
Office fédéral de l'agriculture (OFAG)
Mattenhofstrasse 5
CH-3003 Berne
Suisse
Tel: +41 31 3222502
Fax: +41 31 3222634
E-mail: jacques.chavaz@blw.admin.ch

M Marco D'ALESSANDRO
Section Biotecnologie et flux de substances
Office Fédéral de l'environnement (OFEV)
Worblentalstr.68
CH-3063 Ittigen
Suisse
Tel: +41 31 3229395
Fax: +41 31 3247978
E-mail:
marco.dalessandro@bafu.admin.ch

Mme Christine FLURY
Haute école suisse d'agronomie (HESA)
Länggasse 85
CH-3052 Zollikofen
Suisse
Tel: +41 31 9102165
Fax: +41 31 9102299
E-mail: christine.flury@shl.bfh.ch

M Martin GIRSBERGER
Service juridique brevets et design
Institut Fédéral de la Propriété Interllectuelle (IPI)
Stauffacherstrasse 65
CH-3003 Berne
Suisse
Tel: +41 31 3777777
Fax: +41 31 3777778
E-mail: martin.girsberger@ipi.ch

M Willi GRAF
Senior Advisor
Section Ressources naturelles et environnement
Direction du dévéloppement et de la coopération (DDC)
Freiburgstrasse 130
CH-3001 Berne
Suisse
Tel: +41 31 3259307
Fax: +41 31 3259362
E-mail: willi.graf@deza.admin.ch

M Paul GÜNTER
Député au Conseil national
Du Lac
CH-3707 Därligen
Suisse
Tel: +41 33 8234268
E-mail: guenter.zbinden@popnet.ch

M Eduard HOFER
Sous-Directeur
Office fédéral de l'agriculture (OFAG)
Mattenhofstrasse 5
CH-3003 Berne
Suisse
Tel: +41 31 3222587
Fax: +41 31 3222634
E-mail: eduard.hofer@blw.admin.ch

M Thomas JEMMI
Chef des Affaires internationales
Office vétérinaire fédéral (OVF)
Schwarzenburgstrasse 155
CH-3097 Berne Liebefeld
Suisse
Tel: +41 31 3238531
Fax: +41 31 3235686
E-mail: thomas.jemmi@bvet.admin.ch

M Jurg JORDI
Responsable de la section de information
Office fédéral de l'agriculture (OFAG)
Mattenhofstrasse 5
CH-3003 Berne
Suisse
Tel: +41 31 3228128
Fax: +41 31 3222634
E-mail: juerg.jordi@blw.admin.ch

M Martin KREBS
Direction politique V
Section des affaires internationales de l'environnement/DFAE
Bundesgasse 32
CH-3003 Berne
Suisse
Tel: +41 31 3220834
Fax: +41 31 3241063
E-mail: martin.krebs@eda.admin.ch

M Robert LAMB
Office fédéral pour l'environnement
Pepiermuhlestr. 172
CH-3063 Ittigen
Switzerland
Tel : +41 313244989
Fax : +41 313230349
E-mail : robert.lamb@bafu.admin.ch

M Hans-Jörg LEHMANN
Ministre
Représentation permanente de la Suisse auprès de la FAO
Viale Aventino, 89
00153 Rome
Italie
Tel: +39 065756293
Fax: +39 065756321
E-mail:
hans-joerg.lehmann@eda.admin.ch

Mme Catherine MARGUERAT
Caprovis Data AG
Waldeggweg 4B
5415 Nunbauner
CH-3000 Berne 14
Suisse
Tel: +41 31 3886111
Fax: +41 31 3886112
E-mail:
catherine.marguerat@caprovis-data.ch

Mme Claudia MUND
Service juridique brevets et design
Institut Fédéral de la Propriété Interllectuelle (IPI)
Stauffacherstrasse 65
CH-3003 Berne
Suisse
Tel: +41 31 3777777
Fax: +41 31 3777778
E-mail: claudia.mund@ipi.ch

Mr André NIETLISBACH
Secretaire Général
Volkswirtschaftsdirektion des Kantons
Munsterplatz 3a
CH-3011 Berne
Switzerland
Tel: +41 316334841
Fax: +41 316334852
E-mail: andre.nietlisbach@vol.be.ch

M Hubert POFFET
Section Agriculture durable internationale
Office fédéral de l'agriculture (OFAG)
Mattenhofstrasse 5
CH-3003 Berne
Suisse
Tel: +41 31 3251700
Fax: +41 31 3222634
E-mail: hubert.poffet@blw.admin.ch

M François PYTHOUD
Responsable
Section Agriculture durable internationale
Office fédéral de l'agriculture (OFAG)
Mattenhofstrasse 5
CH-3003 Berne
Suisse
Tel: +41 31 3234445
Fax: +41 31 3222634
E-mail: françois.pythoud@blw.admin.ch

M Fabien RIESEN
Section Agriculture durable internationale
Office fédéral de l'agriculture (OFAG)
Mattenhofstrasse 5
CH-3003 Berne
Suisse
Tel: +4131 3222595
Fax: 41 31 3222634
E-mail: fabian.riesen@blw.admin.ch

Mme Barbara RYCHEN
Section Agriculture durable internationale
Office fédéral de l'agriculture (OFAG)
Mattenhofstrasse 5
CH-3003 Berne
Suisse
Tel: +41 31 3250291
Fax: +41 31 3222634
E-mail: barbara.rychen@blw.admin.ch

M Fritz SCHNEIDER
Sous-Directeur
Haute école suisse d'agronomie (HESA)
Länggasse 85
CH-3052 Zollikofen
Suisse
Tel: +41 31 9102172
Fax: +41 31 9102299
E-mail: fritz.schneider@shl.bfh.ch

SYRIAN ARAB REPUBLIC (THE) - RÉPUBLIQUE ARABE SYRIENNE (LA) – REPÚBLICA ÁRABE SIRIA (LA)

Mr Yassin MASRI
Director
Animal Wealth Research Administration
General Commission for Scientific Agricultural Research
Ministry of Agriculture and Agrarian Reform
Al-Jabri
Damascus
Syria
Tel: +963 116440520
E-mail: masriyassin@yahoo.com

THAILAND - THAÏLANDE – TAILANDIA

Ms Vanida KHUMNIRDPETCH
Animal Scientist
Department of Livestock Development
Phya Thai Road, Rajathevi
Bangkok 10400
Thailand
Tel: +66 2 6534451
Fax: +66 2 6534922
E-mail: vanidak@yahoo.com

