



منظمة الأغذية
والزراعة
للأمم المتحدة

联合国
粮食及
农业组织

Food
and
Agriculture
Organization
of
the
United
Nations

Organisation
des
Nations
Unies
pour
l'alimentation
et
l'agriculture

Продовольственная и
сельскохозяйственная
организация
Объединенных
Наций

Organización
de las
Naciones
Unidas
para la
Agricultura
y la
Alimentación

Item 5.2 of the Provisional Agenda

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Thirteenth Regular Session

Rome, 18 – 22 July 2011

PROGRESS REPORT OF INTERNATIONAL ORGANIZATIONS ON THE IMPLEMENTATION OF THE *GLOBAL PLAN OF ACTION* *FOR ANIMAL GENETIC RESOURCES*

TABLE OF CONTENTS

| | <i>Para.</i> |
|---|--------------|
| Executive Summary | |
| I. Introduction | 1 - 4 |
| II. International Organizations' contributions to the implementation of the <i>Global Plan of Action</i> | 5 - 52 |
| Strategic Priority Area 1: Characterization, inventory and monitoring of trends and risks | 5 - 12 |
| Strategic Priority Area 2: Sustainable use and development | 13 - 28 |
| Strategic Priority Area 3: Conservation | 29 - 37 |
| Strategic Priority Area 4: Policies, institutions and capacity-building | 38 - 47 |
| Implementation and financing of the <i>Global Plan of Action</i> | 48 - 52 |
| III. Conclusions | 53 - 60 |
| <i>Appendix 1: Questionnaire</i> | |
| <i>Appendix 2: Lists of International Organizations</i> | |
| <i>Appendix 3: List of Acronyms</i> | |

EXECUTIVE SUMMARY

The Commission for Genetic Resources for Food and Agriculture (Commission), at its Twelfth Regular Session, requested FAO to prepare a progress report on the contributions that the activities of international organizations – other than FAO – are making to the implementation of the *Global Plan of Action for Animal Genetic Resources*. An invitation to complete the questionnaire was sent to 417 international organizations out of which 36 replied. Eighteen organizations completed the questionnaire, which represents a doubling compared to the number that provided inputs to the first *State of the World's Animal Genetic Resources* report.

The activities of the international organizations are equally distributed across the four Strategic Priority Areas of the *Global Plan of Action*. The respondent organizations are involved in awareness raising, research, information systems development and capacity building, institutional strengthening, technical support, and support to policy development, alone or in collaboration with other organizations. Many organizations work directly with livestock keepers and their associations. They equally support breed characterization, inventory, surveying and monitoring. More organizations contribute to breeding programmes addressing mainstream rather than under-utilized or local breeds, while some programmes on breed comparisons and economic evaluations shed light on the introduction of exotic breeds. In view of increasing erosion of local breeds, more organizations support *in situ* conservation, combining improvement of livelihoods with ecosystem conservation and marketing, rather than cryo-conservation.

The organizations noted that despite awareness-raising initiatives, lack of political support and funding remain the biggest single constraints to the implementation of animal genetic resources programmes and projects.

The survey results indicate that numerous international organizations are already making important contributions to the implementation of the *Global Plan of Action*, often via innovative, efficient and participatory programmes and projects. The survey also confirmed that international organizations are important partners for national governments in the implementation of the *Global Plan of Action*; therefore their representatives should be included in national stakeholder groups.

The international activities of national organizations have not been covered by this survey. It will be critically important to ensure that the international research and development programmes of national organizations are adequately described in the forthcoming Country Progress Reports on the implementation of the *Global Plan of Action*.

I. INTRODUCTION

1. The *Global Plan of Action for Animal Genetic Resources (Global Plan of Action)* emphasizes the importance of international cooperation in the sustainable development, use and conservation of the world's livestock diversity. Accordingly, the section of the *Global Plan of Action* dealing with implementation and financing foresees a role for international organizations, particularly with regard to providing technical assistance and capacity building, especially to developing countries and countries with economies in transition.¹

2. The Commission for Genetic Resources for Food and Agriculture (Commission), at its Twelfth Regular Session, requested FAO to prepare a progress report on the contributions that the activities of international organizations – other than FAO – are making to the implementation of the *Global Plan of Action*.²

3. Based on an adapted version of the questionnaire endorsed by the Commission at its Twelfth Regular Session for use in assisting countries to report on their implementation of the *Global Plan of Action*, FAO prepared a web-based questionnaire for international organizations, consisting of 57 open and multiple-choice questions (Appendix A). An invitation to complete the questionnaire was sent to 417 international organizations. Addresses were compiled from FAO internal databases of international organizations and databases kept by FAO's Animal Genetic Resources Branch. The organizations approached included donors, regional economic bodies, research organizations, international livestock-industry bodies, and international non-governmental organizations (NGOs) working in the fields of agriculture, rural development and biodiversity. The first invitation was sent on 18 December 2010. Reminders were sent on 11 January and 25 January 2011. Upon request, the deadline was extended to 21 February 2011. By then, 36 organizations had replied (Appendix B). Among them, 18 organizations completed the questionnaire, while 14 others stated that they are not involved in any aspects of the management of animal genetic resources. The remaining four organizations either responded that they are not yet active in this field, but are planning to get involved in the future, or that they could not find the time and human resources to complete the questionnaire within the deadline. Respondents were asked to focus their responses on activities undertaken since the adoption of the *Global Plan of Action* in 2007.

4. This report provides an overview of the findings of the above-mentioned questionnaire survey.³ The activities described are grouped according to their relevance to the four Strategic Priority Areas of the *Global Plan of Action* and follow the structure of the above-mentioned questionnaire.

II. INTERNATIONAL ORGANIZATIONS' CONTRIBUTIONS TO THE IMPLEMENTATION OF THE GLOBAL PLAN OF ACTION

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

5. Eight out of the 18 respondent international organizations⁴ (44 percent) are implementing or supporting the implementation of projects or programmes on phenotypic characterization of animal genetic resources. Much of this work comprises direct involvement in, or support for,

¹ Global Plan of Action for Animal Genetic Resources, Part III.

² CGRFA-12/09/Report, Appendix G (Strategic Plan), (Indicative Timetable and Processes for Animal Genetic Resources for Food and Agriculture).

³ The report is based on the answers provided by the respondent organizations in the survey. FAO did not undertake further research on the animal genetic resources-related work of the respondent organizations or other international organizations.

⁴ The term "respondent (international) organizations" refers to the 18 international organizations that completed the questionnaire.

characterization studies, but some organizations (e.g. the European Federation of Animal Science – EAAP) also provide platforms for publications and exchange of information on the topic.⁵ Examples of support for phenotypic characterization work include the several PhD studies and associated papers on pig, sheep and turkey breeds that have been undertaken under the umbrella of the CONBIAND (Asociación sobre la Conservación de la Biodiversidad de los Animales Domésticos Locales para el Desarrollo Rural Sostenible) Network. The International Center for Agricultural Research in the Dry Areas (ICARDA) has worked on inventory and characterization of small ruminant breeds in Central Asia and the Caucasus and of goat breeds in the Syrian Arab Republic and Ethiopia. It has also produced a field guide on phenotypic characterization of sheep and goats in Arabic and English.⁶ EAAP is a partner in the GLOBALDIV Project (“A global view of livestock biodiversity and conservation”), which is funded by the European Union and covers, *inter alia*, the state of phenotypic characterization at global level. The Secretariat of the Pacific Community (SPC) coordinated the Southwest Pacific Regional Animal Genetic Resources Pilot Project, which was funded by Australia through FAO⁷. This regional project – implemented in Fiji, Niue, Samoa, Solomon Islands, Tonga and Vanuatu – mainly comprised inventory and characterization surveys on indigenous pigs and chickens.⁸ As a supplementary question, respondents were asked to indicate in their responses whether their characterization work includes description of breeds’ production environments. Although this is increasingly regarded as an important aspect of characterization,⁹ it was mentioned specifically in only one response (from EAAP).

6. The international organizations that implement or support the implementation of projects or programmes on phenotypic characterization are also active in the field of molecular characterization (8 out of 18 respondent organizations). For example, the Regional Project on Sustainable Management of Endemic Ruminant Livestock (PROGEBE) integrates phenotypic and molecular characterization data as a means of cross-checking breed distribution. The Save Foundation has collected samples for molecular characterization of Busha cattle and pig breeds in Albania. Within the CONBIAND¹⁰ Network, several consortia working on molecular characterization (e.g. BIOOVIS; BIOPIGS; BIOGOATS) have been established. ICARDA has conducted molecular characterization work on several goat breeds in the Near East, North Africa and Ethiopia, and the International Livestock Research Institute (ILRI) has worked on pigs in Viet Nam, and goats in Bangladesh and four West African countries. Other examples of activities in this field include work done by the International Society of Animal Genetics (ISAG) – on a range of species worldwide – and by the EAAP Genetic Commission, its Working Group on Animal Genetic Resources and the GLOBALDIV Project.

7. The same proportion (8 out of 18 respondent international organizations – 44 percent), but a partially different group of organizations, implement or support the implementation of projects or programmes for surveying the size and structure of animal breed populations and monitoring population trends. For example, ILRI conducts surveys on selected indigenous goat, sheep and cattle breeds in sub-Saharan Africa, and on pig, goat and chicken breeds in Bangladesh, Pakistan, Sri Lanka and Viet Nam; the SAVE (Safeguard for Agricultural Varieties in Europe) Foundation organizes monitoring projects for donkeys, Busha cattle and pigs in the Balkans and the Alps; and the International Wool Textile Organization monitors specific animal populations in

⁵ The 2008 EAAP annual meeting in Vilnius addressed the issue of animal genetic resources and the 2009 meeting in Barcelona (<http://www.wageningenacademic.com/clientfiles/EAAP/9789086866700eaap2009-e.pdf>) dealt with the future of local breeds.

⁶ <http://icardablog.wordpress.com/2010/08/31/phenotypic-and-molecular-characterization-of-small-ruminant-breeds-in-libya-field-guide-enar>

⁷ GCO/GLO/157/MUL.

⁸ The final report of the project has been submitted to FAO.

⁹ CGRFA/WG-AnGR-6/10/Inf.6.

¹⁰ Asociación sobre la Conservación de la Biodiversidad de los Animales Domésticos Locales Para el Desarrollo Rural Sostenible.

all main wool grower countries (e.g. Argentina, Australia, New Zealand, South Africa, the United Kingdom and Uruguay).

