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

PROGRAMME COMMITTEE

Hundred and Nineteenth Session

Rome, 16 - 20 May 2016

Evaluation of FAO's contribution to the conservation and sustainable use of genetic resources for food and agriculture

EXECUTIVE SUMMARY

Queries on the substantive content of the document may be addressed to:

Masahiro Igarashi
Director, Office of Evaluation
Tel. +39 065705 3903

1. Introduction

Overview of the features and evolution of FAO's work in genetic resources

1) Genetic resources for food and agriculture (GRFA) include the plant, animal, aquatic, microbial, forest and other genetic resources of relevance to agriculture, farming and food systems. GRFA are essential to global food production, especially considering the growth in population and consumption expected through 2050. They are the raw material that farmers, herders, fishers, foresters, breeders (conventional as well as through biotechnology) and researchers rely upon to improve the quality and the amount of food produced. In addition, GRFA provide the building blocks for developing new materials that are adapted to changing or novel environments and production demands, whether by farmers, conventional breeders or users of modern biotechnologies.

2) The Food and Agriculture Organization of the United Nations (FAO) is an important actor in the field of GRFA. Initially focusing on plant genetic resources (PGR), FAO received in 1983 the mandate "to ensure that plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated and made available for plant breeding and scientific purposes". With the creation of the Commission on Genetic Resources for Food and Agriculture (CGRFA), FAO hosts an intergovernmental bodythat, since 1995, has a broadened mandate to "facilitate an integrated approach to agrobiodiversity and coordination with governments, which are increasingly dealing with policy issues regarding biological diversity in an integrated manner."

3) FAO's global instruments covering GRFA work are State of the World (SOW) reports[1] on GRFA (plant, animal, forest and soon also aquatic genetic resources and biodiversity) and their associated Global Plans of Action (GPAs). CGRFA is the main institutional body within FAO dealing with coordination and policies, while technical work (including networking and capacity development) is performed by the relevant technical units[2]. Through the Commission, FAO negotiated the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)[3], a legally binding instrument that established a multilateral system to facilitate access to PGR for food and agriculture, and to share the benefits derived from their use in a fair and equitable way.

4) The establishment of the Commission and the ITPGRFA were expressions of increasing worldwide attention on genetic resources. The membership of the Commission has risen steadily, as have voluntary contributions to FAO's GRFA work. FAO Regular Programme funding covers staff positions at headquarters and many recurrent activities. Mandated GRFA work has increased over time, including additional SOW reports, related GPA activities, and the Commission's growing Multi-Year Programme of Work (MYPOW), all of which required increasing amounts of voluntary contributions. Field project activities are also overwhelmingly funded by voluntary contributions. FAO TCP projects (funded by FAO's Regular Budget) have

[1] Global assessments of the status and trends of the respective genetic resources.

[2] The Commission appears to also provide direct technical assistance e.g. for elaboration of national plans. Generally speaking though, work on plant genetic resources is the responsibility of the Plant Production and Protection division; the Animal Production and Health division is responsible for animal genetic resources. The Forestry and Fisheries departments take the lead in forest and aquatic genetic resources, respectively.

[3] The ITPGRFA was established within FAO as an Article 14 body with its own governance and oversight arrangements, and as such is not subject of this evaluation.

provided support primarily for SOW reporting, as well as GPA activities in some countries. Important milestones in recent decades include the following:

- In 1996, the first **State of the World's Plant Genetic Resources for Food and Agriculture**[4] report was launched, and the first Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture was adopted.
- In 2004 the **International Treaty on Plant Genetic Resources for Food and Agriculture** entered into force. The Treaty established a multilateral system of Access and Benefit Sharing (ABS) that responded to the need for cooperation in the management, conservation and distribution of PGR.
- In 2007, the first **State of the World's Animal Genetic Resources for Food and Agriculture**[5] was launched and a Global Plan of Action on Animal Genetic Resources was adopted by the FAO Conference.
- In 2007, the Commission adopted its **Multi-Year Programme of Work** that includes cross-sectoral activities such as ABS, targets and indicators, climate change, nutrition, ecosystem services and biotechnology.
- In the context of the preparation of the **State of World's Forest Genetic Resources** (finalized in 2014), the **Global Plan of Action** for the Conservation, Sustainable Use and Development of Forest Genetic Resources was adopted by the FAO Conference in 2013.
- Reports on the cross-sectoral **State of the World's Biodiversity for Food and Agriculture** and the **State of the World's Aquatic Genetic Resources** for Food and Agriculture (focused on farmed aquatic species and their wild relatives within national jurisdiction) are under preparation.