Mr Yodchai TONGTHAINAN
Animal Breeding Senior Expert
Department of Livestock Development
Phya Thai Road, Rajathevi
Bangkok 10400
Thailand
Tel: +66 26534410
Fax: +66 26534905
E-mail: t_yodchai@msm.com

TOGO - TOGO – TOGO

M Bèdibètè BONFOH
Directeur
Institut Togolais de Recherche Agronomique (ITRA)
Centre de Recherche Agronomique de la Savane Humide (ITRA-CRASH)
BP 01
Anié
Repubique Togolaise
Tel: +228 4443001
E-mail: crash@laposte.tg

TRINIDAD AND TOBAGO – TRINITÉ - ET - TOBAGO – TRINIDAD Y TOBAGO

Mr Rajendra Kumar RASTOGI
Senior Lecturer in Animal Breeding/Genetics
Department of Food Production
Faculty of Science and Agriculture
The University of The West Indies
St. Augustine
Trinidad and Tobago
Tel: +1 868 6622002 extn 2090
Fax: +1 868 6450479
E-mail: Rajendra.Rastogi@sta.uwi.edu

Ms Lillawatti RASTOGI
Deputy Director
Animal Production and Health Division
Ministry of Agriculture, Land and Marine
Resources
80 Abercromby Street
Port of Spain
Trinidad and Tobago
Tel: +1 868 6695296
Fax: +1 868 6691159
E-mail: Lrastogi@cls.mx.tt ; leela3053@hotmail.com

TUNISIA - TUNISIE – TÚNEZ

Mme Sonia BEDHIAF
Chercheur
Institut national des ressources génétiques
animales
Rue Hedi Karray
Ariana
Tunisie

M M'Naouer DJEMALI
Vice-président
ITWG des ressources génétiques
animales relevant de la FAO
Institut National Agronomique de Tunis (INAT)
Ministère de l'agriculture, des ressources hydriques et de l'environment
43 Avenue Charles Nicole
1082 Mahrajene
Tunisie
Tel : +216 98 319029
E-mail:
djemali.mnaouer@iniat.agrinet.tn

TURKEY - TURQUIE – TURQUÍA

Ms Oya AKIN
National Coordinator for Animal Genetic Resources
General Directorate of Agricultural Research
Ministry of Agriculture and Rural Affairs (MARA)
06171 Yenimahalle, Ankara
Turkey
Tel: +90 312 3157623 (ext. 240)
Fax: + 90 312 3153448
E-mail: oakin@tagem.gov.tr
oya_akin@hotmail.com

UGANDA - OUGANDA – UGANDA

Mr Daniel K.N. SEMAMBO
Executive Director
National Animal Genetic Resources Centre and Data Bank
P.O. Box 183
Entebbe
Tel: +256 41 320831
Fax: +256 41 324000
E-mail: cattbrd@imul.com

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND (THE) – ROYAUME - UNI DE GRANDE - BRETAGNE ET D'IRLANDE DU NORD – REINO UNIDO DE GRAN BRETAÑA E IRLANDA DEL NORTE

Mr Philip HAMBLING
Policy and Project Manager
Food and Farming Group
Department for Environment, Food and Rural Affairs (DEFRA)
5E Millbank, 17 Smith Square
London SW1P 3JR
United Kingdom
Tel: +44 207 2383147
Fax: +44 207 2383114
E-mail:
philip.hambling@defra.gsi.gov.uk

Mr Mike ROPER
U.K. National Co-ordinator for Farm Animal Genetic Resources
Department of Environment, Food and Rural Affairs (DEFRA)
9 Millbank, 17 Smith Square
London SW1P 3JR
United Kingdom
Tel: +44 207 2383150
E-mail: mike.roper@defra.gsi.gov.uk

UNITED REPUBLIC OF TANZANIA (THE) – REPUBLIQUE - UNIE DE TANZANIE - REPÚBLICA UNIDA DE TANZANIA

Mr Sachindra M. DAS
Director, Central Veterinary Laboratoy
Ministry of Livestock Development
P.O. Box 9254
Dar-es-Salaam
The United Republic of Tanzania
Tel: +255 748 464086
Fax: +255 22 28654394
E-mail: sachindas_30@hotmail.com

Mr David Chambo SENDALO
Assistant Director of Livestock Research
Ministry of Livestock Development
P.O. Box 9152
Dar es Salaam
The United Republic of Tanzania
Tel: +255 022 2863479
Fax: +255 784803018
E-mail: drsendalo@yahoo.com

UNITED STATES OF AMERICA (THE) ÉTATS - UNIS D'AMERIQUE – ESTADOS UNIDOS DE AMERICA

Mr Harvey BLACKBURN
Coordinator
National Animal Germplasm Programme
National Centre for Genetic Resources Preservation ARS, USDA
1111 South Mason, St.
Fort Collins, Colorado 80515
United States of America
Tel: +1 970 4953268
Fax: +1 970 2211427
E-mail: harvey.blackburn@ars.usda.gov

Mr Doug GOLLIN
Advisor-Economist
Department of Economics
Williams College, Morey House
Williamstown, Massachusetts 01267
United States of America
Tel: +1 413 5972471
E-mail: douglas.gollin@williams.edu

Mr Ronald D. GREEN
National Programme Leader
Food Animal Production
ARS, USDA
5601 Sunnyside Avenue
Beltsville, Maryland 20705
United States of America
Tel: +1 301 5044736
Fax: +1 301 5044873
E-mail: ronnie.green@ars.usda.gov

Mr David HEGWOOD
Agricultural Minister-Counselor
Alternate Permanent Representative to FAO
United States Mission to the UN Agencies for Food and Agriculture
Via Vittorio Veneto 119/A
00187 Rome, Italy
Tel: +39 0646743507
Fax: +39 0646743520
E-mail: David.Hegwood@usda.gov

URUGUAY - URUGUAY – URUGUAY

Sr Gabriel ROVERE
Coordinador Nacional de Recursos Zoogenéticos
Universidad de la República INML
Magallanes 1862, Piso 2
11800 Montevideo
Uruguay
Tel: +598 2 9248512
Fax: +598 2 9248512
E-mail: grovere@adinet.com.uy

VENEZUELA (BOLIVARIAN REPUBLIC OF) – VENEZUELA (REPUBLIQUE BOLIVARIENNE DU) - VENEZUELA (REPÚBLICA BOLIVARIANA DE)

Sr Luis DICKSON
Investigador
Instituto Nacional de Investigaciones Agrícolas de Venezuela
Km 7 via Barquisimeto-Duaca
Estado Lara
República Bolivariana de Venezuela