8. Ten of the 18 respondent international organizations (56 percent) implement or support the implementation of projects on the identification and monitoring of threats to animal genetic resources. The thematic and geographic foci of this work mainly correspond to those described in the paragraphs above, as survey programmes often include both assessments of population status and assessments of the threats faced by the respective breeds or populations. The Global Invasive Species Programme supports activities at international, regional and national levels to provide policy guidance, develop capacity and raise awareness of the threat posed by invasive species to animal genetic resources, and, where appropriate, the threat posed by the movement of animal genetic resources. At the coordination meetings of the CONBIAND Network, every country representative presents a detailed report that includes the main threats to the respective country's animal genetic resources and possible means for addressing the threats detected. The League for Pastoral Peoples and Endogenous Livestock Development (LPP) supports programmes related to the identification of threats and has published several booklets on this subject, mainly based on surveys on the erosion of animal genetic diversity in India.¹¹

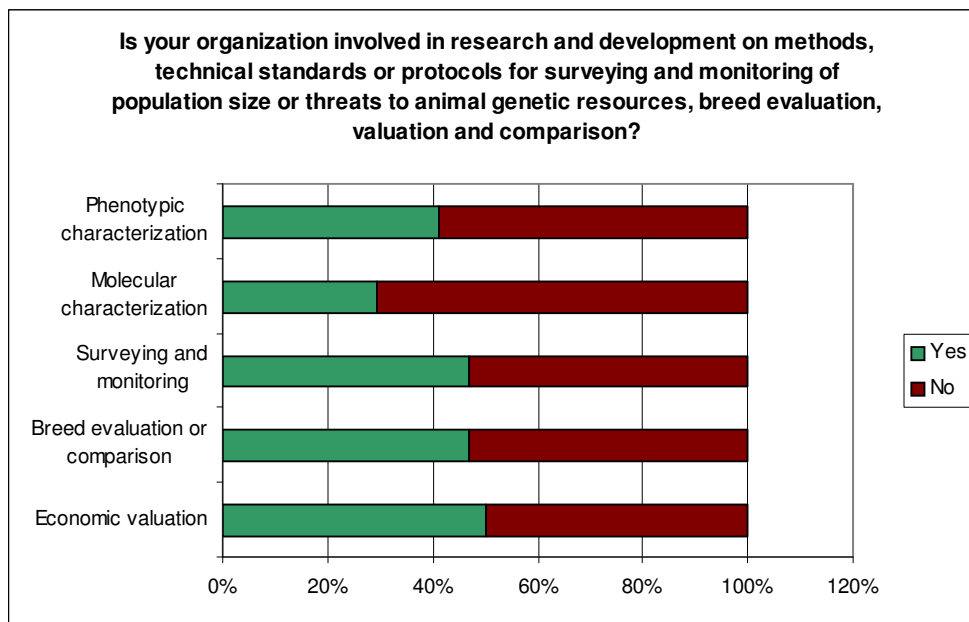
9. Six of the 18 respondent organizations (33 percent) support countries in the development of early warning and response systems (EWRS) for animal genetic resources. In the majority of cases the support is indirect. For example, some international organizations (e.g. SAVE Foundation) support national NGOs active in this field; others promote information exchange and experience sharing (e.g. CONBIAND Network) or implement projects in related fields (e.g. EAAP's work on the European Farm Animal Biodiversity Information System¹² – EFABIS). Some respondents state, that they have not yet worked explicitly on this topic, but are planning to do in the future. Thus, for instance, the SPC plans to develop EWRS for all the countries and territories of the region, with a particular focus on indigenous pigs and chickens. The African Union Interafrican Bureau of Animal Resources (AU-IBAR), within the scope of its technical assistance programmes to develop policies for the utilization and conservation of animal genetic resources, plans to develop decision-making tools such as EWRS.

10. Almost half of the respondent international organizations are involved in research and development on methods, technical standards or protocols for surveying and monitoring of population size or threats to animal genetic resources, and breed evaluation, valuation and comparison. Fewer are involved in research on methods for molecular characterization than in research on other topics (Figure 1). Specific examples include ILRI's development (within the above-mentioned characterization projects) of community-level breed survey protocols for small and large ruminants, and poultry. ISAG supports fundamental and applied scientific research in the field of animal genetics with a clear emphasis on molecular methods. In the field of economic valuation, Bioversity International identifies and assesses valuation methodologies, decision-support tools, incentive mechanisms and policy intervention points for the conservation and sustainable use of agricultural biodiversity, including animal genetic resources. EAAP annual meetings provide forums for the presentation of research papers on the development of protocols and methodologies.

¹¹ <http://www.pastoralpeoples.org/>

¹² European Farm Animal Biodiversity Information System (<http://efabis.tzv.fal.de/>).

Figure 1. Involvement of respondent organizations in research relevant to Strategic Priority Area 1 of the Global Plan of Action



11. The respondent international organizations identified the following major obstacles to inventory, characterization and monitoring of animal genetic resources:

- lack of financial resources;
- lack of local expertise and specialization;
- lack of political support; and
- lack of standardized methodologies.

Bioversity International provided a detailed assessment of constraints in its field of work: “data availability is becoming a constraint to economic characterization, rather than just the lack of appropriate analytical frameworks. The type of primary data required is related to farmers’ preferences for different genetic resource attributes and value placed on these across breeds and production systems. Such intensive, primary data collection implies a need for the related tools and methods to be applied in conjunction with participatory rural appraisal methods. Capacities to do this are limited in many countries ...”

12. To address the above-named obstacles, the respondent organizations proposed the following priority measures:

- technical and institutional capacity building and training (including expert assistance from FAO);
- provision of sufficient financial resources for inventory and characterization;
- standardization of methodologies used in characterization studies, better coordination among initiatives, and better targeting to ensure that studies focus on providing information that is relevant to animal genetic resources management and livestock-keeping livelihoods;
- awareness raising on the importance of characterization studies and the use of economic methods, including more engagement with policy-makers and livestock-keeping communities;
- integration of inventory and characterization activities into national and regional plans for animal genetic resources management; and

- development of supporting policies and frameworks, including those related to international exchange of genetic material for scientific purposes.

Strategic Priority Area 2: Sustainable use and development

13. Twelve of the 18 respondent international organizations (67 percent) support countries in developing, reviewing and/or adjusting their national policies affecting the sustainable use of animal genetic resources. This support takes a variety of forms. Some organizations have supported one or more countries in the development of specific policies and laws (e.g. ICARDA, CONBIAND Network, ILRI). The Secretariat of the Pacific Community provides advice and support on policy matters to its member countries. The Global Invasive Species Forum supports countries in the development of national strategies and action plans for invasive alien species. Some organizations provide technical support (e.g. Bioversity International) or relevant information via symposia, workshops and publications (e.g. EAAP). Others are involved in advocacy or awareness raising (e.g. LPP, PROGEBE). LPP also facilitates interactions between pastoralists and policy-makers. Overall, the responses suggest that relatively few countries have received direct support from international organizations in the development of specific animal genetic resources-related policies or laws. However, AU-IBAR reports plans to undertake work in this field across all African Union countries and all livestock species, commencing in 2012.

14. Fifteen of the 18 respondent international organizations (83 percent) are currently promoting agro-ecosystem approaches. Hence, the majority of respondents support the integration of animal genetic resources management within broader, holistic, approaches to livelihood development and biodiversity management. A range of more specific objectives are mentioned, including fostering the integration of livestock keeping/animal genetic resources management with crop production/plant genetic resources management, rangeland management or agroforestry (e.g. Bioversity International, PROGEBE, Heifer International); promoting a landscape approach that integrates livelihoods and biodiversity management (International Centre for Integrated Mountain Development – ICIMOD, SAVE Foundation); ensuring that livestock's role in preserving wild biodiversity is recognized and supported (LPP); promoting better matching of breeds to current and predicted future production environments (ILRI); and accounting for non-market values in decision-making (Bioversity International). Specific actions include extension and training of technicians (PROGEBE), organizing workshops and symposia that address the topic (EAAP, LPP), producing information materials (SAVE Foundation)¹³ and promoting partnerships and knowledge sharing (Global Forum on Agricultural Research – GFAR).

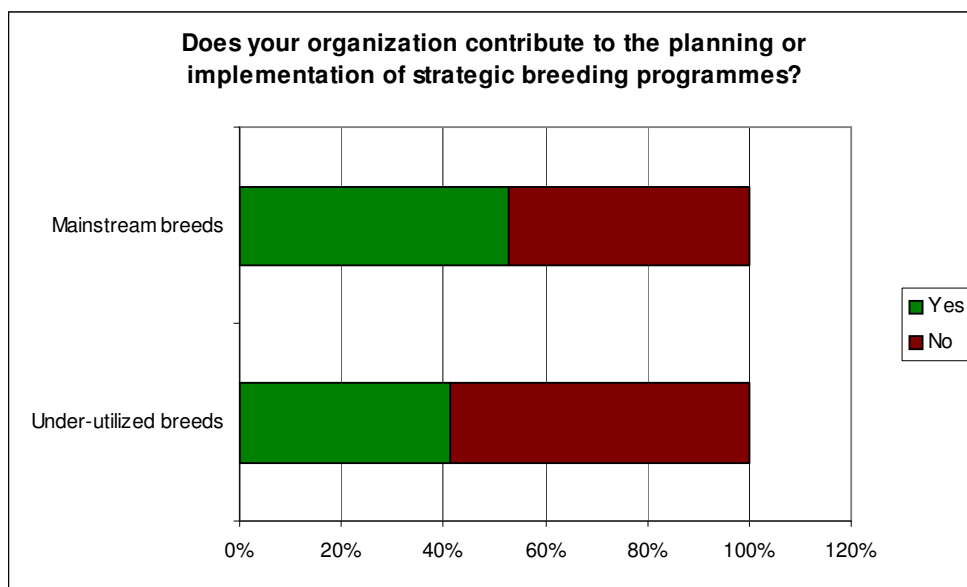
15. Nine of the 17 international organizations (53 percent) indicated that they contribute to the planning or implementation of strategic breeding programmes dealing with mainstream breeds. Seven of the 17 respondents (41 percent) do the equivalent for under-utilized breeds (Figure 2). Specific examples were provided by ICARDA and ILRI. The former implements community-based breeding programs for goats (Tajik Mohair goats in Northern Tajikistan to improve fibre fineness, Tajik Cashgora mixed type in southeast Tajikistan to improve cashgora yield and quality, Raini Cashmere goats in the Islamic Republic of Iran to improve fibre fineness) and for sheep (Horro, Menz and Bonga in Ethiopia to improve growth and fertility, Afar in Ethiopia to improve milk production, Kyrgyz Merino to improve fibre fineness and homogeneity).¹⁴ ILRI implements dairy cattle breeding and productivity improvement projects for mainstream breeds in Kenya, Uganda and Rwanda. Among underutilized breeds, it implements projects on Djallonke sheep and West African Dwarf goats in Guinea, Mali, Senegal and the Gambia, as well as Red Maasai sheep in Kenya and Horro, Menz, Bonga and Afar sheep in Ethiopia; and several indigenous goat, chicken and pig breeds in Bangladesh, Viet Nam, Sri Lanka and Pakistan. The CONBIAND Network reports that several breeding programmes for local breeds (both at risk and not at risk) are supported by members of the network. EAAP closely cooperates with the International Committee for Animal Recording (ICAR) and its INTERBULL

¹³ <http://www.save-foundation.net/docu/en/TAES.pdf>

¹⁴ The respondent from ICARDA explained that the breeds in question are not “underutilized”.