5) Since 2007, FAO has implemented over 90 GRFA-related projects worth USD 100 million within the framework of the Commission's MYPOW and FAO's own Strategic Framework (especially under Strategic Objective 2[6]). About two-thirds of the projects have focused on animal genetic resources (AnGR) activities under the GPAs, one-quarter of the projects on plant genetic resources (PGR), and the remaining ones on forest (FGR) and aquatic genetic resources (AqGR). FAO has also produced 34 normative and knowledge products (not counting statutory reports), including 17 on AnGR, eight on PGR, six on FGR, and three on AqGR. Regular Programme funding of GRFA work has declined from USD 12.8 million in 2008-09 to around USD 10.5 million in 2014-15[7].

Evaluation Approach

6) In 2014-15, the Office of Evaluation (OED) assessed FAO's work related to forest, plant, animal and aquatic genetic resources during the period 2007-15,[8] in order to identify achievements and analyse factors that may have affected performance. The evaluation was led by an OED team including a senior consultant, six thematic experts covering Plant, Animal,

[4] A second PGR SOW was launched in 2010, and the corresponding GPA adopted in 2011.
[5] A second AnGR SOW was launched in 2016.
[6] It appears that no specific GRFA work was included under any of the regional initiatives (http://www.fao.org/about/what-we-do/regional-initiatives/en/)
[7] As reported to the Commission members (CGRFA-15/15/20.1): USD 3.2 million for Commission Secretariat, Intergovernmental Technical Working Groups, and implementation of MYPOW milestones, and USD 7 m allocated by the Strategic Objective Coordinators to different areas of work of the MYPOW, mainly under Strategic Objective 2.
[8] 2007 was chosen as starting point as it coincided with the launch of the first State of the World Animal Genetic Resources for Food and Agriculture and the Commission's Multi-Year Programme of Work (MYPOW) FAO's GRFA work under the ITPGRFA was not included in this evaluation.

Forest and Aquatic Genetic Resources, and researchers from the *Centre de coopération internationale en recherche agronomique pour le développement* (CIRAD).

7) The evaluation sought to answer two overarching evaluation questions: i) How effectively has FAO guided policies and approaches to sustainable use of genetic resources, especially at country level?; and ii) What impact has FAO's technical and capacity development work had on member countries and institutional stakeholders? The evaluation was guided by additional sets of sub-questions, the most important of which were:

1. What impact have FAO activities had on national/international policies and outcomes?
2. What impact has FAO had on technical capacity at country level?
3. How successful has FAO been in its efforts to foster information exchange, facilitate networks and integrate GRFA issues with other normative and policy work?
4. How effectively has FAO fostered partnerships around GRFA topics?
5. To what extent has FAO accomplished the planned outputs and outcomes? Are there any institutional factors constraining GRFA work?
6. Are there areas of overlap or duplication within FAO or with the work of others?
7. To what extent have FAO's activities recognized diversity and how has this been integrated?

8) The evaluation was undertaken in a consultative manner using the following methods and tools: i) desk review of FAO's genetic resources work; ii) interviews and focus group discussions with FAO as well as external GRFA stakeholders; iii) country visits for case studies[9]; iv) surveys of key actors and stakeholders[10]; and v) bibliometric analysis.

2. Findings

9) The main findings of the evaluation are presented below, grouped by evaluation question.

i. What impact have FAO GRFA activities had on national or international policies and outcomes?

