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para la  
Alimentación y la  
Agricultura

# COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

## Item 3.1 of the Provisional Agenda

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

#### Seventh Session

Rome, 24-26 October 2012

### DETAILED FAO PROGRESS REPORT ON THE IMPLEMENTATION OF THE *GLOBAL PLAN OF ACTION* FOR ANIMAL GENETIC RESOURCES

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## **DETAILED FAO PROGRESS REPORT ON THE IMPLEMENTATION OF THE *GLOBAL PLAN OF ACTION* FOR ANIMAL GENETIC RESOURCES**

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### **I. INTRODUCTION**

The Commission on Genetic Resources for Food and Agriculture (Commission), at its Thirteenth Regular Session, requested FAO to continue support for the implementation of the *Global Plan of Action for Animal Genetic Resources*<sup>1</sup> (*Global Plan of Action*). The document *FAO progress report on the implementation of the Global Plan of Action for Animal Genetic Resources*<sup>2</sup> provided an overview of activities undertaken between the Twelfth and Thirteenth Sessions of the Commission. This document provides a more detailed report on FAO activities since the Sixth Session of the Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture (Working Group). The activities are grouped according to their relevance to the four strategic priority areas of the *Global Plan of Action*.

### **II. REPORTING AND AWARENESS RAISING ON THE *GLOBAL PLAN OF ACTION***

At the request of the Thirty-sixth Session of the FAO Conference<sup>3</sup>, the document *Status of implementation of the Global Plan of Action for Animal Genetic Resources*<sup>4</sup> was presented to the Thirty-seventh Session of the FAO Conference. A further report on progress made in the implementation of the *Global Plan of Action* will be presented to the Thirty-eighth Session of the FAO Conference.

The Global Focal Point for Animal Genetic Resources (Global Focal Point) continued to distribute printed versions of the *Global Plan of Action*, *The State of the World's Animal Genetic Resources for Food and Agriculture (State of the World)* and related products and guidelines. Details are presented in Annex 7. National Coordinators for the Management of Animal Genetic Resources (National Coordinators) were encouraged to prepare national language versions of the *State of the World* and its "in brief" version, the *Global Plan of Action* and other information products under local-language agreements with FAO. The National Focal Point in Indonesia published the *State of the World* in Bahasa Indonesian.<sup>5</sup> The National Focal Point in Brazil published both the *Global Plan of Action*<sup>6</sup> and the *State of the World – in brief*<sup>7</sup> in Portuguese, and made copies available to other lusophone countries. The *Global Plan of Action* is now available in 17 languages<sup>8</sup> and the *State of the World – in brief* in 10 languages.<sup>9</sup> A further eight countries are currently preparing local-language versions of the *Global Plan of Action*.

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<sup>1</sup> CGRFA-13/11/Report, paragraph 75.

<sup>2</sup> CGRFA-13/11/15.

<sup>3</sup> C 2009/REP, paragraph 69.

<sup>4</sup> C/2011/27.

<sup>5</sup> <http://www.fao.org/docrep/014/a1250id/a1250id.pdf>

<sup>6</sup> <http://www.fao.org/docrep/012/a1404p/a1404p00.htm>

<sup>7</sup> <http://www.fao.org/docrep/012/a1260p/a1260p00.htm>

<sup>8</sup> <http://www.fao.org/docrep/010/a1404e/a1404e00.htm> (Arabic, Chinese, Czech, Danish, French, German, Greek, Hungarian, Indonesian, Nepalese, Norwegian, Polish, Portuguese, Russian, Serbian, Spanish, Thai).

<sup>9</sup> <http://www.fao.org/docrep/010/a1260e/a1260e00.htm> (Arabic, Chinese, French, German, Japanese, Polish, Portuguese, Russian, Spanish, Thai).

### III. CAPACITY-BUILDING AND TECHNICAL SUPPORT TO IMPLEMENTATION OF THE *GLOBAL PLAN OF ACTION* AT NATIONAL LEVEL

The *Global Plan of Action*<sup>10</sup> describes the essential role of the FAO in supporting country-driven efforts to implement the *Global Plan of Action*, in particular, in facilitating global and regional collaboration and networks; supporting the convening of intergovernmental meetings; maintaining and further developing the Domestic Animal Diversity Information System (DAD-IS<sup>11</sup>); developing communication products; providing technical guidelines and assistance, and coordinated training programmes; promoting the transfer of technologies relating to sustainable use, development and conservation of animal genetic resources; and coordinating future preparation of global status and trends reports on animal genetic resources.<sup>12</sup> The following paragraphs provide a detailed description of FAO activities in each strategic priority area of the *Global Plan of Action*.

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

##### *Research and capacity-building*

FAO supported two capacity-building workshops on characterization of animal genetic resources, one in Estonia and one in Tunisia. The first workshop, entitled Characterization, Inventory and Monitoring of Animal Genetic Resources, was held in May 2011 in Tartu, Estonia, with the cooperation of the FAO Subregional Office for Central and Eastern Europe, and was hosted by the Estonian University of Life Sciences. It was attended by 30 persons, including National Coordinators and alternates from 14 countries.<sup>13</sup> In November 2011, the Global Focal Point joined with the FAO Subregional Office for North Africa to conduct a workshop entitled *La caractérisation et la valorisation des races animales locales et leurs produits* in Hammamet, Tunisia. The workshop was attended by 16 persons from four countries.<sup>14</sup> Similarly, the Global Focal Point collaborated with the FAO Regional Office for Africa in organizing a consultative expert meeting on the valorization of animal genetic resources in West and Central Africa, which was held in December 2011 in Togo. Participants from six countries<sup>15</sup> and six regional and subregional development and research organizations were present at the meeting.

To facilitate global analysis of breed diversity through molecular genetic characterization, FAO has continued to promote the international use of standard microsatellite marker sets for the various species of livestock. This work is done in partnership with the International Society for Animal Genetics (ISAG)/FAO Advisory Group on Animal Genetic Diversity and the European Commission-funded project A Global View of Livestock Biodiversity and Conservation (GLOBALDIV<sup>16</sup>).

The work of the ISAG/FAO Advisory Group on Animal Genetic Diversity progressed during the reporting period. The Advisory Group held a workshop in Australia in July 2012. The workshop discussed the development of standards for molecular genetic characterization based on advanced genomic technologies, including low- and high-density panels of single nucleotide polymorphisms (SNP) and genomic sequencing. Among the key considerations for such technologies are ascertainment bias for SNP and cost-efficiency and information management for both technologies.

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<sup>10</sup>*Global Plan of Action for Animal Genetic Resources*, paragraph 58–61 (<ftp://ftp.fao.org/docrep/fao/010/a1404e/a1404e00.pdf>).

<sup>11</sup><http://www.fao.org/dad-is/>

<sup>12</sup>*Global Plan of Action for Animal Genetic Resources*, paragraph 22–23, Strategic Priority 14 (<ftp://ftp.fao.org/docrep/fao/010/a1404e/a1404e00.pdf>).

<sup>13</sup>Albania, Belarus, Croatia, Finland, Georgia, Italy, Latvia, Lithuania, Montenegro, Republic of Moldova, Russian Federation, Serbia, The Former Yugoslav Republic of Macedonia and Ukraine.

<sup>14</sup>Algeria, Mauritania, Morocco and Tunisia.

<sup>15</sup>Cameroon, Congo, Gabon, Mali, Senegal and Togo.

<sup>16</sup><http://www.globaldiv.eu>

Officers from the Global Focal Point served as invited experts to GLOBALDIV, a three-year project funded by the European Commission in the framework of the AGRI GEN RES 2006<sup>17</sup> initiative, which aimed to disseminate current advanced and integrated methodologies for the characterization, evaluation, prioritization and conservation of animal genetic resources. The project resulted in a wide range of scientific and popular communications.

The Global Focal Point, with support from Australia, and in collaboration with the Secretariat of the Pacific Community, has supported the molecular genetic characterization of pigs and chickens in six countries of the Southwest Pacific.<sup>18</sup> The molecular genetic characterization was performed by the International Livestock Research Institute (ILRI). Scientific papers are being prepared, and metastudies on global chicken and pig diversity involving other existing consortia and diversity studies are planned.

The FAO Regional Office for Asia, with a financial contribution from the Government of Italy, supported the Royal University of Agriculture of Cambodia in the production of a guidebook on Cambodian breeds of cattle, buffalo, pigs, goats, sheep and horses.

The FAO/International Atomic Energy Agency Joint Division on Nuclear Techniques in Food and Agriculture (AGE) has launched a new Coordinated Research Project entitled Genetic Variation on the Control of Resistance to Infectious Diseases in Small Ruminants for Improving Animal Productivity, in which 14 countries are participating.<sup>19</sup> AGE has also developed methodology for the identification of candidate genes for traits of economic importance, including parasite resistance.<sup>20</sup> In addition, AGE is supporting National Technical Cooperation Projects involving the characterization and sustainable utilization of animal genetic resources in six countries.<sup>21</sup> The Global Focal Point continues to collaborate with AGE in joint efforts to establish a genetic resources database, with open access, to support national animal genetic resources programmes.<sup>22</sup>

### ***Institutional and technical support***

At its Thirteenth Session,<sup>23</sup> the Commission endorsed the guidelines *Surveying and monitoring of animal genetic resources*,<sup>24</sup> *Molecular genetic characterization of animal genetic resources*<sup>25</sup> and *Phenotypic characterization of animal genetic resources*.<sup>26</sup> All three have been published in English, with extra-budgetary funding from Germany, and are being distributed to member countries. So far, 1 400 copies of *Surveying and monitoring of animal genetic resources* and *Molecular genetic characterization of animal genetic resources* have been distributed. *Surveying and monitoring of animal genetic resources* has also been published in French<sup>27</sup> and Spanish,<sup>28</sup> and these editions are currently being distributed.

The Commission requested the Working Group to work further on the definition of breed categories, in addition to the already agreed definitions of local and transboundary breeds of livestock. To address this request, the Global Focal Point organized an electronic global consultation on breed categories with all National Coordinators. Results of the informal survey were then presented and additional information was gathered. Based on these sources, the Global Focal Point has produced the

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<sup>17</sup> European Commission: Council Regulation N°870/2004 establishing a Community programme on genetic resources in agriculture.

<sup>18</sup> Fiji, Niue, Samoa, Solomon Islands, Tonga and Vanuatu.

<sup>19</sup> Argentina, Bangladesh, Brazil, Burkina Faso, China, Eritrea, Ethiopia, Indonesia, Islamic Republic of Iran, Mexico, Nigeria, Pakistan, Saudi Arabia, Sri Lanka.

<sup>20</sup> <http://www-naweb.iaea.org/nafa/aph/a-production/small-ruminants.pdf>

<sup>21</sup> Burkina Faso, Bulgaria, Côte d'Ivoire, Peru, Sri Lanka and Zambia.

<sup>22</sup> <http://www-naweb.iaea.org/nafa/aph/stories/2011-genetic-characterization.html>

<sup>23</sup> CGRFA-13/11/Report, paragraph 79.

<sup>24</sup> <http://www.fao.org/docrep/014/ba0055e/ba0055e00.pdf>

<sup>25</sup> <http://www.fao.org/docrep/014/i2413e/i2413e00.pdf>

<sup>26</sup> <http://www.fao.org/docrep/015/i2686e/i2686e00.htm>

<sup>27</sup> <http://www.fao.org/docrep/015/ba0055f/ba0055f00.pdf>

<sup>28</sup> <http://www.fao.org/docrep/015/ba0055s/ba0055s00.pdf>

information document *Report of a consultation on the definition of breed categories*<sup>29</sup> for consideration by the Working Group.

FAO continued to contribute to the 2010 Biodiversity Indicators Partnership (BIP<sup>30</sup>), specifically, updating the fact sheet *Genetic diversity of terrestrial domesticated animals*<sup>31</sup> (available in the six FAO languages) and contributing to a forthcoming publication entitled *Aichi target passport*.