Sub-Committee in planning and implementing strategic breeding programmes based on performance recording, assessment of market needs and trends, sustainability and protection of biodiversity. The SPC supports countries in the implementation of programmes for pigs, chickens, sheep, cattle and goats. Other activities in this field include facilitation of regional consultation and experience sharing (PROGEBE) and the compilation and publication of research papers (EAAP).

Figure 2. Contribution of respondent organizations to the planning and implementation of strategic breeding programmes



16. Nine of the 18 respondent organizations (50 percent) contribute to the development of recording systems and/or organizational structures for breeding programmes. The implementation of recording systems is an element of many of the projects mentioned above. In some cases, work on the development of recording systems is ongoing. The International Fund for Agricultural Development (IFAD) reports that occasionally the projects it supports include activities that contribute to the development of livestock recording systems (e.g. in Lesotho and the Syrian Arab Republic) or organizational structures for breeding programmes (e.g. in Mongolia). Related activities reported by other organizations include technical assistance and advice to countries (SPC), promotion of software and herd books (SAVE Foundation), and facilitating exchange of experiences through study commissions and working groups (EAAP).

17. Nine of the 18 respondent international organizations (50 percent) implement or support projects and programmes that involve the use of exotic breeds. Among them, only three organizations stated that they have made assessments of the long-term impacts of the use of exotic breeds on animal genetic resource diversity, livelihoods or food security in the affected countries and production systems. ILRI has conducted research that provides evidence for the competitiveness of cross-bred commercial dairy cattle and dairy goat grades under intensive smallholder production systems. The SPC reports that although it has conducted no specific assessment it is aware of the risks to genetic diversity associated with inappropriate use of exotic breeds. ISAG has conducted research on the genetic diversity of breeds and their relationships with other breeds. IFAD states that the introduction of exotic breeds is mostly linked to dairy development, and that in Burundi, for example, where the organization is supporting dairy development, some assessments have been made on the long-term economic impact of introducing exotic breeds (which are, however, adapted to Eastern Africa conditions). Overall, the findings suggest that while there is considerable awareness among the survey respondents that introductions of exotic genetic resources should be preceded by assessments of their suitability for use in the local production environments, few international organizations have, to date, conducted

assessments specifically to investigate the potential implications of their breed-introduction activities for genetic diversity. However, AU-IBAR reports that in 2012 it will start a study on the effects of cross-breeding on breeds in Africa.

18. Ten of the 18 respondent organizations (56 percent) have implemented or supported the implementation of animal genetic resources-related projects that aim to promote sustainable intensification of livestock production. Several respondent organizations aim to improve the marketing of livestock products as a means of supporting livelihoods and promoting sustainable use of animal genetic resources. LPP, for example, has been helping to develop a market for camel milk supplied by Raika pastoralist communities in Rajasthan, India. GLOBALG.A.P. (Global Good Agricultural Practices) mentions its Primary Farm Assurance Project, which aims to train smallholders in developing countries as part of efforts to promote market access based on quality assurance in primary livestock production. Other organizations indicate that their approach to intensification involves integrated work on various aspects of livestock production such as health, feeding, herd management and housing. PROGEBE, for example, targets endemic ruminant breeds with programmes of this kind. ILRI mentions that it is a key partner in the East African Dairy Development Project, which aims to improve the productivity of dairy cattle herds under intensive smallholder production. ICARDA mentions the intensification of Awassi dairy sheep in the Syrian Arab Republic through introduction of Turkish Awassi (selected for milk production) and intensified feeding and management. The SPC indicates that it provides support for a pig-breeding programme in Vanuatu that aims to produce animals suitable for use in climate-change adaptation.

19. One important role of international organizations is facilitating interactions among the various stakeholders, scientific disciplines and sectors involved in planning the sustainable use and development of animal genetic resources. Two-thirds of the respondent organizations report activities of this type. Examples include:

- organizing workshops and symposia (CONBIAND Network, PROGEBE);
- establishing electronic platforms such as web sites and e-mail listings (SPC);
- conducting interdisciplinary studies (Bioversity International on economic policy) and projects (ILRI);
- organizing meetings with industry and national stakeholders – and involving them in working groups (EAAP); and
- creating stakeholder networks (SAVE Foundation).

20. Ten of the 18 respondent organizations (56 percent) conduct activities that improve farmers' and livestock keepers' knowledge of animal genetic resources. These activities include, for example, the provision of training, advice or assistance for technicians or livestock keepers (e.g. CONBIAND Network, PROGEBE, SPC). Information is also disseminated via stakeholder networks, workshops, conferences, publications and electronic media (e.g. SAVE Foundation, CONBIAND Network, EAAP). ILRI's projects embrace participatory on-farm action-research, and include systems for providing feedback to participating livestock keepers.

21. Ten of the 18 respondent organizations (56 percent) conduct activities that improve farmers' and livestock keepers' access of to animal genetic resources. For example, PROGEBE builds the capacity of breeders' organizations to disseminate genetic material; ILRI assesses delivery options and informs livestock keepers and other stakeholders about them; SPC identifies sources of genetic material for Pacific Island States and facilitates access. ICARDA reports several examples: a project in Kyrgyzstan introduced farmers to Awassi dairy sheep and started a cross-breeding programme; another in the same country involved introducing farmers to Aikol rams (a synthetic breed developed from Gissar and local coarse-wool sheep) in a pilot programme to improve the local coarse-wool sheep; and, in Tajikistan, households keeping Gissar sheep were brought into contact with larger farmers keeping much higher-quality Gissar sheep, in order to

improve the genetics of their flocks. IFAD improves access to genetic resources in dairy development projects through strengthening artificial insemination services and occasionally distributes “improved”¹⁵ rams for cross-breeding.

22. Eight of the 18 respondent organizations (44 percent) contribute to the development of agreements for equitable sharing of benefits arising from access to, and use and development of, animal genetic resources. Generally, this is done by providing forums for discussion and dialogue among stakeholders or through policy analysis. To give a particular example, LPP has facilitated the development of biocultural community protocols¹⁶ as a means of promoting equitable sharing of benefits arising from access to, use and development of animal genetic resources. Biocultural community protocols are tools that facilitate culturally rooted, participatory decision-making processes within communities with the aim of asserting rights over their communally managed lands and traditional knowledge.

23. Eleven of the 18 respondent organizations (61 percent) state that their activities contribute to efforts to preserve and respect indigenous or local production systems and associated traditional knowledge and practices related to animal genetic resources. To give examples: PROGEBE states that identifying traditional knowledge and practices and adapting them to current conditions is a key element of its activities; ICARDA works with sheep and goat keepers and helps them utilize their animals more sustainably through low-cost feeding, rangeland rehabilitation and value addition, which in turn supports the preservation of local production systems; several of ILRI’s projects support the sustainable management of indigenous breeds. Also relevant to this topic is LPP’s above-described work on biocultural community protocols.

24. Thirteen out of 18 respondent organizations (72 percent) implement or support the implementation of projects that aim to promote the marketing of products from local breeds or local production systems. Examples include the following:

- the Poverty Alleviation Project for Raika Pastoralists, which promotes camel-milk ice cream, camel-dung paper and camel-hair clothes and accessories (LPP);
- development of labelling for traditional products from autochthonous breeds in Europe (SAVE Foundation);
- value chain projects (e.g. rural poultry, small ruminant, camelid and pig products) (IFAD); and
- the marketing of fibre products in Tajikistan and felting products from Kyrgyz Merino wool in Kyrgyzstan (ICARDA).

Some other organizations state that more focus on integrated marketing of products from local breeds is a priority for the future (e.g. SPC, CONBIAND Network).

25. The respondent organizations identified numerous obstacles to enhancing the sustainable use and development of animal genetic resources, ranging from constraints at the level of the community or production system, to political factors and lack of management capacity at national level. The following were among the specific constraints identified:

- factors that limit access to grazing land (expansion of crop production, wildlife reserves, etc.);
- exotic pests and diseases;
- loss of indigenous knowledge, skills and institutions, which can occur very rapidly if livestock-keeping livelihoods breakdown for economic or social reasons; and the attractions of alternative livelihoods and lifestyles (e.g. city life);

¹⁵ Quotation marks in original response.

¹⁶ http://www.pastoralpeoples.org/docs/BCP_for_livestock_keepers_web.pdf

- promotion of high-output breeds;
 - weakened traditional institutions in rangeland areas and problems in establishing livestock keepers' associations because of bad experiences with cooperatives in the past (Central and West Asia and North Africa Region);
 - inadequate infrastructure in rural areas, and missing or insecure supply chains;
 - inadequate differentiation of local products;
 - lobbying by agribusinesses;
 - inadequate national policies, institutions and breeding programmes;
 - lack of political support for sustainable use, including negligence of farming as a whole in some developed countries;
 - lack of interest in lower-producing breeds in countries that are concerned about covering their needs in term of milk and meat;
 - lack of awareness of the productive potential of local breeds;
 - inadequate characterization;
 - lack of economic methods and decision-support tools for sustainable use;
 - lack of financial resources to implement animal genetic resources management activities;
 - lack of continuity in personnel involved in animal genetic resources management; and
 - lack of technical and organizational capacity at national level.
26. To address these obstacles the respondents proposed the following priority measures:
- awareness raising and advocacy among policy-makers regarding the importance of local breeds;
 - strengthening national policies and institutions, including providing help to countries in the development and implementation of appropriate policies for the development of national animal genetic resources;
 - establishing and strengthening livestock keepers' associations;
 - promoting market regulation to facilitate differentiation between mainstream and traditional livestock products such as those linked to some specific community;
 - improving the funding infrastructure (e.g. starter funds for small businesses);
 - expanding capacity-building opportunities for livestock keepers (e.g. on hygiene standards);
 - improving training and specialization among young postgraduates;
 - improving the characterization of animal genetic resources, their management systems and their products;
 - evaluating alternative breeding strategies and development of breeding objectives that include relevant fitness traits;
 - development of community-driven livestock breeding programmes;
 - strengthening livestock keepers' rights;¹⁷ and

¹⁷ The concept of Livestock Keepers' Rights was developed by civil society and is advocated by a group of non-government organizations, livestock keepers, pastoralist associations and scientists who support community-based conservation of local breeds. The following are among the key elements: recognition of livestock keepers as creators of breeds and custodians of animal genetic resources for food and agriculture; recognition of the dependency of the sustainable use of traditional breeds on the conservation of their respective eco-systems; recognition of traditional

- constant animal disease monitoring.