YEMEN - YÉMEN – YEMEN

Mr Ghaleb AL-ERYANI
Director General of Animal Resources
Ministry of Agriculture and Irrigation
P.O. Box 13449
Sana'a
Yemen
Tel: +967 1 561912
Fax: +967 1 251589
E-mail: g_eriani@yahoo.com

Mr Saeed MOQBEL DAHMAN
General Authority of Research
Technical Director
National Genetic Resource Centre
Agricultural Research and Extension Authority (AREA)
Ministry of Agriculture and Irrigation
Sana'a
Yemen
E-mail: sallam2003@yemen.net.ye

ZAMBIA - ZAMBIE - ZAMBIA

Mr David Elias DAKA
Deputy Director
Department of Veterinary and
Livestock Development (DVLD)
Ministry of Agriculture and
Cooperatives (MACO)
P.O. Box 50060
15101 Ridgeway
Lusaka
Zambia
E-mail: daviddukakis@yahoo.com

Mr Benson MWENYA
National Coordinator (Farm Animal
Genetic Resources)
Chief Livestock Products Officer
(DVLD)
Department of Veterinary & Livestock
Development
Ministry of Agriculture and
Cooperatives (MACO)
Box 50060
Lusaka
Zambia
Tel: +260 1250274
Fax: +260 1252608
E-mail: bensonmwenya@hotmail.com

OBSERVERS
OBSERVATEURS
OBSERVADORES

REPRESENTATIVES OF UNITED NATIONS AND SPECIALIZED AGENCIES
REPRESENTANTS DES NATIONS UNIES ET INSTITUTIONS SPECIALISEES
REPRESENTANTES DE LAS NACIONES UNIDAS Y ORGANISMOS ESPECIALIZADOS

UNITED NATIONS CONVENTION ON BIOLOGICAL DIVERSITY (CBD)
CONVENTION DES NATIONS UNIES SUR LA DIVERSITÉ BIOLOGIQUE
CONVENIO DE LAS NACIONES UNIDAS SOBRE LA DIVERSIDAD BIOLÓGICA

Mr Ahmed DJOGHLAF
Executive Secretary
Secretariat of the Convention on Biological Diversity
United Nations Convention on Biological Diversity (CBD)
World Trade Centre
413, St-Jacques – Suite 800
Montreal, Quebec H2Y1N9
Canada
Tel: +1 514 287.7002
Fax: +1 514 2886588
E-mail: ahmed.djoghlaf@biodiv.org
http://www.cbd.int

INTERNATIONAL ATOMIC ENERGY AGENCY
AGENCE INTERNATIONALE DE L'ÉNERGIE ATOMIQUE
ORGANISMO INTERNACIONAL DE ENERGÍA ATÓMICA

Mr Paul J. BOETTCHER
Livestock Geneticist/Breeder
Animal Production and Health Section
Joint FAO/IAEA Division
International Atomic Energy Agency
Wagramer Strasse 5
P.O. Box 100
A-1400 Vienna Austria
Tel: +43 1 2600 - 26048
Fax: +43 1 26007
E-mail: official.mail@iaea.org
http://www-naweb.iaea.org

OBSERVERS FROM INTERGOVERNMENTAL ORGANIZATIONS
OBSERVATEURS DES ORGANISATIONS INTERGOUVERNEMENTALES
OBSERVADORES DE LAS ORGANIZACIONES INTERGUBERNAMENTALES

CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH (CGIAR) - GROUPE CONSULTATIF POUR LA RECHERCHE AGRICOLE INTERNATIONALE - GRUPO CONSULTIVO SOBRE INVESTIGACIÓN AGRÍCOLA INTERNACIONAL

Mr Emile FRISON
Director General
Bioversity International (CGIAR)
Via dei Tre Denari 472/a
00057 Maccarese (Fiumicino)
Rome
Italy
Tel: +39 066118202
Fax: +39 066118405
E-mail: e.frison@cgiar.org
http://www.bioversityinternational.org

Mr Carlos SERÉ
Director General
International Livestock Research Institute (ILRI-CGIAR)
P.O. Box 30709
00100 Nairobi
Kenya
Tel: +254 20 4223000
Fax: +254 20 4223001
E-mail: c.sere@cgiar.org
http://www.ilri.org

Ms Sara GALLAGHER
Geneticist
International Livestock Research Institute (ILRI-CGIAR)
P.O. Box 30709
00100 Nairobi
Kenya
Tel: +254 20 4223000
Fax: +254 20 4223001
E-mail: s.gallagher@cgiar.org
http://www.ilri.org

Mr Ed REGE
Director, Biotechnology Theme
International Livestock Research Institute (ILRI-CGIAR)
P.O. Box 30709
00100 Nairobi
Kenya
Tel: +254 20 4223370
Fax: +254 20 4223001
E-mail: e.rege@cgiar.org
http://www.ilri.org

Mr Olivier HANOTTE
Project Leader
Animal Genetics Resources
International Livestock Research Institute (ILRI-CGIAR)
P.O. Box 30709
00100 Nairobi
Kenya
Tel: +254 20 4223466
Fax: +254 20 4223001
E-mail: o.hanotte@cgiar.org
http://www.ilri.org

Ms Sandy McCLINTOCK
Operational Project Leader
Biotechnology Theme
International Livestock Research Institute (ILRI-CGIAR)
P.O. Box 30709
00100 Nairobi
Kenya
Tel: +254 20 4223373
Fax: +254 20 4223001
E-mail: sandy@mcclintock.tk
http://www.ilri.org

Mr Okeyo MWAI
Animal Geneticist/Breeder
Biotechnology Theme
International Livestock Research Institute (ILRI-CGIAR)
P.O. Box 30709
00100 Nairobi
Kenya
Tel: +254 20 4223468
Fax: +254 20 4223001
E-mail: o.mwai@cgiar.org
http://www.ilri.org

Ms Barbara Ann RISCHKOWSKY
Senior Livestock Scientist
International Centre for Agricultural Research in the Dry Areas (ICARDA-CGIAR)
P.O. Box 5466
Aleppo
Syrian Arab Republic
Tel: +963 21 2213433 – 2213477
E-mail: b.rischkowsky@cgiar.org

Mr Robert LETTINGTON
Policy and Legal Specialist (GRPI)
Bioversity Sub-Saharan Africa Office
P. O. Box 30677
00100 Nairobi
Kenya.
Tel: +254 20 722 4528 (direct) - 722 4500
Fax: +254 20 722 4501
E-mail: r.lettington@cgiar.org