The Global Focal Point has continued to maintain and develop DAD-IS, with extra-budgetary funding from the Government of Sweden. A module has been developed that enables the geographic distribution of national breed populations to be georeferenced and their production environments described.<sup>32</sup> This module is being completed. A set of global geographic information system (GIS) layers describing many key aspects of the natural environment has been prepared. In addition, the textual information describing breeds' geographic distributions has been converted into georeferenced data for validation by National Coordinators (funded by the Government of Sweden). The module has been developed in the context of the European Commission-funded European Farm Animal Biodiversity Information System Network (EFABIS-net) project. The Global Focal Point co-organized the final meeting of EFABIS-net, which was held in Italy in December 2010.<sup>33</sup> In collaboration with the International Center for Agricultural Research in the Dry Areas (ICARDA), country case studies for sheep and goat breeds have been developed for Egypt, the Islamic Republic of Iran, Morocco and Turkey. This work demonstrated the practical application and use of the new module and developed a methodology for aggregating individual production environment descriptors in a way that enables automated overviews of the diversity of animal genetic resources by production environment.

In 2010, the European Regional Focal Point for the Management of Animal Genetic Resources (ERFP) set up a Working Group on Documentation and Information.<sup>34</sup> The Global Focal Point participated in two annual meetings of this working group, one held in Germany in April 2011 and the other in Italy in March 2012.

In view of the need to prepare a new status and trends report (see document *Status and trends report of animal genetic resources – 2012*<sup>35</sup>), the Global Focal Point invited National Coordinators to update their national breed-related data in DAD-IS. Currently, 145 (out of 158) National Coordinators have requested and received their user name and password and are thus able to update their national data. In addition, 16 countries have set up national nodes as partners in the EFABIS network and have updated their data via these nodes. Countries have increased their updating activities, with seven countries having updated their national data in 2011 and 28 countries in 2012. However, for 86 percent of national breed populations no data on population size have been reported for any of the last four years (2009 to 2012). Since 2010, the percentage of avian breeds for which any population data are available has improved slightly, from 47 to 48 percent, while in the case of mammals there has been an improvement from 54 to 57 percent. A total of 1 881 breeds (23 percent) are currently classified as being at risk.

FAO is participating in the Rabbit Genome Biology Network (RGB-Net), the European Union-sponsored COST Action designed to improve communication among stakeholders in rabbit research and production. RGB-Net involves not only the use of rabbits in agriculture, but also their use in medical and environmental sciences. FAO participation is expected to improve characterization, inventory and monitoring of the rabbit as an animal genetic resource. The Global Focal Point is contributing to the working group on “genetics in meat, fur and pet rabbits and biodiversity resources” and is leading a task force on biodiversity resources. The main output of this task force is to provide National Coordinators with data on European rabbit breeds for entry into DAD-IS. The first project meeting was held in March 2012 in Italy, and the project is slated to continue for four years.

<sup>29</sup> CGRFA/WG-AnGR-7/12/Inf.7.

<sup>30</sup> <http://www.bipindicators.net/about>

<sup>31</sup> <http://www.bipindicators.net/LinkClick.aspx?fileticket=DQTYJuJ7rUo%3d&tabid=74>

<sup>32</sup> *Report of the FAO/WAAP Workshop on Production Environment Descriptors for Animal Genetic Resources* (<http://dad.fao.org/cgi-bin/getblob.cgi?sid=-1,593>).

<sup>33</sup> [http://efabisnet.tzv.fal.de/?page\\_id=21](http://efabisnet.tzv.fal.de/?page_id=21)

<sup>34</sup> <http://www.rfp-europe.org/index.php?id=527>

<sup>35</sup> CGRFA/WG-AnGR-7/12/Inf.4.

## Strategic Priority Area 2. Sustainable use and development

### *Research and capacity-building*

The Global Focal Point participates as a technical advisor in the project *In situ* Conservation of Endemic Ruminant Livestock in West Africa (PROGEBE), jointly financed by the Global Environment Facility (GEF) and the African Development Bank. The objective of the project is to ensure sustainable use and *in situ* conservation of targeted endemic ruminant livestock breeds – N'dama cattle, Djallonke sheep and the West African Dwarf goat – in four West African countries.<sup>36</sup> With the technical support of the International Livestock Research Institute (ILRI), the Centre International de Recherche-Développement sur l'Élevage en Zone Subhumide (CIRDES) and the International Trypanotolerance Centre (ITC), the project will establish effective models for community-based management of endemic ruminant livestock and their habitat at project pilot sites and strengthen production, market and policy environments in support of these breeds.

The Global Focal Point serves on the steering committee of the GEF-funded project Development and Application of Decision Support Tools to Conserve and Sustainably Use Genetic Diversity in Indigenous Livestock and Wild Relatives and is providing an in-kind contribution. The project is managed by ILRI and monitored by the United Nations Environment Programme (UNEP) and involves promoting the sustainable use of animal genetic resources in Asia. The participating countries are Bangladesh, Pakistan, Sri Lanka and Viet Nam. Poultry, pigs and goats are the targeted species. The Global Focal Point provided technical support at the third and fourth meetings of the project steering committee, which were held, respectively, in Sri Lanka (2011) and Pakistan (2012).

The Global Focal Point contributed to the capacity-building activities of various partner organizations. It collaborated with the Mediterranean Agronomic Institute of Zaragoza (IAMZ) of the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) to organize the second Advanced Course on Conservation and Management of Animal Genetic Resources, held in January 2011 in Zaragoza, Spain. The Global Focal Point provided technical assistance, including staff time for the preparation of the programme and lectures, and funds to support the attendance of nine participants from developing countries. The course was attended by 26 participants from 13 countries.<sup>37</sup> The Global Focal Point provided technical contributions to the European Master in Animal Breeding and Genetics (EM-ABG) (an MSc programme) and to the European Graduate School in Animal Breeding and Genetics (EGS-ABG) (a PhD programme), which are supported by the European Commission and provided by six European universities with active training and research programmes in animal breeding and genetics. These two programmes aim to train students who wish to contribute to the development of sustainable livestock breeding. To date, more than 100 students from more than 40 countries have enrolled in the EM-ABG<sup>38</sup> and EGS-ABG.<sup>39</sup>

The Global Focal Point has a long history of cooperation with the ILRI–Swedish University of Agricultural Sciences (SLU) project (funded by the Government of Sweden) on capacity-building for sustainable use of animal genetic resources in developing countries, which has organized a series of training workshops held in Africa and Asia. In November 2011, the ILRI-SLU-FAO Follow-up Workshop on Previous Capacity Building and the *Global Plan of Action* for Sub-Saharan Africa was held in Addis Ababa, Ethiopia. Selected participants from previous workshops were invited to share experiences, recount stories of progress (or lack thereof) in the management of animal genetic resources in their countries, and propose plans for future collaboration. In total, 23 persons from 17 countries<sup>40</sup> attended the workshop.

<sup>36</sup> Gambia, Guinea, Mali and Senegal.

<sup>37</sup> Denmark, Egypt, Estonia, India, Italy, Malta, Mauritania, Morocco, Norway, Pakistan, Portugal, Spain and Turkey.

<sup>38</sup> <http://www.emabg.wur.nl/UK>

<sup>39</sup> <http://www.egsabg.eu>

<sup>40</sup> Botswana, Burkina Faso, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Malawi, Mauritius, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, United Republic of Tanzania, Uganda, Zambia and Zimbabwe.

The French research organizations, Institute national de la recherche agronomique (INRA) and Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), jointly organized a capacity-development workshop on animal genetic resources management in Guadeloupe, in January 2012, which was attended by 57 researchers; FAO material presented at the workshop has been made available online.<sup>41</sup>

The Global Focal Point collaborated with the Tunisian Office of Livestock and Pasture (OEP) to organize a training workshop on Animal Identification, Traceability and Performance Recording in the North African Arab Countries. The workshop took place in Tunisia, in April 2011, and was attended by 17 participants from four countries.<sup>42</sup>

In collaboration with the International Committee for Animal Recording (ICAR) and the Pan-American Dairy Federation (FEPALE), the Global Focal Point organized a regional workshop entitled Animal Identification and Recording Systems for Traceability and Livestock Development in Countries of Latin America and the Caribbean. The workshop took place in December 2011 at the FAO Regional Office for Latin America and the Caribbean in Santiago, Chile, thanks to the joint efforts and support of several units at FAO headquarters and regional (RLC) and subregional (SLC) offices. It was attended by 120 representatives of international organizations and the public and private sectors from 26 countries,<sup>43</sup> showing a good example of the public-private partnerships promoted by FAO. Six companies from Europe and Latin America exhibited their animal identification and recording devices and supported the event, including the publication of the report.

In addition to the organization of the above-mentioned workshops and the direct support provided to countries in developing their national animal identification and traceability systems (see related projects below), FAO is currently preparing technical guidelines on animal identification, traceability and performance recording in low and medium input production systems, with the participation of the ICAR Developing Countries Working Group<sup>44</sup> and several other international experts. A draft version of these guidelines was discussed at an expert meeting held in Italy in October 2011, and was used to structure the above-mentioned Santiago workshop. Because of the multidisciplinary, complexity and sensitivity of this topic, the preparation of these guidelines goes beyond the scope of animal genetic resources management. Therefore, in addition to the Global Focal Point, other units at FAO headquarters, such as the Animal Health Service (AGAH) and the Development Law Service (LEGN), along with the Regional Offices for Latin America and the Caribbean, and the Near East and the Subregional Office for North Africa are involved in the preparation of the guidelines. Because of the diverse interests of the wide range of stakeholders involved, which extends beyond the animal genetic resources community, the validation of these guidelines will be more complex and will require more time than was needed for the technical guidelines on other subjects, thus delaying the presentation of these guidelines to the Working Group.

At its Thirteenth Regular Session, the Commission requested FAO to extend its capacity-building and training activities on animal genetic resources management to more regions and subregions, ensuring that emphasis is given to the impacts of climate change, the important roles of small-scale livestock keepers and pastoralists and the roles of well-adapted species, such as camels.<sup>45</sup> FAO has undertaken a number of activities related to this issue. FAO prepared the document *Actions to adapt to and mitigate climate change impacts on natural resources: the case of fisheries and aquaculture, forestry, and livestock in the Near East*,<sup>46</sup> which was presented to the Thirty-first Session of the FAO Regional Conference for the Near East, and subsequently released for publication.<sup>47</sup> FAO's Livestock Information, Sector Analysis and Policy Branch (AGAL) collaborates with the Chinese Academy of

<sup>41</sup>[https://www.antilles.inra.fr/les\\_recherches/unite\\_de\\_recherche\\_en\\_productions\\_animales/ecole\\_chercheurs\\_parc\\_inra\\_cirad](https://www.antilles.inra.fr/les_recherches/unite_de_recherche_en_productions_animales/ecole_chercheurs_parc_inra_cirad)

<sup>42</sup>Algeria, Mauritania, Morocco and Tunisia.

<sup>43</sup>Argentina, Australia, Belgium, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Denmark, Ecuador, El Salvador, Estonia, Germany, Ireland, Italy, Mexico, Nicaragua, Panama, Paraguay, Peru, Spain, Sweden, Switzerland, the Netherlands, Uruguay and Venezuela (Bolivarian Republic of).

<sup>44</sup>[http://www.icar.org/pages/working\\_groups/wg\\_Developing\\_Countries.htm](http://www.icar.org/pages/working_groups/wg_Developing_Countries.htm)

<sup>45</sup>CGRFA-13/11/Report, paragraph 77.

<sup>46</sup>NERC/12/5.