27. Eleven of the 18 respondent organizations (61 percent) provide or support the provision of training or technical support programmes for animal breeding activities in pastoralist and farming communities. Activities include building partnerships with relevant stakeholders, facilitating workshops and seminars, publishing studies and reports, providing support on updating national databases on animal genetic resources, supervising graduate students in related fields and organizing technical support programmes for community-based breeding. To give a concrete example: the CONBIAND Network participates in two master-level studies programmes, which give specific training in conservation of animal genetic resources, traditional management systems and local products.

28. Some organizations also reported their priorities for future training or support programmes. These comprise, for instance, training livestock keepers in husbandry techniques, complemented by training national experts in genetics and setting up a regional coordinating mechanism (PROGEBE), developing guidelines or providing training on community-driven livestock breeding programmes (ICARDA, IFAD); providing training on marketing speciality products and use of livestock in nature management and tourism (SAVE Foundation); building capacity on policy and economic matters, particularly among national decision-makers involved in livestock development (Bioversity International); and developing training materials, particularly for farmers' organizations (ILRI). LPP is planning training camps for herders, one aspect of which will be intercultural exchange between livestock keepers from different parts of the world. The Global Invasive Species Programme provides training and policy guidance related to the links between animal genetic resources management and invasive alien species.

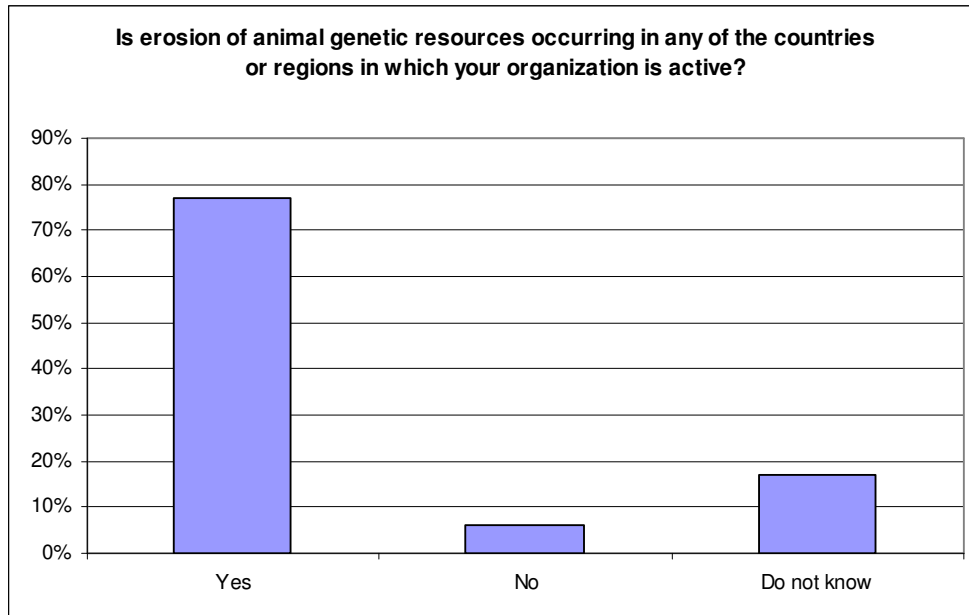
Strategic Priority Area 3: Conservation

29. Fourteen of the 18 respondent organizations (78 percent) stated, that erosion of animal genetic resources is occurring in the countries or regions in which they are active (Figure 3). Specific cases mentioned by the respondents include the following:

- ICARDA – local cattle breeds in nearly all the countries of West Asia and North Africa have disappeared, because cattle there are mostly kept for milk production in the more favourable agricultural zones (where rainfall is higher) and under these conditions local cattle breeds cannot compete in milk production with Holstein-Friesian composites or pure Holstein-Friesians.
- LPP –the Nagauri cattle breed of India is very much in decline because of a fall in demand for fast bullocks; camel populations in Asia have generally also been in decline;
- ILRI – the Red Maasai sheep breed of East Africa has declined as a result of crossing to the Dorper breed, the latter being preferred by the local meat markets although the animals are less resilient; also in decline are local chicken populations in Bangladesh, Sri Lanka and Viet Nam, and (due to uncompetitiveness) indigenous pigs in Viet Nam.
- PROGEBE – ruminant breeds in West Africa are adversely affected by the intrusion of Sahelian breeds into subhumid areas and also by the spread of artificial insemination.

breeds as collective property, products of indigenous knowledge and cultural expression; recognition of the right of livestock keepers to make breeding decisions and use their genetic material, without fear of misappropriation and interference through intellectual property rights; and recognition of right to be involved in the identification of research needs on their breeds.

Figure 3. View of respondent organizations regarding the erosion of animal genetic resources



30. From a more general perspective, the CONBIAND Network reports that pressure from agribusiness and its influence on governmental policies in developing countries negatively affect local breeds, while in developed countries breeds are threatened by “abandonment” of farming. Other factors mentioned by the respondents include land use and availability in pastoral areas, and a lack of infrastructure, such as roads and markets in farming areas; market demand for cheaper conventional products (mentioned by Heifer International); and the actions of livestock development projects that promote exotic animals (mentioned by IFAD). The SPC states that it suspects that important breeds have been lost in the region, but that the relevant surveys have not been undertaken.

31. Four of the 18 respondent organizations (22 percent) support the establishment of emergency response systems that provide for immediate action to maintain threatened breeds. The most directly relevant activity reported in this area is the implementation of the European Livestock Breeds Ark and Rescue Net (ELBARN) Project¹⁸, in which the SAVE Foundation is a partner. The CONBIAND Network reports “isolated initiatives”. ILRI states that its Domestic Animal Genetic Resources Information System (DAGRIS)¹⁹ contains information relevant to the analysis of threats and population trends. The SPC states that although it supports the idea of taking emergency actions, resources for monitoring risk status – and hence identifying threatened breeds – and for implementing responses are insufficient. Also relevant (but mentioned in response to another question – and described as the only such example) is ICARDA’s action taken in support of the Sicilo-Sarde sheep breed in Tunisia.²⁰ In short, the findings indicate that – particularly outside Europe – the activity of international organizations in this field of action is quite limited.

32. Six of the 18 respondent international organizations (33 percent) take or support actions to protect breeds and populations that are at risk from natural or human-induced disasters. Reports of direct interventions in this field are, again, limited. PROGEBE reports plans to cryoconserve

¹⁸ www.elbarn.net

¹⁹ <http://DAGRIS.ILRI.CGIAR.ORG>.

²⁰ Djemali, M., Bedhiaf-Romdhani, S., Iñiguez, L., Inounou, I. 2009. Saving threatened native breeds by autonomous production, involvement of farmers organization, research and policy makers: The case of the Sicilo-Sarde breed in Tunisia, North Africa. *Livestock Science*, 120(3): 213–217.

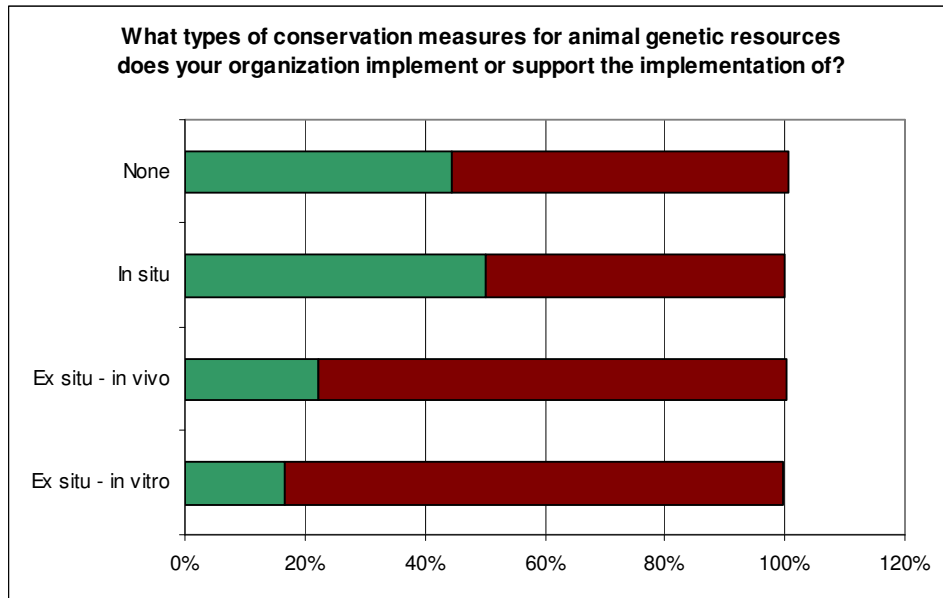
embryos (hence establishing a back-up source of genetic material that could be drawn upon following a disaster). EAAP states that it aims to inform and influence the public and policy-makers by publishing information about such threats on its web site. The SPC emphasizes the fact that its region is prone to many types of natural disaster, but states that it relies on countries to identify breeds that are threatened by such events and to request its assistance.

33. In response to a question about the state of conservation policies in the countries and regions where they operate, the respondent international organizations mainly describe the state of such policies as poor, poorly coordinated, non-specific or non-existent. Most European countries and some South American countries (Brazil, Colombia) are mentioned as exceptions. Within the European Union, national efforts are complemented by measures taken at regional level. However, there is a suggestion that even where policies are in good state, implementation often does not work well. The SPC states that improving conservation policies is one of its priorities, but that this will require both awareness raising and financial and technical assistance.