NORDIC COUNCIL OF MINISTERS
CONSEIL NORDIQUE DES MINISTRES
CONSEJO NÓRDICO DE MINISTROS

Ms Vivi Hunnicke NIELSEN
Secretary
Nordic Genetic Resources Council
Aarhus University
Faculty of Agricultural Sciences
Department of Genetics and Biotechnology
Forskningscenter Foulum
Blichers Allé 20
P.O. Box 50
DK-8830 Tjele
Nordic Council of Ministers
Store Stradstraede 18
DK-1255 Copenhagen K.
Denmark
Tel: +45 89 991361
Fax: +45 89 991300
Cell: +45 23473466
E-mail: vivih.nielsen@agrsci.dk
http://www.norden.org

SECRETARIAT OF THE PACIFIC COMMUNITY (SPC)

Mr Peter MANUELI
Land and Resources Division
Secretariat of the Pacific Community (SPC)
Private Mail Bag
Suva
Fiji
Tel: +679 3370733
Fax: +679 3370021
E-mail: pmanueli@gmail.com
http://www.spc.int

SOUTH CENTRE

Ms Xuan LI
Lead Economist and Acting Coordinator
Innovation and Access to Knowledge Programme
South Centre
17, Chemin du Champ d'Anier
POB 228
CH-1211 Geneva 19
Switzerland
Tel: +41 22 7918050
Fax: +41 22 7988531
E-mail: li@southcentre.org
http://www.southcentre.org

THE LEAGUE OF ARAB STATES

Mr Solieman SALHAB
Member of the Steering Committee for Regional Focal Point of Animal Genetic Resources
The Arab Centre for the Studies of Arid Zones and Dry Lands (ACSAD)
The League of Arab States
P.O.Box: 1240
Damascus
Syria
Tel: +963 11 5743039
Fax: +963 11 5743063
E-mail: email@acsad.org
http://www.acsad.org

WORLD ORGANISATION FOR ANIMAL HEALTH – ORGANIZATION MONDIALE DE LA SANTE ANIMALE – ORGANIZACIÓN MUNDIAL DE SANIDAD ANIMAL (OIE)

Mr Willem DROPPERS
Chargé de mission
Office International des epizooties
12, rue de Prony
75017 Paris
France
Tel: +33 1 44151888
Fax : +33 1 42670987
E-mail: w.droppers@oie.int
http://www.oie.int

OBSERVERS FROM NON-GOVERNMENTAL ORGANIZATIONS
OBSERVATEURS DES ORGANISATIONS NON GOUVERNEMENTALES
OBSERVADORES DE LAS ORGANIZACIONES NO GUBERNAMENTALES

AEPGA (ASSOCIAÇÃO PARA O ESTUDO E PROTECÇÃO DO GADO ASININO)

Mr Eric CHÁVEZ BETANCOURT
Veterinary (Biodiversity Management)
AEPGA (Associação para o Estudo e Protecção do Gado Asinino)
Rua da Escola Preparatoria
Edifício da Junta de Freguesia
Apartado 10
5225-909 Sendim
Portugal
Tel: +351 273739307
Fax: +351 273739307
E-mail: burranco@gmail.com; aepga@aepga.pt
http://www.aepga.pt

AMERICAN LIVESTOCK BREEDS CONSERVANCY

Mr Phillip SPONENBERG
Virginia-Maryland Regional College of Veterinary Medicine
Virginia Tech
Blacksburg VA 24061
United States of America
Tel: +1 540 2314005
E-mail: jpsponen@vr.edu

BOTSWANA SMALL STOCK BREEDERS ASSOCIATION

Mr Tassman Jackson CEBANI
P.O. Box 564
Mahaladye
Botswana
Tel: +267 71634402-4712181
Fax: +267 4710646
E-mail: Cebanitja@yahoo.com

Mr Boyce Bafitlhile SEBONEGO
P.O. Box 438
Jwaneng
Botswana
Tel: +267 71916363
E-mail: boycesebonego@gmail.com

BRITISH PIG ASSOCIATION

Mr Marcus BATES
Chief Executive
British Pig Association
Trumpington Mews
40b High Street
Trumpington
Cambridge CB2 2LS
United Kingdom
Tel: +44 1223845100
Fax: +44 1223846235
E-mail: bpa@britishpigs.org
http://www.britishpigs.org

BUKO AGRAR KOORDINATION

Ms Ursula GROHN-WITTERN
Buko Agrar Koordination
Nernstweg 32-34
D-22765 Hamburg
Germany
Tel: +49 40392526
Fax: +49 4039900629
E-mail: ursula.groehn-wittern@bukoagrar.de
www.bukoagrar.de

CENTRE FOR DEVELOPMENT AND ENVIRONMENT

Mr Frank Udo HOGGEL
Senior Research Scientist
Institute of Geography
University of Berne
Steigerhubelstrasse 3
3008 Berne
Switzerland
Tel: +41 316318822
Fax: +41 316318544
E-mail: udo-hoeggel@cde.unibe.ch

CHARLES DARWIN UNIVERSITY (CDU)

Mr Adam G. DRUCKER
Senior Research Fellow
(Environmental/Ecological Economics)
School for Environmental Research
Charles Darwin University
Casuarina Campus Ellengowan Drive
Darwin Northern Territory 0909
Australia
Tel: + 61 8 8946 7707
Fax: + 61 8 8946 7720
Email: adam.drucker@cdu.edu.au
http://www.cdu.edu.au

EUROPEAN ASSOCIATION FOR ANIMAL PRODUCTION (EAAP)

Mr Gustavo GANDINI
EAAP Representative
University of Milan
Dept. USA
Via Celoria, 10
20123 Milano
Italy

EUROPEAN FORUM OF FARM ANIMAL BREEDERS (EFFAB)

Ms Anne-Marie NEETESON
General Manager
European Forum of Farm Animal Breeders (EFFAB)
Benedendorpsweg 98
6862 WL Oosterbeek
The Netherlands
Tel: +31 26 339 15 38
Fax: +3126 339 15 39
E-mail: anne-marie.neeteson@effab.info
http://www.effab.org

Mr Ken LAUGHLIN
Group Vice President Policy and Strategy
European Forum of Farm Animal Breeders (EFFAB)
Aviangen Group
Newbridge Midlothian EH28 8SZ
Scotland
United Kindgdom
Tel: +44 131 333.1056
Fax: +44 131 335.3974
E-mail: klaughlin@aviagen.com
http://www.aviagen.com