10) As a respected authority on GRFA, FAO's CGRFA provides the only global forum for governments to discuss and negotiate matters specifically relevant to biological diversity and genetic resources for food and agriculture. The Commission is well respected, and the various SOW reports, GPAs and other normative or policy instruments have informed governments and the public on the importance of GRFA. FAO GRFA documents have had an international impact: citation analysis shows that in close to 100 FAO member countries, academic publications have cited key FAO GRFA policy documents. With regard to global policy processes, FAO GRFA documents were cited in five (out of 20) Convention on Biological Diversity (CBD) working documents during the 2007-2010 CBD ABS negotiation period[11].

11) In addition, and because of the work done by the Commission, GRFA is mentioned in global frameworks such as the CBD's Strategic Plan for Biodiversity 2011-2020 and the related Aichi

[9] Country case studies were undertaken in 26 countries (Azerbaijan, Brazil, Burkina Faso, Chile, Cote d'Ivoire, Ecuador, Ghana, Guatemala, Indonesia, Kenya, Kyrgyzstan, Lao Peoples' Democratic Republic, Lebanon, Madagascar, Malaysia, Morocco, Nepal, Peru, Philippines, Senegal, Sri Lanka, Tajikistan, Tanzania, Thailand, Turkey, Zambia); the case studies covered specific projects as well as general aspects of GRFA work in the concerned countries.

[10] A survey of national focal points (NFP) was administered between July 2015 and August 2015 to a total of 527 individuals; a total of 285 useable responses were received (AnGR, 99; PGR, 69; FGR, 58 and AqGR, 27).

[11] The Commission is also often invited by CBD Parties to contribute to biodiversity work in the areas of its mandate; likewise, many EU policy documents (e.g. Community programme on the conservation, characterisation, collection and utilization of genetic resources in agriculture) refer to FAO policy documents, in particular the GPAs, and also mention FAO databases such as DAD-IS.

Biodiversity Target 13, which relates to the conservation and sustainable use of GRFA. Moreover, indicators developed by the Commission are used in the Sustainable Development Goals (SDG) 2.5, and guidelines developed in support of national GPA implementation have helped countries in developing national policies. However, FAO's GRFA work lacks sufficient resources (e.g. there is very limited GRFA expertise in decentralized offices) to provide in-country and regional policy coordination and leadership.

12) The evaluation team's survey of National Focal Points confirmed that FAO's policy impact is perceived to be highest at the global level, followed by the national and regional levels. This is in line with the intentions of FAO's policy and normative documents, particularly the flagship policy documents, the Global Plans of Action.

ii. What impact has FAO had on technical capacity at country level, as well as implementation of GRFA guidance documents?

13) FAO GRFA documents and technical assistance activities related to GRFA are considered useful by stakeholders; higher-income countries in particular seem to appreciate FAO's work in the policy sphere. The evaluation team observed sectoral differences, however, in the perceived usefulness of GPAs (awareness of and, consequently, appreciation for a GPA seems to rise over time).

14) FAO GRFA technical assistance projects can be categorized into three main types: technical dominant, policy dominant and information dominant. The two latter categories often were in support of SOW reporting or GPA implementation. In general, sustainability and impact of technical dominant projects were greater when technical assistance and capacity development were integrated by design with GRFA policy objectives. Projects that became embedded into national policy processes tended to be more successful; short-term projects that provided information for state-of-the-world reports were often also considered important for policy, but the awareness effort was often short-lived and countries did not independently continue updating the system.

iii. How successful has FAO been in its efforts to foster information exchange, facilitate networks, and integrate GRFA issues with other normative and policy work?

15) FAO successfully linked its GRFA work to other normative and global policy work within the Organization.[12] The GRFA information systems developed by FAO (particularly the Domestic Animal Diversity Information System (DAD-IS) and the related Domestic Animal Diversity Network (DAD-Net), as well as the World Information and Early Warning System on Plant Genetic Resources (WIEWS)) are essential tools that enable countries to comply with international reporting obligations, and stakeholders to access and share global information on GRFA. However, there is often little coordination across sectors at country level, and the infrastructure built for SOW reporting and monitoring often collapses after report submission.

iv. How effectively has FAO fostered partnerships around GRFA topics?