34. Eight of the 17 international organizations (47 percent) which responded to the respective question, do not implement or support the implementation of any type of conservation measures for animal genetic resources. Those who do are mainly involved in *in situ* conservation (Figure 4). In this context, LPP states that “in recent years, a widespread consensus has developed that the best way to conserve breeds is by maintaining them as part of functional production systems and in the social and ecological contexts in which they were developed (and continue to develop). Thus there is a strong rationale for community-based conservation of livestock breeds.” Consequently LPP promotes the concept of endogenous livestock development, based on indigenous knowledge and institutions and on local resources (e.g. breeds and feed), as a means to help livestock keepers maintain their traditional livelihoods. Other examples of organizations supporting *in situ* activities include ILRI, which mentions its participation in the PROGEBE project in West Africa (four countries) as well as projects in East Africa (five ASARECA²¹ countries) and four Asian countries; Heifer International, which states that its projects in all the 50 countries where it operates are initiated using local breeds, with increasing levels of cross-breeding introduced when livelihoods improve; and the CONBIAND Network, which mentions training, research and technical support, as well as concrete actions at national level. The only mention of efforts to establish *ex situ* collections is PROGEBE’s response that it has plans to build a partnership with the Centre International de Recherche-Developpement Sur l’Elevage en Zone Subhumide (CIRDES) for this purpose.

²¹ Association for Strengthening Agricultural Research in Eastern and Central Africa.

Figure 4. Types of conservation activities implemented or supported by the respondent organizations



35. Five of the 18 respondent organizations (28 percent) are conducting research on methods and technologies for *in situ* or *ex situ* conservation of animal genetic resources. The research activities in question vary according to the organizations' focus areas. Biodiversity International reports that it is undertaking research in the following areas: exploration of how payment for environmental services concepts could be applied to the conservation of agrobiodiversity, including animal genetic resources; assessment of alternative instruments (e.g. direct payments, use of competitive tenders, niche market development) and payment mechanisms (e.g. monetary vs. non-monetary; individual vs. community-level) in terms of effectiveness, efficiency and equity; and assessment of how a cost-effective diversity-maximizing conservation programme design might result in more effective and lower-cost outcomes. ILRI works on fine-tuning protocols for *in vitro* maturation of indigenous cattle embryos for possible strategic use in conservation programmes.

36. The respondent organizations identified the following major obstacles to enhancing the conservation of animal genetic resources:

- the high costs of the required activities;
- lack of financial resources (including because of pressures to reduce public spending in general);
- lack of expertise and institutional capacity;
- lack of awareness among the public, which contributes to a lack of financial resources;
- lack of awareness among key stakeholders regarding the roles they should be playing;
- lack of comparative analysis and evaluation of the performance of indigenous breeds;
- lack of comprehensive mapping of current and future livestock production systems;
- unorganized cross-breeding activities; and
- export regulations and concerns about “biopiracy” that impede the exchange of genetic material – the response from the ISAG stated that as a result, several countries are “white spot[s] on the genetic map.”

37. To address these obstacles the respondents mainly emphasized the priority measures mentioned under Strategic Priority Areas 1 and 2 – namely awareness raising and resource mobilization, training of livestock keepers and technicians, experience sharing, networking, better coordination of programmes, technical assistance for strategic planning at national level, and development of new, more cost-efficient, techniques. Other priorities mentioned included developing practical incentives for conservation programmes, developing long-term well-thought-out breeding programmes and establishing regulations that – under specified conditions – exempt the exchange of animal genetic resources samples for purely scientific research from lengthy bureaucratic procedures. Some organizations stressed the need for harmonized legal and policy frameworks for conservation as well as for reliable studies to identify threatened breeds. There was also support for the establishment of national and, preferably, international cryoconservation facilities (gene banks).

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

38. Eight of the 17 organizations (47 percent) that responded to the respective question support or facilitate the establishment of institutional frameworks for planning and implementing animal genetic resources programmes. They do so by providing fora for exchanging information and experiences (e.g. workshops, networking), and through consultations and technical support. ILRI conducts assessments of existing frameworks with the aim of identifying weaknesses and means to address them (e.g. for cattle and sheep in four countries of West Africa). The SAVE Foundation mentions its work in southeastern Europe. LPP mentions its work on Livestock Keepers' Rights and Biocultural Community Protocols (see above). IFAD states that it would support the establishment of institutional frameworks for planning and implementing animal genetic resources programmes upon request of member states. AU-IBAR states that work in this field is the “core of a project” to start in 2012.

39. Nine of the 17 organizations (53 percent) that responded to a question about whether they support countries in formulating or implementing national strategies and action plans for animal genetic resources indicated that they do so. SPC, for instance, states that it has ongoing online contact with its member countries to support them in this regard. Some organizations report that they provide support in this area indirectly through research activities and publications (e.g. EAAP). ILRI mentions the concrete examples of its participation in, and facilitation of, workshops that developed breeding programmes (rather than broader national strategies and action plans for animal genetic resources) in Kenya and the United Republic of Tanzania. Similarly, ICARDA mentions support for the development of a national breeding strategy in the Libyan Arab Jamahiriya. Again, some organizations stated that they would, upon request, support countries in formulating and implementing national action plans (SAVE Foundation, IFAD).

40. Eight of the 16 organizations (50 percent) which responded to the respective question contribute to the development of regulatory frameworks or legislation for animal genetic resources. These contributions include analysis of policy matters related to animal genetic resources management, including access and benefit sharing issues (e.g. Biodiversity International). As an example of more direct support, ILRI mentions that its scientists participated in discussions on Kenya's draft Livestock Breeding Bill.

41. Five of the 16 organizations (31 percent) that responded to the respective question have a database or information system for animal genetic resources-related data. Examples include EFABIS²² (EAAP), DAGRIS²³ (ILRI) and the SAVE Foundation's breed atlas internal database. The Animal Health and Production Team of the SPC has established a database comprising information collected through surveys on chickens and pigs in Fiji, Niue, Samoa, Solomon Islands, Tonga and Vanuatu. The CONBIAND Network states that it considers existing information systems to be sufficient, and that there is a need to collaborate in the updating and

²² <http://efabis.tzv.fal.de/> (EFABIS is part of a network of information systems that exchange data with DAD-IS).

²³ <http://dagris.ilri.cgiar.org/>

improvement of the Domestic Animal Diversity Information System (DAD-IS) and other systems. AU-IBAR reports that it is working on the construction of a database.

42. Fifteen of the 16 organizations (94 percent) that responded to the respective question, have collaborative links to other stakeholders involved in the management of animal genetic resources. These links include research networks linking the respondent organizations to institutions such as universities. Also mentioned are technical partnerships for field activities or for organizing workshops. ILRI and Heifer International state that all their projects and programmes involve links to relevant stakeholders, although the latter states that animal genetic resources conservation issues are not priorities in these partnerships. ICARDA reports links to FAO, ILRI and National Agricultural Research Systems (NARS) in its work on animal genetic resources management. LPP is another active participant in animal genetic resources-related networking. For example, it collaborates with the World Herders Council in holding conferences that bring pastoralists together to explore their common interests, exchange experiences and lobby for policy changes. It works within Drynet – a European Union-funded project focusing on desertification, drylands and land degradation – and the LIFE Network, a group of organizations concerned with future of local breeds and livestock-keeping livelihoods, and collaborates with a number individual NGOs.

43. Ten of the 16 organizations (63 percent) that responded to the respective question cooperate with breeders' organizations. Activities include cooperation in breeding programmes, (e.g. CONBIAND Network, PROGEBE) and conservation activities (SAVE Foundation), training and capacity building (e.g. CONBIAND Network). As a more specific example, ILRI supports the National Livestock Breeders Organization in Kenya by providing backup to their performance and pedigree records and giving technical support in the management of their database. Some Heifer International projects involve breed organizations in the supply of semen. LPP reports several collaborative activities. Partners include Lokhit Pashu-Palak Sansthan, a non-profit organization that supports Raika camel pastoralists in India.

44. Ten of the 17 organizations (59 percent) that responded to the respective question support the establishment or strengthening of community-based organizations, networks or initiatives for sustainable use, breeding or conservation. For example, the SAVE Foundation supported the establishment of NGOs, such as RARE in Italy and Amaltheia in Greece, while ICARDA facilitates community-based breeding programmes in Ethiopia, Tajikistan and the Islamic Republic of Iran. PROGEBE regularly invites livestock-keepers leaders to its workshops. Heifer International's East Africa Dairy Development programme has developed a dairy association that facilitates the involvement of producers in training and in the marketing of milk commodities. ILRI, in cooperation with national research departments in Ethiopia and four West African countries and other stakeholders, implements community-based sheep breeding programmes that include strengthening the capacities of the communities concerned. LPP is involved in several initiatives in this field (see examples above).

45. Thirteen of the 17 organizations (77 percent) that responded to the respective question implement or support the implementation of training or capacity-building programmes for animal genetic resources management, often in cooperation with research institutions or other organizations. Hence the CONBIAND Network facilitates undergraduate (e.g. courses in agronomy and veterinary studies), masters and PhD studies. LPP is involved in the implementation of training and capacity-building programmes in cooperation with the LIFE-Network. ICARDA and ILRI support regional training courses in collaboration with other organizations (e.g. ICARDA's support for FAO training on recording and traceability and on cryoconservation, and ILRI's training activities in East Africa in collaboration with FAO, ASARECA and the Afar Pastoral Agropastoral Research Institute). ICARDA also implemented its own training programme for NARS scientists in Iraq, the Libyan Arab Jamahiriya and Ethiopia. ILRI develops and maintains its Animal Genetic Training Resource.²⁴ Its priorities for

²⁴ <http://AGTR.ILRI.CGIAR.ORG>.

future training and capacity building include developing manuals on breeding programmes for farmers and support technicians, and developing, and providing training on, simple and sustainable recording systems and databases. The SPC conducts training activities, workshops and awareness-raising talks in its member countries and territories. EAAP supports capacity-building through its participation in international projects such as GLOBALDIV and EFABIS. Its plans for the future include increased support for participation of young scientists in its activities.

46. Eleven of the 17 organizations (65 percent) that responded to the respective question implement or support the implementation of programmes to increase public awareness of the roles and values of animal genetic resources. This is done, *inter alia*, via publications, web sites, flyers, short video clips and by organizing and facilitating workshops and meetings. Specific examples mentioned by the respondents include GLOBALG.A.P.'s Primary Farm Assurance Project, the European Agrobiodiversity Day and the Arca-Net internet portal²⁵ (SAVE Foundation) and numerous publications produced by LPP.²⁶

47. Respondents were asked to list any other activities relevant to the implementation of Strategic Priority Area 4. The following were among the activities mentioned in response:

- strengthening the involvement of regional organizations in animal genetic resources management;
- promoting meetings and dialogue between the “three pillars of conservation”: state, science and civil society;
- adding a “cultural dimension” to international cooperation in animal genetic resources management, i.e. identifying opportunities arising from cultural similarities among countries rather than merely from geographical proximity or political links; and
- streamlining policies at national and regional levels to support effective breeding and conservation programmes for animal genetic resources.