EUROPEAN FORUM ON NATURE CONSERVATION AND PASTORALISM

Mr Jean-Pierre BIBER-KLEMM
Theophil Ronigerstrasse 15
CH-4310 Rheinfelden
Switzerland
Tel: +41 618313362
E-mail: jean-pierre.biber@natcons.ch

FRIDTJOF NANSEN INSTITUTE

Mr Magnus FINCKENHAGEN
Research Assistant
Fridtjof Nansen Institute
Nielsjuels Gate 9
0272 Oslo
Norway
Tel: +47 67111900
Fax: +47 67111910
E-mail: mfi@fni.no
http://www.fni.no

FEDERACIÓN ESPAÑOLA DE RAZAS AUTÓCTONAS DE PROTECCIÓN ESPECIAL (FEDERAPES)

Mr José Ramón JUSTO FEIJÓO
Secretary General
Federación Española de Razas Autóctonas de Protección Especial (FEDERAPES)
Pazo de Fontefiz
32152 Coles
Ourense
Spain
Tel: +34 988 205486
Fax: +34 988 205489
E-mail: federapes@gmail.com; boaga@boaga.com; ramonjusto@telefonica.net; moncho@boaga.com
http://federapes.blogspot.com

FRIENDS WORLD COMMITTEE FOR CONSULTATION (FWCC)

Mr Tasmin RAJOTTE
Representative, Quaker International Affairs Programme
574 Somerset St. W. Suite 3
Ottawa
K1R 5K2 Ontario
Canada
Tel: +1 613 231 7311
Fax: +1 613 231 7290
E-mail: qiap@quaker.ca
http://www.qiap.ca

Ms Sandra WIENS
Programme Assistant
Quaker International Affairs Programme
574 Somerset St. W. Suite 3
Ottawa
K1R 5K2 Ontario
Canada
Tel: +1 613 231 7311
Fax: +1 613 231 7290
E-mail: qiap-admin@quaker.ca
http://www.qiap.ca

GRAIN

Mr Henk HOBBELINK
Coordinator
GRAIN
Girona 25, pral.
E-08010, Barcelona
Spain
Tel: +34 933011381
Fax: +34 933011627
E-mail: henk@grain.org
http://www.grain.org/front

HEIFER INTERNATIONAL

http://www.heifer.org

Mr Terry WOLLEN
Director of Animal Well Being
Advocacy and Global Initiatives
HEIFER INTERNATIONAL
1 World Avenue
Little Rock, AR 72202-2863
U.S.A.
Tel: +1 501 907 4942
Fax: +1 501 907 2606
E-mail: terry.wollen@heifer.org

Mr Dilip BHANDARI
Programme Officer of Animal Well Being
Advocacy and Global Initiatives
HEIFER INTERNATIONAL
1 World Avenue
Little Rock, AR 72202-2863
U.S.A.
Tel: +1 501 907 2675
Fax: +1 501 907 2606
E-mail: dilip.bhandari@heifer.org

INTERBULL CENTRE

Mr Freddy FIKSE
Director, Interbull Centre
Dept. Animal Breeding and Genetics SLU
Box 7023
S-750 07 Uppsala
Sweden
Tel: +46 18 671994
Fax: +46 18 672648
E-mail: freddy.fikse@hgen.slu.se
http://www-interbull.slu.se

Mr B. HARRIS
Scientist, Livestock Improvement
Private Bag 3016
Hamilton
New Zealand

Mr Fernando E. MADALENA
Department of Animal Sciences
School of Veterinary Sciences
Federal University of Minas Gerais
Av Torino 270 Bandeirantes
Belo Horizonte MG
Brazil
Tel: +55 31 34992180
Fax: +55 31 3494 6025
E-mail: iprociencia@terra.com.br

Mr Jan PHILIPSSON
Professor
Interbull Centre
Box 7023
S-750 07 Uppsala
Sweden
Tel: +46 18 671976
Fax: +46 18 672648
E-mail: jan.philipsson@hgen.slu.se
http://www-interbull.slu.se

Mr Markus SCHNEEBERGER
Institute of Animal Sciences
Swiss Federal Institute of Technology
ETH-Zentrum, TAN E_1
Tannenstrasse 1
CH-8092 Zurich
Switzerland
Tel: +411 6323348
E-mail:
markus.schneeberger@inw.agrl.ethz.ch

INTERNATIONAL COMMITTEE FOR ANIMAL RECORDING (ICAR)

Mr Milan ZJALIC
Technical Advisor
International Committee for Animal Recording (ICAR)
Via Nomentana 134
00162 Rome
Italy
Tel: +39 0686329141
Fax: +39 0686329263
E-mail: icar@eaap.org

INTERNATIONAL FEDERATION OF ORGANIC AGRICULTURE MOVEMENTS (IFOAM)

http://www.ifoam.org

Ms Cristina GRANDI
Liaison Officer
IFOAM Liaison Office to FAO and IFAD
Via Piave 14
00187 Rome
Italy
Tel: +39 0645437485
Fax: +39 0645437469
E-mail: c.grandi@ifoam.org

Mr Maurizio ARDUIN
Expert on Animal Genetic Resources
IFOAM Liaison Office to FAO and IFAD
Veneto Agricoltura
Viale Universitá
35100 Padova
Italy
Tel: +39 338 9129651
Fax: +39 0645437469

INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT (IISD) - INSTITUT INTERNATIONAL DU DÉVELOPPEMENT DURABLE - INSTITUTO INTERNACIONAL PARA EL DESARROLLO SOSTENIBLE

http://www.iisd.org

Ms Asheline APPLETON
Writer/Editor
IISD Reporting Services
International Institute for Sustainable Development
212 E. 47th St. 21F
New York NY 10017
United States of America
Tel: +1 646 5367556
Fax: +1 646 2190955
E-mail: asheline@iisd.org

Mr Melanie ASHTON
Writer/Editor
IISD Reporting Services
International Institute for Sustainable Development
212 E. 47th St. 21F
New York NY 10017
United States of America
Tel: +1 646 5367556
Fax: +1 646 2190955
E-mail: melanie@iisd.org

Mr Dan BIRCHALL
Digital Editor
IISD Reporting Services
International Institute for Sustainable Development
212 E. 47th St. 21F
New York NY 10017
United States of America
Tel: +1 646 5367556
Fax: +1 646 2190955
E-mail: dan@iisd.org