<sup>47</sup>[http://www.fao.org/ag/againfo/resources/newsletter/docs/2012\\_1007\\_Tibbo.pdf](http://www.fao.org/ag/againfo/resources/newsletter/docs/2012_1007_Tibbo.pdf)

Agricultural Science, the Chinese Academy of Sciences and the World Agroforestry Centre to develop a grassland carbon accounting methodology.<sup>48</sup> This method significantly reduces the costs associated with measurement and verification, greatly facilitating access by small-scale herders to carbon markets, and potentially helping to preserve small-scale herder livelihoods and the local livestock breeds that they depend on.<sup>49</sup> The methodology was designed to support the Three Rivers Sustainable Grazing Project in the Qinghai Province of China. This pilot project works with 271 households of herders of local breeds of yak and sheep, and covers an area of more than 22 000 hectares of lightly to severely degraded grazing land. In collaboration with the Regional Office for Europe, the Subregional Offices for Central Asia and North Africa, and the Multidisciplinary Team for Oriental Near East, the Global Focal Point published and distributed Russian<sup>50</sup> and Arabic<sup>51</sup> versions of *Breeding strategies for sustainable management of animal genetic resources*.

In collaboration with the League For Pastoral Peoples and Endogenous Livestock Development (LPP), LIFE Network and the International Union for Conservation of Nature–World Initiative for Sustainable Pastoralism (IUCN-WISP), French<sup>52</sup> and Spanish<sup>53</sup> versions of the publication *Adding value to livestock diversity – marketing to promote local breeds and improve livelihoods*<sup>54</sup> were published and widely distributed (500 copies each).

### ***Institutional and technical support***

In response to the need for technical assistance to ensure the better use, development and conservation of animal genetic resources, FAO further invested in providing assistance in these fields, both directly and through cooperation with other organizations. Several of the technical assistance initiatives for the current reporting period, including those implemented through the FAO Technical Cooperation Programme (TCP), are listed below.

Animal identification and recording have traditionally been practised for herd management and genetic improvement purposes. More recently, because of outbreaks of transboundary and food-borne diseases, traceability has also become an important motivation for animal identification and recording. Hence, animal identification, recording and traceability have been addressed by various international agreements and standards. To comply with such standards, a number of countries have requested FAO's technical and financial assistance to develop their livestock identification and traceability systems. In Africa, two countries are receiving FAO support through the TCP – the United Republic of Tanzania (TCP/URT/3303) and Swaziland (TCP/SWA/3301(D)). In Asia, FAO is providing technical assistance to the Government of India to develop a strategy and an action plan for an animal identification and traceability system for India that will initially focus on cattle and buffaloes. The project (TCP/IND/3302(D) – UTF/IND/185) is funded jointly by FAO and Government of India. These projects benefit from the development of the animal identification, traceability and recording guidelines, but also contribute to the improvement of the guidelines. This illustrates the complementarity between FAO's normative work and its field work.

A TCP Facility (TCP/BDI/3103) was used to establish a livestock development strategy in Burundi, as a complement to the country's national agricultural strategy. The livestock development strategy document was produced and endorsed by the Government of Burundi in March 2010. A new project (TCP/BDI/3402) entitled *Elaboration d'un plan d'action national pour la gestion et l'amélioration des ressources génétiques animales au Burundi* was approved in March 2012. The project aims to develop a national strategy for the management of animal genetic resources and includes a five-year investment plan, in line with the recommendations of the livestock development strategy document. This project was launched in June 2012.

<sup>48</sup> <http://v-c-s.org/methodologies/methodology-sustainable-grassland-management-smg>

<sup>49</sup> [www.fao.org/news/story/en/item/90042/icode](http://www.fao.org/news/story/en/item/90042/icode)

<sup>50</sup> <http://www.fao.org/docrep/014/i1103r/i1103r00.pdf>

<sup>51</sup> <http://www.fao.org/docrep/014/i1103a/i1103a00.pdf>

<sup>52</sup> <http://www.fao.org/docrep/014/i1283f/i1283f00.htm>

<sup>53</sup> <http://www.fao.org/docrep/014/i1283s/i1283s00.htm>

<sup>54</sup> <http://www.fao.org/docrep/012/i1283e/i1283e00.htm>

FAO is involved in a long-standing collaboration with the Ministry of Agriculture of the Kingdom of Saudi Arabia. A five-year (2007–2011) Unilateral Trust Fund (UTF/SAU/021/SAU) project permitted the establishment of a camel breeding, protection and improvement centre in Saudi Arabia. A follow-up project (UTF/SAU/044/SAU), with the same duration, was signed in May 2012. It will address three objectives: (i) characterization of camel population and systems; (ii) investigation of health disorders; and (iii) improvement of knowledge in camel nutrition, production and product processing. Similarly, a two-phase UTF project on the Preservation and Improvement of the Arabian Horse in its Homeland started in 2007. The first phase (UTF/SAU/033/SAU) was concluded in 2011, and a proposal for a second phase, of five year duration, has been formulated.

FAO, as a member of the board of ICAR, continued to lead the ICAR Developing Countries Working Group. The working group combines e-mail discussions and physical meetings. It has prepared an online survey to assess the current status of animal identification and recording systems in developing countries and countries with economies in transition. The survey was distributed via the Domestic Animal Diversity Network (DAD-Net). So far, respondents from 50 countries have completed the questionnaire. The responses are being analysed and a paper will be produced.

The Global Focal Point contributed to the expert meeting State of the Art of Livestock Community-based Breeding Programmes, held in January 2011 in Vienna, Austria, which was jointly organized by ICARDA and the University of Natural Resources and Life Sciences (BOKU), Vienna. The objectives of the meeting were to document the current state of the art in community-based breeding programmes – including where they have been implemented (environment, species), lessons learned and contradictory findings – and to identify research and information gaps. Twelve participants from six countries<sup>55</sup> attended the meeting.

### ***Awareness raising and information***

The Global Focal Point published *Invisible guardians – women manage livestock diversity*,<sup>56</sup> a book that presents an analysis of the roles of women in the sustainable use, development and conservation of animal genetic resources. The importance of small-scale famers and pastoralists as custodians of these resources is well recognized, but has never previously been disaggregated by gender. The differential roles of men and women have largely been neglected in studies of animal genetic resources management, but by piecing together several strands of argument and indirect evidence it can be concluded that women are the main guardians of livestock diversity.

The Global Focal Point contributed a chapter to the book *Managing biodiversity in agricultural ecosystems*,<sup>57</sup> published by Bioversity International in 2007. Bioversity International has recently produced versions of the book in Arabic,<sup>58</sup> Chinese,<sup>59</sup> French (in press) and Spanish,<sup>60</sup> and kindly provided copies for distribution via DAD-Net. The Global Focal Point assisted in making these publications available electronically.

The Global Focal Point continued to assist National Coordinators and other stakeholders to make films related to the management of animal genetic resources available on YouTube,<sup>61</sup> and continued to publicise these films via DAD-Net.

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<sup>55</sup> Argentina, Austria, Ethiopia, Germany, Kenya and Sweden.

<sup>56</sup> <http://www.fao.org/docrep/016/i3018e/i3018e00.pdf>

<sup>57</sup> [http://www.amazon.com/Managing-Biodiversity-Agricultural-Ecosystems-ebook/dp/B0064CZ0TE/ref=sr\\_1\\_2?ie=UTF8&qid=1337947160&sr=8-2](http://www.amazon.com/Managing-Biodiversity-Agricultural-Ecosystems-ebook/dp/B0064CZ0TE/ref=sr_1_2?ie=UTF8&qid=1337947160&sr=8-2)

<sup>58</sup> [ftp://DADnet:Mobile45@ext-ftp.fao.org/ag/reserved/dad-net/Managing\\_agrobiodiv\\_arabic.pdf](ftp://DADnet:Mobile45@ext-ftp.fao.org/ag/reserved/dad-net/Managing_agrobiodiv_arabic.pdf)

<sup>59</sup> [ftp://DADnet:Mobile45@ext-ftp.fao.org/ag/reserved/dad-net/Managing\\_agrobiodiversity\\_chinese.pdf](ftp://DADnet:Mobile45@ext-ftp.fao.org/ag/reserved/dad-net/Managing_agrobiodiversity_chinese.pdf)

<sup>60</sup> <ftp://DADnet:Mobile45@ext-ftp.fao.org/ag/reserved/dad-net/Biodiversidad.pdf>

<sup>61</sup> <http://www.youtube.com/user/dadisfao?feature=watch>

## Strategic Priority Area 3. Conservation

### *Research and capacity-building*

FAO co-sponsored and co-organized several training events on conservation of animal genetic resources. The first of these workshops emphasized *in vivo* conservation and was held in India, in October 2010, and hosted by the National Bureau of Animal Genetic Resources. The workshop was attended by nine international participants from eight countries,<sup>62</sup> plus approximately 15 local scientists. The second workshop was organized and hosted by the Centre for Genetic Resources of the Netherlands, in June 2011, and also addressed *in vivo* conservation. The workshop targeted Eastern European countries, and the ERFPP sponsored the participation of representatives from some countries. The total attendance was 48 persons, from 25 countries.<sup>63</sup> The third workshop was also co-organized and co-sponsored by the ERFPP, with administrative assistance from the European Federation of Animal Science (EAAP). This workshop addressed national legal and institutional arrangements for *ex situ* conservation of animal genetic resources, and was held in Croatia in June 2012. The workshop was attended by 48 persons representing 30 countries.<sup>64</sup> Both of the European workshops involved collaboration between the Global Focal Point and the FAO Subregional Office for Central and Eastern Europe.

Capacity-building on animal genetic resources conservation was also provided at two workshops co-organized with ILRI and other partners. The first workshop emphasized cryoconservation and was held in December 2011 as part of the project Characterization and Utilization of Indigenous Breeds of Cattle and Small Ruminants in Eastern and Central Africa, of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). Seventeen persons from five countries<sup>65</sup> attended. The second workshop was the above-mentioned collaborative event with SLU, held in Ethiopia in November 2011, which addressed conservation as well as other aspects of animal genetic resources management.

### *Institutional and technical support*

At its Thirteenth Session,<sup>66</sup> the Commission endorsed the guidelines *Cryoconservation of animal genetic resources*. With extra-budgetary funding from Germany, the book is being published. As noted above, *Draft guidelines on in vivo conservation of animal genetic resources* have been prepared and are presented as an information document at this meeting.<sup>67</sup> These draft guidelines were validated through a series of physical and virtual expert meetings. The first of these meetings was held jointly with the ILRI-SLU-FAO Follow-up Workshop on Previous Capacity Building and the *Global Plan of Action* for Sub-Saharan Africa, held in Ethiopia in November 2012, and was attended by experts from Botswana, Ethiopia, Mozambique and South Africa. The second meeting was held in Chile in December 2011, in conjunction with the regional workshop Animal Identification and Recording Systems for Traceability and Livestock Development in Countries of Latin America and the Caribbean, and was attended by experts from Argentina, Brazil, Chile, Colombia and Peru. Finally, an

<sup>62</sup> Bangladesh, Bhutan, Indonesia (2), Malaysia, Mongolia, Nepal, Papua New Guinea and Viet Nam.

<sup>63</sup> Albania, Armenia, Austria, Azerbaijan, Belgium, Croatia, Estonia, Finland, France, Hungary, Italy, Latvia, Lithuania, Montenegro, Netherlands, Norway, Poland, Russian Federation, Serbia, Slovenia, Spain, Switzerland, Turkey, United Kingdom and Ukraine.

<sup>64</sup> Albania, Austria, Azerbaijan, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Montenegro, Netherlands, Norway, Republic of Moldova, Poland, Portugal, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and Ukraine.

<sup>65</sup> Ethiopia, Kenya, Rwanda, Uganda and United Republic of Tanzania.

<sup>66</sup> CGRFA-13/11/Report, paragraph 79.