Implementation and Financing of Global Plan of Action

48. Among the 16 organizations that responded to the relevant question, only one (ILRI) stated that its budget for activities supporting the implementation of the *Global Plan of Action* and animal genetic resources programmes has increased since the plan's adoption in 2007. Other respondents emphasize the view that despite awareness-raising initiatives, lack of political support and funding remain the biggest constraints to the implementation of animal genetic resources programmes and projects. Some organizations explicitly ask for further assistance from FAO in this regard. AU-IBAR states that it has only recently started activities in the field of animal genetic resources management, but that the issue is a priority in the organization's strategic plan 2010–2014 under its natural resources management programmes.²⁷ The organization has, for instance, recruited a senior staff member with animal breeding background who is assisting in the implementation of the animal genetic activities.

49. Eight of the 16 organizations (50 percent) that responded to the respective question have contributed to the establishment or strengthening of international research and/or education programmes to assist developing countries or countries with economies in transition to better manage animal genetic resources. The activities reported include research and development work, publication of research papers, participatory projects aimed at community empowerment, evaluation activities and other capacity-building projects. Most of these activities have been mentioned in the sections above.

²⁵ <http://www.arca-net.info/>

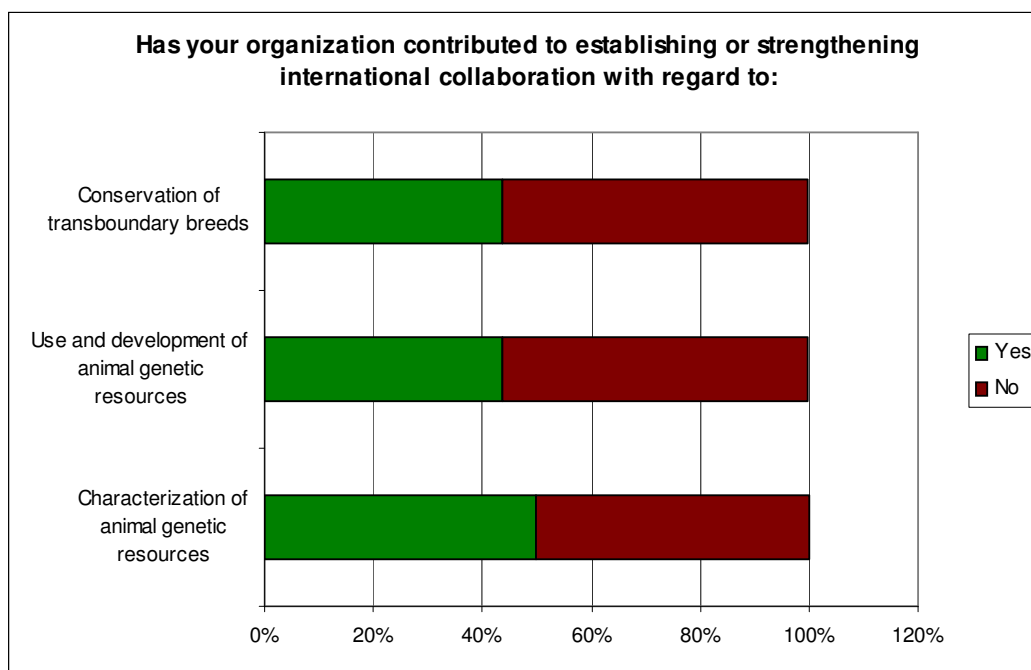
²⁶ <http://www.pastoralpeoples.org/>

²⁷ <http://www.au-ibar.org/index.php/en/knowledge/publications/sp>

50. Five of the 16 organizations (31 percent) that responded to the respective question have contributed to the establishment or strengthening of international programmes to assist developing countries or countries with economies in transition in obtaining training and technologies or in developing information systems related to animal genetic resources. They mainly do so by providing policy guidance and technical assistance and facilitating cooperation among stakeholders (see information in the sections above).

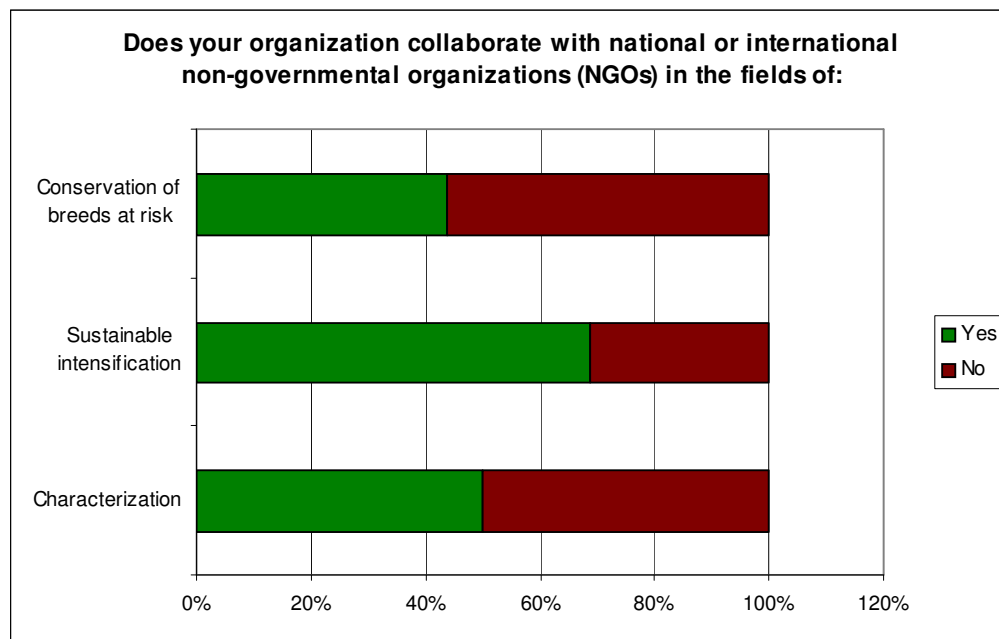
51. One of the 16 organizations (6 percent) that responded to the respective question reports that it has provided funding to countries for the implementation of the *Global Plan of Action*. This response came from the coordinator of PROGEBE who stated that part of the project funding is devoted to activities related to the implementation of the *Global Plan of Action*. Figure 5 shows that – depending on the activity area – 7 or 8 of the 16 organizations (44–50 percent) that responded to this question contributed to establishing or strengthening international collaboration.

Figure 5. Contributions of respondent organizations to the establishment or strengthening international collaboration



52. Collaborative work often involves cooperation with international or national NGOs. Thus 7 of the 16 international organizations (44 percent) that responded to the respective question cooperate with NGOs in implementing conservation activities. Eleven of the 16 international organizations that responded to the relevant questions (69 percent) cooperate with international or national NGOs in the fields of sustainable intensification, while eight (50 percent) cooperate with NGOs in characterization work (Figure 6). For more details of these various collaborative initiatives, see the sections above. Also relevant to international collaboration, although mentioned in response to another question, is PROGEBE's central role in setting up and chairing a regional interim committee for the development of a Regional Focal Point for Animal Genetic Resources in West and Central Africa.

Figure 6. Involvement of respondent organizations in collaborating with international NGOs



III. CONCLUSIONS

53. Before considering the findings of the above-described international organizations survey, it is important to note that in addition to the international organizations *sensu stricto* that were targeted by the survey, there are numerous national organizations that support the development, use and conservation of animal genetic resources and have a regional or global outreach. These encompass for example the national donors and development organizations, many of which have a bilateral or international outreach, or the various research projects and programmes and capacity-building networks undertaken by national organizations or regional consortia. It will be important to ensure that the international activities of such national organizations are adequately described in the forthcoming Country Progress Reports on the implementation of the *Global Plan of Action*. In addition, FAO is aware of animal genetic resources-related activities undertaken by some international organizations which – although invited and twice reminded – did not respond to the questionnaire. Consequently, the material presented in this report provides only an incomplete picture of the activities conducted by international organizations in the field of animal genetic resources management. Activities which were not reported by the international organizations but in which FAO is a partner are reflected in the document “Detailed FAO Progress Report on the implementation of the *Global Plan of Action for Animal Genetic Resources*”²⁸.

54. As stated in the introduction, only 18 international organizations completed the survey questionnaire. This probably reflects the fact that – despite the adoption of the *Global Plan of Action* – animal genetic resources management still receives relatively little public attention and few funding opportunities. Despite this, the list of survey respondents includes a number of organizations that have not previously had a high profile in animal genetic resources management (e.g. did not provide contribute to the process of developing *The State of the World’s Animal Genetic Resources for Food and Agriculture*), and thereby indicates a doubling of reporting.

55. The respondent organizations are quite varied in terms of the extent and focus of their animal genetic resources-related activities. The survey provides little evidence that among the

²⁸ CGRFA/WG-AnGR-6/10/Inf.2.

broad swathe of international NGOs involved in agriculture and rural development, awareness of animal genetic resources issues – or the level of activity in this field – has increased much since the adoption of the *Global Plan of Action*. A few international NGOs, umbrella research organizations and stakeholder networks are very much focused on animal genetic resources issues and contribute in diverse ways to the implementation of the *Global Plan of Action*, through research, advocacy, dissemination of information and on-the-ground development activities. Inevitably, in most cases their geographic coverage (Annex B), and the resources at their disposal, are limited. However, a wide country coverage is achieved by all international organizations taken together.

56. Another question upon which the survey shed little additional light, is whether, and to what extent, the *Global Plan of Action* has led to greater awareness of animal genetic resources issues among international organizations whose mandates do not focus directly on animal genetic resources but whose actions may affect the management of these resources. The *Global Plan of Action* aims to promote better coordination between the work of the Commission and other international organizations and forums that “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.”²⁹ Few such organizations responded to the survey. One exception was the Global Invasive Species Programme, which referred its responses to a number of links between its work and the implementation of the *Global Plan of Action* (e.g. with regard to identifying threats to animal genetic resources diversity and provision of guidance on trade in livestock species).

57. Conversely, the survey responses indicate that the Consultative Group on International Agricultural Research (CGIAR) centres that have livestock-related mandates are well aware of the significance of animal genetic resources management and, in a number of fields, undertake activities that support the implementation of the *Global Plan of Action*. Here again, however, the geographical and thematic coverage of projects and programmes is, inevitably, not comprehensive. Moreover, the wider uptake of the research outputs produced by international organizations is dependent upon levels of awareness and resource availability that – as noted above – are not always present with respect to animal genetic resources.