Mr Harry JONAS
Writer/Editor
IISD Reporting Services
International Institute for Sustainable Development
212 E. 47th St. 21F
New York NY 10017
United States of America
Tel: +1 646 5367556
Fax: +1 646 2190955
E-mail: harry@iisd.org

Mr Chris SPENCE
Deputy Director
IISD Reporting Services
International Institute for Sustainable Development
212 E. 47th St. 21F
New York NY 10017
United States of America
Tel: +1 646 5367556
Fax: +1 646 2190955
E-mail: chris@iisd.org

INTERNATIONAL PLANNING COMMITTEE FOR FOOD SOVEREIGNTY

http://www.foodsovereignty.org

Ms Amina ABDOULAYE
Plate Forme Paysanne du Niger
IPC for Food Sovereignty
BP 160
Zinder
Niger
Tel: +227 96986815
Fax: +227 20510193
E-mail:
amy_abdoulaye_ndiaye@yahoo.fr

Mr André AUCLAIR
Union Paysanne du Québec
Délégué, Fédération de producteurs des races patrimoniales
Du Québec (FPRPQ)
860 Grande Rivière Sud
Yamachiche
Canada

Ms Tamara BAKASOVA
Centre Asia
Kyrgyz Sheep Breeder's Association
IPC for Food Sovereignty
Kyrgistan
E-mail: ksba@elcat.kg

Mr Ibrahim Khalil BALLOUT
West Asia Cooperative of Livestock Producers in South Lebanon
IPC for Food Sovereignty
Houmine Tahta
Nabatieylt
Lebanon
E-mail: arisour@cyberia.net.lb

Mr Edgard Lorenzo CAPCHA
CONDORI
IPC for Food Sovereignty
Av. Independencia 602
Ayacucho
Peru
E-mail: auclair@telmilot.net
paysanne@unionpaysanne.com

Ms Alessandra COVRE
AIAB
IPC for Food Sovereignty
Via Piave 14
00187 Rome
Italy
Tel: +39 0645437485
Fax: +39 0645437469
E-mail: a.covre@aiab.it

Ms Carmela D'ACIERNO
Veterinari Senza Frontiere
IPC for Food Sovereignty
Italy
E-mail: cdaciern@alice.it

Ms Bouréima DIALLO
First Vice President
CPF
IPC for Food Sovereignty
BP2978 Ouagadougou 01
Burkina Faso
Tel: +225 70282944
Fax: + 225 50301844

Mr Bouréima DODO
Association pour la Redynamisation de l'Elevage au Niger (AREN)
IPC for Food Sovereignty
BP 12758
Niamey
Niger
Tel: +227 20 73 66 22
Fax: +227 20 73 66 21
E-mail: aren@intnet.ne

Ms Beatriz GASCO VERDIER
Liaison Officer
IPC Liaison Office
Via Garibaldi, 6
01100 Viterbo
Italy
Tel: +39 0761306589
Fax: +39 0761306589
E-mail: lo@foodsovereignty.org

Ms Tina GOETHE
SWISSAID
Head of Development Policy
Jubiläumsstrasse 60
3000 Bern 6
Switzerland
Tel: +41 31 350 53 75
Fax: +41 31 3512783
E-mail: t.goethe@swissaid.ch

Mr Mahmud Ag HATABO
CNOP
BP 248
Mali
Tel: +223 2218737
E-mail: hattabo1@yahoo.fr
cnop.mali@gmail.com

Ms Patricia Kim Ji HYE
Viacam Korea
Sung Su 1ga I Dong
109-4 Seoul
Republic of Korea

Mr Ok Yi JEONG
Viacam Korea
Sung Su 1ga I Dong
109-4 Seoul
Republic of Korea

Mr Jean Louis MEUROT
Europe
Confédération Paysanne
26 150 Vacheres en Quint
France
E-mail:
cpoulat@confederationpaysanne.fr

Mr Antonio ONORATI
International Focal Point
IPC Liaison Office
Presidente, Centro Internazionale
Crocevia
ViaTuscolana 1111
00173 Roma
Italy
Tel: +39 0672902263
Fax: +39 0672907846
E-mail: mc2535@mclink.it

Ms Maryam RAHMANIAN
Cenesta
142 Azerbaijan Avenue
13169 Tehran
Iran
Tel: +98 21 66972
Fax: +98 21 66400811
E-mail: Maryam@cenesta.org

Mr Akylbek RAKAEV
General Manager
Kyrgyz Sheep Breeder's Association
Bishkek
Kyrgizstan
Tel: +996 312656411
E-mail: ksba@elcat.kg

Ms Guljamal SAMATOVA
Centre Asia
Kyrgyz Sheep Breeder's Association
Jalal-Abad ob last
Kyrgistan
E-mail: ksba@elcat.kg

Mr Michelangelo TEMMERMAN
IPC for Food Sovereignty
Kramgasse 76
3011 Bern
Switzerland

Mr Enhebatu TOGOCHOG
President
Southern Mongolian Human Rights
Information Center
47-28 39th St, 2D
Sunnyside, NY 11104
USA
Tel: +1 718 7869236
E-mail: enhebatu@smhric.org

Mr Saul VICENTE
International Indian Treaty Council
Minería 100 A-12
CoL. Escandon
Mexico, D.F

LEAGUE FOR PASTORAL PEOPLES AND ENDOGENOUS LIVESTOCK DEVELOPMENT

http://www.pastoralpeoples.org

Mr Mohammedsurur ABDELLA ABAS
Afar Pastoral Development Association
Semera Post Office
Semara
Ethiopia
Tel: +251 335500002 – 912035025
Fax: +251 11 5538820
E-mail: afarpastoral@ethionet.et;
apda@ethionet.et

Mr Hirsi ABDUL KADIR MOHAMED
Somali Pastoral Development Forum
(SPDA)
28132 code 1000 Addis Ababa
Addis Ababa
Ethiopia
Tel: +251 115546997 – 915741249
Fax: +251 11 554 6997
E-mail: h_neero@yahoo.com

Mr Sanjay BARNELA
Moving Images
D – 3 / 3425, Vasant Kunj
110070 New Delhi
India
Tel: +91 11 26124317 – 26131186
Cell: +91 9818299212
E-mail: moving@vsnl.com

Mr Jaime CABARLES
Assistant Professor
Central Philippine University
Philippines 5000
Tel: +63 49 536 5549
Fax: +63 49 536 5549

Ms Daili DEVI RAIKA
c/o Lokhit Pashu-Palak Sansthatn
(LPPS)
V.P. Heeravav
P.O. Box 1
Sadri 306702
District Pali
Rajasthan
India
Tel: +91 2924 285086
E-mail: lpps@sify.com