<sup>66</sup> [www.rarebreedsinternational.org/turkey\\_conference\\_2011.doc](http://www.rarebreedsinternational.org/turkey_conference_2011.doc)

<sup>66</sup> [http://www.au-ibar.org/index.php?option=com\\_flexicontent](http://www.au-ibar.org/index.php?option=com_flexicontent)

<sup>67</sup> CGRFA/WG-AnGR-7/12/Inf.6.

electronic conference was implemented via DAD-Net. The electronic conference ran from January to March 2012. A week was devoted to each chapter of the guidelines. A meeting of authors, at which the comments arising from the electronic conference were considered and integrated into the guidelines, was held in Italy in March 2012, hosted by the University of Milan.

### ***Awareness raising and information***

The Global Focal Point contributed a keynote address at the Eighth Rare Breeds International Global Conference on the Conservation of Animal Genetic Resources,<sup>68</sup> held in Turkey in October 2011, and at the Eleventh International Conference on Goats, held in Spain in September 2012.

## **Strategic Priority Area 4. Policies, institutions and capacity-building**

In collaboration with the Regional Office for Europe, the Global Focal Point published and distributed the Russian<sup>69</sup> version of the guidelines *Preparation of national strategies and action plans for animal genetic resources*. A Chinese version has been produced within the framework of the FAO Chinese Publishing Programme.

Elements of the *Global Plan of Action* have been incorporated into various regional strategies. For example, the African Union Interafrican Bureau for Animal Resources (AU-IBAR) Strategic Plan 2010–2014,<sup>70</sup> contains a programme on enhancing Africa's capacity to conserve and sustainably use its animal resources and their natural resource base. Equally, the Economic Community Of West African States (ECOWAS), in its Strategic Action Plan for the Development and Transformation of the Livestock Sector in the ECOWAS Region (2011–2020),<sup>71</sup> under its programme on promotion of the livestock, meat and dairy sectors, aims to improve the performance of local breeds through evaluation and harmonization of the management of genetic resources, and facilitation of the development of regional centres of excellence and genetic value addition to local breeds, as well as capacity building.

### ***Institutional and technical support***

The Thirty-seventh Session of the FAO Conference welcomed progress made in the implementation of the *Global Plan of Action* and encouraged FAO to continue such activities. The Conference requested FAO to continue partnerships with other organizations in the implementation of the *Global Plan of Action*, including with the Convention on Biological Diversity (CBD), noting particularly the contribution of small-scale livestock keepers and the importance of ecosystems.

In August 2011, FAO informed the National Focal Points of the CBD of major international policy frameworks and initiatives for genetic resources for food and agriculture<sup>72</sup> and encouraged them to collaborate more closely with their counterparts in the various sectors of genetic resources for food and agriculture<sup>73</sup>, particularly in the process of updating national biodiversity strategies and action plans.

At its Thirteenth Regular Session, the Commission endorsed the guidelines *Developing the institutional framework for the management of animal genetic resources* and encouraged countries to

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<sup>68</sup> [www.rarebreedsinternational.org/turkey\\_conference\\_2011.doc](http://www.rarebreedsinternational.org/turkey_conference_2011.doc)

<sup>69</sup> <http://www.fao.org/docrep/012/i0770r/i0770r00.htm>

<sup>70</sup> [http://www.au-ibar.org/index.php?option=com\\_flexicontent&view=items&cid=85&id=170](http://www.au-ibar.org/index.php?option=com_flexicontent&view=items&cid=85&id=170)

<sup>71</sup> [http://www.inter-reseaux.org/IMG/doc\\_Action\\_Plan\\_for\\_Livestock\\_Farming\\_66\\_pages\\_FINAL.doc](http://www.inter-reseaux.org/IMG/doc_Action_Plan_for_Livestock_Farming_66_pages_FINAL.doc)

<sup>72</sup> English version: <http://dad.fao.org/cgi-bin/getblob.cgi?sid=-1,1484>; French version: <http://dad.fao.org/cgi-bin/getblob.cgi?sid=-1,1485>; Spanish version: <http://dad.fao.org/cgi-bin/getblob.cgi?sid=-1,1486>

<sup>73</sup> National Coordinator for the Management of Animal Genetic Resources; National Focal Point for the Preparation of Country Reports on Forest Genetic Resources; National Focal Point, Plant Genetic Resources; National Focal Point of the International Treaty on Plant Genetic Resources for Food and Agriculture; International Plant Protection Convention, Contact Point.

make full use of them. The Global Focal Point published the guidelines<sup>74</sup> in English in 2011, and distributed more than 1 400 copies. French<sup>75</sup> and Spanish<sup>76</sup> versions have been published electronically and are currently being distributed.

FAO (headquarters, Regional Office for Africa, subregional offices for West Africa and Central Africa) and PROGEBE organized a regional workshop on sustainable management of animal genetic resources in West and Central Africa, which was held in March 2010 in Senegal. The main outcome was the decision to establish a single Sub-Regional Focal Point (S-RFP) for West and Central Africa. An Interim Steering Committee was established to oversee the process, which was completed at a regional workshop held in June 2011 in Gabon. The latter workshop was organized with the technical and financial support of FAO, in collaboration with the AU-IBAR and PROGEBE. Extra-budgetary funds were provided by the Government of Germany. The workshop was attended by 41 participants, comprising National Coordinators for the Management of Animal Genetic Resources from 21 West and Central African countries<sup>77</sup> and representatives of several international and regional organizations.<sup>78</sup> The terms of reference of the S-RFP, along with an operational structure consisting of a General Assembly, a Steering Committee and a Secretariat, and the criteria for selecting the members of the Steering Committee and the institution hosting the Secretariat, were formally adopted through the “Libreville Declaration”. The members of the Steering Committee were elected and the formal establishment of the S-RFP was declared. A four-year programme of work was formulated. After a first meeting, held back-to-back with the Libreville workshop, the Steering Committee met in December 2011 in Togo, after a consultative expert meeting on the valorization of animal genetic resources in West and Central Africa, to report on its activities and the first results of the call for proposals of the Funding Strategy for the Implementation of the *Global Plan of Action*. FAO is currently preparing a regional TCP project with the objective of strengthening the S-RFP in West and Central Africa, and launching activities for an S-RFP in Eastern and Southern Africa.

FAO participated in the meetings of the General Assembly and Executive Committee of the ALive Platform for Livestock Development in Africa. FAO provided comments on recommendations by the Executive Committee and contributed to the ALive policy brief. In addition, FAO delivered a keynote address to the General Assembly, titled “Will African breeds withstand the challenges of the 21st century?”. FAO further contributed to the institutional assessment and an expert workshop for the development of a strategic plan of the International Trypanotolerance Center (ITC), The Gambia.

A project funded by Turkey (GCP/SEC/003/TUR) aims to strengthen National Focal Points and develop national strategies and action plans in each participating country, and to establish a subregional focal point for Central Asia, Turkey and Azerbaijan. Another project (GCP/SEC/001/TUR) aims to establish a cattle producers’ association in high-potential districts of four Central Asian countries, including animal identification.

FAO officers attended the international technical expert workshop Exploring the Need for Specific Measures for Access and Benefit Sharing of Animal Genetic Resources, which was held in the Netherlands in December 2010.<sup>79</sup> A presentation on past, current and expected future international exchange of animal genetic resources was contributed by FAO.

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<sup>74</sup> <http://www.fao.org/docrep/014/ba0054e/ba0054e00.pdf>

<sup>75</sup> <http://www.fao.org/docrep/015/ba0054f/ba0054f00.htm>

<sup>76</sup> <http://www.fao.org/docrep/015/ba0054s/ba0054s00.htm>

<sup>77</sup> Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Côte d’Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Guinea Bissau, Gabon, Ghana, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Sao Tome and Principe and Togo.

<sup>78</sup> AU-IBAR, CIRDES, Commission Economique du Bétail, de la Viande et des Ressources Halieutiques (CEBEVIRHA), ECOWAS, École Inter-Etats des Sciences et Médecine Vétérinaires (EISMV) and ITC.

<sup>79</sup> <http://www.cgn.wur.nl/UK/CGN+General+Information/Education+and+information/Seminars>

### *Awareness raising and information*

Two symposia entitled Environmental Value of Animal Genetic Resources and Opportunities of Genomics Information for *In Situ* and *Ex Situ* Conservation were organized by FAO, ERFP and the EAAP Working Group on Animal Genetic Resources at the Sixty-second (August 2011) and Sixty-third (August 2012) Annual Meetings of EAAP, respectively. The first symposium consisted of four scientific papers and four short presentations given by National Coordinators (France, Greece, Slovenia and Switzerland,) on the interaction between grazing animals and vegetation.<sup>80</sup> A survey is being prepared, as the scientific case for the environmental value provided by locally adapted breeds is still weak. The second symposium consisted of ten presentations and three posters.

For the past three years, FAO has collaborated with groups of students from Iowa State University in the United States of America, to conduct research on issues related to animal genetic resources and to publish the results in a variety of formats. In 2010, three students collaborated in the development of the e-learning tool “Sustaining livestock diversity”,<sup>81</sup> which was released to the public in April 2012. In 2011, a group of ten students assisted in the development of a questionnaire on the use of private standards in the livestock industry. In 2012, seven students undertook a review of the literature on relationships between livestock genetic diversity and variability in the nutritional composition of meat. The latter research was done in collaboration with the Nutrition and Consumer Protection Division of FAO and resulted in the publication of a scientific paper in the journal *Animal Frontiers*.<sup>82</sup>

The Global Focal Point continues to maintain DAD-Net as an informal forum for the discussion of issues relevant to the management of animal genetic resources at national, regional and international levels. In July 2012, 1 550 persons from more than 114 countries were subscribed to the network. Over the last two years of operation, more than 900 messages have been exchanged. DAD-Net has proven to be an effective means for sharing experiences, enabling participants to request information and facilitating informal discussions among individuals involved in various aspects of the management of animal genetic resources, in particular for individuals from countries where such means do not otherwise exist. DAD-Net has been upgraded and is now also available on the web.<sup>83</sup> In June 2012, an electronic survey offered subscribers an opportunity to provide their evaluation of the network and suggestions for its improvement. The analysis will be made available in a separate document.

The Global Focal Point has continued to produce the journal *Animal Genetic Resources* (previously *Animal Genetic Resources Information* –AGRI). Issues 48,<sup>84</sup> 49<sup>85</sup> and 50<sup>86</sup> were published during the reporting period. The journal is published in collaboration with Cambridge University Press.<sup>87</sup> More than 400 papers have been published in 50 volumes of *Animal Genetic Resources* over a period of nearly 30 years. It has provided a forum for nearly 1 000 authors from 81 countries. Authors from all regions of the world have contributed, with the following regional distribution: 24 percent from Asia and the Pacific, 14 percent from Africa, 45 percent from Europe, 11 percent from Latin America and the Caribbean, 3 percent from the Near East and 3 percent from North America. From July 2009 to February 2012, 109 manuscripts were submitted, of which 25 were rejected. An analysis of more than 400 papers reveals that the majority focused on large ruminants (38 percent of the papers), followed by small ruminants (33 percent), poultry and mini livestock (13 percent), equines (8 percent), pigs (5 percent) and camelidae (3 percent). Classifying the papers according to the four strategic priority areas of the *Global Plan of Action* shows that the majority of papers (63 percent) addressed characterization, inventory and monitoring of trends and associated risks; 11 percent addressed sustainable use and development; 17 percent addressed conservation; and 9 percent addressed policies and institutions and capacity-building. The large percentage of papers related to Strategic Priority Area 1

<sup>80</sup> <http://www.rfp-europe.org/index.php?id=546>

<sup>81</sup> [http://www.fao.org/ag/againfo/resources/documents/e-module/AnGR\\_Emodule.pdf](http://www.fao.org/ag/againfo/resources/documents/e-module/AnGR_Emodule.pdf)