58. In the case of more specialized organizations within the livestock, rural development and biodiversity sectors, the survey findings present a mixed picture. Among species- or livestock commodity-focused international organizations – all of which represent sectors that undoubtedly utilize animal genetic resources – more than ten organizations were invited to respond, but only one completed the questionnaire (a few apologies were also received – see Appendix B). The one organization in question – the International Wool Textile Association – reported activities in several of the Strategic Priority Areas of the *Global Plan of Action*. Among development-oriented organizations, the fact that a response was received from ICIMOD perhaps reflects a recognition of the importance of livestock, and well-adapted animal genetic resources, in mountain environments. While animal genetic resources management is not the main focus of the organization’s work, it is one of the many respondent organizations that reported a focus on agro-ecosystem approaches – a factor that may reflect an awareness of the multiple roles and values of animal genetic resources, and hence a willingness to engage in the implementation of the *Global Plan of Action*. Another positive example emerging from the survey findings is the recognition given to animal genetic resources issues in GLOBALG.A.P.’s work on certification standards and procedures for agricultural products.

59. Another objective of the *Global Plan of Action* is to “link regional activities on animal genetic resources to regional organizations.”³⁰ In this category, as in others, the number of respondent organizations was not large relative to the number of potential respondents. However, some encouraging responses were received. The SPC, for example, shows a high level of

²⁹ *Global Plan of Action for Animal Genetic Resources*, Rationale to Strategic Priority 22.

³⁰ *Global Plan of Action for Animal Genetic Resources*, Strategic Priority 17.

awareness of animal genetic resources issues even if its actions are constrained by a lack of resources and the geographical dispersedness of the region's countries. The response from AU-IBAR, which reports that its work on animal genetic resources will be stepped up substantially in the near future, was also very positive.

60. In addition to asking the respondent organizations to report on their activities, the survey also asked them to provide their views on the nature of current constraints to the implementation of various elements of the *Global Plan of Action* and on the current state of conservation policies in their areas of work. The long lists of serious constraints that emerged and the generally negative descriptions of the state of conservation policies suggest that much remains to be done before the goals of the *Global Plan of Action* are achieved. Nevertheless, the survey results set out in this report clearly indicate that numerous international organizations are already making important contributions to the implementation of the *Global Plan of Action*, often via innovative, efficient and participatory programmes and projects. The survey thus confirmed that international organizations are important partners for national governments in the implementation of the *Global Plan of Action*; therefore their representatives should be included in national stakeholder groups.

APPENDIX 1: QUESTIONNAIRE

Implementation of the Global Plan of Action for Animal Genetic Resources

Introduction

The Global Plan of Action for Animal Genetic Resources (GPA) (www.fao.org/docrep/010/a1404e/a1404e00.htm) was endorsed by FAO member countries in November 2007 following its adoption at the first International Technical Conference on Animal Genetic Resources, held in Interlaken, Switzerland.

The Commission on Genetic Resources for Food and Agriculture (<http://www.fao.org/nr/cgrfa/en/>) has requested FAO to report on progress in the implementation of the Global Plan of Action for Animal Genetic Resources. The reporting schedule agreed by the Commission includes the preparation of periodic reports on the GPA-related activities of international organizations. The first such report is to be presented to the Commission at its Thirteenth Regular Session in July 2011 and will be made available at <http://www.fao.org/nr/cgrfa/cgrfa-meetings/cgrfa-comm/en/>. This survey aims to obtain the information needed to prepare the report.

Please note that you need to complete the full questionnaire in one session. If you close your web browser before finishing the questionnaire, the information you have entered will not be retained and you will have to start again. Also note that once you click "Done" at the end of the questionnaire, you will not be able to return and make corrections. It is therefore advisable to assemble all the information you need before starting to complete the questionnaire. Questions marked with * are compulsory.

Please complete the questionnaire not later than 31 January 2011.

Thank you very much in advance for your cooperation!

Animal Genetic Resources Branch, FAO

* 1. Contact information and mandate

Name

Organization

Email

Geographic coverage of your organization

* 2. Animal species coverage of your organization

- General livestock related mandate
- Large ruminants
- Small ruminants
- Pigs
- Poultry
- Rabbits & micro livestock
- Camelidae
- Equines

Implementation of the Global Plan of Action for Animal Genetic Resources**Strategic Priority Area 1: Characterization, Inventory and Monitoring**

*** 1. Does your organization implement or support the implementation of projects or programmes on phenotypic characterization of animal genetic resources?**

Yes

No

If yes, please provide details and specify the countries and species involved and whether you include characterization of production environments:

*** 2. Does your organization implement or support the implementation of projects or programmes on molecular characterization of animal genetic resources?**

Yes

No

If yes, please provide details and specify the countries and species involved:

*** 3. Does your organization implement or support the implementation of projects or programmes for surveying the size and/or structure of animal genetic resources populations and monitoring population trends?**

Yes

No

If yes, please provide details and specify the countries and species involved:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 4. Does your organization implement or support the implementation of projects or programmes for identifying and monitoring threats to animal genetic resources?**

Yes

No

If yes, please provide details and specify the countries and species involved:

*** 5. Does your organization support countries in the development of early warning and response systems for animal genetic resources?**

Yes

No

If yes, please provide details and specify the countries and species involved:

*** 6. Is your organization involved in research and development on methods, technical standards or protocols for phenotypic or molecular characterization, surveying and monitoring of population size or threats to animal genetic resources, or breed evaluation, valuation and comparison?**

| | Yes | No |
|-------------------------------------|-----------------------|-----------------------|
| Phenotypic characterization | <input type="radio"/> | <input type="radio"/> |
| Molecular characterization | <input type="radio"/> | <input type="radio"/> |
| Surveying and monitoring | <input type="radio"/> | <input type="radio"/> |
| -> If yes, participatory monitoring | <input type="radio"/> | <input type="radio"/> |
| Breed evaluation or comparison | <input type="radio"/> | <input type="radio"/> |
| Economic valuation | <input type="radio"/> | <input type="radio"/> |

Please provide details:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 7. Has your organization identified major obstacles to inventory, characterization and monitoring of animal genetic resources in all or part of your mandate area or species coverage?**

Yes

No

If yes, please list them being as specific as possible regarding geographical area / species:

8. What are the priority measures that need to be taken to address these obstacles?

9. Please describe any additional activities relevant to the implementation of Strategic Priority Area 1: Characterization, inventory and monitoring of trends and associated risks.

Implementation of the Global Plan of Action for Animal Genetic Resources

Strategic Priority Area 2: Sustainable Use and Development

*** 1. Does your organization support countries in developing, reviewing or adjusting their national policies affecting the sustainable use of animal genetic resources?**

- Yes
- No

If yes, please provide details and specify the countries and species involved:

*** 2. Does your organization promote agro-ecosystem approaches?**

- Yes
- No

If yes, please provide details:

*** 3. Does your organization contribute to the planning or implementation of strategic breeding programmes?**

- | | | |
|-----------------------|-----------------------|-----------------------|
| | Yes | No |
| Mainstream breeds | <input type="radio"/> | <input type="radio"/> |
| Under-utilized breeds | <input type="radio"/> | <input type="radio"/> |

If yes, please provide details (including the breeds involved) being as specific as possible:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 4. Does your organization contribute to the development of recording systems or organizational structures for breeding programmes?**

- Yes
 No

If yes, please provide details (including the breeds involved) being as specific as possible:

*** 5. If the projects and programmes that your organization implements or supports involve the use of exotic breeds, have any assessments been made of the long-term impacts of the use of exotic breeds on animal genetic resource diversity, livelihoods and/or food security in the affected countries and production systems?**

- Yes
 No
 No projects or programmes involving exotic breeds

If yes, please provide details:

*** 6. Has your organization implemented or supported the implementation of animal genetic resources-related projects that aim at achieving sustainable intensification of production?**

- Yes
 No

If yes, please provide details and specify the countries and animal genetic resources involved:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 7. Does your organization contribute to the development of mechanisms for facilitating interactions among stakeholders, scientific disciplines and sectors as part of planning for sustainable use development of animal genetic resources?**

Yes

No

If yes, please provide details and specify the countries or regions involved:

*** 8. Do your organization's activities contribute to improving farmers' and livestock keepers' knowledge of animal genetic resources from various sources?**

Yes

No

If yes, please provide details and specify the countries and types of animal genetic resources involved:

*** 9. Do your organization's activities contribute to improving farmers' and livestock keepers' access to animal genetic resources from various sources?**

Yes

No

If yes, please provide details and specify the countries and types of animal genetic resources involved:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 10. Does your organization contribute to the development of agreements for equitable sharing of benefits arising from access to, use and development of animal genetic resources?**

- Yes
 No

If yes, please provide details:

*** 11. Does your organization contribute to efforts to preserve and respect indigenous or local production systems and associated traditional knowledge and practices related to animal genetic resources?**

- Yes
 No

If yes, please provide details:

*** 12. Does your organization implement or support the implementation of projects that aim to promote the marketing of products from local breeds or local production systems?**

- Yes
 No

If yes, please provide details and specify the breeds and production systems involved:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 13. Has your organization identified obstacles to enhancing the sustainable use and development of animal genetic resources?**

Yes

No

If yes, please provide details:

14. What are the priority measures that need to be taken to address these obstacles?

*** 15. Does your organization provide, or support the provision of, training or technical support programmes for animal breeding activities in pastoralist and farming communities?**

Yes

No

If yes, please provide details:

*** 16. Has your organization identified priorities for future training or support programmes to enhance the use and development of available animal genetic resources?**

Yes

No

If yes, please provide details of the priority activities, being as specific as possible:

Implementation of the Global Plan of Action for Animal Genetic Resources

17. Please describe any additional activities relevant to the implementation of Strategic Priority Area 2: Sustainable use and development.

[Empty text box for response]

Implementation of the Global Plan of Action for Animal Genetic Resources**Strategic Priority Area 3: Conservation**

*** 1. Is erosion of animal genetic resources occurring in any of the countries or regions in which your organization is active?**

- Yes
 No
 Do not know

If yes, please describe. Please be as specific as possible and indicate which factors or drivers affect which species in which countries or regions:

*** 2. Does your organization support the establishment of emergency response systems that provide for immediate action to maintain threatened breeds?**

- Yes
 No

If yes, please provide details:

*** 3. Does your organization take or support actions to protect breeds and populations that are at risk from natural or human-induced disasters?**

- Yes
 No

If yes, please provide details:

Implementation of the Global Plan of Action for Animal Genetic Resources

4. From your organizational point of view how would you judge the state of conservation policies for animal genetic resources in the countries and regions in which you operate?

