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COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

TEAM OF TECHNICAL AND LEGAL EXPERTS ON ACCESS AND BENEFIT-SHARING

First Session

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INTERNATIONAL PRACTICES, INITIATIVES AND INSTRUMENTS OF RELEVANCE TO THE SUBSECTORS OF GENETIC RESOURCES FOR FOOD AND AGRICULTURE

The Commission, at its Fourteenth Regular Session, requested the Secretariat to develop, and share with the Secretariat of the Convention on Biological Diversity (CBD) a matrix illustrating international practices, initiatives and instruments of relevance to the subsectors of GRFA in the context of access and benefit-sharing that are, or could form, mutually supportive parts of the international regime on access and benefit-sharing.[1] This document presents the draft matrix. Instruments, initiatives and practices, developed by public, governmental or intergovernmental entities are shown in bold.

[1] CGRFA-14/13/Report, paragraph 40 (xi).

I. INTERNATIONAL/ INTERGOVERNMENTAL ABS INSTRUMENTS SPECIFICALLY RELEVANT TO GENETIC RESOURCES FOR FOOD AND AGRICULTURE

	Animal Genetic Resources	**Aquatic Genetic Resources**	**Forest Genetic Resources**	**Inverte-brate Genetic Resources**	**Micro-Organism Genetic Resources**	**Plant Genetic Resources**
CBD Nagoya Protocol	CBD[2]/NP[3]	CBD/NP	CBD/NP	CBD/NP	CBD/NP	CBD/NP
Treaty	-	-	ITPGRFA[4]	-	-	ITPGRFA[5] GCDT
CGRFA	GPA[6] FS[7]		GPA[8]			GPA-2[9]
SADC			Protocol on Forestry[10]			

II. ABS INITIATIVES AND PRACTICES SPECIFICALLY RELEVANT TO GENETIC RESOURCES FOR FOOD AND AGRICULTURE - GLOBAL

Animal Genetic Resources	**Aquatic Genetic Resources**	**Forest Genetic Resources**
• Biocultural Community Protocols for Livestock Keepers	• **FAO Technical Guidelines for Responsible Fisheries, Aquaculture development - Genetic resource management**	• World Agroforestry Centre (ICRAF) policy guidelines on genetic resources
Invertebrate Genetic Resources	**Micro-Organism Genetic Resources**	**Plant Genetic Resources**
• International Organization for Biological Control (IOBC) Best Practices for the use and exchange of biological control genetic resources relevant for food and agriculture	• World Federation for Culture Collections guidelines for the establishment and operation of collections of cultures of microorganisms • Micro-organisms Sustainable Use and Access Regulation International Code of Conduct (MOSAICC)	• International Plant Exchange Network (IPEN) Code of Conduct for botanic gardens governing the acquisition, maintenance and supply of living plant material • Crop-specific networks
• Plantwise Policy on the International Transfer of Biological Specimens for Identification		

[2] http://www.cbd.int/doc/legal/cbd-en.pdf
[3] http://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf
[4] While the ITPGRFA applies to all PGRFA, including FGR for food and agriculture, its Multilateral System of Access and Benefit-Sharing (MLS) applies only to "crops" set out in Annex I to the Treaty (apple (Malus); breadfruit (Artocarpus); citrus (incl. Poncirus and Fortunella as root stock); coconut (Cocos) and some forages that are wooden plant species, including Medicago arborea and Lespedeza cuneata). FGR not listed in Annex I and held by CGIAR Centres and other international institutions, that have signed agreements with the Treaty's Governing Body, are exchanged under terms and conditions similar to those of the MLS (see IT/GB-2/07/Report, paragraphs 66-68).
[5] ftp://ftp.fao.org/docrep/fao/011/i0510e/i0510e.pdf
[6] http://www.fao.org/docrep/010/a1404e/a1404e00.htm
[7] http://www.fao.org/docrep/012/i1674e/i1674e00.pdf
[8] http://www.fao.org/3/a-i3849e.pdf
[9] http://www.fao.org/docrep/015/i2624e/i2624e00.htm
[10] http://www.fire.uni-freiburg.de/GlobalNetworks/Africa/Protocol%20on%20Forestry.pdf