<sup>82</sup> <http://animalfrontiers.fass.org>

<sup>83</sup> <https://listserv.fao.org/cgi-bin/wa?A0=DAD-Net-L>

<sup>84</sup> <http://www.fao.org/docrep/014/i2200t/i2200t.pdf>

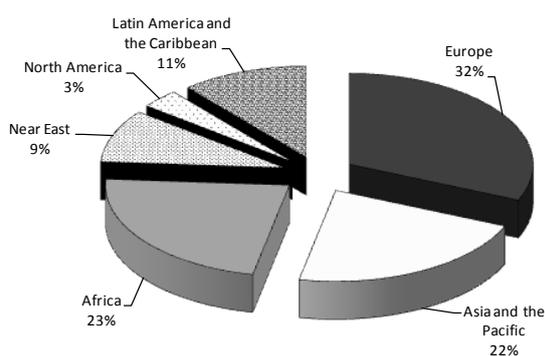
<sup>85</sup> <http://www.fao.org/docrep/014/ba0128t/ba0128t00.pdf>

<sup>86</sup> <http://www.fao.org/docrep/015/i2673t/i2673t00.pdf>

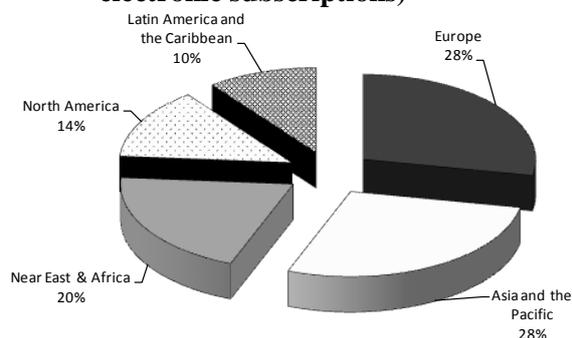
<sup>87</sup> <http://journals.cambridge.org/action/displayJournal?jid=AGR>

can in part be explained by the fact that *Animal Genetic Resources* is the main forum for this topic on an international basis. Competing and high-ranking specialized journals exist for some other aspects of animal genetic resources management, particularly for Strategic Priority Areas 2 and 3. Although *Animal Genetic Resources* is the primary forum available for Strategic Priority Area 4, the number of papers falling within this category is only slowly increasing, as the amount of “research” *per se* on this topic remains limited. The way in which the journal is accessed by its readers has changed drastically over the years. The early volumes were printed and physically distributed; today all volumes are accessible online in the FAO Document Repository,<sup>88</sup> in the DAD-IS Library<sup>89</sup> and paper-by-paper on the web site of Cambridge University Press.<sup>90</sup> In addition to individual downloads, 1 700 institutions subscribe to *Animal Genetic Resources*, and 3 200 copies of the journal are printed and distributed to readers in 187 countries.

**Figure 1. Regional distribution of the readership of *Animal Genetic Resources* (hard-copy subscriptions)**



**Figure 2. Regional distribution of the readership of *Animal Genetic Resources* (institutional electronic subscriptions)**



Figures 1 and 2 show that printed copies are still in high demand, particularly in Africa and in Asia and the Pacific. In North America, relatively few individuals are interested in receiving the journal in printed form, but this is compensated for by the relatively high institutional electronic subscription rate.

FAO contributed to the preparation of documents and statements for the Fifteenth and Sixteenth Sessions of the CBD Subsidiary Body on Scientific, Technical and Technological Advice, especially the review of the Programme of Work on Agricultural Biodiversity, and the Eleventh meeting of the Conference of the Parties to the CBD. FAO also contributed to the publication *Advancing the biodiversity agenda – a UN system-wide contribution*, which was coordinated by the UN Environment Management Group. In addition, FAO participated in the CBD expert group on Biodiversity for Poverty Eradication and Development, attending a meeting of the expert group held in December 2011 in India, and contributing to the document *The root causes of, and inter-linkages between, biodiversity loss and poverty*<sup>91</sup>. The meeting report was presented to the fourth meeting of the Ad Hoc Open-ended

<sup>88</sup> <http://www.fao.org/documents/en/search/advanced?%20forward=advanced&%20titleOfJournal=Animal+genetic+resources+information&%20connector=1>

<sup>89</sup> <http://www.fao.org/dad-is/>

<sup>90</sup> <http://journals.cambridge.org/action/displayJournal?jid=AGR>

<sup>91</sup> [UNEP/CBD/WG-RI/4/5](#), Annex II.

Working Group on Review of Implementation of the Convention.<sup>92</sup> Finally, the Global Focal Point provided hand-outs listing the names and contact details of National Coordinators for distribution at the CBD Regional Workshops on Updating National Biodiversity Strategies and Action Plans.

FAO is collaborating with the World Intellectual Property Organization on a patent landscape study. Representatives from governments, research and industry are being contacted to contribute.

Global Focal Point officers have participated as invited speakers at a number of meetings of organizations with programmes related to the management of animal genetic resources. These meetings were held in locations spread throughout the world, including Botswana, France, the Gambia, Germany, Guadeloupe and the Netherlands.

#### **IV. SUPPORT BY FAO TO PART III OF THE *GLOBAL PLAN OF ACTION* (IMPLEMENTATION AND FINANCING OF THE *GLOBAL PLAN OF ACTION*)**

##### **Information on resources under the FAO Trust Account**

The Commission, at its Twelfth Regular Session, adopted the *Funding Strategy for the Implementation of the Global Plan of Action for Animal Genetic Resources*<sup>93</sup> and requested FAO to implement it and to establish a FAO Trust Account. The Governments of Germany, Switzerland and Norway contributed more than US\$ 1 million to the FAO Trust Account, and at its Thirteenth Session the Commission requested FAO to announce the first call for proposals for the use of funds and delegated the approval of project proposals submitted under the first call for proposals.

Working document *Review of the Funding Strategy for the Implementation of the Global Plan of Action for Animal Genetic Resources*<sup>94</sup> has been made available for consideration by the Working Group.

##### **Information on resources not under the FAO Trust Account**

###### ***FAO Regular Programme resources of direct relevance to the Global Plan of Action***

In FAO's Medium Term Plan (MTP) 2010-13 and its Programme of Work and Budget (PWB) 2010-11<sup>95</sup> and 2012-2013,<sup>96</sup> animal genetic resources-related activities are listed under Organizational Result B03 – *Better management of natural resources, including animal genetic resources, in livestock production* of Strategic Objective B – *Increased sustainable livestock production*. In the 2012-13 biennium, the products/services under SO-B have been aligned with the four strategic priority areas of the *Global Plan of Action*. Additional animal genetic resources-related activities undertaken at FAO headquarters are also included under Organizational Results F03 (*Policies and programmes are strengthened at national, regional and international levels to ensure the conservation and sustainable use of biological diversity for food and agriculture and the equitable sharing of benefits arising from the use of genetic resources*) supporting the work of the Commission, and F05 (*Countries have strengthened capacities to address emerging environmental challenges, such as climate change and bioenergy*) of Strategic Objective F – *Sustainable management of land, water and genetic resources and improved responses to global environmental challenges affecting food and agriculture*. In addition, the majority of decentralized offices have established Organizational Outputs or products or services related to the implementation of the *Global Plan of Action*, based on the requirements of the respective regions. However, although (sub)regional offices assign most of the *Global Plan of Action*-

<sup>92</sup> UNEP/CBD/WG-RI/4/INF/11; WGRI 4 Recommendation 4/4 reflected in UNEP/CBD/COP/11/4.

<sup>93</sup> CGRFA-12/09/Report, Appendix C.

<sup>94</sup> CGRFA/WG-AnGR-7/12/4.

<sup>95</sup> C 2009/15.

<sup>96</sup> C 2011/3.

related interventions to Organizational Result B03, they do not always create specific Organizational Outputs, but merge them with other livestock, or other environment-related, interventions. In order to allow resources to be better traced, it would thus be preferable to create a separate Organizational Result for the *Global Plan of Action*.

FAO has been involved in the development of national and regional Technical Cooperation Projects and Technical Cooperation Project-Facilities that may lead to larger investment projects. The FAO-wide planned Regular Programme funding for the 2012-2013 biennium adds up to USD 4.8 million of resources planned by headquarters, regional and subregional offices, plus an additional US\$ 2.1 million for FAO country offices, another approximately US\$ 1.9 million for TCPs by FAO and another US\$ 1.1 million for TCPs by AGE.

### ***Voluntary contributions to FAO***

Trust funds in support of the *Global Plan of Action* have been established under the Strategic Partnership for Rural Development between Sweden and FAO, under the FAO–Norway Partnership Cooperation Agreement and the FAO–Turkish Partnership Programme, and by Germany. The funds under these programme cooperation agreements helped FAO provide catalytic funds for special activities at all levels. FAO is also associated with several European Commission-funded projects that provide stipends for developing-country participants and support the generation and dissemination of knowledge. FAO has also prepared a multidonor trust fund programme to facilitate the implementation of the *Global Plan of Action*, which has so far not received any contributions.

### ***Resources not under FAO control***

The Funding Strategy lists four different types of resources relevant to the Funding Strategy, including resources that are not under FAO control. FAO has a facilitating role in enhancing countries' access to information on funding, in that it continues to provide information on funding sources and grants through the DAD-Net discussion network and through the Funding Strategy web site.<sup>97</sup>

The Commission invited countries and international organizations to report to FAO on financial resources used for the implementation of the *Global Plan of Action*.<sup>98</sup> The document *Synthesis progress report on the implementation of the Global Plan of Action for Animal Genetic Resources – 2012*,<sup>99</sup> the Country Progress Reports and the International Organization Progress Reports<sup>100</sup> provide insight into various policies, programmes and activities undertaken at different levels to promote the wise management of animal genetic resources as a means to improve food security and sustainable development. All reports have been made available on the “Reporting” page of the *Global Plan of Action* web site.<sup>101</sup> While 30 percent of countries reported an increase in national funding since the adoption of the *Global Plan of Action*, only five countries provided funding to other countries, and only nine countries received external funding for the implementation of the *Global Plan of Action*.<sup>102</sup> The country experiences imply that they have made strategic use of national, bilateral and multilateral resources to advance the implementation of the *Global Plan of Action*. No donor organization responded to the International Organizations survey. However, two responding NGOs stated that they have provided funding to countries for the implementation of the *Global Plan of Action*, and many supported a wide range of capacity-development activities. Only one developed-country NGO stated that their own budget for activities supporting animal genetic resources programmes has increased since the adoption of the *Global Plan of Action*.

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<sup>97</sup> [http://www.fao.org/ag/againfo/programmes/en/genetics/Funding\\_strategy.html](http://www.fao.org/ag/againfo/programmes/en/genetics/Funding_strategy.html)

<sup>98</sup> CGRFA-13/11/Report, paragraph 88.

<sup>99</sup> CGRFA/WG-AnGR-7/12/Inf.3.

<sup>100</sup> [http://www.fao.org/ag/againfo/programmes/en/genetics/Reporting\\_system.html](http://www.fao.org/ag/againfo/programmes/en/genetics/Reporting_system.html)

<sup>101</sup> [http://www.fao.org/ag/againfo/programmes/en/genetics/Reporting\\_system.html](http://www.fao.org/ag/againfo/programmes/en/genetics/Reporting_system.html)

<sup>102</sup> CGRFA/WG-AnGR-7/12/Inf.3.