16) The institutional landscape governing GRFA has undergone significant changes since FAO received its mandate for plant genetic resources in 1983. New independent organizations and instruments such as the Convention on Biological Diversity/CBD (1993), the Global Forum on Agricultural Research (established by World Bank, IFAD, FAO, ISNAR and SDC in 1996), Bioversity International (2006), and especially the Crop Diversity Trust (2004). Many of these new entities were

[12] For example, Voluntary Guidelines to Support the Integration of Genetic Diversity into National Climate Change Adaptation Planning.

created with support from FAO: Bioversity was initially housed in FAO; the Global Crop Diversity Trust was established through a partnership between FAO and CGIAR/Bioversity; and the CBD hosted important meetings in FAO.

17) Apart from supporting the creation of new bodies dealing with GRFA, FAO has established a number of partnerships, such as the joint work plan between the Secretariats of the CBD and the CGRFA. Commission meetings are attended by, and receive reports from, organizations such as Bioversity International, Global Crop Diversity Trust, CGIAR Secretariat, Global Forum on Agricultural Research, Convention on Biological Diversity, and others. Technical units have established informal as well as formal relations with several organizations. In addition, partnerships with important donors (France, Germany, Japan, Norway, Spain, Sweden and Switzerland) provide funding for GRFA events (e.g. meetings related to the Commission) as well as for technical assistance projects, often in support of SOW (and, to a lesser extent, GPA) activities. Technical units have invited researchers to contribute chapters to flagship reports for little or no compensation.

v. To what extent has FAO accomplished the planned outputs and outcomes?

18) FAO has made significant achievements during the period under review. In 2007, only two SOWs existed: the first State of the World report on PGR dated back to 1996, and the first AnGR SOW had just been issued. By late 2015, three additional SOWs (the second PGR, first FGR and second AnGR) had been finalized, and the Commission's membership had grown from 170 to 178 members. However, there was a high dependency on voluntary funding to implement the Commission's Multi-Year Programme of Work, including SOW reports and GPAs. While FAO has attracted a growing amount of extra-budgetary funding for GRFA activities, these voluntary contributions have not increased proportionately with the volume of work (three SOWs were finalized during the evaluation period, and the AqGR and Biodiversity SOWs are under preparation). At the same time, recent data on FAO's Regular Programme budget indicate a declining trend, and FAO's Reviewed Strategic Framework seems to accord lower priority to GRFA work[13].

vi. Are there areas of overlap or duplication within FAO or with the work of others?

19) Funding for GRFA work has not been high on the international agenda in recent years; Partners like Bioversity and the Global Crop Diversity Trust have faced difficulties to mobilize resources (e.g. the Trust is still well below its USD 500 million pledging target given that only USD 170 million have been pledged by late 2015). Thus, given the limited resources available for GRFA activities, the evaluation found no concrete examples for duplication of work, although other relevant organizations could be viewed as potential competitors, especially within the CGIAR system,[14]. (A competition for voluntary contributions may exist, but the evaluation had no instrument to gauge this.) On the contrary, CBD, Crop Diversity Trust and other organizations regularly participate in, and report to, CGRFA events. Within FAO, there was good collaboration among the sectors, as several projects managed by the Commission secretariat included sectoral activities implemented by the respective technical units. However, opportunities exist

[13] GRFA are not specifically mentioned among higher-level objectives or outcomes, and no indicator related to GRFA is present in FAO's current results framework. Also FAO's Regional Initiatives do not include a GRFA orientation. However, GRFA is present within the third Global Goal of Members: "sustainable management and utilization of natural resources, including land, water, air, climate and genetic resources for the benefit of present and future generations".

[14] For example, the Genetically Improved Farmed Tilapia (GIFT) created by the CGIAR WorldFish Center and partners was used in an FAO project in Ghana; WorldFish in turn exhibits FAO's guidelines on Genetic Resource Management in Aquaculture Development on their website.

for improved coordination (e.g. between the Treaty and FAO units dealing with PGRFA, as in the case of the Global Partnership Initiative for Plant Breeding Capacity Building (GIPB), which could have benefited from being better integrated in an overall policy framework on sustainable use).

vii. To what extent have FAO activities recognized diversity (national, regional, gender, professional background)? How has diversity been integrated into FAO's activities?