III. ABS INITIATIVES AND PRACTICES SPECIFICALLY RELEVANT TO GENETIC RESOURCES FOR FOOD AND AGRICULTURE – REGIONAL

Animal Genetic Resources	Aquatic Genetic Resources	Forest Genetic Resources
• **European Regional Focal Point for Animal Genetic Resources (ERFP) Task Force on Access and Benefit Sharing** • **European Genebank Network for Animal Genetic Resources (EUGENA)** • NextGen (Next generation methods to preserve farm animal biodiversity)		• **Code of conduct for sharing tree germplasm within the south pacific regional initiative on forest genetic resources (SPRIG)** • **Latin American Forest Genetic Resources Network (LAFORGEN)** • **The Forest Genetic Resources Working Group (FGRWG) of the North American Forest Commission** • **European Forest Genetic Resources Programme** • Evoltree Repository Centre • Transnational Access Application Procedure to the Trees4future database
Invertebrate Genetic Resources	**Micro-Organism Genetic Resources**	**Plant Genetic Resources**
	• MICROB3 Model Agreement on Access to Marine Microorganisms and Benefit Sharing • **European culture Collection organization (ECCO) core Material Transfer Agreement for the supply of samples of biological material from the public collection**	• **PGRFA Multi-crop Regional Networks, e.g:** ○ **Eastern Africa Plant Genetic Resources Network (EAPGREN/ASARECA)** ○ **The Centre for Pacific Crops and Trees (CePaCT)** ○ **SADC – PGR Network** ○ **European Genebank Integrated System (AEGIS) of the European Cooperative Programme for Plant Genetic Resources (ECPGR)**

ANIMAL GENETIC RESOURCES

Biocultural Community Protocols for Livestock Keepers[11]

Biocultural community protocols are a new approach that provides livestock-keeping communities the opportunity of documenting and showcasing their role in the management of animal genetic resources and agro-ecosystems. They aim to invoke Livestock Keepers' Rights locally and in a decentralized manner. They provide livestock keepers with the means to articulate their concerns and views, and to document their breeds and ecosystems as well as their traditional knowledge and institutions. Through the process of establishing the biocultural protocol, livestock keepers establish their identity as an indigenous or local community and thereby can claim certain rights or entitlements. The development of biocultural community protocols contributes to several of the Strategic Priorities of the Global Plan of Action for Animal Genetic Resources (in particular strategic priorities 2, 5, 6, 8, 14 and 20). By 2010, four livestock-keeping communities had established community protocols. These include the Raika of Rajasthan (India), the Samburu of northern Kenya, the Lingayat of Tamil Nadu (India) and Pashtoon livestock keepers of Baluchistan (Pakistan).

European Regional Focal Point for Animal Genetic Resources Task force on ABS[12]

The European Regional Focal Point for Animal Genetic Resources (ERFP) is the regional platform to support the *in situ* and *ex situ* conservation and sustainable use of animal genetic resources and to facilitate the implementation of FAO's Global Plan of Action for Animal Genetic Resources in Europe. The ERPF Task Force "Access and Benefit Sharing (ABS)" was established to follow up developments in the Nagoya Protocol implementation at the global level (ICNP meetings capacity buildings initiatives) and preparation of the EU legislation to implement the Nagoya Protocol (Regulation of the European Parliament and of the Council on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union).

The ERFP ABS Task Force was involved in collection of the information and examples illustrating current practices in AnGR trade and exchange/access for research purposes to better understand potential implications of the Nagoya Protocol in the sector.
The other area of work is undertaken in cooperation with the ERFP Working Group on Ex-situ conservation and it focuses on development of the MAA and MTA.

European Genebank Network for Animal Genetic Resources (EUGENA)[13]

The European Genebank Network for AnGR is the network of genebanks in European countries to support the *ex situ* conservation and sustainable use of AnGR in Europe under common terms of agreement. The European Genebank Network for AnGR is the platform operating under the umbrella of ERFP in the area of *ex situ* conservation at the regional level of Europe. In the area of ABS, it aims to facilitate a regional European approach for international cooperation and exchange of AnGR in the context of the implementation of the Nagoya Protocol for Access and Benefit-sharing.