## Annex 1

### Expert meetings contributing to the development of guidelines and manuals

Meeting	Strategic priority area	Date	Location	Countries of participating experts
Expert meeting on animal identification, traceability and performance recording	2	24–26 Oct 2011	Rome, Italy	Denmark, France, Germany, South Africa, Tunisia, United Republic of Tanzania
Africa regional expert meeting for review of draft guidelines for <i>in vivo</i> conservation of animal genetic resources	3	23–24 Nov 2011	Addis Ababa, Ethiopia	Botswana, Ethiopia, Mozambique, South Africa
Latin America regional expert meeting for review of draft guidelines for <i>in vivo</i> conservation of animal genetic resources	3	6–7 Dec 2011	Santiago, Chile	Argentina, Brazil, Chile, Colombia, Peru
Final meeting of authors of draft FAO guidelines on <i>in vivo</i> conservation of animal genetic resources	3	13–15 Mar 2012	Milan, Italy	Italy, Netherlands, Spain

## Annex 2

### Regional workshops for National Coordinators for the Management of Animal Genetic Resources

Title of workshop	Strategic priority area	Dates	Location	List of countries participating
FAO-NBAGR Regional Workshop on <i>in vivo</i> conservation of animal genetic resources	3	28–30 Oct 2010	Delhi, India	Bangladesh, Bhutan, India, Indonesia, Malaysia, Mongolia, Nepal, Papua New Guinea, Viet Nam
Regional workshop on the operations of the Regional Focal Point and exchange of experiences	4	Nov 2010	San Jose, Costa Rica	Argentina, Brazil, Chile, Costa Rica, Panama, Peru
Final EFABIS-net conference	1	30 Nov – 2 Dec 2010	Palermo, Italy	Austria, Finland, Germany, Iceland, Italy, Netherlands, Poland, Slovenia, Spain, Sweden, Switzerland
Meeting of ERFP Working Group on Documentation and Information	1	14–15 Apr 2011	Bonn, Germany	France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Serbia, Slovenia, Turkey, Ukraine
Regional workshop: <i>Identification Animale et Traçabilité dans les pays du Maghreb</i>	2	18–23 Apr 2011	Hammamet, Tunisia	Algeria, Mauritania, Morocco, Tunisia
Training workshop on monitoring, inventory and characterization of animal genetic resources	1	16–20 May 2011	Tartu, Estonia	Albania, Belarus, Croatia, Finland, Georgia, Italy, Latvia, Lithuania, Montenegro, Republic of Moldova, Russian Federation, Serbia, The Former Yugoslav Republic of Macedonia, Ukraine
Workshop for the establishment of a sub-regional focal point for animal genetic resources in West and Central Africa	4	14–16 Jun 2011	Libreville, Gabon	Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Ghana, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Sao Tomé and Principe, Senegal, Sierra Leone, Togo

Title of workshop	Strategic priority area	Dates	Location	List of countries participating
Workshop: <i>In vivo</i> Conservation of European Livestock: Challenges Applying Guidelines into Practice	3	13–17 Jun 2011	Wageningen, Netherlands	Albania, Armenia, Austria, Azerbaijan, Belgium, Croatia, Estonia, Finland, France, Hungary, Italy, Latvia, Lithuania, Montenegro, Netherlands, Norway, Poland, Russian Federation, Serbia, Slovenia, Spain, Switzerland, Turkey, Ukraine, United Kingdom
Workshop: <i>La caractérisation et la valorisation des races animales locales et leurs produits</i>	1, 2	2–4 Nov 2011	Hammamet, Tunisia	Algeria, Mauritania, Morocco, Tunisia
Annual meeting of the Latin America and Caribbean Regional Focal Point for Animal Genetic Resources	4	8–9 Dec 2011	Santiago, Chile	Argentina, Brazil, Bolivia (Plurinational State of), Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Mexico, Paraguay, Suriname, Uruguay
<i>Réunion consultative d'experts sur la valorisation des ressources Génétiques Animales en Afrique de l'Ouest et du Centre et Deuxième réunion du Comité de pilotage du Point Focal Sous-Régional pour les Ressources Génétiques Animales en Afrique de l'Ouest et du Centre</i>	4	14–16 Dec 2011	Lomé, Togo	Burkina Faso, Cameroon, Central Africa Republic, Chad, Congo, Democratic Republic of the Congo, Gabon, Gambia, Guinea, Mali, Nigeria, Senegal
Meeting of ERFP Working Group on Documentation and Information and Task Force on Risk Status and Indicators	1	27–28 Mar 2012	Padua, Italy	Croatia, France, Germany, Greece, Ireland, Italy, Montenegro, Netherlands, Norway, Serbia, Slovakia, Slovenia, Sweden, Turkey, Ukraine, United Kingdom
Workshop: National Legal and Institutional Arrangements for <i>ex situ</i> Conservation of Animal Genetic Resources	3, 4	23–26 May 2012	Zagreb, Croatia	Albania, Austria, Azerbaijan, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom

### Annex 3

#### Technical training

Training	Date	Location	List of countries participating
ILRI-FAO-ASARECA Workshop on <i>Ex-situ</i> Conservation of Indigenous Livestock in Eastern Africa	13–17 Dec 2010	Addis Ababa, Ethiopia	Ethiopia, Kenya, Rwanda, Uganda, United Republic of Tanzania
CIHEAM-FAO Advanced Course on Conservation and Management of Animal Genetic Resources	17–20 Jan 2011	Zaragoza, Spain	Albania, Algeria, Egypt, France, Greece, Italy, Lebanon, Malta, Morocco, Portugal, Spain, Tunisia, Turkey
1st Research Coordination meeting of the AGE coordinated Research Project on Genetic Variation on the Control of Resistance to Infectious Diseases in Small Ruminants for Improving Animal Productivity	22–25 Feb 2011	Vienna, Austria	Argentina, Bangladesh, Brazil, Burkina Faso, China, Eritrea, Ethiopia, Indonesia, Islamic Republic of Iran, Mexico, Nigeria, Pakistan, Saudi Arabia, Sri Lanka
ILRI-SLU-FAO Follow-up Workshop on Previous Capacity Building and the <i>Global Plan of Action</i> for Sub-Saharan Africa	21–24 Nov 2011	Addis Ababa, Ethiopia	Botswana, Burkina Faso, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Malawi, Mauritius, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Uganda, United Republic of Tanzania, Zambia, Zimbabwe
Joint FAO-ICAR-FEPALE Workshop on Animal Identification and Recording Systems for Traceability and Livestock Development in Countries of Latin America and the Caribbean	5–7 Dec 2011	Santiago, Chile	Argentina, Australia, Belgium, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Denmark, Ecuador, El Salvador, Estonia, Germany, Ireland, Italy, Mexico, Netherlands, Nicaragua, Panama, Paraguay, Peru, Spain, Sweden, Switzerland, Uruguay, Venezuela (Bolivarian Republic of)
<i>Ecole-Chercheurs PARC INRA - CIRAD Gestion génomique des ressources génétiques animales en régions chaudes</i>	9–13 Jan 2012	Le Gosier, Guadeloupe	Algeria, Belgium, Benin, Brazil, Burkina Faso, Cameroon, Colombia, Côte d'Ivoire, France, Guadeloupe, Italy, Mauritania, Rwanda, Senegal, Togo, United Kingdom

**Annex 4****Conferences attended**

Conference title	Dates	Location
Symposium on Sustainable Consumption and Food Security	5–8 Oct 2010	Bonn, Germany
Global Conference on Sustainable Beef	31 Oct – 3 Nov 2010	Denver, United States of America
International technical expert workshop: exploring the need for specific measures for Access and Benefit Sharing of Animal Genetic Resources	7–10 Dec. 2010	Wageningen, Netherlands
GLOBALDIV Final International Workshop	8–9 Feb 2011	Lausanne, Switzerland
Low Input Breeds Workshop	15–16 Mar 2011	Wageningen, Netherlands
ALive Sixth General Assembly, African Union - Interafrican Bureau of Animal Resources	7–8 Apr 2011	Nairobi, Kenya
Extra-Ordinary Meeting of the Livestock Technical Committee (LTC) of the Southern African Development Community (SADC)	10–12 May 2011	Gaborone, Botswana
62nd Annual Meeting of the European Federation of Animal Science	29 Aug – 2 Sep 2011	Stavanger, Norway
<i>Les Ressources Génétiques face aux nouveaux enjeux environnementaux, économiques et sociétaux</i>	19–24 Sep 2011	Montpellier, France
3rd Steering Committee Meeting of the GEF/UNEP/ILRI project on Development and Application of Decision-support Tools to Conserve and Sustainably Use Genetic Diversity in Indigenous Livestock and Wild Relatives	19–25 Sep 2011	Kandy, Sri Lanka
8th RBI Conference on the Conservation of Animal Genetic Resources	4–9 Oct 2011	Tekirdag, Turkey
CBD meeting of an Expert Group on Biodiversity for Poverty Eradication and Development	11–16 Dec 2011	Dehradun, India

Conference title	Dates	Location
Workshop on Sustainable Intensification: Navigating a Course through the Trade-offs	24–27 Jan 2012	Oxford, United Kingdom
1st Meeting of the European Union-sponsored COST Action RGB-Net on Rabbit Genome Biology	28–30 Mar 2012	Bologna, Italy
Stakeholder and Expert Planning Workshop for the Development of a 10-year Strategic Plan (2012-2022) for the International Trypanotolerance Centre	6–8 Jun 2012	Banjul, Gambia
1st Annual Assembly of the National Committee of Animal Genetic Resource of China and launch of second breed survey	9–10 Jul 2012	Beijing, China
33rd Conference of the International Society of Animal Genetics	15–20 Jul 2012	Cairns, Australia
63rd Annual Meeting of the European Federation of Animal Science	27–31 Aug 2012	Bratislava, Slovakia
Livestock Futures	6-7 Sept 2012	Bonn, Germany
Workshop on the Genetic Resistance to Parasites in Small Ruminants	22–23 Sep 2012	Gran Canaria, Spain
International Conference on Goats	24–26 Sep 2012	Gran Canaria, Spain
4th Steering Committee Meeting of the GEF/UNEP/ILRI project on Development and Application of Decision-support Tools to Conserve and Sustainably Use Genetic Diversity in Indigenous Livestock and Wild Relatives	24–28 Sep 2012	Faisalabad, Pakistan

**Annex 5****FAO assessed and voluntary contributions related to the implementation of the *Global Plan of Action* (MTP 2010-13/PWB 2012-13<sup>103</sup>)**

Level	Division / regional or subregional office	Organizational result	Assessed contributions – planned resources (USD)	Voluntary contributions – planned resources (USD)	Total planned resources (USD)
Headquarters					
	AGA – Animal Production and Health Division	B03 Better management of natural resources, including animal genetic resources, in livestock production	1 641 732	620 308	2 262 040
	AGA – Animal Production and Health Division	F03 Policies and programmes are strengthened at national, regional and international levels to ensure the conservation and sustainable use of biological diversity for food and agriculture and the equitable sharing of benefits arising from the use of genetic resources	1 235 863	740 308	1 976 171
	AGA – Animal Production and Health Division	F05 Countries have strengthened capacities to address emerging environmental challenges, such as climate change and bioenergy	52 807	0	52 807
	Subtotal (AGA)		2 930 402	1 360 616	4 291 018
	NRC– Climate, Energy and Tenure Division	F03 Policies and programmes are strengthened at national, regional and international levels to ensure the conservation and sustainable use of biological diversity for food and agriculture and the equitable sharing of benefits arising from the use of genetic resources	0	557 737	557 737

<sup>103</sup> C 2011/3.