Ms Anna EUSEBIO
Programme Officer
PINGOS
P.O. Box 14437
Arusha
Tanzania
Tel: +255 27 2508965
Fax: +255 27 2500231
E-mail: pingostz@yahoo.com;
amuhale@yahoo.com;

Mr Tezera GETAHUN
Executive Director
Pastoralist Forum Ethiopia
P.O. Box 364 code 1250
Addis Ababa
Ethiopia
Tel: +251 11 6637956
Fax: +251 11 16628345
E-mail:
pastoralistforumeth@ethionet.et;
tezerag@yahoo.co.uk;

Mr Nitya GHOTGE
DirectorAnthra
10, Bavdhan, Pune 411021
Pune, Maharshtra
India
Tel: +91 20 22953546 – 22953547
E-mail: anthra.pune@gmail.com

Ms Susanne GURA
League for Pastoral Peoples and
Endogenous Livestock Development
Burghosfstrasse. 116
D-53229 Bonn
Germany
Tel: +49 228 9480670
Fax: 49 228 9764777
E-mail: gura@dinse.net;
susanne@pastoralpeoples.org

Mr Nura Dida HALEKE
Pastoralist Forum Ethiopia (PFE)
Addis Ababa
Ethiopia
Tel: +251 11 6637956
Fax: +251 11 6628354
E-mail: pastoralistforumeth@ethionet.et

Mr Philip ICHUMAR
P.O. Box 26459
Kampala
Uganda

Mr Barrister Nchunu JUSTICE SAMA
Foundation for Environment and
Development (FEDEV)
P.O. Box 593
Bamenda
Cameroon
Tel: +237 7719108
Fax: +237 33363120
E-mail: fedevlaw@yahoo.com

Ms Anjali KHOSLA
Creative Director
MOVING IMAGES
D – 3 / 3425, Vasant Kunj
110070 New Delhi
India
Tel: +91 11 65687642
Fax: +91 11 26124317
E-mail: moving@vsnl.com

Ms Ilse KÖHLER-ROLLEFSON
League for Pastoral Peoples and
Endogenous Livestock Development
c/o LPPS
P.O. Box 1
Sadri 306702
Pali district, Rajasthan
India
Tel/Fax: +91.2934.285086
E-mail: ipps@sify.com

Mr J. LINGAN LOCHORO
P.O. Box 26459
Kampala
Uganda

Mr Thomas LOQUANG
KISUP ATAKER
P.O. Box 26459
Kampala
Uganda
Tel: +256 782154494
E-mail: aatomloquang@yahoo.com;
lily.narkirn@wfp.org

Ms Evelyn MATHIAS
League for Pastoral Peoples and
Endogenous Livestock Development
Müllenberg 5a
51515 Kürten
Germany
Tel: +49 2268.801.691
Fax: +49 2268.801.692

E-mail: evelyn@mamud.com

Mr James PATTISON
Centre for African Studies
University of Edinburgh
Balfour Street
Edinburgh
Scotland
U.K.
Tel: +44 7775 617751
E-mail: james_pattison@hotmail.com

Ms Mangi LAL RAIKA
c/o Lokhit Pashu-Palak Sansthatn
(LPPS)
V.P. Heeravav
P.O. Box 1
Sadri 306702
District Pali, Rajasthan
India
Tel: +91 2924 285086
E-mail: lpps@sify.com

Mr Rama RAM RAIKA
c/o Lokhit Pashu-Palak Sansthatn
(LPPS)
V.P. Latada
P.O. Box 1
Sadri 306702, District Pali
Rajasthan
India
Tel: +91 2924 285086
E-mail: lpps@sify.com

Mr Tola RAM BHOPA
Beriend Gattani Hospital
Banar Road
Nandani Jodhpur, Rajasthan
India
Tel: +91 2924 285086
E-mail: lpps@sify.com

Mr Abdul RAZIQ
President
Society for Animal Science, Vet and
Envirnment Sciences
Livestock and Dairy Development
Department Balochistan
Faisalabab
Pakistan
Tel: +92 0824.660037
E-mail: raziq374@gmail.com

Ms Aisha ROLLEFSON
League for Pastoral Peoples and
Endogenous Livestock Development
Danzigerstr. 10
69124 Heidelberg
Germany
Tel: +49 6154 53642
E-mail: aisharollefson@web.de

Mr Hanwant SINGH RATHORE
Director
Lokhit Pashu-Palak Sansthatn (LPPS)
P.O. Box 1
Sadri 306702, District Pali
Rajasthan
India
Tel: +91 2924 285086
E-mail: lpps@sify.com

Mr David STEANE
99 moo 7 Baan Rong Dua
Saraphi
Chiang Mai 50140
Thailand
Tel: +66 53 429918
E-mail: desteane@loxinfo.co.th

Ms Katrien VAN'T HOOFT
Editor, Endogenous Livestock
Development (ELD) network
ETC-Compas
Kastanjelann 5, P.O. Box 64
3830AB Leusden
The Netherlands
Tel: +31 33 432.60.08
Fax: +31.33.494.07.91
E-mail: katrien.hooft@etcnl.nl
http://www..etc-compas.org

Mrs. Jacob B. WANYAMA
VETAID
Rua dos Combatentes Talhão 13
P.O Box 44
Chokwé
Mozambique
Tel: +256 782154494
E-mail: wanyama@vetaid.net
http://www.vetaid.org

PRACTICAL ACTION / INTERMEDIATE TECHNOLOGY DEVELOPMENT GROUP (ITDG)

Mr Patrick MULVANY
Senior Policy Adviser
Practical Action/Intermediate
Technology
Development Group
Schumacher Centre for Technology and
Development
Bourton on Dunsmore
Rugby CV23 9QZ
United Kingdom
Tel: +44 192 663 4469
Fax: +44 870 915 2196
E-mail:
Patrick.Mulvany@practicalaction.org.uk

http://www.itdg.org

RARE BREEDS INTERNATIONAL (RBI)

Mr Dimitrios TSIOKOS
Animal Genetic and Breading
Department of Animal Production
Faculty of Agriculture
Aristotle University
University Campus
Pl. Laodigitrias 4
Thessaloniki 54634
Greece
Rare Breeds International (RBI)
E-mail: RBI_OFFICE@agro.auth.gr
http://www.rbi.it

RARE BREEDS SURVIVAL TRUST (RBST)