NextGen (Next generation methods to preserve farm animal biodiversity)[14]

NEXTGEN is a EU-funded program, started in 2010, that aims to provide the necessary tools for the exploitation of new generation genomic and reproductive technologies for Farm Animal Genetic Resources characterization and conservation. Standard contract for exchange of material has been established within the Project.

[11] League for Pastoral Peoples and Endogenous Livestock Development (LPP) and LIFE Network (2009), Biocultural Community Protocols for Livestock Keepers, Lokhit Pashu-Palak Sansthan, Sadri: India.(http://naturaljustice.org/wp-content/uploads/pdf/BCPs_for_livestock_keepers_LIFE_2010.pdf)
[12] http://www.rfp-europe.org/
[13] http://www.rfp-europe.org/index.php?id=621
[14] http://nextgen.epfl.ch/

AQUATIC GENETIC RESOURCES

FAO Technical Guidelines for Responsible Fisheries, Aquaculture development. Genetic resource management[15]

The FAO Technical Guidelines for Responsible Fisheries, Aquaculture development have been developed in 2008 to support sections of the FAO's Code of Conduct for Responsible Fisheries on genetic resource management in aquaculture (section 3). Guidance is provided, inter alia, on conservation of fish genetic resources, gene banks, and dissemination programmes for genetically improved fish, including MTAs.

FOREST GENETIC RESOURCES

World Agroforestry Centre (ICRAF) Policy Guidelines on Genetic Resources[16]

In accordance with the Convention on Biological Diversity, and the Agreement of 26th October 1994 between ICRAF and the Food and Agriculture Organization of the United Nations (FAO), ICRAF supplies germplasm to recipients under a Material Transfer Agreement (MTA). This measure is designed to ensure the free availability of the materials, and of genes derived directly from them, which are designated collections of plant germplasm held in trust under the auspices of FAO. In this regard, ICRAF will endeavour to facilitate the equitable sharing of benefits accruing from distributed germplasm with those countries from which it was collected

Code of conduct for sharing tree germplasm within the South Pacific Regional Initiative on Forest Genetic Resources (SPRIG)[17]

The South Pacific Regional Initiative on Forest Genetic Resources (SPRIG) is an AusAID-funded regional project (1996-2006) that involved Government forestry organisations in Australia, Fiji, Tonga, Vanuatu, Samoa and Solomon Islands. The Code of conduct for sharing tree germplasm within the SPRIG is operative for a period of twenty years and is consistent with the spirit and the overall objectives of the Convention on Biological Diversity (CBD) in regard to sovereignty over plant genetic resources, but also recognises that few countries in the region have implemented formal germplasm access regimes consistent with the CBD. For these reasons a mutually agreed Code of Conduct has been adopted based on goodwill, which will be followed by each project partner. Under this Code of Conduct, SPRIG partners agree that: A. Tree germplasm collected and supplied under SPRIG is for research and demonstration purposes only and remains the property of each contributing partner; B. The distribution of material to non-SPRIG parties and/or the commercial development of non-indigenous material within a country by signatories to this agreement will require additional negotiation with the SPRIG partner who originally supplied the germplasm.

Latin America Forest Genetic Resources Network[18]

The Latin America Forest Genetic Resources Network contributes to developing effective mechanisms for the conservation and sustainable use of Forest Genetic Resources in Latin America and the Caribbean. The network objectives are: to catalyze, support and implement priority actions related to conservation and use of FGR in Latin America, through enhanced collaboration among countries; to support and stimulate the exchange of information and experiences among scientists and professionals involved in the field of FGR; to stimulate circulation of technical and scientific information related to the topics covered by the network; to stimulate initiatives in conservation by formulating projects that involve local communities in the domestication of native forest species; to identify topics and donors for specific projects of regional interest, and develop concept notes and research proposals. to execute and stimulate capacity building on the network-related topics; to assist in forming working groups along specific themes.