Level	Division / regional or subregional office	Organizational result	Assessed contributions – planned resources (USD)	Voluntary contributions – planned resources (USD)	Total planned resources (USD)
	NRD – Office of Assistant Director– General	B03 Better management of natural resources, including animal genetic resources, in livestock production	0	92 680	92 680
	AGE – Joint FAO/IAEA Division	B03 Better management of natural resources, including animal genetic resources, in livestock production	324 529	0	324 529
	Subtotal (headquarters)		3 254 931	2 011 033	5 265 964
Regional and subregional offices		B03 Better management of natural resources, including animal genetic resources, in livestock production			
	Africa		749 871	200 000	949 871
	Asia and the Pacific		258 416	530 000	788 416
	Europe and Central Asia		203 669	0.00	203 669
	Latin America and the Caribbean		12 000	310 262	322 262
	Near East		350 156	530 000	880 156
	Subtotal		1 574 112	1 570 262	3 144 374
	Grand total		4 776 236	3 581 295	8 357 531

## Annex 6a

### Projects – Overview of projects and approximate budgets

Project title	Strategic priority area	Donor	Description	Period	Region	Participating countries	Budget (USD)
<i>Elaboration d'un plan d'action national pour la gestion et l'amélioration des ressources génétiques animales au Burundi (TCP/BDI/3402)</i>	1,2,3,4	FAO	Develop and begin implementation of a national plan of action for management of local genetic resources	2012–13	Africa	Burundi	494 000
<i>In-situ conservation of endemic ruminant livestock in West Africa</i>	1,2,3,4	GEF, African Development Bank and cofunding	Sustainable use and <i>in situ</i> conservation of endemic ruminant livestock breeds – N'dama cattle, Djallonke sheep, and West African Dwarf goats. The project also aims to establish effective models for community -based management of endemic ruminant livestock and their habitat at project pilot sites, and to strengthen production, marketing and policy environments in support of these breeds	2008–18	Africa	Gambia, Guinea, Mali, Senegal	33 742 423
Dairy cattle and buffalo improvement (TCP/SRL/3204)	2	FAO	Support the government policy to reach 50 % self-sufficiency in milk production by 2015 through higher productive animals. The genetic basis of cattle and buffaloes will be improved and a sound genetic improvement programme will be established	2010–11	Asia	Sri Lanka	320 768

Project title	Strategic priority area	Donor	Description	Period	Region	Participating countries	Budget (USD)
<i>Plan Nacional de Acción para la conservación y utilización sostenible de los recursos genéticos animales</i> (TCP/CHI/3201)	4	FAO	Formulation of National Strategies and Action Plans for animal genetics resources	2008–11	Latin America and the Caribbean	Chile	36 412
The Genetic Conservation and Improvement of the Arabian Horse in its Homeland (UTF/SAU/045/SAU)	2,3	Saudi Arabia	Preserve the heritage of the Arabian horse in its homeland while improving the quality of the bloodstock	2012–16	Near East	Saudi Arabia	3 626 999
Camel Breeding, Protection and Improvement Centre in the Kingdom of Saudi Arabia-Phase II (UTF/SAU/044/SAU)	1,2	Saudi Arabia	Undertake research and development to characterize local camel genetic resources and increase the sustainability of their use in food production and agriculture	2012–16	Near East	Saudi Arabia	3 503 000
AGE is supporting National Technical Cooperation projects involving characterization of animal genetic resources in 6 countries (BKF/5/008, BUL/5/012, IVC/5/030, PER/5/029, SRL/5/041, ZAM/5/025)	1	AGE	Undertakes capacity-building in molecular and phenotypic characterization	2008–12	Africa	Burkina Faso, Bulgaria, Côte D'Ivoire, Peru, Sri Lanka, Zambia	800 000

Project title	Strategic priority area	Donor	Description	Period	Region	Participating countries	Budget (USD)
AGE is supporting National Technical Cooperation projects involving sustainable use of animal genetic resources in 7 countries (CAF/5/004, CMR/5/017, HON/5/005, MON/5/016, MYA/5/018, SIL/5/010, URU/5/026)	2	AGE	Undertakes capacity-building in selection and reproductive technologies	2008–12	Africa, Latin America and Caribbean	Cameroon, Central African Republic, Honduras, Mongolia, Myanmar, Sierra Leone, Uruguay	900 000
CRP Genetic variation on the control of resistance to infectious diseases in small ruminants for improving animal productivity”	1,2	AGE	Characterize breeds of sheep and goats for resistance to parasites and develop tools for genetic improvement	2010–14	Africa, Asia, Latin America and Caribbean	Argentina, Bangladesh, Brazil, Burkina Faso, China, Eritrea, Ethiopia, Indonesia, Islamic Republic of Iran, Mexico, Nigeria, Pakistan, Saudi Arabia, Sri Lanka	600 000
Development and application of decision support tools to conserve and sustainably use genetic diversity in indigenous livestock and wild relatives	1,2,3	GEF and cofunding	Characterize local breeds of chicken, goats and pigs and their wild relatives and develop conservation and sustainable use programmes	2008–14	Asia	Bangladesh, Pakistan, Sri Lanka, Viet Nam	5 764 000

Project title	Strategic priority area	Donor	Description	Period	Region	Participating countries	Budget (USD)
Cattle production improvement (GCP /SEC/001/TUR)	2	Turkey	Establish Cattle Producers Association (CPA) operating in one high potential district in four Central Asian countries; at least one forage demonstration and at least one animal feed concentrate mill supported in each target district. Identification and registration of selected livestock, complete with ear tag identification of animals belonging to CPA members	2011–13	Asia	Azerbaijan Kyrgyzstan, Tajikistan, Uzbekistan	400 000
Development and operation of an enhanced livestock identification and traceability scheme integrated within an animal health information system (TCP/SWA/3301)	2	FAO	Develop national animal identification and traceability system	2010–12	Africa	Swaziland	331 000
A strategy an action plan for an animal identification and traceability system for India (UTF/IND/185)	2	FAO	Develop national animal identification and traceability system	2011–12	Asia	India	182 000
A strategy an action plan for an animal identification and traceability system for India (TCP/IND/3302(D))	2	India	Develop national animal identification and traceability system	2011–12	Asia	India	222 568

Project title	Strategic priority area	Donor	Description	Period	Region	Participating countries	Budget (USD)
Support to development of national information system on Animal Genetic Resources in the Republic of Moldova (TCP/MOL/3301)	1,2	FAO	Assess the management of animal genetic resources, agree on a plan for the development of a national strategy or action plan and enable data storage by installing a FABIS-net national node	2010–12	Europe	Republic of Moldova	66 000
Implementing Livestock Information Management System (LIMS) (TCP/ZIM/3303)	1,2	FAO	Provide technical assistance to adapt a SADC-wide promoted Livestock Information Management System (LIMS) to Zimbabwean situation and to test the LIMS for ultimate implementation in Zimbabwe through capacity development at District and National levels	2011–12	Africa	Zimbabwe	91 629
Promoting the Management of Animal Genetic Resources in SEC countries (GCP /SEC/003/TUR)	4	Turkey	Strengthen National Focal Points; establish a Subregional Focal Point for Central Asia, Turkey and Azerbaijan, develop National Strategy and Action Plans for participating countries	2011–13	Asia	Countries of Central Asia (Kyrgyzstan, Tajikistan), Turkey, Azerbaijan	700 000
Funding Strategy for the implementation of the Global Plan of Action for Animal Genetic Resources (GCP /GLO/287/MUL)	1,2,3,4	Germany, Norway, Switzerland	Address on-farm aspects of livestock production and the generation, analysis and dissemination of livestock sector specific information	2011–16	Global	Global	1 122 000

Project title	Strategic priority area	Donor	Description	Period	Region	Participating countries	Budget (USD)
Ms Sauron, Alizee, Associate Professional Officer, Animal Genetic Resources Management (GCPA/INT/014/SWI)	4	Switzerland	Assist countries in the implementation of the Global Plan of Action	2011–13	Global	Global	301 942
Collaborative, sub-regional, environmental animal health management initiative for enhanced smallholder production in South-East Asia (Second Phase of GCP /PHI/050/ITA)	1	Italy	Production of a catalogue of local animal genetic resources	2010–12	Asia	Cambodia	50 000
Cryo-preservation protocols for NBC in Bhutan (TCP/BHU/3302)	3	FAO	Ensure that the Animal Gene Bank is using cryo-preservation protocols that conform to international good practices	2010–12	Asia	Bhutan	17 050
Assistance for a regional initiative on animal genetic resources in Africa (TCP/RAF/...)	4	FAO	Establish and strengthen Subregional Focal Points for the management of animal genetic resources	2012–13	Africa	Regional Africa	400 000
Camel Breeding, Protection and Improvement Centre in Northern Region of the Kingdom (UTF /SAU/021/SAU)	1,2	Saudi Arabia	Establish and organize research and development centre to improve camel productions and health and to preserve the related historical and socio-cultural patrimony of Saudi Arabians.	2007–12	Near East	Saudi Arabia	4 444 953

Project title	Strategic priority area	Donor	Description	Period	Region	Participating countries	Budget (USD)
Preservation and Improvement of Arabian Horse in its Homeland UTF /SAU/033/SAU	2,3	Saudi Arabia	Preserve the heritage of the Arabian horse in its homeland while improving the quality of the bloodstock. The breeding program at KAAHC consists of Original Saudi Desert Bred lines as well as more modern non-Desert Bred lines. Development of flat racing and endurance racing breeding.	2007–12	Near East	Saudi Arabia	2 784 500
Follow-up to the 6th Session of the Intergovernmental Technical Working Group on Animal Genetic Resources. GCP/INT/116/GER		Germany	Preparation of guidelines and capacity development	2011–12	Global		252 668
Policies and programmes are strengthened at national, regional and international levels to ensure the conservation and sustainable use of biological diversity for food and agriculture and the equitable sharing of benefits arising from the use of genetic resources FMM/GLO/006/MUL		Norway, Sweden	Indicators and modelling tools developed and impact of climate change on livestock agro-biodiversity	2011–13	Global		670 000

**Annex 6b****Projects – Approximate project budgets for 2011-2012, by strategic priority area and donor**

Donor	Approximate project budgets for 2011-2012 by strategic priority area (USD)								
	1	2	3	4	1,2	1,2,3	1,2,3,4	2,3	Total
AGE	400 000	450 000			300 000				1 150 000
FAO		833 768	17 050	436412	157 629		494 000		1 938 859
GEF and cofunding						1921333			1 921 333
GEF, African Development Bank and cofunding							6 748 485		6 748 485
Germany							252 668		252 668
Germany, Norway, Switzerland							561 000		561 000
India		222 568							222 568
Italy	50 000								50 000
Norway, Sweden					442 200				442 200
Saudi Arabia					3 529 481			2 927 300	6 456 781
Switzerland				301 942					301 942
Turkey		400 000		700 000					1 100 000
Total	450 000	1 906 336	17 050	1 438 354	4 429 310	1 921 333	8056153	2927300	21 145 836

**Annex 6c****Projects – Approximate project budgets for 2011-2012, by strategic priority area and recipient region**

Region	Approximate project budgets for 2011-2012 by strategic priority area (USD)								
	1	2	3	4	1,2	1,2,3	1,2,3,4	2,3	Total
Africa	400 000	331 000		400 000	91 629		7 242 485		8 465 114
Africa, Asia, Latin America and the Caribbean					300 000				300 000
Africa, Latin America and the Caribbean		450 000							450 000
Asia	50 000	11 25 336	17 050	700 000		1 921 333			3 813 719
Europe					66 000				66 000
Latin America and the Caribbean				36 412					36 412
Near East					3 529 481			2 927 300	6 456 781
Global				301 942	442 200		813 668		1 557 810
Total	450 000	1 906 336	17 050	1 438 354	4 429 310	1 921 333	8 056 153	2 927 300	21 145 836

## Annex 7

### Publications since ITWG 6

#### FAO documents<sup>104</sup>

- FAO.** *Animal Genetic Resources*. Trilingual (English/French/Spanish) journal, volumes 48, 49, 50 (available at <http://www.fao.org/docrep/014/i2200t/i2200t.pdf>; <http://www.fao.org/docrep/014/ba0128t/ba0128t00.pdf>; <http://www.fao.org/docrep/015/i2673t/i2673t00.pdf>)
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- Van de Steeg, J. & Tibbo, M.** 2012. *Livestock and climate change in the Near East: Measures to adapt to and mitigate climate change*. FAO-RNE, Cairo (available at <http://www.fao.org/docrep/016/i2714e/i2714e.pdf>).