20) FAO has a long history[15] of recognizing diversity in its GRFA activities. This is most evident with regard to farmers' rights, as well as the role of women and youth in maintaining GRFA. AnGR work recognized diversity, for example, by stressing the importance of traditional herders and women as guardians of domestic animal diversity (2007); PGR work likewise stressed the contribution of smallholder farmers to GRFA conservation and management. An evolution on this theme is evident over time: the 2007 AnGr GPA did not mention gender; the 2011 2nd PGR GPA did so extensively; the 2013 FGR GPA acknowledged in its Strategic Priorities the important role of indigenous people and local communities, as well as gender, to a lesser extent.

3. Conclusions

21) The following conclusions aredrawn from the main findings of the evaluation.

Conclusion 1. FAO is a respected authority on GRFA, and FAO's Commission on Genetic Resources for Food and Agriculture provides the only global forum for governments to discuss and negotiate matters specifically relevant to biological diversity and genetic resources for food and agriculture. The Commission is well respected, and the various SOW reports, GPAs and other normative instruments have informed governments and the public on the importance of GRFA. These normative products are especially useful for informing lower and middle-income countries on the current GRFA situation, as well as developments governing the exchange of information and the transfer of GRFA. FAO's GRFA information systems are crucial resources enabling stakeholders to access and share information.

22) The majority of National Focal Points, representing member countries on GRFA matters, confirmed the usefulness of FAO's normative products on GRFA, as well as the SOW country reports. There was also a clear consensus among stakeholders that the SOW country reports provide an impetus for collecting and maintaining GRFA data at the country level. Guidelines developed in support of national GPA implementation have helped countries in developing national policies.

23) FAO GRFA normative products have had an international impact: FAO GRFA documents were used[16] in the Access and Benefit Sharing negotiations (2007-2010) of the CBD, and cited in nearly 100 academic publications. Also as the result of work done by the Commission, GRFA products are mentioned in global frameworks such as the Strategic Plan for Biodiversity 2011-2020 of the Convention, the Aichi Biodiversity Target 13, and SDG Goal 2.5, all of which relate to the conservation and sustainable use of GRFA.

[15] For example, a 1996 paper on "Farmers Rights in the Conservation and Use of Plant Genetic Resources: A Gender Perspective".
[16] The Commission is also often invited by CBD Parties to contribute to biodiversity work in the areas of its mandate; likewise, many EU policy documents (e.g. Community programme on the conservation, characterisation, collection and utilization of genetic resources in agriculture) refer to FAO policy documents, in particular the GPAs, and also mention FAO databases such as DAD-IS.

24) Many stakeholders underlined the importance of FAO's GRFA information systems, particularly DAD-IS and the related DAD-Net, as well as WIEWS, for accessing global information on GRFA and for sharing information with a wider community.

Conclusion 2. FAO has established a number of formal and informal partnerships involving GRFA activities. Within the Organization, FAO has linked its GRFA work to other normative and global policy work, and created synergies between CGRFA and FAO's technical work. While FAO has maintained its unique role as a neutral policy forum for GRFA, other institutions (some grown out of FAO) have entered the field, and FAO has lost some visibility and support to new initiatives.

25) There was little overlap or duplication of GRFA work either within or outside FAO. On the other hand, FAO has established a number of partnerships on GRFA, such as joint work plans between the Secretariats of the CBD and CGRFA. CGRFA meetings were attended by, and received reports from, organizations such as Bioversity International, Global Crop Diversity Trust, CGIAR Secretariat, Global Forum on Agricultural Research and CBD.

26) FAO's technical units have informal as well as formal relations with several organizations, and partnerships with important donors (France, Germany, Japan, Norway, Spain, Sweden and Switzerland) provide supplementary funding for GRFA events (e.g. meetings related to CGRFA) and technical assistance projects, often in support of SOW (and, to a lesser extent, GPA) activities. Technical units have also invited researchers to contribute chapters to flagship reports for little or no compensation.