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[15] FAO. 2008. *Aquaculture development. 3. Genetic resource management.* FAO Technical Guidelines for Responsible Fisheries. No. 5, Suppl. 3. Rome, FAO. 2008. 125p, http://www.fao.org/docrep/011/i0283e/i0283e00.htm.
[16] http://www.worldagroforestry.org/downloads/policies%20and%20guidelines/ICRAF_policy_gr.pdf
[17] http://www.fao.org/forestry/seedsmore/16527/en/
[18] http://www.bioversityinternational.org/research-portfolio/forest-tree-genetic-diversity/laforgen/

The Forest Genetic Resources Working Group (FGRWG) of the North American Forest Commission[19]

The Forest Genetic Resources Working Group (FGRWG), established in 1961, is one of seven Working Groups established by the North American Forest Commission (NAFC). The FGRWG aims: to promote the collection, exchange, and dissemination of information about forest genetic resources so that in situ and ex situ programs of conservation and sustainable use are based on sound scientific knowledge; to promote cooperation and coordinate research, conservation, training, and knowledge exchange among member countries on genetic resource conservation problems; to facilitate the international exchange of forest genetic resources; to encourage and promote genetic improvement programs for important commercial forest species as a component of forest conservation and as a contribution to the economic welfare of North Americans.

European Forest Genetic Resources Programme[20]

The European Forest Genetic Resources Programme (EUFORGEN) is a collaborative programme among European countries aimed at ensuring the effective conservation and the sustainable use of forest genetic resources in Europe. Raising awareness activities: In 2008 the Nordic Council of Ministers granted NordGen Forest a project on access and rights to FGR, in which the Fridtjof Nansen Institute in Norway is an important collaborator.

Evoltree Repository Center[21]

Evoltree is a large EU-funded Network of Excellence established in 2006 to analyze the impacts of climate change on forest ecosystems. To provide the necessary resources, common infrastructures and shared equipment is established in EVOLTREE. The centralized repository centre at Austrian Institute of Technology GmbH deals with resource-management ranging from whole organisms (bacteria, fungi, plant material) to DNA samples of whole genomes (gDNA), organellar and sub-genomic clones and BACs or genes (ESTs) on one hand and associated data on the other. More than 340.000 individual samples will be available from the different EVOLTREE partners. For each material transfer, a "traceability form" has to be filled and signed.

Transnational Access Application Procedure to the Trees4future database[22]

Trees4Future is an Integrative European Research Infrastructure project established for the period 2011-2015 that aims to integrate, develop and improve major forest genetics and forestry research infrastructures. It provides the wider European forestry research community with easy and comprehensive access to currently scattered sources of information (including genetic databanks, forest modelling tools and wood technology labs) and expertise. It offers access to a wide range of forest research infrastructures, from tree/population scale to forestry landscape level. The 28 infrastructures include databanks, biobanks, models and decision-support systems, laboratories and other facilities. The Transnational Access (TNA) programme offers researchers free access to the Trees4Future research structures and facilities, including a contribution to travel and subsistence costs. Two types of access are foreseen. Each facility specifies which access level it offers: 1)TA-1: Physical access— Researchers will physically visit the site(s) to conduct research. Trees4Future contributes to travel and subsistence costs; 2) TA-2: Remote access— Researchers send their samples for analysis, but do not physically visit the site. The site manager is responsible for making measurements and analyses. Although such arrangements are not framed as ABS mechanisms[23], they constitute actual practices of non-monetary benefit-sharing mechanisms in relation FGR.

[19] http://www.fs.fed.us/global/nafc/genetics/aboutus.htm
[20] http://www.skogoglandskap.no/filearchive/legal_rights_to_forest_genetic_resources.pdf
[21] http://www.evoltree.eu/index.php/repository-centre
[22] http://www.trees4future.eu/
[23] The extent to which an actual distinction is accounted for between the actual provider and the source country of material is not clear.

INVERTEBRATE GENETIC RESOURCES

International Organization for Biological Control Best Practices for the use and exchange of biological control genetic resources relevant for food and agriculture [24]

In October 2008, IOBC established its Global Commission on Biological Control and Access and Benefit Sharing, with the mission to provide scientific advice to oversee and advise the design and implementation of an Access and Benefit Sharing (ABS) regime that ensures practical and effective arrangements for the collection and use of Biological Control Agents (BCAs) which are acceptable to all parties involved in this issue. This mission is realised by: 1) Increasing scientific knowledge in the area of Biological Control (BC) and ABS; 2) Documenting the potential for negative consequences of adopting strict regulations about ABS of BCAs; 3) Transferring the knowledge concerning the question of ABS to the scientific community, stakeholders and international parties; 4) Developing linkages/agreements with international partners (CBD, FAO, CABI, ANBP, IBMA, and CGIAR); 5) Promoting the development and application of new international conventions on BC and ABS which respect the CBD. The IOBC Global Commission on BC and ABS recently established a Code of Best Practices for Biological Control with regards to ABS.