Mr Richard N. CLARKE
Chief Executive
Rare Breeds Survival Trust (RBST)
Stoneleigh Park
Nr. Kenilworth
Warwickshire CV8 2LG
United Kingdom
Tel: +44 24 76696551
Fax: +44 24 7666706
E-mail: richardclarke@rbst.org.uk
http://www.rbst.org.uk

ROMANIAN ACADEMY – NATIONAL INSTITUTE FOR ECONOMICAL RESEARCH

http://www.acad.ro

Ms Iudith IPATE
Executive Manager
Center of Study and Research for Biodiversity from Animal Genetic Resources
Academy David Davidescu
Romanian Academy
Calea 13 Septembrie, nr. 13
050711 Bucarest
Romania
Tel: +40 21 3195199
E-mail: ipate.iudith@gmail.com

Mr Marcel MATIUTI
Faculty of Veterinary Science
Calea Aradului nr 119
300645 Timisoara
Romania
Tel: +40 256 277133
E-mail: matiutimarcel@yahoo.com

ROSLIN INSTITUTE

Mr Oswald MATIKA
Division of Genetics and Genomics
Roslin, Midlothian, EH25 9PS
United Kingdom
Tel: +44 131 5274430
Fax: +44 131 5270434
E-mail: oswald.matika@bbsrc.ac.uk

Mr John WOOLLIAMS
Division of Genetics and Genomics
Roslin, Midlothian, EH25 9PS
United Kingdom
Tel: +44 131 5274237
Fax: +44 131 4400434
E-mail: john.woolliams@bbsrc.ac.uk

SAVE FOUNDATION

http://www.save-foundation.net

Mr Hans-Peter GRÜNENFELDER
Executive Vice Chairman
SAVE Foundation (Branch St.Gallen)
c/o Monitoring Institute for Rare Breeds and Seeds in Europe
Schneebergstr. 17
CH-9000 St. Gallen
Switzerland
Tel: +41 71 222 74 10
Fax: +41 71 222 74 40
E-mail: info@monitoring.eu.com

Ms Waltraud KUGLER
Head of Project Commission
SAVE Foundation (Branch St.Gallen)
c/o Monitoring Institute for Rare Breeds and Seeds in Europe
Schneebergstr. 17, CH-9000 St. Gallen
Switzerland
Tel: +41 71 222 74 10
Fax: +41 71 222 74 40
E-mail: info@monitoring.eu.com

Ms Elli BROXHAM
Programme Coordinator
SAVE Foundation, Head Office
Paradiesstrasse 13
D-78462 Konstanz
Tel: +49 7531/282255
E-mail: office@save-foundation.net

SOCIEDAD ESPAÑOLA PARA LOS RECURSOS GENÉTICOS ANIMALES (SERGA)

Mr Juan Vicente DELGADO BERMEJO
Secretario del SERGA
Miembro del Comité de Redacción de AGRI-FAO
Coordinador Internacional de la Red Iberoamericana XII-H
Sociedad Española para los Recursos Genéticos Animales (SERGA)
Departamento de Genética
Universidad de Córdoba
Edificio C-5, Campus de Rabanales
14610 Córdoba
España
Tel: +34 957 218706
Fax: +34 957 218706
E-mail: ld1debej@uco.es
http://www.uco.es/serga

SUSTAINABLE AGRICULTURE AND ENVIRONMENTAL VOLUNTARY ACTION (SEVA)

Mr Perumal VIVEKANANDAN
Sustainable Agriculture and Environmental Voluntary Action (SEVA)
45, T.P.M.Nagar, Virattipathu
Madurai - 625 010
Tamil Nadu
India
Tel: +91 0452 2380082
Fax: +91 0452 2300425
E-mail: numvali@sancharnet.in
http://www.seva-ngo.org

SWISS FEDERAL INSTITUTE OF TECHNOLOGY (ETH)

Mr Michael GOE
Animal Genetic Resources and Disaster Risk
Swiss Federal Institute of Technology (ETH)
Zentrum TAN 1 F4
Tannenstrasse 1
CH-8092 Zurich
Switzerland
Tel: +41 44 6327673
E-mail: michael.goe@inw.agrl.ethz.ch
http://www.zb.ethz.ch

Ms Barbara Becker
Swiss Federal Institute of Technology (ETH)
Scheuchzerstrasse 7
CH-8092 Zurich
Switzerland
Tel: +41 44 6325339
Fax: +41 44 6321589
E-mail: barbara.becker@agrl.ethz.ch

Ms Sabine HAHN-FORNET
ETH-Nord, Sud, Zentrum
Scheuchzerstr. 7
Zurich
Switzerland

Mr Mathias Egloff
ETH Zurich
Clausiusstrasse 50
8092 Zurich
Switzerland
Tel: +41 446320397
E-mail: egloff@id.ethz.ch

UNIVERSITY OF CANBERRA

Ms Susan Elizabeth JONES
Lecturer
Taxation Law and International Trade Law
Law School
University of Canberra
University Drive Bruce ACT
ACT 2601
Australia
Tel: +61 2 62015637
E-mail: susan.jones@canberra.edu.au
http://www.canberra.edu.au

UNIVERSITY OF WAGENINGEN

Ms A.J. VAN DER ZIJPP
Professor, Animal Production Systems
Wageningen University
P.O. Box 338
6700 AH Wageningen
The Netherlands
Tel: +31 317483381
Fax: +31 317485550
E-mail: akke.vanderzijpp@wur.nl

WORLD ASSOCIATION FOR ANIMAL PRODUCTION (WAAP)

Mr Paolo AJMONE
Istituto di Zootecnica
Università Cattolica del S. Cuore
Via E. Parmense, 84
29100 Piacenza
Italy
World Association for Animal Production (WAAP)
Via G. Tomassetti 3 A/1
00161 Rome
Italy
Tel: +39 0523599204
Fax: +39 0523599276
E-mail: paolo.ajmone@unicatt.it

WORLD TRADE INSTITUTE (WTI)

Ms Susette BIBER-KLEMM
Senior Research Fellow
Alternate Leader, Biotechnology
World Trade Institute (WTI)
University of Bern
Hallerstrasse 6/8
3000 Bern
Switzerland
Tel: +41 31 6313272
Fax: +41 31 6313630
E-mail: susette.biber-klemm@wti.org
http://wti.nccr-trade.org

Mr Michael BURKARD
Attorney, Research Fellow
World Trade Institute
Hallerstrasse 6/8
3012 Bern
Switzerland
Tel: +41 31 6313270
Fax: +41 31 6313