27) FAO's GRFA work is linked to such normative and global policy work as the Voluntary Guidelines to Support the Integration of Genetic Diversity into National Climate Change Adaptation Planning. Several projects managed by the CGRFA secretariat included sectoral activities implemented by the respective technical units. Opportunities for further coordination exist, for example, between ITPGRFA and FAO units dealing with PGRFA, as in the case of the Global Partnership Initiative for Plant Breeding Capacity Building (GIPB), which could possibly have benefited from being better integrated in an overall policy framework on sustainable use.

Conclusion 3. At the country level, the results of technical assistance projects were mixed. In most cases, projects were relevant to the countries' needs, especially for middle and low income countries, and have developed immediate capacity. However, sustainability and longer-term impact were frequently in doubt due to the one-off nature of these projects. In many countries, reporting arrangements were not institutionalized and coordination across sectors was not developed.

28) Many aspects of GRFA work require a longer time horizon, as legislative and regulatory changes concerning the conservation and management of GRFA (e.g. access and benefit-sharing, or intellectual property rights) often involve slow political processes.

29) Most GRFA technical assistance projects (both technical- and policy-oriented) were relevant and contributed to immediate capacity building. Few, however, had a lasting impact due to a lack of synergies and linkages with ongoing policies, projects, programmes and platforms. Focal Points on plant, animal, forest, or aquatic genetic resources were seldom engaged in cross-sectoral coordination; arrangements for SOW reporting often dissolved after report submission and had to be developed again each time. There was little evidence that after project termination ex-post assessments were undertaken to learn about: i) follow-up efforts to sustain

the project; ii) continuing barriers, opportunities and needs for assistance; and iii) a compilation of lessons that could inform future projects.

30) FAO's guidance and capacity development support was appreciated by countries where it has a presence through ongoing project activities, but less so in countries where it does not. This is likely a consequence of the one-off nature of assistance provided to countries from headquarters, and the low level of GRFA expertise in most decentralized offices.

Conclusion 4. FAO GRFA activities recognize diversity, including national/regional, gender, youth and professional diversities.

31) FAO has a long history of recognizing diversity in its GRFA activities, such as the 1996 paper "Farmers Rights in the Conservation and Use of Plant Genetic Resources: A Gender Perspective". FAO papers and guidance documents increasingly promote farmers' rights, emphasize the role of women and youth in maintaining GRFA, and recognize the importance of traditional societies, women, smallholder farmers and indigenous people to GRFA conservation and management.

Conclusion 5. To some extent, GRFA work has not been fully synchronized within FAO (Commission and technical units). Changes in FAO's overall strategic priority setting were not always reflected in the CGRFA work programme, and the implementation of ongoing mandated GRFA activities was not always without competition for limited resources. The time may be opportune to look into FAO's institutional architecture for GRFA work, and develop ideas for better integration and increasing synergies.

32) GRFA work has become less visible in FAO's Reviewed Strategic Framework, approved by the FAO Conference in 2013[17], and Regular Programme allocations decreased over the 2014-2015 biennium. At the same time, through CGRFA FAO was given the mandates for additional SOW reports: Aquatic Genetic Resources and Biodiversity are currently under preparation, in addition to the three already finalized SOWs, and CGRFA has committed to the Third Plant Genetic Resources and the Second Forest Genetic Resources SOW reports. Furthermore, FAO is expected to manage the reporting efforts, and to monitor implementation of the GPAs for AnGR, PGR and FGR (and for aquatic GR and biodiversity in the future).

33) FAO has successfully mobilized extra-budgetary contributions for GRFA work, which increased in the 2014-2015 biennium. However, recent examples suggest that these voluntary contributions have not grown proportionately to the increased volume of work, especially in the context of the Aquatic Genetic Resources report, and that funding and staffing constraints may begin to affect GRFA work in general, and the CGRFA's Multi-Year Programme of Work in particular. In this regard, FAO could optimize work-planning and resource allocation as well as explore new ways of doing business to maximize the use of limited resources.