MICRO-ORGANISM GENETIC RESOURCES

World Federation for Culture Collections guidelines for the establishment and operation of collections of cultures of microorganisms[25]

The World Federation for Culture Collections (WFCC) is a multidisciplinary Federation within the International Union of Microbiological Societies and the International Union of Biological Societies of the International Council of Scientific Unions (ICSU) with responsibility for relationships with microbial resource centres. It has as its objectives the overall support of the activities of microbial resource centres (Culture Collections) and the promotion of a world network for information, communication and exchange of MGRs. Additionally, it makes recommendations to national and international organisations, within its terms of reference, as deemed appropriate by the Federation. In 1996, the WFCC prepared a document that aimed to provide Parties to the Convention on Biological Diversity with specialised information relating to access to ex-situ microbial resources and to make recommendations on policy developments that are conceptually sound, scientifically feasible and operationally practicable. Additionally, it served to raise awareness among the Parties and others of issues that must be addressed in developing procedures for implementing these aspects of the Convention. As well as giving background information on the importance of microbial diversity, the document provides a survey of existing microbial resource centres and current operating practices; it considers existing legislation (including the Budapest Treaty) and the special characteristics of microorganisms that affect implementation of the CBD. It addresses policy issues and makes Recommendations for the establishment of a process that will lead to clear and applicable guidelines and codes of practice for operating the CBD with regard to deposit, access and distribution of ex-situ microbial genetic resources and benefit sharing.

In 2010, Guidelines are prepared by the WFCC to provide a framework for the establishment, operation and long-term support of microbiological and cell resource centres as a fundamental part of the scientific infrastructure. The Guidelines describe, inter alia, the capability of collections to meet all relevant national and international regulations concerning the control, transportation and health and safety aspects of resource handling and distribution, and demand compliance with national legislation, rules and regulations.

[24] http://www.iobc-global.org/global_comm_bc_access_benefit_sharing.html
[25] http://www.wfcc.info/guidelines/

Micro-organisms Sustainable Use and Access Regulation International Code of Conduct (MOSAICC)[26]

MOSAICC is a voluntary Code of Conduct developed in 2000 to facilitate access to microbial genetic resources (MGRs) and to help partners to make appropriate agreements when transferring MGRs, in the framework of the Convention on Biological Diversity (CBD) and other applicable rules of international and national laws. MOSAICC is a tool to support the implementation of the CBD at the microbial level; it can also serve as a model when dealing with genetic resources other than MGRs.

MOSAICC aims to assist countries providing MGRs by suggesting procedures to issue PIC for access to MGRs; to monitor the transfer of such MGRs, to enable a fair and equitable sharing of the possible benefits arising from their utilisation. MOSAICC includes recommendations to microbiologists. These recommendations should be considered as guidelines for an optimal implementation of the CBD.

MICROB3 Model Agreement on Access to Marine Microorganisms and Benefit Sharing[27]

The MicroB3 Model Agreement is a model contract for an EU microbial metagenomics research project (MICRO B3, 2012-2015). The contract, adopted by the General Assembly of the project, advocates that the utilization of the accessed genetic resources shall be for the public domain (article 4.2). Should the Recipient, after the conclusion of this agreement, intend to utilize the accessed genetic resources and/or use the associated genetic knowledge for proprietary purposes the Recipient shall seek the consent of the Provider (article 4.4). The Recipient may transfer to a third party the accessed genetic resources, or parts of them, provided that the third party agrees with the Recipient, to apply to the transferred genetic resources articles 4 to 16 of this agreement (Article 5.1).