*** 5. What types of conservation measures for animal genetic resources does your organization implement or support the implementation of?**

- None
 In situ
 Ex situ – in vivo
 Ex situ – in vitro

Please provide details, and specify the countries and animal genetic resources involved:

6. If your organization maintains ex situ collections of animal genetic resources, could you please provide further information on these collections?

*** 7. Is your organization conducting research to further develop methods and technologies for in situ or ex situ conservation of animal genetic resources?**

- Yes
 No

If yes, please briefly describe the research:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 8. Has your organization identified major obstacles to enhancing the conservation of animal genetic resources?**

Yes

No

If yes, please provide details:

9. What are the priority measures that need to be taken to address these obstacles?

10. From your organizational point of view, what are the priority requirements for enhancing conservation measures for animal genetic resources in the countries and regions in which you operate?

Please list the requirements, being as specific as possible:

11. Please describe any additional activities relevant to the implementation of Strategic Priority Area 3: Conservation.

Implementation of the Global Plan of Action for Animal Genetic Resources**Strategic Priority Area 4: Policies, Institutions and Capacity-building**

*** 1. Does your organization support or facilitate the establishment of institutional frameworks for planning and implementing animal genetic resources programmes?**

Yes

No

If yes, please provide details and specify the countries or regions involved:

*** 2. Does your organization support countries in formulating or implementing national strategies and action plans for animal genetic resources?**

Yes

No

If yes, please provide details and specify the countries involved:

*** 3. Does your organization contribute to the development of regulatory frameworks or legislation for animal genetic resources?**

Yes

No

If yes, please provide details and specify the countries or regions involved:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 4. Does your organization have a database or information system for animal genetic resources-related data?**

- Yes
 No

If yes, please describe the purpose and contents of the system and, if relevant, how frequently data are updated:

*** 5. Does your organization have collaborative links to other stakeholders involved in the management of animal genetic resources (e.g. the breeding industry, livestock keepers, government agencies, research institutes and civil society organizations)?**

- Yes
 No

If yes, please provide details:

*** 6. Does your organization cooperate with breeders' organizations?**

- Yes
 No

If yes, please provide details:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 7. Has your organization supported the establishment or strengthening of community-based organizations, networks or initiatives for sustainable use, breeding or conservation?**

Yes

No

If yes, please provide details:

*** 8. Does your organization implement or support the implementation of training or capacity-building programmes for animal genetic resources management?**

Yes

No

If yes, please provide details and specify countries involved:

*** 9. Has your organization identified priorities for future animal genetic resources-related capacity-building and education?**

Yes

No

If yes, please provide details:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 10. Does your organization implement or support the implementation of programmes to increase public awareness of the roles and values of animal genetic resources?**

Yes

No

If yes, please provide details:

11. Please describe any additional activities relevant to the implementation of Strategic Priority Area 4: Policies, institutions and capacity-building.

Implementation of the Global Plan of Action for Animal Genetic Resources**Implementation and Financing of Global Plan of Action for Animal Genetic Re...**

- * 1. Has your organization's budget for activities supporting the implementation of the Global Plan of Action and animal genetic resources programmes increased since the plan's adoption in September 2007?**

- Yes
 No

Please provide details:

- * 2. Has your organization contributed to the establishment or strengthening of international research and/or education programmes to assist developing countries or countries with economies in transition to better manage animal genetic resources?**

- Yes
 No

If yes, please provide details:

- * 3. Has your organization contributed to the establishment or strengthening of international programmes to assist developing countries or countries with economies in transition to obtain training and technologies or develop information systems related to animal genetic resources?**

- Yes
 No

If yes, please provide details:

Implementation of the Global Plan of Action for Animal Genetic Resources

*** 4. Has your organization provided funding to countries for the implementation of the Global Plan of Action for Animal Genetic Resources?**

- Yes
 No

If yes, please provide details and specify the countries involved:

*** 5. Has your organization contributed to establishing or strengthening international collaboration with regard to:**

| | Yes | No |
|---|-----------------------|-----------------------|
| Characterization of animal genetic resources | <input type="radio"/> | <input type="radio"/> |
| Use and development of animal genetic resources | <input type="radio"/> | <input type="radio"/> |
| Conservation of transboundary breeds | <input type="radio"/> | <input type="radio"/> |

Please provide details and specify the countries involved:

*** 6. Does your organization collaborate with national or international non-governmental organizations (NGOs) in the fields of:**

| | Yes | No |
|--------------------------------|-----------------------|-----------------------|
| Characterization | <input type="radio"/> | <input type="radio"/> |
| Sustainable intensification | <input type="radio"/> | <input type="radio"/> |
| Conservation of breeds at risk | <input type="radio"/> | <input type="radio"/> |

Please provide details and specify the countries involved:

Implementation of the Global Plan of Action for Animal Genetic Resources

7. Please describe any additional activities relevant to the implementation and financing of the Global Plan of Action for Animal Genetic Resources:

| |
|--|
| |
|--|

APPENDIX 2 LISTS OF INTERNATIONAL ORGANIZATIONS

List of respondent international organizations

| Organization | Type of organization | Species focus | Geographical focus | Web site |
|--|---|-----------------------------------|---|---|
| African Union – Interafrican Bureau for Animal Resources | Agency of regional organization | General livestock-related mandate | Africa | http://www.au-ibar.org |
| Bioversity International | CGIAR centre | General livestock-related mandate | Global | http://www.bioversityinternational.org |
| CONBIAND Network | Stakeholder network | General livestock-related mandate | Various countries in America and Europe | http://www.uco.es/conbiand/Bienvenida.html |
| European Federation of Animal Science | Regional scientific organization | General livestock-related mandate | Europe and some countries in neighbouring regions | http://www.eaap.org/ |
| Global Forum on Agricultural Research | International stakeholder-driven partnership | General livestock-related mandate | Global | http://www.egfar.org/egfar |
| GLOBALG.A.P. | International non-governmental organization on voluntary standards for the certification of agricultural products | General livestock-related mandate | Global | http://www.globalgap.org |
| Global Invasive Species Programme | International partnership | General livestock-related mandate | Global | http://www.gisp.org |
| Heifer International | International non-governmental development organization | General livestock-related mandate | International | www.heifer.org |
| International Center for Agricultural Research in the Dry Areas | CGIAR centre | Small ruminants | Non-tropical dry areas of the world | http://www.icarda.org |
| International Centre for Integrated Mountain Development | Regional knowledge development and learning centre | General livestock-related mandate | Hindu Kush Himalayan Region | http://www.icimod.org |
| International Fund for Agricultural Development | UN agency | General livestock-related mandate | Global | http://www.ifad.org/ |
| International Livestock Research Institute | CGIAR centre | General livestock-related mandate | Global | http://www.ilri.org |
| International Society for Animal Genetics | International scientific organization | General livestock-related mandate | Global | http://www.isag.us |
| International Wool Textile Organisation | International trade/industry body | Small ruminants, camelidae | Global | http://www.iwto.org/about-iwto |
| League for Pastoral Peoples and Endogenous Livestock Development | International non-governmental organization | General livestock-related mandate | Projects in developing countries, mainly in India | http://www.pastoralpeoples.org |

| | | | | |
|--|---|-----------------------------------|--|---|
| Regional Project on Sustainable Management of Endemic Ruminant Livestock by African Development Bank | Regional project | Large ruminants, small ruminants | West Africa: the Gambia, Guinea, Mali, Senegal | http://www.progebe.net |
| SAVE Foundation | International NGO umbrella organization | General livestock-related mandate | Europe | http://www.save-foundation.net |
| Secretariat of the Pacific Community | Regional organization | General livestock-related mandate | Southwest Pacific | http://www.spc.int/ |

List of international organizations that stated that they are not involved in animal genetic resources management

Agricultural Research for Development in Africa
 Arab Fund for Economic and Social Development
 Consultative Group on International Agricultural Research
 Charles Steward Mott Foundation
 Group of Fifteen
 International Association of Agricultural Information Specialists
 International Council for Game and Wildlife Conservation
 International Institute of Tropical Agriculture
 International Raiffeisen Union
 International Society of Camelid Research and Development
 Secretariat of the United Nations Framework Convention on Climate Change
 Volkswagen Foundation
 West African Economic and Monetary Union
 World Fish Center

List of international organizations which stated that they will get involved with animal genetic resources in the near future or that they were unable to complete the survey within the required time frame

Bill and Melinda Gates Foundation
 European Commission
 The International Egg Commission
 World Pheasant Association

APPENDIX 3 LIST OF ACRONYMS

| | |
|-----------------------|--|
| ASARECA | Association for Strengthening Agricultural Research in Eastern and Central Africa |
| AU-IBAR | African Union – Interafrican Bureau for Animal Resources. |
| CIRDES | Centre International de Recherche-Developpement Sur l'Elevage en Zone Subhumide |
| CONBIAND (Network) | Asociación sobre la Conservación de la Biodiversidad de los Animales Domésticos Locales para el Desarrollo Rural Sostenible |
| EAAP | European Federation of Animal Science |
| CGIAR | Consultative Group on International Agricultural Research |
| DAD-IS | Domestic Animal Diversity Information System |
| DAGRIS | Domestic Animal Genetic Resources Information System |
| EFABIS | European Farm Animal Biodiversity Information System |
| ELBARN | European Livestock Breeds Ark and Rescue Net |
| EWRS | Early warning and response system |
| FAO | Food and Agriculture Organization of the United Nations |
| GFAR | Global Forum on Agricultural Research |
| GLOBALDIV | “A global view of livestock biodiversity and conservation” (project) |
| GLOBALG.A.P. | GLOBAL Good Agricultural Practice |
| ICARDA | International Center for Agricultural Research in the Dry Areas |
| ICIMOD | International Center for Integrated Mountain Development |
| IFAD | International Fund for Agricultural Development |
| ILRI | International Livestock Research Institute |
| ISAG | International Society for Animal Genetics |
| LPP | League for Pastoral Peoples and Endogenous Livestock Development |
| NARS | National agricultural research system(s) |
| NGO | Non-governmental organization |
| PROGEBE | Regional Project on Sustainable Management of Endemic Ruminant Livestock in West Africa |
| SAVE (Foundation) | Safeguard for Agricultural Varieties in Europe |
| SPC | Secretariat of the Pacific Community |