[17] GRFA are not specifically mentioned among higher-level objectives or outcomes, and no indicator related to GRFA is present in FAO's current results framework. Also FAO's Regional Initiatives do not include a GRFA orientation. However, GRFA is present within the third Global Goal of Members: "sustainable management and utilization of natural resources, including land, water, air, climate and genetic resources for the benefit of present and future generations". FAO-developed indicators are used to monitor the Aichi targets of the Convention on Biological Diversity (CBD), and SDG Goal 2.5.

4. Recommendations

34) Based on the above conclusions, two strategic recommendations are made below.

Recommendation 1. FAO should maintain its core expertise to provide key normative products and activities at the global level, given their high relevance and proven usefulness. At the same time, the Organization needs to look into new ways of integrating GRFA work within FAO, and make renewed efforts to confirm FAO's presence as a global authority on GRFA. In parallel, FAO should more pro-actively pursue partnerships to utilize external resources, whether technical or financial.

35) In optimizing its work-planning, FAO must reflect on where and how to draw the line between (i) facilitating global CGRFA policy decisions and responding to countries' needs; (ii) maintaining sufficient scientific and technical understanding of GRFA, and providing policy expertise and leadership as an effective boundary organization; and (iii) sustaining its recognized and valuable position as an honest broker while satisfying country needs for informed opinion, advice and policy leadership.

36) To improve efficiencies, FAO should pursue more effective integration across sectors at headquarters and in countries. It could consider the integration and rationalization of some functions across sectors. The recent restructuring of the Organization could also help in this regard, if technical experts can be relieved of some operational burdens, and supported by improved collaboration and role sharing between technical and operational units.

37) The Organization should consider how some of the work could be shifted to external resources through partnerships. The network mode developed around DAD-IS and DAD-Net could provide a basis for expanded information platforms and networks. Work done on the basis of longer term partnerships with recognized knowledge institutions could provide models for wider replication in other sectors as well. For example, many researchers freely contributed chapters to the 2nd Animal Genetic Resources SOW[18], and AnGR participated in several EU-funded research programmes.

38) FAO should pursue more partnerships beyond the traditional boundaries, highlighting the importance of genetic resources for agricultural development, food security, and climate change adaptation and mitigation. A broad and well-managed genetic base is needed to make progress in each of these sectors[19]. Particularly in relation to climate change issues, the Organization could more actively stress the role of genetic resources, and could engage with private sector initiatives in relation to the commercial use of GRFA.

[18] A model already explored by the 2nd PGR SOW in 2010.

[19] Good management of genetic resources is indispensable for agricultural development, and ultimately food security: for example in the sphere of plant genetic resources, access to a broad spectrum of genetic material is needed for the development of improved varieties, which exhibit a larger disease tolerance and a reduced need for environmentally harmful inputs such as pesticides while often providing higher nutritional value.

Recommendation 2. Regarding technical assistance and capacity development support on GRFA at the country level, FAO should refrain from one-off technical assistance provided mainly from headquarters. Instead, support should be integrated into country programmes to ensure long-term engagement and capacity development. To this end, effective collaboration and role-sharing between technical and operational units are critical, as well as capacity building of decentralized offices.

39) FAO's one-off technical assistance is often inadequate in responding to countries' long-term needs, as well as properly developing their GRFA capacities, including the development of legislative and institutional frameworks. Supporting capacity development of this nature requires a framework for continuous engagement on the ground. This implies that GRFA assistance should be embedded into the Country Programming Frameworks and their implementation plans.

40) The Organization's current restructuring (especially the creation of Strategic Programme Teams) offers an opportunity to move in this direction. The operational units, especially country offices, should be fully empowered by FAO's engagement at the country level. For these efforts to succeed, however, capacity building of decentralized offices is imperative. While country offices will not require technical experts on GRFA, they will need a basic understanding of GRFA issues, and the ability to identify opportunities and seek technical guidance and support when needed.

41) The above suggestions would increase FAO's ability to secure resources at different levels. Country-level support could be financed by resources identified at the country level, while voluntary, thematic funding could provide technical expertise to support activities at either headquarters or decentralized offices.