European Culture Collection Organization (ECCO) core Material Transfer Agreement for the supply of samples of biological material from the public collection[28]

In 2005, a workgroup was installed by the European Culture Collections' Organisation to define and describe the commonly agreed core content of a Material Transfer Agreement to be used for the supply of samples from the biological material that ECCO holds in its public collections. The work group took into consideration input and comments received from the membership on the four successive draft versions that were presented over the past four years. This ECCO core MTA reflects the common position of the ECCO membership with respect to the key items: Traceability, Fair and Equitable Benefit Sharing, Intellectual Property Rights, Quality, Safety & Security. Implementation of this core MTA by the ECCO members in time- either as such or integrated in the members' respective more extended documents - makes biological material available from ECCO collections under the same core conditions. Also an important and unique feature of the use of this core MTA is the agreement to continue necessary exchange of cultures between culture collections that adhere to equivalent and compatible core conditions of supply. The first official version was approved by the ECCO board in February 2009. This first official version was again presented at the ECCO-28 Meeting in Göteborg and agreed. At regular intervals and whenever necessary, reviewing and revision of content is organized.

PLANT GENETIC RESOURCES

International Plant Exchange Network (IPEN) Code of Conduct for botanic gardens governing the acquisition, maintenance and supply of living plant material[29]

IPEN is a voluntary registration system intending to facilitate the botanic gardens plant exchange in accordance with the CBD provisions. IPEN covers only the exchange of living plant material, meaning living plants or parts of plants, only for non-commercial exchanges. Besides, IPEN includes a

[26] http://bccm.belspo.be/projects/mosaicc/docs/code1999.pdf
[27] http://www.microb3.eu/sites/default/files/pdf/MICRO_B3_ABS_model_agreement_17122013%20explanatory%20notes.pdf
[28] http://www.eccosite.org/
[29] http://www.bgci.org/files/ABS/IPEN/ipencodeofconduct.doc

documentation system (the so-called IPEN number that makes the origin of the plant material traceable at any stage of plant exchange). The backbone of the network is the IPEN Code of Conduct, a three-page document stating the unified policy of the IPEN member gardens. It covers acquisition, maintenance and supply of living plant material by the gardens as well as benefit-sharing. One key element is the above mentioned documentation system with the so-called IPEN-numbers. The Code further provides a Material Transfer Agreement (MTA) to be used for exchanges with institutions that are not member of the IPEN network. Only botanic gardens that commit themselves to act according to the Code of Conduct can become member of the IPEN network. This commitment is expressed with the signature of the IPEN Code of Conduct

Crop-specific networks[30]

There is a vast range of international crop-specific networks operating regionally or globally. Most have some aspect of crop improvement as their primary focus, although they may also involve the conservation of PGRFA. They range from relatively straightforward mechanisms for distributing breeding materials, multilocation testing and the sharing of information and results, to fully collaborative research networks in which the comparative advantages of the participating institutions are brought to bear on a common problem or issue.

Plantwise Policy on the International Transfer of Biological Specimens for Identification

Plantwise is a global programme established in 2014, led by CABI, to improve food security and rural livelihoods by reducing crop losses through the delivery actionable knowledge (www.plantwise.org). Plantwise is helping countries establish community-based plant clinics which deliver practical advice to farmers when their crops have a problem.

Plantwise supports and facilitates the diagnosis of plant health problems and identification of causative agents (including invertebrate pests, pathogens and weeds). Plant doctors diagnose samples brought by farmers. However, problems unknown to plant doctors are referred to diagnostic service providers, preferably in-country diagnostic laboratories. If no suitable in-country diagnostic services are available, biological specimens may need to be sent to a laboratory outside the country. Plantwise works with national partners and the relevant authorities to ensure compliance with all relevant national regulations, including those dealing with access and benefit-sharing (ABS) and sanitary and phytosanitary (SPS) measures.

PGRFA multi-crop regional network[31]

PGRFA multi-crop regional network brings together the heads of national genetic resources programmes, genebank managers and others concerned with conservation, and in many cases also include various users of PGRFA, such as plant breeders, NGOs and the private sector. In many cases these networks are linked to the regional fora, which in turn are key participants in the Global Forum on Agricultural Research (GFAR). Table 6.1 of *The Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (SOW-2) (p.145) lists the main PGRFA networks that fall in this category. Overall, the networks have tended to be most active in the areas of training and documentation, and have taken on a leadership role in the development of regional PGRFA conservation strategies, under an initiative of the Global Crop Diversity Trust. PGRFA regional networks are recognized under Art 16 of the ITPGRFA as essential supporting components of the Treaty and its multilateral system of ABS. Examples of such networks include:

- **Eastern Africa Plant Genetic Resources Network (EAPGREN/ASARECA)[32]**

  EAPGREN/ASARECA promotes the sub-regional collaboration and networking through exchange of information and material, research and development, capacity building, adoption of common approaches and methods, and regional integration in plant genetic resources activities in East Africa. The main objective is to ensure that all countries in the sub-region fully benefit from the active crop-based and thematic regional and international networks.