#### Additional language versions of previously published documents

- LPP, LIFE Network, IUCN–WISP & FAO.** 2010. *Adding value to livestock diversity – Marketing to promote local breeds and improve livelihoods*. FAO Animal Production and Health Paper. No. 168. Rome (available in English, French, Spanish at <http://www.fao.org/docrep/012/i1283e/i1283e00.htm>).
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- FAO.** 2007. *The State of the World's Animal Genetic Resources for Food and Agriculture – in brief*, edited by D. Pilling & B. Rischkowsky. Rome (available in Arabic, Chinese, English, French, German, Japanese, Polish, Portuguese, Russian, Spanish and Thai at <http://www.fao.org/docrep/010/a1260e/a1260e00.htm>).
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<sup>104</sup> [http://www.fao.org/ag/againfo/resources/en/pubs\\_gen.html](http://www.fao.org/ag/againfo/resources/en/pubs_gen.html)

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**Scherf, B. & Wieczorek, M.** 2010. *FABISnet impact on the quality of reporting on animal genetic resources*. EFABIS final workshop, Palermo, Italy (available at [http://efabis.tzv.fal.de/sicily\\_2010/EFABISnet\\_Dec2010\\_reporting\\_quality.pdf](http://efabis.tzv.fal.de/sicily_2010/EFABISnet_Dec2010_reporting_quality.pdf)).

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**Boettcher, P., Lenstra, J.A. & Ajmone-Marsan, P.** 2012. *New opportunities and new objectives for the ISAG-FAO Advisory Group on Animal Genetic Diversity*. International Society of Animal Genetics, Cairns, Australia, 16–20 July 2012.

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## Annex 8

### Distribution of printed material and CD-ROMs from 2007 to June 2012

#### Distribution of *The State of the World's Animal Genetic Resources for Food and Agriculture and related products*

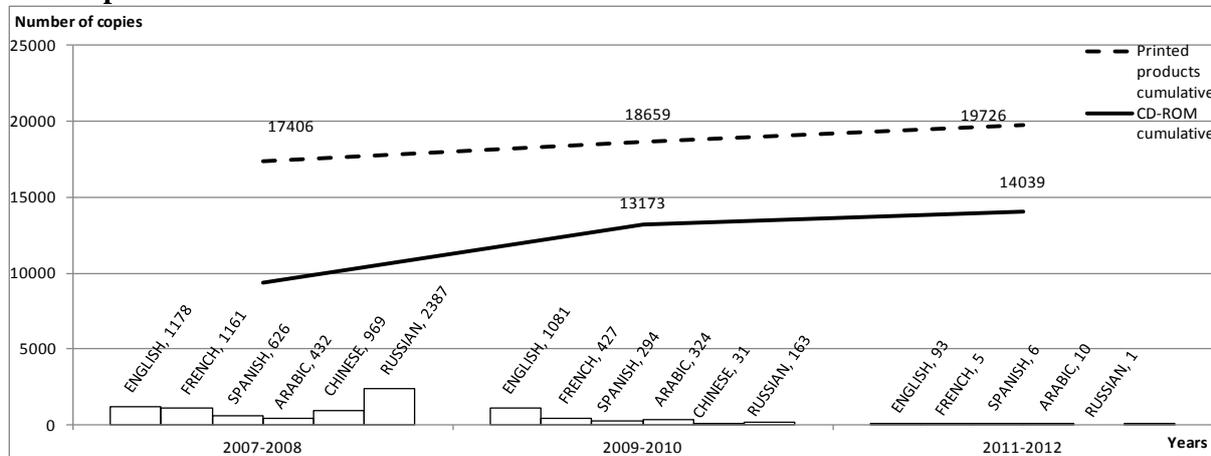
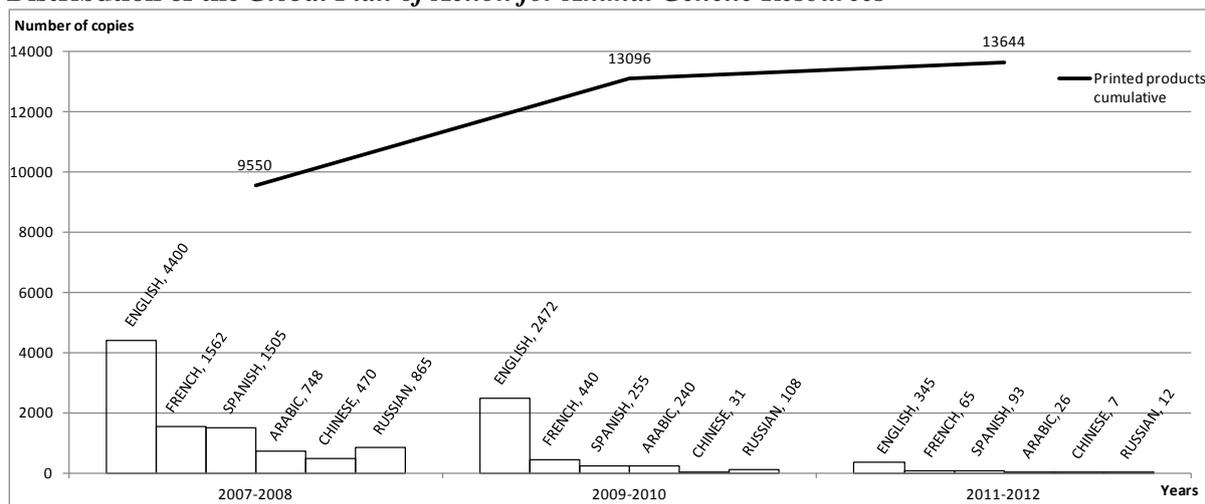


Figure includes:

- *The State of the World's Animal Genetic Resources for Food and Agriculture* (<http://www.fao.org/docrep/010/a1250e/a1250e00.htm>).
- *The State of the World's Animal Genetic Resources for Food and Agriculture – in brief* (<http://www.fao.org/docrep/010/a1260e/a1260e00.htm>).
- *The State of the World's Animal Genetic Resources for Food and Agriculture – flyer* (<ftp://ftp.fao.org/docrep/fao/010/ai771e/ai771e00.pdf>).
- *The State of the World's Animal Genetic Resources for Food and Agriculture – CD-ROM.*

Chinese versions: *The State of the World's Animal Genetic Resources for Food and Agriculture* was prepared in 2007, printed in 3 000 copies and distributed by Chinese collaborators. The flyer and *in-brief* were mailed to China for distribution.

#### Distribution of the *Global Plan of Action for Animal Genetic Resources*



### Distribution of guidelines and other publications supporting the implementation of the *Global Plan of Action for Animal Genetic Resources*

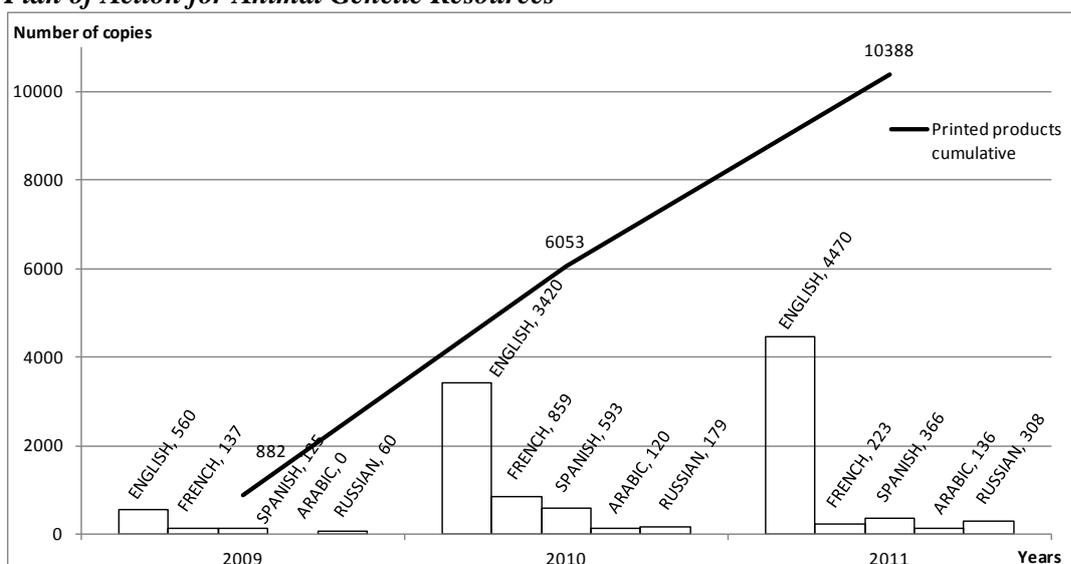


Figure includes:

- *Preparation of national strategies and action plans for animal genetic resources* (<http://www.fao.org/docrep/012/i0770e/i0770e00.htm>).
- *Developing the institutional framework for the management of animal genetic resources* (<http://www.fao.org/docrep/014/ba0054e/ba0054e00.htm>).
- *Surveying and monitoring of animal genetic resources* (<http://www.fao.org/docrep/014/ba0055e/ba0055e00.htm>).
- *Phenotypic characterization of animal genetic resources* (<http://www.fao.org/docrep/015/i2686e/i2686e00.pdf>).
- *Molecular genetic characterization of animal genetic resources* (<http://www.fao.org/docrep/014/i2413e/i2413e00.htm>).
- *Breeding strategies for sustainable management of animal genetic resources* (<http://www.fao.org/docrep/012/i1103e/i1103e00.htm>).
- *Adding value to livestock diversity* (<http://www.fao.org/docrep/012/i1283e/i1283e00.htm>).

### Distribution of awareness raising material supporting the implementation of the *Global Plan of Action for Animal Genetic Resources*

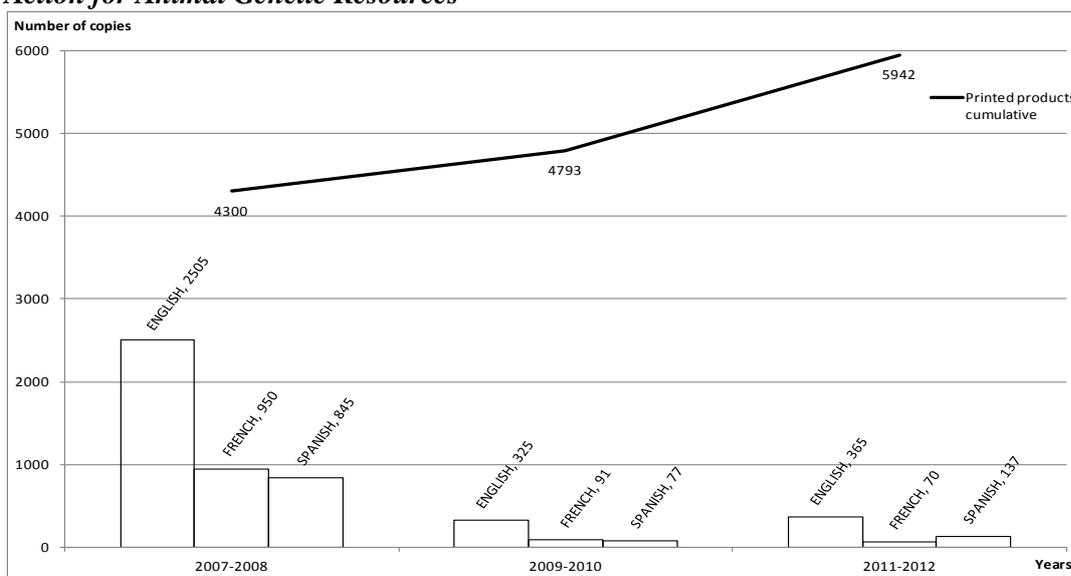


Figure includes: *Agriculture for animal diversity for agriculture – fact sheets* (<http://dad.fao.org/cgi-bin/getblob.cgi?sid=-1.411>).