[30] FAO, *The Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture*, 2010, p.149.
[31] FAO, *The Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture*, 2010, p.144
[32] http://www.asareca.org/eapgren/

- **The Centre for Pacific Crops and Trees (CePaCT)**[33]

The aim of CePaCT is to assist Pacific Island countries and territories (PICTs) to conserve the region's genetic resources, and to provide access to the diversity they need, when they need it. Conservation is the core business of the centre, with priority given to the region's staple crops: taro, yam, sweet potato, banana, cassava and breadfruit. The centre houses over 2,000 accessions in all. The taro collection is particularly unique, being the largest collection of taro diversity globally – over 1,000 accessions. Efforts are currently focused on building up regional collections of banana, breadfruit and yam in recognition of the diversity that exists in these crops in the Pacific. This diversity needs to be conserved, evaluated and made available to countries so that farmers can use this resource to improve food production and income generation. The centre not only conserves the region's valuable genetic diversity, but also undertakes the important mission of distributing it, making it available for growers throughout the Pacific to use. Quarantine services throughout the Pacific region recognise that virus-tested plantlets (tissue cultures) are a safe method for importing plant material. In 2009 CePaCT distributed over 8,000 sweet potato, banana, cassava, yam, Irish potato, taro, breadfruit, vanilla, Alocasia and Xanthosoma plants to PICTs for evaluation and use.

- **SADC – PGR Network**[34]

The Southern African Development Community (SADC) Plant Genetic Resources Network is a portal for Plant Genetic Resource (PGR) organisations within the SADC region. The purpose for this portal is on one hand to facilitate communication between all the plant genetic resource (PGR) centres – the regional SADC Plant Genetic Resources Centre (SPGRC) and the national plant genetic resource centres (NPGRCs) and their staff and associated resource persons, and on the other hand provide other PGR organisations as well as the general public with information on the activities in the SADC region. Each of the PGR centres in fifteen SADC Member States, as well as the regional centre SPGRC has its own area in the portal. The data presented is partly provided as static pages containing descriptions of the background, activities, material and contacts of each centre, and partly as dynamic, searchable databases.

- **European Genebank Integrated System (AEGIS) of the European Cooperative Programme for Plant Genetic Resources (ECPGR)**[35]

The AEGIS initiative is the brain child of the European Cooperative Programme for Plant Genetic Resources (ECPGR). At the present time, plant genetic resources for food and agriculture (PGRFA) in Europe are conserved in some 650 institutions scattered over about 43 European countries. While coordination of activities is carried out within the framework of the ECPGR and the ECPGR Crop Working Groups, each genebank basically operates on its own, providing for the conservation of a full range of crop germplasm important for agriculture in the area it serves. With this in mind, the countries of the European region believe that there is a need to improve coordination and share responsibilities with respect to the conservation of, management of and access to PGRFA in Europe by setting up AEGIS. The legal mechanism for establishing AEGIS is the Memorandum of Understanding (MoU) entered into by eligible countries of the region and the European Commission. The MoU sets out their commitments as full Members of AEGIS and the main lines of AEGIS. To be eligible for membership, the countries listed must be members of ECPGR, and either Contracting Parties to the Treaty or otherwise willing to make PGRFA under their jurisdiction available under the conditions of the Treaty. The MoU has come into force in July 2009. The MoU is supplemented by a series of Associate Member Agreements for the individual genebanks and other institutions that wish to become part of AEGIS.

[33] http://www.spc.int/lrd/the-centre-for-pacific-crops-and-trees-cepact
[34] http://www.spgrc.org.zm/
[35] http://www.ecpgr.cgiar.org/